



Commission for
Communications Regulation

Market Reviews

Wholesale Local Access (WLA) provided at a Fixed Location

Wholesale Central Access (WCA) provided at a Fixed Location for Mass Market Products

Consultation and Draft Decision

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Redacted Information

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Glossary of Frequently Used Terms

Acronym	Full Title
ADSL	Asymmetric Digital Subscriber Line
ARO	Access Reference Offer
BECS	Bitstream Ethernet Connection Services
BEREC	Body of European Regulators for Electronic Communications
BMB	Bitstream Managed Backhaul
BU-LRAIC	Bottom Up-Long Run Average Incremental Cost
CAM	Copper Access Model
CATI	Computer Aided Telephone Interview
CATV	Cable Access Television Network
CBP	Countervailing Buyer Power
CCPC	Competition and Consumer Protection Commission
CEI	Civil Engineering Infrastructure
CG	Current Generation
CGA	Current Generation Access
CID	EU Civil Infrastructure Directive
CLFMP	Copper Loop Frequency Management Plan
CLT	Critical Loss Test
CoS	Class of Service
CPE	Customer Premises Equipment
CSH	Customer Sited Handover
CVDSL	Cabinet based VDSL
DOCSIS	Data Over Cable Service Interface Specification
DSL	Digital Subscriber Line
DSLAM	Digital Subscriber Line Access Multiplexers
DUG	Direct Underground
ECN	Electronic Communications Networks
ECS	Electronic Communications Services
EEO	Equally Efficient Operator
EFM	Ethernet First Mile
ENH	Edge Node Handover
EoI	Equivalence of Inputs
EoO	Equivalence of Outputs
EU	European Union
EVDSL	Exchange based VDSL
FA	Fixed Access
FACO	Fixed Access and Call Origination
FHS	Fault Handling System
FLU	Fibre Loop Unbundling

FSP	Fixed Service Provider
FTTC	Fibre to the Cabinet
FTTH	Fibre to the Home
FVCT	Fixed Voice Call Termination
FWA	Fixed Wireless Access
GLUMP	GNP (Global Number Portability) and ULMP (Unbundled Local Metallic Path)
GNP	Geographic Number Portability
GPON	Gigabit Passive Optical Networking
HCA	Historic Cost Accounting
HM	Hypothetical Monopolist
HMT	Hypothetical Monopolist Test
IBH	In-Building Handover
ICT	Information and Communications Technology
IP	Internet Protocol
IPM	Industry Process Manual
IPTV	Internet Protocol Television
ISDN	Integrated Services Digital Network
ISH	In-Span Handover
ISP	Internet Service Provider
KPI	Key Performance Indicator
LEA	Large Exchange Area
LL	Leased Line
LLU	Local Loop Unbundling
LS	Line Share
MDF	Main Distribution Frame
MGA	Modified Greenfield Approach
MNO	Mobile Network Operator
MOV	Multi-Operator Vectoring
MPoP	Metropolitan Point of Presence
MSP	Mobile Service Provider(s)
MVCT	Mobile Voice Call Termination
MVNO	Mobile Virtual Network Operator
NBP	National Broadband Plan
NBS	National Broadband Scheme
NG	Next Generation
NGA	Next Generation Access
NRA	National Regulatory Authority
NRT	Net Revenue Test
NTP	Network Termination Point
NTU	Network Termination Unit
OAO	Other Authorised Operator

ODF	Optical Distribution Frame
ONT	Optical Network Terminal
OSS	Operational Support Systems
OTT	Over the Top
PAR	Passive Access Records
PoH	Point of Handover
POI	Point of Interconnection
PoP	Point of Presence
PRS	Premium Rate Service(s)
PSTN	Public Switched Telephone Network
QKDR	Quarterly Key Data Report
QoS	Quality of Service
RFO	Ready for Order
RFTS	Retail Fixed Telephony Service(s)
RGM	Regulatory Governance Model
RIA	Regulatory Impact Assessment
RIO	Reference Interconnect Offer
RSPG	Radio Spectrum Policy Group
SAB	Service Access Bandwidth
SABB	Standalone Broadband
SB-WLR	Single-Billing via Wholesale Line Rental
SIR	Statutory Information Requirement
SLA	Service Level Agreement
SLU	Sub-Loop Unbundling
SMP	Significant Market Power
SoC	Statement of Compliance
SP	Service Provider
SSNIP	Small but Significant Non-transitory Increase in Price
TFEU	Treaty on the Functioning of the European Union
TWDM GPON	Time Wavelength Division Multiplexing GPON
ULMP	Unbundled Local Metallic Path
USO	Universal Service Obligations
VDSL	Very-high-bit-rate Digital Subscriber Line
VEA	VDSL Ethernet Access
VOB	Voice over Broadband
VoD	Video on Demand
VoIP	Voice over Internet Protocol
VUA	Virtual Unbundled Access
VULA	Virtual Unbundled Local Access
WACC	Weighted Average Cost of Capital
WBA	Wholesale Broadband Access
WBARO	Wholesale Bitstream Access Reference Offer

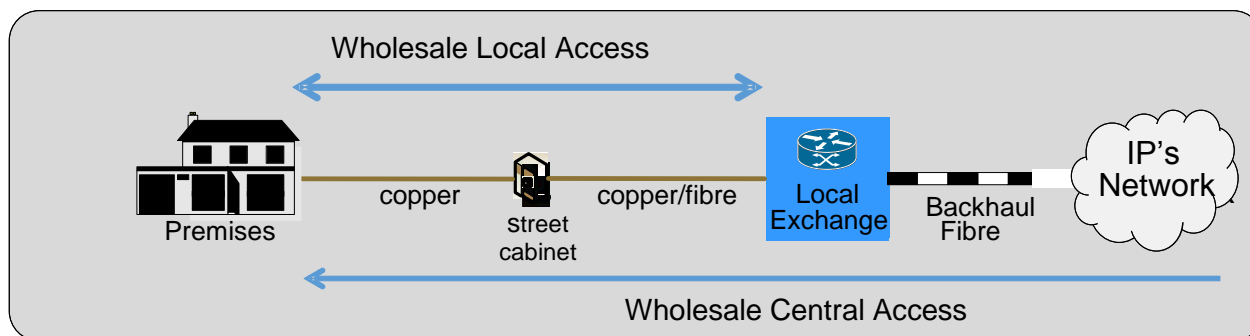
WCA	Wholesale Central Access
WDM	Wavelength Division Multiplexing
WEIL	Wholesale Ethernet Interconnection Links
WHQA	Wholesale High Quality Access
WLA	Wholesale Local Access
WPNIA	Wholesale Physical Network Infrastructure Access

1 Executive Summary

Overview

- 1.1 This consultation paper (**‘Consultation’**) presents ComReg’s preliminary views on its analysis of the market(s) for:
- Wholesale local access provided at a fixed location (**‘WLA’**); and
 - Wholesale central access for mass-market products provided at a fixed location (**‘WCA’**).
- 1.2 The objective of this review is to examine the extent of competition within the above wholesale markets. Below, ComReg provides an overview of the main preliminary conclusions set out in this Consultation.
- 1.3 WLA and WCA services are wholesale inputs ultimately used in the supply of a range of downstream wholesale and retail services, including (but not limited to) fixed telephone, broadband internet/connectivity, leased lines and television (**‘TV’**) services, to residential and business End Users (**‘End Users’**). WLA inputs can also be utilised by Service Providers (**‘SP(s)’**) to supply downstream WCA or other wholesale services.
- 1.4 In general, WLA is the connection between the local serving exchange/access node (the **‘Point of Presence’** or **‘PoP’**) and the End User, with this connection being either provided by the SPs themselves or purchased/rented from another SP through a wholesale arrangement. In availing of WLA a SP needs to build or rent backhaul connectivity to the Point of Presence so that traffic can be carried onto its own network.
- 1.5 The WCA market lies downstream from the WLA market but upstream from the retail broadband (and other) markets (although WCA services can be used to support services other than broadband¹). WCA encompasses the rental of an active broadband connection between an End User’s premises (whether residential or non-residential) up to an aggregation point higher up in a network. It therefore, also encompasses backhaul connectivity across the WCA SP’s network. The stylised illustration in Figure 1 below illustrates the operation of the WLA and WCA markets and how they are interrelated.

¹ For example, products sold in the WCA market can be used to provide Multicast TV services and Managed VOB services, as well as Bitstream and other services.

Figure 1: Example of Typical WLA and WCA Provision

- 1.6 At the wholesale level, Access Seekers² purchase WLA inputs, such as Local Loop Unbundling ('LLU'), Virtual Unbundled Local Access ('VULA') and WCA inputs such as Bitstream, to provide retail services to End Users (or indeed wholesale services to other SPs). Using LLU, an Access Seeker takes control (full control or partial control) of the copper loop between the local exchange and the End User's premises. Similarly with VULA, a SP gains control of the fibre or hybrid copper/fibre path, typically provided from the local exchange or aggregation node to the End User's premises. The Access Seeker can then supply retail services to the End User, or sell wholesale services, such as those sold in the WCA market, to other Access Seekers.
- 1.7 In this Consultation, ComReg sets out its preliminary views on the definition of the WLA and WCA markets from both a product and geographic perspective. ComReg then assesses the extent of competition within each market and, where a SP is identified as having Significant Market Power ('SMP') in a market, ComReg proposes regulatory obligations that it intends to impose on such a SP in order to address competition problems that would be likely to arise absent regulatory intervention.
- 1.8 Where regulatory intervention is warranted, it is ultimately designed to promote the development of effective competition in the provision of retail and/or wholesale services, with the ultimate beneficiary intended to be retail End Users in terms of the increased choice and quality of retail services at more competitive prices.
- 1.9 Where no SP is identified as having SMP in either the WLA or WCA markets, ComReg would propose to remove regulatory obligations that may have been in place.
- 1.10 Arising from the analysis in this Consultation, ComReg has prospectively identified the following three, separate markets (together the '**Relevant Markets**')

² In general, an Access Seeker is a SP that purchases wholesale services from another SP. In this Consultation, ComReg refers to operators or undertakings seeking to purchase services in the WLA and/or WCA Markets as '**Access Seekers**'.

- (a) **The Wholesale Local Access Market:** Wholesale Local Access provided at a fixed location, which includes Local Loop Unbundling (LLU), Line Share and Virtual Unbundled Local Access (VULA) products (the '**WLA Market**');
 - (b) **The Urban Wholesale Central Access Market:** Wholesale Central Access for mass-market products provided at a fixed location, which includes Bitstream products provided over a copper only network and Bitstream products provided over a Fibre to the Cabinet ('**FTTC**')/Fibre to the Home ('**FTTH**') network (the '**Urban WCA Market**'). Within the Urban WCA Market ComReg also proposes to include the self-supply of retail broadband products provided over a Cable Access Television ('**CATV**') network as well as retail products supplied by SPs who do so using purchased upstream WLA inputs.
 - (c) **The Regional Wholesale Central Access Market:** Wholesale Central Access for mass-market products provided at a fixed location, which includes Bitstream products provided over a copper only network and Bitstream products provided over a FTTC/FTTH (together '**FTTx**') network (the '**Regional WCA Market**'). Within the Regional WCA Market ComReg also proposes to include retail broadband products provided by SPs who do so using purchased upstream WLA inputs.
- 1.11 Having defined each of the Relevant Markets, ComReg then assesses the extent of competition within each of these markets in order to identify whether any SP has SMP. Where SMP is found in a Relevant Market, ComReg proposes the imposition of regulatory obligations on the proposed SMP SP in order to address competition problems that would be likely to arise absent regulatory invention.
- 1.12 In terms of the SMP assessment in the Relevant Markets, ComReg's preliminary findings are as follows:
- (a) Eircom has SMP in the WLA Market;
 - (b) No SP has SMP in the Urban WCA Market; and
 - (c) Eircom has SMP in the Regional WCA Market.
- 1.13 Having identified, on a preliminary basis that Eircom, has SMP in the WLA Market and Regional WCA Market, ComReg intends to impose a range of obligations upon Eircom in these respective markets, designed to address an identified set of competition problems that could occur, absent regulation. In many cases, ComReg has re-imposed existing obligations that have been imposed on Eircom to date. However, in order to better address identified competition problems, ComReg has also proposed some new obligations, as well as more detailed refinements to existing obligations.

- 1.14 With respect to the Urban WCA Market, ComReg proposes to withdraw existing regulatory obligations given its preliminary finding that no SP has SMP. In this respect, ComReg has proposed that certain existing obligations would, subject to the implementation of obligations imposed in the WLA Market, be withdrawn at the date at which ComReg makes its final decision. The linkage between the proposed withdrawal of regulation in the Urban WCA Market and the implementation of WLA Market remedies is necessary given ComReg's analysis is forward looking and competitive conditions in the Urban WCA Market which are impacted by proposed WLA obligations. However, in order to facilitate an orderly transition to de-regulation of the Urban WCA Market, ComReg has proposed a six month sunset period during which access to existing Bitstream services³ would be maintained at prevailing prices. At the end of this six month sunset period, these remaining obligations would be withdrawn.

³ ComReg notes that during this 6 month sunset period Eircom should not be obliged to meet new requests for WCA inputs on a regulated basis. Eircom is, of course, free to do so on a pre commercial basis.

Background to the Reviews

- 1.15 The WLA and WCA Markets have been identified by the European Commission ('EC') in the 2014 Recommendation⁴ as being susceptible to *ex ante* regulation at an EU level⁵. Prior to the adoption of the 2014 Recommendation, the WLA and WCA markets were broadly identified in a previous 2007 Recommendation⁶ as the market for Wholesale Physical Network Infrastructure Access⁷ ('WPNIA') and the market for Wholesale Broadband Access⁸ ('WBA') respectively. To date the WBA and WPNIA markets have been identified by ComReg as being susceptible to *ex ante* regulation and were thus regulated by ComReg pursuant to the 2010 WPNIA Decision⁹ and the 2011 WBA Decision¹⁰.
- 1.16 In the previous reviews of the WBA and WPNIA markets, it was concluded that both markets were not effectively competitive and Eircom was designated as having SMP in each of these markets. Eircom was required, amongst other things, to provide wholesale access to various broadband products and services at regulated prices. A number of obligations were subsequently amended/imposed in the period following the 2010 WPNIA Decision and 2011 WBA Decision.

⁴ European Commission Recommendation of 9 October 2014 on relevant product and service markets within the electronic communications sector susceptible to *ex ante* regulation (the '**2014 Recommendation**').

⁵ Corresponding to Markets 3A and 3B in the European Commission's 2014 Recommendation.

⁶ European Commission Recommendation of 17 December 2007 on relevant product and service markets within the electronic communications sector susceptible to *ex ante* regulation in accordance with Directive 2002/21/EC of the European Parliament and of the Council on a common regulatory framework for electronic communications networks and services OJ L 344 (the '**2007 Recommendation**').

⁷ Market 4 under the 2007 Recommendation.

⁸ Market 5 under the 2007 Recommendation.

⁹ ComReg Document No. 10/39 (ComReg Decision D05/10); Response to Consultation and Decision Document: Market Review: Wholesale (Physical) Network Infrastructure Access (Market 4); 20 May 2010 ('**2010 WPNIA Decision**').

¹⁰ ComReg Document No. 11/49 (ComReg Decision D06/11); Response to Consultation and Decision Document: Market Review: Wholesale Broadband Access (Market 5); 8 July 2011 ('**2011 WBA Decision**').

- 1.17 Given the time that has elapsed since ComReg's previous analysis of the 2010 WPNIA Market and 2011 WBA Market and, having regard to market developments, including the publication by the EC of the 2014 Recommendation, it is now considered appropriate to carry out a further review of these markets.
- 1.18 Below, ComReg provides a brief overview of the main preliminary conclusions set out in this Consultation.

Retail Market

Retail Market Trends and Developments

- 1.19 Since the previous reviews of the WLA and WCA markets (the then WPNIA and WBA markets) in 2010 and 2011, there have been several notable retail developments. These retail trends, amongst others, are discussed in Section 3 of the Consultation, in particular, to the extent that they inform the subsequent analysis of the WLA and WCA markets. This is in line with the 'Modified Greenfield Approach' ('**MGA**') recommended by the EC.¹¹
- 1.20 The main SPs operating in the retail broadband market¹² in Ireland are Eircom, Virgin Media, Vodafone, Imagine, Digiweb, Sky and several other alternative SPs. At the wholesale level, the main operators are Eircom, BT Ireland and SIRO.
- 1.21 The key developments since the 2010 WPNIA Decision and 2011 WBA Decision have been:
- Increases in download speeds and traffic on broadband platforms (both fixed and wireless/mobile platforms);
 - Increased retail bundling of services and take up of such services by End Users relative to the purchases of services on a standalone basis;
 - The announcement by the Irish Government of the National Broadband Plan ('**NBP**') to provide high speed broadband access, largely targeting rural areas where no broadband services are available commercially;
 - The continuing rollout by Eircom of its FTTx network, providing broadband access with download speeds up to 100Mb/s for FTTC and 1Gbps for FTTH; and

¹¹ See page 8 of the Explanatory Note to the 2014 Recommendation. The Modified Greenfield Approach begins by looking at the retail market before working up the value chain to the wholesale market. The analysis of the competitive nature of these markets assumes that no SMP derived regulations are in place in the market under consideration in order to avoid circularity in the analysis.

¹² While ComReg's analysis focuses on the retail broadband market, WLA and WCA services can be used to support a broad range of retail services.

- The announcement of the '**SIRO**' Joint Venture between Vodafone and ESB to provide broadband access using a FTTH network in certain parts of Ireland.
- 1.22 There has been a marked decline in copper based broadband subscriptions¹³, which have fallen by 26.4% in the years between Q1 2014 and Q1 2016. At the same time, the number of FTTC based 'next generation access' ('**NGA**') broadband subscriptions¹⁴ have increased by 279%. In October 2014, Eircom also announced plans to rollout a FTTH network in certain geographic areas, offering speeds of up to one gigabit. As of August 2016, Eircom's FTTx network passed 1.6 million premises.
- 1.23 Virgin Media, which primarily serves residential customers, upgraded its CATV network to the Data Over Cable Service Interface Specification ('**DOCSIS**') 3.0 standard¹⁵ in 2010 such that, as of Q1 2016, it is potentially capable of providing retail broadband services to approximately 784,400 premises (45% of the 1.71 million homes in Ireland, 38% of the 2 million premises in Ireland).
- 1.24 Mobile broadband subscriptions have declined since 2014, now accounting for 22.9% of total broadband subscriptions (Q1 2016)¹⁶, down from 28.7% in Q1 2014. Fixed Wireless Access ('**FWA**') based broadband has a 2.5% share of total broadband subscriptions in Q1 2016 down from 3.4% in Q1 2014. 'Other broadband' (satellite and very localised fibre networks) subscriptions represent the remaining 0.6% of total broadband subscriptions in Q1 2016.
- 1.25 In terms of market shares, in the presence of existing regulation, Eircom had a 33.9% share of total fixed broadband subscriptions (excluding mobile broadband subscriptions) as of Q1 2016, down from 37.3% in Q1 2014, while Virgin Media had 27.9% of total fixed broadband subscriptions. As of Q1 2016, Vodafone had 18.4% of fixed broadband subscriptions, Sky Ireland had 10.8%, and all other SPs combined accounted for the remaining 9% share.
- 1.26 Between Q1 2014 and Q1 2016, advertised broadband download speeds have grown significantly, with 58.1% of subscribers now using a broadband service with download speeds >30Mb (up from 37.8% in Q1 2014). Approximately 20% of broadband subscribers now access broadband services with advertised download speeds of >100Mb.

¹³ Using Asynchronous Digital Subscriber Line ('**ADSL**') technologies.

¹⁴ Using Very-high-bit-rate Digital Subscriber Line ('**VDSL**') technologies.

¹⁵ This standard enables high speed broadband to be delivered over a CATV network.

¹⁶ Total broadband subscriptions is the sum of Copper, FTTC, Cable, FWA, Other (Satellite and FTTH) and Mobile broadband, as used in the ComReg QKDR.

- 1.27 In July 2014, ESB and Vodafone Ireland, announced a fully functioning 50:50 Joint Venture ('**SIRO**'), to build an FTTH network across 50 towns, reaching potentially 500,000 customers, offering download speeds up to one gigabit. The network is being deployed on ESB's existing overhead and underground infrastructure. SIRO offers a WLA based service, requiring SPs who wish to use the SIRO network to build their own backhaul to SIRO's various PoPs. Vodafone began offering retail broadband services over the SIRO network in December 2015 and Digiweb began purchasing services from SIRO in August 2016. As of September 2016, SIRO's network has a limited geographic footprint, although this is expected to grow further in the coming years. In September 2016, SIRO announced its rollout was gathering pace, with its network rollout now passing 10,000 premises a month across 17 towns.¹⁷
- 1.28 In 2012 the then Department of Communications, Energy and Natural Resources announced the National Broadband Plan ('**NBP**') to rollout broadband of speeds greater than 30MB to less densely populated areas of Ireland. A detailed procurement process is underway with a view to awarding contracts in 2017 and commencing construction of a high speed broadband network and the provision of services as soon as possible thereafter¹⁸.

Retail Market Definition

- 1.29 In Section 4 of the Consultation, ComReg assesses the retail market for the purpose of informing the analysis of the upstream WLA Market. While the objective of this Consultation is to define and analyse competition within the WLA Market, given wholesale demand for access in the WLA market is largely driven by retail demand for services, it is necessary to consider the dynamics of the retail market and whether these dynamics materially impact at a wholesale level.
- 1.30 For the purposes of examining the retail market in Section 4, ComReg's assessment is conducted absent regulation in the WLA and WCA markets, as appropriate.
- 1.31 Overall, ComReg is of the preliminary view that there is likely to be a single national market for retail broadband services (the '**Retail Market**'), covering all broadband speeds, provided over copper, FTTC, FTTH and CATV networks. ComReg's preliminary view is that mobile, satellite and FWA broadband do not fall within the Retail Market having regard to the assessment of a range of demand-side and supply-side factors.

¹⁷ SIRO - <http://siro.ie/siro-invest-e40-million-roll-6-new-towns-end-2016/>

¹⁸ <http://www.dcenr.gov.ie/communications/en-ie/Broadband/Pages/National-Broadband-Plan.aspx#>.

Summary of the WLA Market Assessment

Market Definition

- 1.32 In Section 5 of the Consultation ComReg considers the definition of the relevant WLA market from a product and geographic perspective. This wholesale analysis is also informed by ComReg's assessment of the retail trends and the Retail Market assessment in Sections 3 and 4 of the Consultation.
- 1.33 Overall, ComReg proposes to define a national WLA Market having regard to an assessment of demand-side and supply-side constraints as considered in Section 5, as well as the effectiveness of any indirect constraints emanating from the Retail Market. ComReg considers that the WLA Market is comprised of the following:
- (a) 'Current Generation' ('**CG**') copper based WLA products (being Local Loop Unbundling ('**LLU**'), Line Share ('**LS**') products) and Sub-Loop Unbundling ('**SLU**')¹⁹; and
 - (b) 'Next Generation' ('**NG**') FTTx based WLA products (being Virtual Unbundled Local Access ('**VULA**') products offered over FTTx networks).
- 1.34 ComReg's preliminary view is that, while there appears to be some differences in competitive conditions in the WLA Market, on the assessment of direct and indirect constraints, these are insufficient to warrant the delineation of separate geographic markets. ComReg therefore proposes to define a single national market for WLA.

SMP Assessment of the WLA Market

- 1.35 In Section 5 of this Consultation, ComReg has assessed the current and likely extent of competition within the WLA Market, absent regulation. This includes an assessment of the effectiveness of constraints posed by existing competition, potential competition, as well as any impact of large purchasers of WLA (countervailing buyer power or '**CBP**') on the competitive behaviour of WLA suppliers. ComReg assesses whether, absent regulation, any undertaking has SMP in the WLA Market.

¹⁹ ComReg notes that the obligation to provide SLU is limited to areas which have been identified as susceptible to form part of a state subsidy scheme, such as the National Broadband Plan.

- 1.36 ComReg's preliminary view is that Eircom should be designated as having SMP in the WLA Market. This is due to the consideration of a number of factors, including its high and stable market share, its control of infrastructure not easily duplicated, the lack of existing and potential competition and the absence of effective CBP. Eircom had a market share of almost 100% in Q1 2016, with there being only one other main SP active in the WLA Market, namely SIRO, with a market share of less than 1%.
- 1.37 As noted above, the NBP contract is expected to be awarded in 2017 with roll-out commencing thereafter. However, there remains too much uncertainty at this time regarding the eventual contract award, the successful tenderers and the timing of the subsequent roll-out to draw any firm conclusions on the potential impact of the NBP on the WLA Market at this stage.

Competition Problems in the WLA Market

- 1.38 In Section 7 of the Consultation ComReg identifies potential competition problems that could arise, absent regulation, from Eircom's ability and incentive to exercise market power in the WLA Market (and related markets). In the absence of regulation in this market, ComReg considers that Eircom would have the ability and incentive to engage in a range of anti-competitive behaviours including: denial of access; excessive pricing; margin squeeze and vertical leveraging behaviours into downstream markets with a view to negatively impacting the position of its competitors in adjacent markets within which Eircom also competes.

Remedies in the WLA Market

- 1.39 In order to address these competition problems, in Section 8 of the Consultation ComReg proposed to impose upon Eircom a range of access, non-discrimination, transparency, price control/cost accounting and accounting separation obligations in the WLA Market.
- 1.40 ComReg is of the view that it is reasonable and proportionate to impose upon Eircom a complete suite of obligations identified in Section 8, given its SMP position and the competition problems identified in Section 7.
- 1.41 In many cases, ComReg is continuing existing obligations that had been imposed on Eircom. However, in order to better address identified competition problems, ComReg has also proposed some new obligations, as well as more detailed refinements to existing obligations. Some of these existing, new or amended obligations include:

- Requirements to make a range of specific WLA products, services and facilities available to Access Seekers. This includes a more detailed specification of obligations governing how SPs can more effectively access Eircom's Civil Engineering Infrastructure ('CEI'), including its ducts and poles, ultimately aimed at promoting the development of more sustainable and independent competition. Where CEI is not available, Eircom is to be required to provide access to Dark Fibre;
- Enhanced requirements with respect to Eircom's obligation to negotiate in good faith with Access Seekers concerning Service Level Agreements ('SLAs'). Such SLA requirements are also to apply to the provision of access to the Eircom Unified Gateway;²⁰
- Specific timelines within which Eircom must respond to an Access Seeker request for a new product, service or facility or a non-pricing amendment to an existing product, service or facility;
- Enhanced non-discrimination obligations requiring Eircom to provide access to pre-ordering, ordering, provisioning, fault reporting and repair for VUA based WLA (and associated facilities) and CEI on an Equivalence of Inputs²¹ ('EoI') basis. Other WLA access is to be provided on an Equivalence of Outputs²² ('EoO') basis;²³
- Requirements for Eircom to make available on its publicly available wholesale website in advance of implementation, information regarding its NGA roll out plans, and information relating to wholesale products, services, and facilities such as the expected time for service availability;

²⁰ This is the interface into Eircom's Operational Support Systems used by Access Seekers in order to avail of regulated wholesale services.

²¹ "Equivalence of Inputs" means the provision of products, services, facilities, and information by the SMP Undertaking to Access Seekers such that such products, services, facilities, and information are provided to Access Seekers within the same timescales, at the same price, functionality, service and quality levels and on the same terms and conditions and by means of the same systems and processes as the SMP Undertaking provides to itself. The systems and processes shall operate in the same way and with the same degree of reliability and performance as between Access Seekers and the SMP Undertaking's provision to itself.

²² "Equivalence of Outputs" means the provision of products, services, facilities, and information by the SMP Undertaking to Access Seekers such that such products, services, facilities, and information are provided to Access Seekers in a manner which achieves the same standards in terms of functionality, price, terms and conditions, service and quality levels as the SMP Undertaking provides to itself, albeit potentially using different systems and processes.

²³ EoI and EoO are explained further in Section 8, paragraph 8.399 to 8.412.

- The continuation of existing cost-orientation obligations with respect to LLU, Line Share and CEI products, existing obligations not to cause a margin squeeze and the imposition of a proposed new cost-orientation obligation for FTTC based VUA products. Existing price control obligations for FTTH based VUA are maintained. The detailed nature of the margin squeeze obligations, pricing obligations relating to bundles and cost orientation obligations for FTTC based VUA are to be set out and consulted upon in a separate pricing consultation which will issue in Q4 2016 (the '**Separate Pricing Consultation**'); and
 - Enhanced Statement of Compliance requirements which now not only require Eircom to demonstrate its compliance with its non-discrimination obligations, but to all other obligations.
- 1.42 The detail of these obligations, which are ultimately designed to ensure effective competition in downstream retail and wholesale markets, is set out in Section 8 of the Consultation.
- 1.43 It is ComReg's intention that there will be an overlap in the consultation periods set out in this Consultation and the Separate Pricing Consultation. In any event, ComReg will provide an opportunity within the Separate Pricing Consultation for respondents to provide any additional views on the matters to be set out in this Consultation, having regard to the proposals set out in the Separate Pricing Consultation. Ultimately, it is intended that the final decisions arising from this Consultation and the Separate Pricing Consultation would be made in parallel.

Assessment of Retail Market in the presence of WLA Regulation

- 1.44 Having set out the preliminary view that Eircom has SMP in the WLA Market and having proposed to impose obligations on Eircom in that market, ComReg now considers the retail broadband market, in the presence of regulation in the WLA Market, but absent any regulation in the WCA Market (referred to as the '**Modified Retail Broadband Market**'). This assessment is carried out in the context of the existence of the obligations that ComReg proposes to impose upon Eircom in the WLA Market.

- 1.45 Overall, ComReg is of the preliminary view that the Modified Retail Broadband Market covers all broadband speeds, provided over copper, FTTx and CATV networks. ComReg's preliminary view is that mobile, satellite and FWA broadband do not fall within the Modified Retail Broadband Market having regard to the assessment of a range of demand-side and supply-side factors. By virtue of their use of wholesale inputs from the WLA Market, Digiweb (through both Eircom and SIRO), Magnet, Sky (through BT Ireland) and Vodafone (through Eircom, BT Ireland and SIRO inputs) can provide retail broadband services, absent regulation in the WCA Markets.
- 1.46 In relation to the geographic scope of the retail market, based on an assessment of geographic variation in entry conditions, market shares and products and pricing, it is ComReg's preliminary view that it is possible that there may be two sub-national geographic markets for retail broadband. These areas are as follows:
- Mostly urban areas where there is a significant presence of alternative platforms using own network inputs and inputs from the WLA Market; and
 - Mostly rural areas where there is typically little or no presence by alternative networks.
- 1.47 However, ComReg does not conclude on the precise geographic scope of the Modified Retail Broadband Market, but rather examines the issue of sub-geographic markets in the upstream WCA Market(s), examined in Section 10 of the Consultation.

Summary of the WCA Market Assessment

Market Definition

- 1.48 In Section 10 of the Consultation ComReg considers the definition of the relevant WCA market from a product and geographic perspective. This wholesale analysis is also informed by ComReg's assessment of the retail trends in Section 3 and of the retail market in the presence of WLA regulation in Section 9.
- 1.49 ComReg proposes to define the WCA market having regard to an assessment of demand-side and supply-side constraints considered in Section 10, as well as the effectiveness of indirect constraints emanating from the retail market. ComReg considers that the WCA Market is comprised of the following:
- (a) wholesale Bitstream WCA based products provided over copper and FTTx networks, including wholesale Bitstream products provided using upstream WLA inputs;
 - (b) the self-supply of WCA based Bitstream by Eircom and BT Ireland;
 - (c) hypothetical WCA based Bitstream products that may be offered by SIRO;

- (d) self-supply of CATV retail broadband products offered by Virgin Media in areas where the Virgin Media network is present; and
 - (e) self-supply of retail broadband products offered by SPs using WLA upstream inputs and having a wide spread coverage (such as Vodafone)²⁴.
- 1.50 ComReg’s full analysis of the WCA Market from a geographic perspective is presented in Section 10 and Appendix: 5 of this Consultation document.
- 1.51 ComReg proposes to set out a range of objective and cumulative criteria that an Exchange Area must meet for consideration as to whether or not there are differences in competitive conditions compared to other areas. ComReg’s preliminary view is that there are two separate, distinct geographic markets in the provision of WCA services. The two geographic markets are:
- the ‘**Urban WCA Market**’: Exchange Areas where all of the objective cumulative criteria have been met to indicate the conditions of competition are sufficiently different from other areas; and
 - the ‘**Regional WCA Market**’: Exchange Areas where the objective cumulative criteria have not been met.
- 1.52 Together, these markets are referred to as the “**WCA Markets**”.

SMP Assessment of the WCA Markets

- 1.53 In Section 11 of this Consultation, ComReg has assessed the current and likely extent of competition within the WCA Markets, absent regulation. This includes an assessment of the effectiveness of constraints posed by existing competition, potential competition, as well as any impact of large purchasers of WCA (countervailing buyer power) on the competitive behaviour of WCA suppliers. ComReg assesses whether, absent regulation, any undertaking has SMP in the WCA Markets.
- 1.54 ComReg’s preliminary view is that Eircom should be designated as having SMP in the Regional WCA Market. This is due to factors such as its high and relatively stable market share (in excess of 80% as at Q1 2016), its control of infrastructure not easily duplicated, the lack of existing and potential competition and the absence of effective CBP.

²⁴ We refer to the requirement to have widespread coverage as there are some SPs that use WLA inputs to self-supply retail services within a very small geographic coverage areas and, it is ComReg’s preliminary view that such products would not impose an effective indirect constraint upon a HM supplier of WCA services.

- 1.55 In the Urban WCA Market, ComReg's preliminary view is that no SP is likely to have SMP (having regard to existing competition and potential competition) and ComReg has proposed that certain existing obligations would, subject to the implementation of obligations imposed in the WLA Market, be withdrawn at the date at which ComReg makes its final decision. The linkage between the proposed withdrawal regulation in the Urban WCA Market and the implementation WLA Market remedies is necessary given ComReg's analysis is forward looking and competitive conditions in the Urban WCA Market which are impacted by proposed WLA obligations. However, in order to facilitate an orderly transition to de-regulation of the Urban WCA Market ComReg has proposed a six month sunset period during which access to existing Bitstream services²⁵ would be maintained at prevailing prices. At the end of this six month sunset period, these remaining obligations would be withdrawn.

Competition Problems in the Regional WCA Market

- 1.56 In Section 12 of the Consultation ComReg identifies potential competition problems that could arise, absent regulation, from Eircom's ability and incentive to exercise market power in the Regional WCA Market (and related markets). In the absence of regulation in this market, ComReg considers that Eircom would have the ability and incentive to engage in a similar range of anti-competitive behaviours to those set out with respect to the WLA Market.

Remedies in the Regional WCA Market

- 1.57 In order to address the identified competition problems, in Section 13 of the Consultation ComReg proposes to impose upon Eircom a range of access, non-discrimination, transparency, price control/cost accounting and accounting separation obligations in the Regional WCA Market.
- 1.58 ComReg is of the view that it is reasonable and proportionate to impose a complete suite of obligations identified in Section 13 upon Eircom, given its proposed SMP position and the competition problems identified in Section 12. The detail of these obligations, which are ultimately designed to ensure effective competition in downstream retail and wholesale markets, is set out in Section 13 of the Consultation.
- 1.59 In many cases, ComReg is continuing existing obligations that have been imposed on Eircom to date. However, in order to better address identified competition problems, ComReg has also proposed some new obligations, as well as more detailed refinements to existing obligations. Some of these new or amended obligations include:

²⁵ ComReg notes that during this 6 month sunset period Eircom should not be obliged to meet new requests for WCA inputs on a regulated basis. Eircom is, of course, free to do so on a pre commercial basis.

- Requirements to make a range of specific WCA products, services and facilities available to Access Seekers.
- Enhanced requirements with respect to Eircom's obligation to negotiate in good faith with Access Seekers concerning Service Level Agreements ('SLAs'). Such SLA requirements are also to apply to the provision of access to the Eircom Unified Gateway.
- Enhanced non-discrimination obligations requiring Eircom:
 - (i) to provide provisioning (including pre-provisioning, provisioning, fault reporting and fault repair) of new access requests from its downstream arm for CG copper based WCA and its Associated Facilities, that will be used as an input for the delivery of retail services to consumers, through the Unified Gateway and in doing so must provide such services on an EoI basis.
 - (ii) subject to certain exceptions to provide fault logging for CG copper based WCA on an EoI basis;
 - (iii) provide pre-ordering, ordering, provisioning fault reporting and repair for NG FTTx WCA on an EoI basis; and
 - (iv) Provide WCA access other than the above on an EoO basis.
- Enhanced Statement of Compliance requirements which now not only require Eircom to demonstrate its compliance with its non-discrimination obligations, but to all other obligations as well;
- Enhanced requirements relating to product development and associated timelines; and
- Requirements regarding the cost orientation of CG copper based Bitstream and NG FTTC based Bitstream as well as obligations not to cause a margin squeeze. The detailed nature of the margin squeeze obligations and some of the cost orientation obligations are to be set out and consulted upon in the Separate Pricing Consultation²⁶.

Withdrawal of Remedies in the Urban WCA Market

1.60 As noted above and in Section 10 of the Consultation, ComReg's preliminary view is that no undertaking is likely to have SMP in the Urban WCA Market.

²⁶ It is ComReg's intention that there will be an overlap in the consultation periods set out in this Consultation and the Separate Pricing Consultation. In any event, ComReg will provide an opportunity within the Separate Pricing Consultation for respondents to provide any additional views on the matters to be set out in this Consultation, having regard to the proposals set out in the Separate Pricing Consultation. Ultimately, it is intended that the final decisions arising from this Consultation and the Separate Pricing Consultation would be made in parallel.

- 1.61 In the Urban WCA Market, ComReg's preliminary view is that no SP is likely to have SMP (having regard to existing competition and potential competition) and ComReg has proposed that certain existing obligations would, subject to the implementation of obligations imposed in the WLA Market, be withdrawn at the date at which ComReg makes its final decision.
- 1.62 The linkage between the proposed withdrawal regulation in the Urban WCA Market and the implementation WLA Market remedies is necessary given ComReg's analysis is forward looking and competitive conditions in the Urban WCA Market which are impacted by proposed WLA obligations. However, in order to facilitate an orderly transition to de-regulation of the Urban WCA Market, ComReg has proposed a six month sunset period during which access to existing Bitstream services²⁷ would be maintained at prevailing prices. At the end of this six month sunset period, these remaining obligations would be withdrawn. In this context, a sunset period of 6 months is considered appropriate, as set out in Section 14 of the Consultation.

Regulatory Impact Assessment ('RIA')

- 1.63 In Section 15 ComReg sets out its preliminary Regulatory Impact Assessment for the WLA Market and Regional WCA Market.

Next Steps

- 1.64 ComReg invites views from interested parties on the issues analysed in this Consultation, with the procedure and deadline for the submission of responses set out in paragraph 2.55.

²⁷ ComReg notes that during this 6 month sunset period Eircom should not be obliged to meet new requests for WCA inputs on a regulated basis. Eircom is, of course, free to do so on a pre commercial basis.

2 Introduction

- 2.1 This consultation paper (**‘Consultation’**) presents the preliminary views of the Commission for Communications Regulation (**‘ComReg’**) on its analysis of the market(s) for:
- Wholesale local access provided at a fixed location (**‘WLA’**); and
 - Wholesale central access for mass-market products provided at a fixed location (**‘WCA’**).
- 2.2 These are wholesale inputs that are used by Service Providers (**‘SP(s)’**) in the supply of:
- Retail broadband and/or other services (including but not limited to telephony, television services and leased lines²⁸) to End Users; and
 - Wholesale services to other Service Providers.
- 2.3 The objective of this review is to examine the extent of competition within the above wholesale markets (together referred to as the **‘Relevant Wholesale Markets’**). In circumstances where such markets are not found to be effectively competitive due to one or more SP(s) having Significant Market Power (**‘SMP’**), the imposition of appropriate regulatory obligations on such Service Provider(s) would be necessary in order to address identified competition problems that could arise in the Relevant Wholesale Markets or related markets, absent regulatory intervention. Similarly, if competition is found to exist within either of the Relevant Wholesale Markets, then regulatory intervention would not be warranted in the respective market.
- 2.4 This introductory section of the Consultation describes the following:
- (a) A general overview of the WLA and WCA markets (discussed in paragraphs 2.6 to 2.13 below);
 - (b) The legal basis and the regulatory framework under which this review and Consultation is being undertaken (discussed in paragraphs 2.14 to 2.30 below);
 - (c) An overview of the previous reviews of the Relevant Wholesale Markets and why the current review is being undertaken (discussed in paragraphs 2.31 to 2.44 below);
 - (d) An outline of the information sources relied upon for the analysis set out in the Consultation (discussed in paragraphs 2.45 to 2.49 below);

²⁸ WLA and WCA inputs can be used by SPs to deliver a broad range of services and hence, the services identified here are non-exhaustive.

- (e) The procedure for the Consultation process including timeframes within which respondents should submit their views, and ComReg's liaison with the Competition and Consumer Protection Commission ('**CCPC**') (discussed in paragraphs 2.50 to 2.57 below); and
 - (f) An overview of the structure of the Consultation document (discussed in paragraph 2.58 below).
- 2.5 Section 1 of the Consultation contains an executive summary of the overall preliminary conclusions set out in this Consultation. A glossary of terms used frequently throughout this Consultation is also set out after the Table of Contents at the front of this Consultation.

What are WLA and WCA?

- 2.6 WLA and WCA services are wholesale inputs used both directly and indirectly in the supply of a range of downstream wholesale and retail services, including (but not limited to) fixed telephone, broadband internet/connectivity, leased lines and television ('**TV**') services, to residential and business End Users ('**End Users**'). WLA inputs can also be utilised by Service Providers to supply downstream WCA or other wholesale services.
- 2.7 In general, WLA is the connection between the local serving exchange/access node (Point of Presence) and the End User's premises, with this connection being either provided by the Service Providers themselves or purchased/rented from another Service Provider.
- 2.8 The WCA market lies downstream from the WLA market but upstream from the retail broadband (and other retail) markets (although WCA services can be used to support services other than broadband²⁹) and encompasses the rental of an active broadband connection between an End User's premises and an aggregation point in a network. It therefore, also encompasses backhaul connectivity across the WCA Service Provider's network.

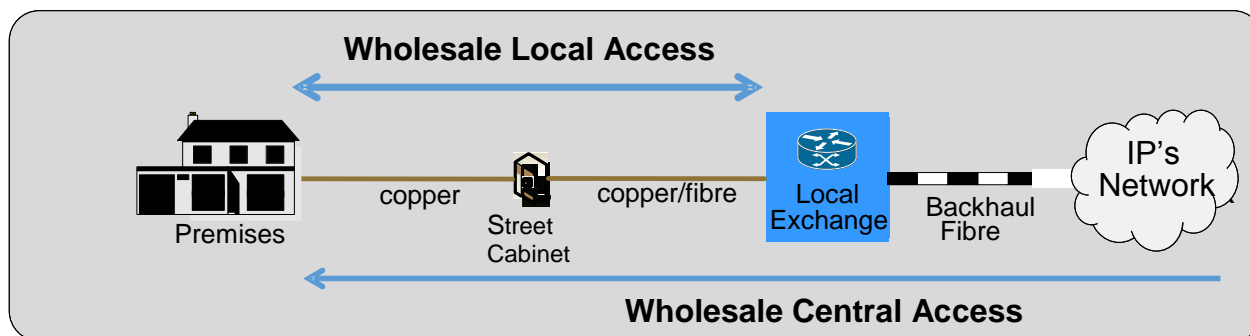
²⁹ For example, products sold in the WCA market can be used to provide Multicast TV services and Managed VOB services, as well as Bitstream services.

- 2.9 At the wholesale level, Service Providers purchase WLA, such as Local Loop Unbundling ('**LLU**'), Virtual Unbundled Local Access ('**VULA**') and WCA inputs such as Bitstream, to provide retail services to End Users (or indeed wholesale services to other Service Providers). Using LLU, an Access Seeker takes control (full control or partial control) of the copper loop from the local exchange to the End User's premises. Similarly, with VULA, a SP gains control of the fibre path typically provided from the local exchange (or equivalent) to the End User's premises. The SP can then supply retail services to the End User, or sell wholesale services, such as those sold in the WCA market, to Other Authorised Operators ('**OAOs**').
- 2.10 The WCA market therefore sits between the retail broadband market (and other retail markets), where End Users buy broadband access, and the WLA Market (which relates to the access path³⁰ between the End User's and a Service Provider's network). The WCA market concerns wholesale broadband products that SPs self-provide on their own networks (or using network inputs purchased upstream) and sell to other OAOs.
- 2.11 Typically, the point of handover for access in the WLA Market is provided locally (i.e. when the traffic is handed over at a level closer to the End User). The point of handover for access in the WCA Market is typically at the national or regional level, at a higher network level. Furthermore, products in the WLA Market give the Access Seeker a degree of flexibility in the network control (e.g. VULA products can be offered at various profiles (download speeds etc.)), allowing the Access Seeker to differentiate its retail offerings.³¹ Products in the WCA Market typically have network elements and ancillary inputs (e.g. customer premises equipment) that an Access Seeker has little control over.
- 2.12 The WLA Market therefore encompasses access products that enable the access seekers more flexible control over the access path, while the WCA Markets encompass access products that provide access seekers with a less direct and more standardised control over the access path.
- 2.13 Figure 2 below explains the WLA and WCA markets and how they are related. The WLA market comprises the connection typically between the local exchange and the End User's premise, while the WCA market relates to the full connection from an OAO network to the End User's premise.

³⁰ Access Path means the connection from the NTU/NTP in the customer's premises to the Point-of-Handover. The Points-of-Handover for physical unbundling are the MDF (for Copper) and the ODF (for fibre) in the exchange/MPoP, and the Point-of-Handover for non-physical unbundling (virtual access) is the Ethernet Interconnection Link at the serving Aggregation Node for the customer.

³¹ Further detailed in Section 5.

Figure 2: Example of Typical WLA and WCA Provision



Legal Basis and Regulatory Framework

- 2.14 This market review is being undertaken by ComReg in accordance with the obligation under the **Framework Directive**³² (transposed into Irish law as the **Framework Regulations**³³) that National Regulatory Authorities ('NRAs') should analyse relevant markets taking utmost account of the European Commission's ('EC's') 2014 Recommendation³⁴ and the SMP Guidelines³⁵.
- 2.15 Regulation 26 of the Framework Regulations requires that ComReg, taking the utmost account of the 2014 Recommendation and of the SMP Guidelines, define relevant markets appropriate to national circumstances, in accordance with the principles of competition law.
- 2.16 The EC refers in the 2014 Recommendation to WLA as follows:
*"Wholesale local access provided at a fixed location"*³⁶;
- 2.17 The Explanatory Note to the 2014 Recommendation is also informative as to the nature of the WLA market and in this respect notes:

³² Article 16 of Directive 2002/21/EC of the European Parliament and of the Council on a common regulatory framework for electronic communications networks and services, as amended by Directive 2009/140/EC (the '**Framework Directive**').

³³ European Communities (Electronic Communications Networks and Services) (Framework) Regulations 2011 (S.I. No. 333 of 2011) (the "**Framework Regulations**"). The Framework Regulations transpose the Framework Directive.

³⁴ European Commission Recommendation of 9 October 2014 on relevant product and service markets within the electronic communications sector susceptible to *ex ante* regulation (the '**2014 Recommendation**').

³⁵ European Commission guidelines on market analysis and the assessment of significant market power under the Community regulatory framework for electronic networks and services, OJ 2002 C 165/3 (the '**SMP Guidelines**').

³⁶ Annex to the 2014 Recommendation, Market 3a, page 42 onwards.

“At present the WLA market primarily consists of physical or passive access products enabling transmission of internet and related data services. Copper loop unbundling (LLU) and copper sub-loop unbundling (SLU) – although on a limited scale – are still the most relevant access products used throughout the Union.

...

...it appears appropriate also to include access based on non-physical or virtual products in the WLA market when they exhibit functionalities equivalent or comparable to the key features of physical unbundling.”

³⁷

2.18 The EC refers in the 2014 Recommendation to WCA as follows:

“Wholesale central access provided at a fixed location for mass-market products”³⁸

2.19 The Explanatory Note to the 2014 Recommendation is also informative as to the nature of the WCA market and in this respect notes:

“WCA access products are typically provided to the access seekers at a higher and more central layer in the network architecture, and can be used to provide best-effort retail services to both residential and non-residential customers. It remains likely that there is a chain of substitution between copper DSL-based bitstream services and fibre-based bitstream services provided over FTTH and FTTC/VDSL networks in the near- to medium-term future.

...

³⁷ Explanatory Note accompanying the Commission Recommendation on relevant product and service markets within the electronic communications sector susceptible to *ex ante* regulation, dated 9.10.2014 (the ‘Explanatory Note to the 2014 Recommendation’), at page 42. The Explanatory Note to the 2014 Recommendation is available at <https://ec.europa.eu/digital-agenda/en/news/explanatory-noteaccompanying-commission-recommendation-relevant-product-and-service-markets>. (the ‘Explanatory Note to the 2014 Recommendation’)

³⁸ Annex to the 2014 Recommendation, Market 3b, page 45 onwards.

Further on, the question arises whether access provided over other network platforms should be included in the relevant WCA market. In this regard, NRAs should assess in particular potential constraints stemming from CATV and mobile networks (particularly LTE, whose coverage is expected to increase rapidly in the Union), if retail services and bundles provided over these infrastructures have been found substitutable at retail level.”³⁹

- 2.20 Prior to the adoption of the 2014 Recommendation, the WLA and WCA markets were broadly identified in the 2007 Recommendation⁴⁰ as the market for Wholesale Physical Network Infrastructure Access⁴¹ (**WPNIA**) and the market for Wholesale Broadband Access⁴² (**WBA**) respectively. To date the WBA and WPNIA markets have been identified by ComReg as being susceptible to *ex ante* regulation and were thus regulated by ComReg pursuant to the 2010 WPNIA Decision⁴³ and the 2011 WBA Decision⁴⁴. Given that the 2007 Recommendation has been replaced by the 2014 Recommendation, it is the latter, which is now applicable for this current market review.

³⁹ Explanatory Note accompanying the Commission Recommendation on relevant product and service markets within the electronic communications sector susceptible to *ex ante* regulation, dated 9.10.2014 (the ‘Explanatory Note to the 2014 Recommendation’), at page 45. The Explanatory Note to the 2014 Recommendation is available at <https://ec.europa.eu/digital-agenda/en/news/explanatory-noteaccompanying-commission-recommendation-relevant-product-and-service-markets>.

⁴⁰ European Commission Recommendation of 17 December 2007 on relevant product and service markets within the electronic communications sector susceptible to *ex ante* regulation in accordance with Directive 2002/21/EC of the European Parliament and of the Council on a common regulatory framework for electronic communications networks and services OJ L 344 (the ‘**2007 Recommendation**’).

⁴¹ Market 4 under the 2007 Recommendation.

⁴² Market 5 under the 2007 Recommendation.

⁴³ Response to Consultation and Decision Document entitled “Wholesale (Physical) Network Infrastructure Access (Market 4)” (Document No.10/39). (the ‘**2010 WPNIA Decision**’)

⁴⁴ ComReg Document No 11/49 (ComReg Decision D06/11); Response to Consultation and Decision Document: Market Review: Wholesale Broadband Access (Market 5); 8 July 2011. (the ‘**2011 WBA Decision**’)

- 2.21 Having regard to Regulation 25 of the Framework Regulations, where ComReg determines, as a result of a market analysis carried out by it in accordance with Regulation 27 of the Framework Regulations, that a given market identified in accordance with Regulation 26 of the Framework Regulations is not effectively competitive, ComReg is obliged under Regulation 27(4) of the Framework Regulations to designate an undertaking(s) with SMP in that market and impose on such undertaking(s) such specific obligations as it considers appropriate, or maintain or amend such obligations where they already exist.
- 2.22 In line with the “Modified Greenfield Approach” (**MGA**) set out in the Explanatory Note to the 2014 Recommendation⁴⁵, ComReg’s assessment of a market starts from the assumption that SMP regulation is not present in the market under consideration. However, regulation present in other related markets or through the general regulatory framework is considered. This is to avoid drawing conclusions regarding the competitive structure of a particular market, which may be influenced by, or indeed premised on, existing regulation on that market. Considering how markets may function absent regulation helps to ensure that SMP based regulation is only applied (or withdrawn) in those circumstances where it is truly justified and proportionate.
- 2.23 Given that ComReg is analysing both the WLA Market and the WCA Market in this Consultation, it adopts the following approach with respect to the application of the MGA. The WCA Market is effectively a central access market, where access products are typically provided to the Access Seekers at a higher and more central layer in the network architecture. WCA is used in the supply of a range of best-effort services, including (but not limited to) broadband, telephony, and television services, to both residential and non-residential customers. The WCA market lies downstream from the WLA market but is, nonetheless, a wholesale market. In analysing the WLA market and applying the MGA, ComReg first examines the WLA market assuming regulation is absent in this and downstream markets (and related retail markets). ComReg’s subsequent examination of the WCA market takes place having regard to the impact of any regulation imposed in the WLA market, but absent regulation in the WCA market.

⁴⁵ The Explanatory Note to the 2014 Recommendation (page 13).

- 2.24 Where an operator is ultimately designated as having SMP in a market, ComReg is obliged, under Regulation 8(1) of the **Access Regulations**⁴⁶, to impose on such an operator (or maintain where they already exist) as many of the obligations set out in Regulations 9 to 13 of the Access Regulations as it considers appropriate. Obligations imposed must:
- be based on the nature of the problem identified;
 - be proportionate and justified in the light of the objectives laid down in Section 12 of the Communications Regulation Act 2002 (as amended)⁴⁷, and Regulation 16 of the Framework Regulations; and
 - Only be imposed following consultation in accordance with Regulations 12 and 13 of the Framework Regulations.
- 2.25 Section 12(1)(a) of the Communications Regulation Act 2002 (as amended) sets out ComReg's objectives in exercising its functions in relation to the provision of electronic communications networks, electronic communications services and associated facilities, namely:
- to promote competition;
 - to contribute to the development of the internal market; and
 - to promote the interests of users within the European Union.
- 2.26 Apart from conducting a public consultation in accordance with Regulation 12 of the Framework Regulations, ComReg is also obliged to make its draft measures accessible to the EC, BEREC⁴⁸ and the NRAs in other Member States pursuant to Regulation 13(3) of the Framework Regulations.
- 2.27 Pursuant to Regulation 27(1) of the Framework Regulations, ComReg is required to carry out an analysis of the Relevant Wholesale Markets in accordance, where appropriate, after consulting with the CCPC under section 34 or 47(G) of the Competition Act 2002 (as amended)⁴⁹.
- 2.28 Overall, in preparing this Consultation, ComReg has taken account of its functions and objectives under the Communications Regulation Act 2002 (as amended), in addition to requirements under the Framework Regulations and the Access Regulations.

⁴⁶ European Communities (Electronic Communications Networks and Services) (Access) Regulations 2011 (S.I. No. 334 of 2011) (the '**Access Regulations**'). The SMP Guidelines also state at paragraph 17 that "NRAs must impose at least one regulatory obligation on an undertaking that has been designated as having SMP".

⁴⁷ Communications Regulation Act 2002 (No. 20 of 2002), as amended (the '**Communications Regulation Act 2002 (as amended)**').

⁴⁸ Body of European Regulators for Electronic Communications ('**BEREC**') as established by Regulation (EC) No 1211/2009 of the European Parliament and of the Council of 25 November 2009 the Body of European Regulators for Electronic Communications (BEREC) and the Office.

⁴⁹ Competition Act 2002 (No. 14 of 2002), as amended (the '**Competition Act 2002 (as amended)**').

2.29 The analysis undertaken in this Consultation also takes the utmost account of, inter alia, the following documents:

- The 2014 Recommendation and the Explanatory Note to the 2014 Recommendation on relevant product and service markets susceptible to ex ante regulation within the electronic communications sector;
- The SMP Guidelines on market analysis and the assessment of significant market power;
- The 2005 Accounting Separation and Cost Accounting Recommendation⁵⁰;
- The 2010 NGA Recommendation⁵¹; and
- The 2013 Non-Discrimination Recommendation.⁵²

2.30 ComReg also takes utmost account of:

- The EC Notice on Market Definition⁵³ for the purposes of community competition law;
- Any relevant common positions adopted by BEREC⁵⁴; and
- Any relevant European Commission comments made, pursuant to Article 7 and 7a of the Framework Directive, with respect to NRAs' market analyses.

⁵⁰ European Commission Recommendation of 19 September 2005 on accounting separation and cost accounting systems under the regulatory framework for electronic communications (2005/698/EC) (the '**2005 Accounting Separation and Cost Accounting Recommendation**').

⁵¹ European Commission Recommendation of 20 September 2010 on regulated access to Next Generation Access Networks (NGA) (2010/572/EU) (the '**2010 NGA Recommendation**').

⁵² European Commission Recommendation of 11 September 2013 on consistent non-discrimination obligations and costing methodologies to promote competition and enhance the broadband investment environment (2013/466/EU) (the '**2013 Non-Discrimination Recommendation**').

⁵³ Commission notice on the definition of relevant market for the purposes of Community competition law, (the '**Notice on Market Definition**'), Official Journal C 372, 09/12/1997 P. 0005 – 0013.

⁵⁴ BEREC "[Common Position on Best Practice in Remedies on the market for Wholesale Broadband Access \(including Bitstream Access\) imposed as a consequence of a position of Significant Market Power in the Relevant Market](#)" BoR (12) 128, 08.12.2012.

BEREC "[Common Position on Geographic Aspects of Market Analysis](#)", BoR (14) 73, 05.06.2014.

Previous Review of the WLA and WCA Markets

Previous Review of the WLA Market

- 2.31 ComReg's 2010 WPNIA Decision identified a national WPNIA Market (now the WLA market⁵⁵) consisting of:
- Wholesale physical network infrastructure access products provided over current generation copper only network⁵⁶ infrastructure and its associated facilities at a fixed location;
 - Wholesale physical network infrastructure access products provided over next generation fibre network infrastructure and its associated facilities at a fixed location; and
 - Self-supplied physical network infrastructure access, where certain conditions are satisfied. The self-provision of network access by Eircom Limited ('**Eircom**') fell within the scope of the WPNIA product market.
- 2.32 ComReg assessed competition within the WPNIA market and concluded that the WPNIA Market was not effectively competitive, and was unlikely to become competitive over the lifetime of the market review. ComReg thus designated Eircom with SMP in the WPNIA Market.
- 2.33 ComReg adopted a differentiated approach in imposing remedies on Eircom in relation to next generation access ('**NGA**') WPNIA (fibre infrastructure and associated facilities) and current generation access ('**CGA**') WPNIA (copper infrastructure and associated facilities). In this respect, ComReg imposed detailed remedies with respect to CGA WPNIA and high-level remedies for NGA WPNIA, with further NGA WPNIA remedies subsequently specified in the 2013 NGA Decision⁵⁷.

⁵⁵ As considered and renamed by the EC in its 2014 Recommendation.

⁵⁶ In this Consultation, where ComReg refers to a copper network or a copper only network, it is referring to a network that does not include fibre in the access path (i.e. a network which has exclusively copper in the access path). A copper network is typically used to supply, amongst other things, ADSL and ADSL2+ based broadband services. Eircom's legacy copper based network is an example of a copper only network.

⁵⁷ ComReg Decision D03/13, Document number 13/11, dated 31/01/2013 (the '**2013 NGA Decision**').

Previous Review of the WCA (formerly WBA) Market

- 2.34 ComReg's 2011 WBA Decision identified a national WBA Market (now the WCA market⁵⁸) consisting of WBA products provided over current and next generation infrastructure. ComReg also concluded that the WBA market included WBA supplied by a WPNIA purchaser⁵⁹. The WBA market included the following products/services:
- Bitstream (both current and next generation access);
 - Virtual Unbundled Access ('VUA')⁶⁰.
- 2.35 The geographic scope of the retail broadband market was considered national, with ComReg designating Eircom with SMP in the WBA market.
- 2.36 The 2011 WBA Decision imposed a number of regulatory remedies to both current generation and next generation⁶¹ WBA services. ComReg further specified remedies relating to NGA products and services provided in the WBA Market in the 2013 NGA Decision.

Current Review of the WLA and WCA Markets

- 2.37 Given the time that has elapsed since the previous analyses of these markets and, having regard to market developments, including the publication of the 2014 Recommendation, it is now considered appropriate to review these markets.
- 2.38 To inform these market reviews, ComReg has obtained qualitative and quantitative information from Service Providers through a series of formal and informal information requests, as well as follow-up clarifications through meetings or correspondence where appropriate.
- 2.39 The above information supplements information which is provided to ComReg in the performance of its regular operations (e.g. for the Irish Communications Market Quarterly Key Data Report ('Quarterly Key Data Report' or 'QKDR')⁶² or its ongoing regulatory activities.

⁵⁸ As considered and renamed by the EC in its 2014 Recommendation.

⁵⁹ At the time of the 2011 WBA Decision, BT Ireland was the only purchaser of WPNIA to supply downstream WBA services.

⁶⁰ In the 2013 NGA Decision, ComReg concluded that Eircom's VUA product was contained in the WBA Market (as defined in the 2011 WBA Decision).

⁶¹ ComReg imposed only high level NGA WBA remedies in the 2011 Decision.

⁶² The most recently published Quarterly Report is the Irish Communications Market Quarterly Key Data Report, Data as of Q1 2016, ComReg Document 16/17, 10 March 2016.

- 2.40 ComReg has also reviewed, in detail, the experience of regulating wholesale broadband markets in other European jurisdictions, and has carefully analysed guidance available from the EC, BEREC and other relevant commentators before arriving at its preliminary views in this Consultation.
- 2.41 ComReg has also carried out market research (conducted via surveys carried out by RedC Research & Marketing) to inform its understanding of End User attitudes/behaviours in the retail broadband (and related) markets. Two surveys were undertaken, a survey of End Users (the '**2014 Consumer Market Research**') and a survey of businesses (the '**2014 Business Market Research**'). These surveys are being published by ComReg alongside this Consultation at Appendix: 1 and are summarised in Appendix: 2. Collectively these two surveys are referred to throughout this Consultation as the '**WLA/WCA Market Research**'⁶³.
- 2.42 In addition, ComReg commissioned market research (conducted via surveys carried out by RedC Research & Marketing) in 2015 to gain insights into developments in the telecommunications and broadcasting sectors. The '**2015 Consumer ICT Survey**'⁶⁴ and '**2015 Business ICT Survey**'⁶⁵ (collectively referred to as the '**2015 ICT Surveys**') were published by ComReg in November 2015.
- 2.43 ComReg is mindful that such surveys, while a useful practical means of gathering information on End User preferences/behaviours, need to be interpreted with care and that stated preferences of survey respondents can overestimate what they will actually do in practice (known as 'stated preference bias').
- 2.44 Therefore, ComReg does not solely or overly rely on the WLA/WCA Market Research or the 2015 ICT Surveys in forming its preliminary conclusions as set out in this Consultation. ComReg considers all the information available to it at the time of publishing this Consultation.

Information sources relied upon

- 2.45 In conducting its analysis, ComReg has drawn on data from a number of sources, including:

⁶³ The WLA/WCA Market Research is set out in Appendix: 2 of this Consultation.

⁶⁴ See 'Consumer ICT Survey' (the '**2015 Consumer ICT Survey**'), ComReg Document 15/123a. Available here- <http://www.comreg.ie/fileupload/publications/ComReg15123a.pdf>.

⁶⁵ See 'Business ICT Survey' (the '**2015 Business ICT Survey**'), ComReg Document 15/123b. Available here- <http://www.comreg.ie/fileupload/publications/ComReg15123b.pdf>.

- (a) The WLA/WCA Market Research. This included attitudinal surveys of retail users of broadband and other services. This research is being published alongside this Consultation in Appendix: 1;
- (b) Information provided by Service Providers in response to detailed statutory information requirements⁶⁶ issued by ComReg in which both quantitative and qualitative information on the retail broadband market, other markets and the Relevant Wholesale Markets was sought ('Statutory Information Requirements' or '**SIRs**');
- (c) Information provided to ComReg in subsequent follow-up correspondence and discussions in relation to the above;
- (d) Information provided to ComReg by Service Providers for the purpose of its Quarterly Key Data Reports ('**QKDR**'); and
- (e) Other information in the public domain.

2.46 The WLA/WCA Market Research referred to in paragraph 2.45 above was undertaken by ComReg to inform its WLA and WCA market reviews and examined residential and business attitudes to various issues related to the provision of broadband (and other) services. The fieldwork supporting the WLA/WCA Market Research took place in the period 27 October 2014 to 5 December 2014 with the results finalised and provided to ComReg in February 2015. As part of the WLA/WCA Market Research, 1,800 residential households were surveyed through face-to face interviews, and 1,000 SME's and 100 Corporates were surveyed via a computer aided telephone interview ('**CATI**'), with the person interviewed being the individual responsible for selecting the relevant business's telecommunications providers. The survey examined, amongst other things:

- Importance placed by End Users on ownership and usage of particular technologies;
- The impact of high speed broadband and the roll out of next generation broadband;
- Willingness of End Users to switch between communications providers and technologies;
- Attitudes to, and actual reactions to, hypothetical changes in the price of telecommunications services; and

⁶⁶ Pursuant to its powers under section 13D(1) of the Communications Regulation Act 2002 (as amended), ComReg issued a series of Statutory Information Requirements to Service Providers in February 2015, September 2015 and February 2016.

- The importance of bundled services offers for residential customers and the value that different services may hold within a bundle and in the purchasing decision of residential customers (e.g. TV services).
- 2.47 ComReg refers to the outputs from the WLA/WCA Market Research, along with the other data sources referred to above, throughout the remainder of the analysis in this Consultation.
- 2.48 It should be noted that, rather than being definitive, the WLA/WCA Market Research informs the analysis throughout this Consultation, and its outputs are considered alongside empirical data/evidence, where available, in particular, alongside data presented in the QKDR and in response to Statutory Information Requirements.
- 2.49 As highlighted later in this Consultation, ComReg intends to re-refresh some of the data sources identified above in parallel with this consultation process, and will take such updated data, including respondents' views, into account when issuing its final decision.

Liaison with Competition and Consumer Protection Commission

- 2.50 In accordance with Regulation 27(1) of the Framework Regulations, ComReg will consult with the Competition and Consumer Protection Commission on the Relevant Wholesale Markets to be set out in the subsequent decision which will issue following ComReg's consideration of the responses received to the issues raised in this Consultation. ComReg will continue to keep the Competition and Consumer Protection Commission informed throughout the conduct of this market analysis process.

Consultation Process

- 2.51 As noted above, the purpose of this Consultation is to set out ComReg's preliminary views on its analysis of the Relevant Wholesale Markets (including product and geographic definition, competition analysis and remedies, as appropriate).
- 2.52 ComReg invites all interested parties to respond to the questions set out in this Consultation, and/or to comment on any other aspect of the Consultation.
- 2.53 In so doing, respondents are requested to clearly explain the reasoning for their response, indicating the specific relevant paragraph numbers within the Consultation to which their response refers, along with all relevant factual or other evidence supporting views presented. Respondents should submit views in accordance with the instructions set out below.

- 2.54 Respondents should also be aware that all non-confidential responses to this Consultation will be published, subject to the provisions of ComReg's guidelines on the treatment of confidential information.⁶⁷ Similarly, any correspondence received by ComReg from SPs in the course of the consultation process will also be published. **Respondents should ensure that a non-confidential version of their response is also provided by the closing date set out below. Confidential elements of responses must be clearly marked as such and be set out in a separate document which must also be provided to ComReg by the closing date set out below.**
- 2.55 All responses should be sent by post, facsimile or email to the address below to arrive on or before 17:00 on 30 January 2017. ComReg is providing an eleven (11) week period⁶⁸ within which interested parties can respond. Responses should be clearly marked for the attention of:
- Graeme O'Meara
Commission for Communications Regulation
Irish Life Centre
Abbey Court
Blocks D, E & F
Lower Abbey Street
Dublin 1
Ireland
Ph: +353-1-804 9642
Email: graeme.omeara@comreg.ie
- 2.56 In submitting comments, respondents are requested to provide a copy of their submissions in an unprotected electronic format in order to facilitate their subsequent publication by ComReg.
- 2.57 This is a non-confidential version of the Consultation. Certain information within the Consultation has been redacted for reasons of confidentiality, with such redactions indicated by the symbol ✕. Should an individual SP wish to review its own redacted information, it should make a request for such in writing to ComReg (to the person identified in paragraph 2.55 above) and indicate, where possible, the specific paragraph numbers within which the redacted information being requested is contained. ComReg will consider requests for redacted information and will, subject to the protection of confidential information, respond accordingly.

⁶⁷ See ComReg [Document 05/24](#), "Guidelines on the treatment of confidential information", March 2005.

⁶⁸ ComReg notes that this period includes the Christmas holiday period, and has taken account of this when setting the consultation period.

Structure of this Consultation

2.58 The remainder of this Consultation is structured as follows:

- **Section 3** gives an overview of trends and developments in the retail markets, including changes in usage and consumption;
- **Section 4** presents an assessment of the retail market, including defining the retail product market and the geographic scope of the retail market;
- **Section 5** assesses the Wholesale Local Access (WLA) market by defining the WLA product and geographic market;
- **Section 6** presents an assessment of competition in the WLA Market and examines whether any operator in the WLA Market has Significant Market Power (SMP);
- **Section 7** outlines the competition problems that can arise in the WLA market absent regulation, when there is an operator with SMP, including exploitative practices, leveraging and exclusionary practices;
- **Section 8** presents the proposed remedies for the WLA market;
- **Section 9** gives an assessment of the retail broadband market in the presence of regulation in the upstream WLA Market;
- **Section 10** assesses the Wholesale Central Access (WCA) market by defining the product market and geographic markets (the geographic analysis is outlined in more detail in Appendix: 5);
- **Section 11** presents an assessment of competition within the WCA Markets and determines whether any SP(s) in the WCA Markets has SMP;
- **Section 12** outlines the competition problems that can arise in the Regional WCA Market, absent regulation;
- **Section 13** describes the proposed remedies for the Regional WCA market;
- **Section 14** describes the withdrawal of remedies in the Urban WCA market;
- **Section 15** presents a Regulatory Impact Assessment (RIA) of the proposed regulation on the WLA and WCA Markets respectively; and
- **Section 16** outlines the next steps involved in bringing the findings of this Consultation to a Decision stage following the responses from stakeholders, and the dates for when these responses are due.

2.59 There are also a number of Appendices to the Consultation document, which give additional supporting analysis and in some cases outline the approach and findings in more detail, where they have been condensed for reasons of brevity in the main text.

- **Appendix: 1** contains the WLA/WCA Market Research, undertaken by RedC Research on behalf of ComReg;
- **Appendix: 2** gives a summary of the key findings from the WLA/WCA Market Research;
- **Appendix: 3** outlines the Chain of Substitution analysis (discussed in Section 4);
- **Appendix: 4** outlines the pricing of retail broadband products that use LLU/VUA inputs, which is the basis for the Assessment of Indirect Constraints in Section 5;
- **Appendix: 5** presents the WCA geographic market assessment (as discussed in Section 10);
- **Appendix: 6** describes the boundaries of the WCA Markets;
- **Appendix: 7** outlines the computation of the Critical Loss Test (discussed in Section 5 and Section 10);
- **Appendix: 8** contains the WIK CATV report for ComReg;
- **Appendix: 9** contains the WIK GPON and TWDM GPON report for ComReg;
- **Appendix: 10** contains the Cartesian Report for ComReg;
- **Appendix: 11** outlines the remaining SMP criteria, which ComReg consider are not relevant to the current assessment of SMP;
- **Appendix: 12** contains details on the proposed scope of the Civil Engineering Infrastructure Access remedy;
- **Appendix: 13** contains the questions set out in this Consultation;
- **Appendix: 14** outlines the draft decision instrument for the WLA market; and
- **Appendix 15** outlines the draft decision instrument for the Regional WCA market.

3 Retail Market Trends and Developments

3.1 In order to inform ComReg's subsequent analysis of the Relevant Wholesale Markets, ComReg first reviews recent retail trends in the supply and demand of broadband and other retail services in Ireland. In this respect, ComReg notes that demand for WLA and WCA is ultimately derived from downstream End User demand for a range of services that can be provided over WLA and WCA inputs and retail trends and developments are, therefore, potentially informative when subsequently analysing the WLA and WCA market(s). In this section, ComReg has identified a number of key trends which are examined under the following general headings:

- (a) Relationship between WLA, WCA and Retail Markets (discussed in paragraphs 3.2 to 3.8 below);
- (b) Retail Service Providers (discussed in paragraphs 3.11 to 3.12 below);
- (c) Broadband subscriptions by network platform, type and speed (discussed in paragraphs 3.13 to 3.28 below);
- (d) Broadband traffic growth patterns (discussed in paragraphs 3.29 to 3.35 below);
- (e) Increased take-up of bundled retail services (discussed in paragraphs 3.36 to 3.39 below);
- (f) Telephony and other retail services (discussed in paragraphs 3.40 to 3.42 below); and
- (g) NGA rollout by operators (discussed in paragraphs 3.43 to 3.46 below).

Relationship between WLA, WCA and Retail Markets

- 3.2 WLA is passive or active access⁶⁹ over the 'last mile' (whether copper or fibre infrastructure), typically between the local exchange and the End User. WLA is acquired upstream and encompasses "access products enabling the Access Seekers greater and more flexible control over the access lines".⁷⁰ Products offered in the WLA market include physical services and, in certain circumstances, can include virtual unbundled local access ('**VULA**') services.
- 3.3 SPs purchasing WLA products do so to enable them to provide a range of downstream (wholesale and retail) services. At the retail level these can include (but are not limited to) broadband, leased lines⁷¹, television and telephony (traditional PSTN⁷² telephony or Managed VoIP/VOB⁷³) services. At the wholesale level, WLA can enable a Service Provider to offer WCA services (downstream from the WLA market) to other Service Providers who in turn use these inputs to provide retail services to End Users. ComReg also considers that WLA services (e.g. duct and pole access) can also be used to provide access and services in other downstream markets, e.g. the Wholesale High Quality Access (WHQA) Market.⁷⁴

⁶⁹ Active access is more commonly known as Virtual Unbundled Local Access ('**VULA**'), whereby SPs are provided with access to a wholesale supplier's network through a virtual connection giving them a defined link to their customers, with substantial control over that link.

⁷⁰ Explanatory Note to the 2014 Recommendation, at page 42.

⁷¹ WLA products are used in the supply of Ethernet First Mile ('**EFM**') leased lines services.

⁷² Public Switched Telephone Network.

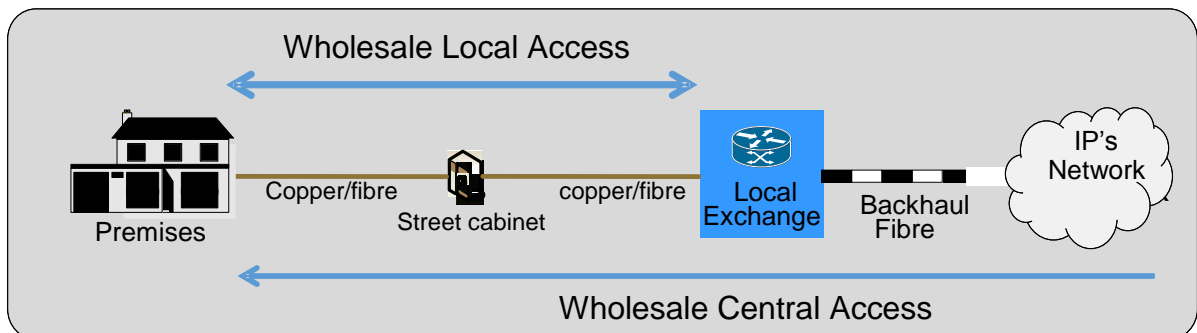
⁷³ Managed Voice over Internet Protocol ('**Managed VoIP**') services are provided by a SP who has control over the broadband connection to the End User and can ensure reliability and quality of service. Managed Voice over Broadband ('**Managed VOB**') means VOIP provided by a SP either directly using its own network, or indirectly by renting the access path from a third party.

⁷⁴ See Market Review: Wholesale High Quality Access at a Fixed Location, Consultation, [ComReg Document 16/69](#), August 2016 ('**WHQA Market Review Consultation**'). See paragraphs 4.9 to 4.57 for the assessment in a retail context.

3.4 WCA is a non-physical wholesale input used in the provision of a range of retail products, which are typically used by End Users for accessing broadband, TV and telephony services. It encompasses “*access products enabling Access Seekers a less direct and more standardized control over the access line*”.⁷⁵ Services provided in the WCA market are commonly referred to as ‘Bitstream’ services. WCA ‘Bitstream’ services typically include access to capacity over an SP’s current generation (typically copper) or next generation (typically fibre or copper/fibre hybrid) network, the use of broadband equipment and some element of backhaul and handover. The Access Seeker puts in place their own marketing and advertising, sales and billing arrangements while the SP providing the WCA product repairs and maintains the wholesale service from the End Users’ premises up to the handover point at the regional or national point of presence (‘PoP’).

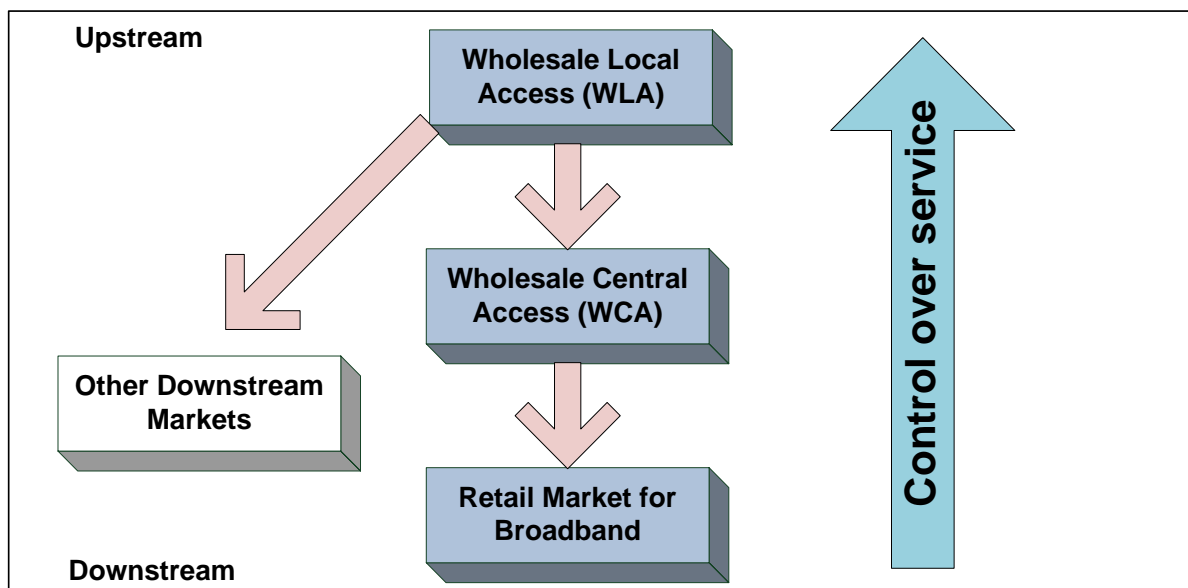
3.5 Figure 3 below gives a typical example of WLA and WCA Provision.

Figure 3: Example of Typical WLA and WCA Provision



3.6 Figure 4 explains the link between the retail market and WCA and WLA Market, where WLA is the furthest upstream market. WLA is further upstream than WCA because Access Seekers are required to build infrastructure deeper (i.e. closer to the End User) and thereby obtain greater control over the line, in order to avail of the WLA service. In other words, the further upstream the purchaser of wholesale inputs goes, the more control they have over the connection to the premise and the deeper the level of infrastructure build required. An Access Seeker using WLA products can supply its own retail services and can also provide WCA products to another operator.

⁷⁵ European Commission Explanatory Note to the 2014 Recommendation, page 42.

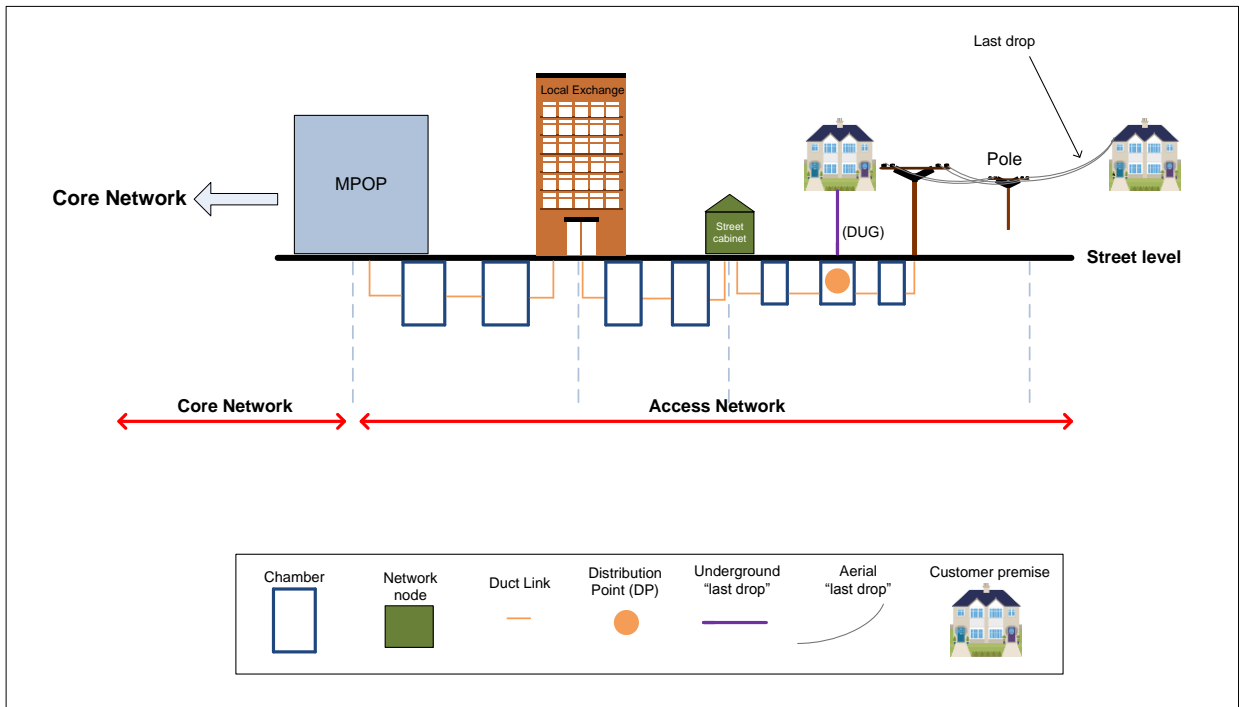
Figure 4: Relationship between WLA, WCA and Retail

- 3.7 This market review focuses on WLA and WCA as upstream inputs into the provision of retail broadband and other retail services as well as for the provision of WCA services. Competition in retail markets depends on SPs offering services either using their own infrastructure, or purchasing wholesale inputs provided by another SP in the WCA and/or WLA Markets.
- 3.8 The stylised illustrations in Figure 5⁷⁶ and Figure 6⁷⁷ give an overview of Eircom's network. The network has two main parts - the core network and the local access network. The core network connects all regions together and is a nationwide piece of infrastructure. The local access network connects End Users to the core network entry point. Eircom's local access network typically consists of exchanges, street cabinets, distribution points, ducts, pole, chambers, cables and network termination points.
- 3.9 Access paths necessary to provide End User services can be installed into ducts that can either run all the way to the End User's premises or terminate at a pole, where the 'last drop' is made using an overhead cable.
- 3.10 Alternatively, access paths necessary to provide End User services can use a combination of duct and pole, or dedicated aerial route facilitated by poles.

⁷⁶ In the case of Figure 5, the MPoP is not housed at the nearest serving exchange to the End User.

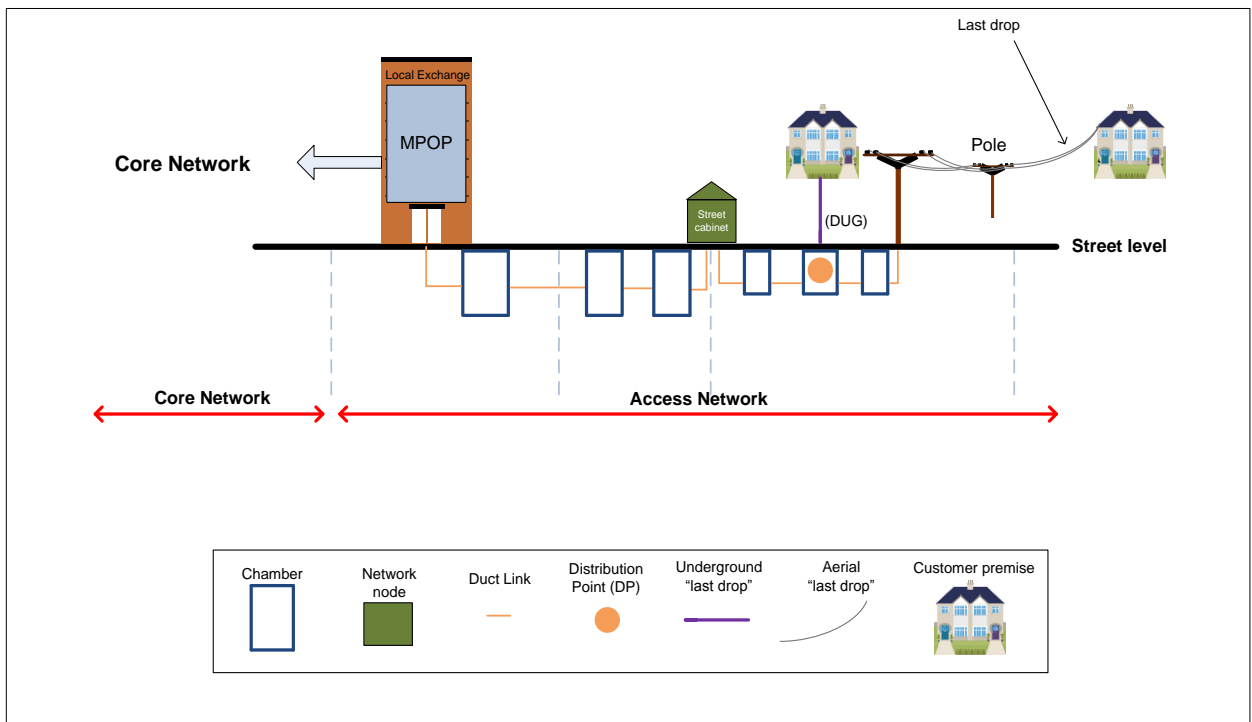
⁷⁷ In the case of Figure 6, the MPoP is housed at the nearest serving exchange to the End User.

Figure 5: Stylised Illustration of Eircom’s Network



Note: MPoP means “Metropolitan Point of Presence”, DUG means “Direct Underground”

Figure 6: Stylised Illustration of Eircom’s Network – MPOP at Exchange



Retail Service Providers using WLA, WCA and own network inputs

3.11 There are currently several active SPs of retail services (using wholesale WLA and WCA inputs) in Ireland. These SPs differ in terms of the products they supply, their relative size, the technology/service platforms they use to supply services and the geographic coverage of their networks/services. For the purposes of the analysis in this Consultation, SPs can be broadly categorised into four types having regard to the extent of the coverage of their own networks and the extent to which they depend on the use of wholesale services provided by other SPs⁷⁸:

- (a) **Independent providers:** these operators provide retail services predominantly using their own network and associated infrastructure and hence are not reliant on the use of wholesale inputs provided by other SPs when offering retail services. Examples of such operators currently include Eircom⁷⁹ and Virgin Media Ireland Limited ('Virgin Media', previously UPC Ireland)⁸⁰.
- (b) **WLA purchasers:** these operators purchase wholesale inputs in the WLA market and use them to provide products in the downstream wholesale markets and/or retail markets. These operators typically have physical infrastructure of their own and use inputs in the WLA market (to a varying degree) to provide downstream services. Examples of SPs currently purchasing products in the WLA market include BT Ireland Communications Ireland Ltd ('BT Ireland')⁸¹, Magnet Networks Ltd ('Magnet')⁸² and Vodafone Ireland Ltd ('Vodafone')⁸³.
- (c) **WCA purchasers:** these operators purchase wholesale inputs in the WCA Market and use them to provide products in the retail markets. These operators typically have limited network infrastructure of their own and depend on services provided by Independent providers and WLA purchasers to provide retail services to End Users. Examples include British Sky Broadcasting Limited ('Sky')⁸⁴.

⁷⁸ Please note that the Service Providers listed in this section are not intended as an exhaustive list of all active suppliers in Ireland at present but are rather included as examples of the principal suppliers.

⁷⁹ Further information is available at <http://www.eir.ie/>

⁸⁰ Further information is available at <http://www.virginmedia.ie/>

⁸¹ Further information is available at <http://www.btirelandwholesale.com/>

⁸² Further information is available at <http://www.magnet.ie/>

⁸³ Further information is available at <http://www.vodafone.ie/>

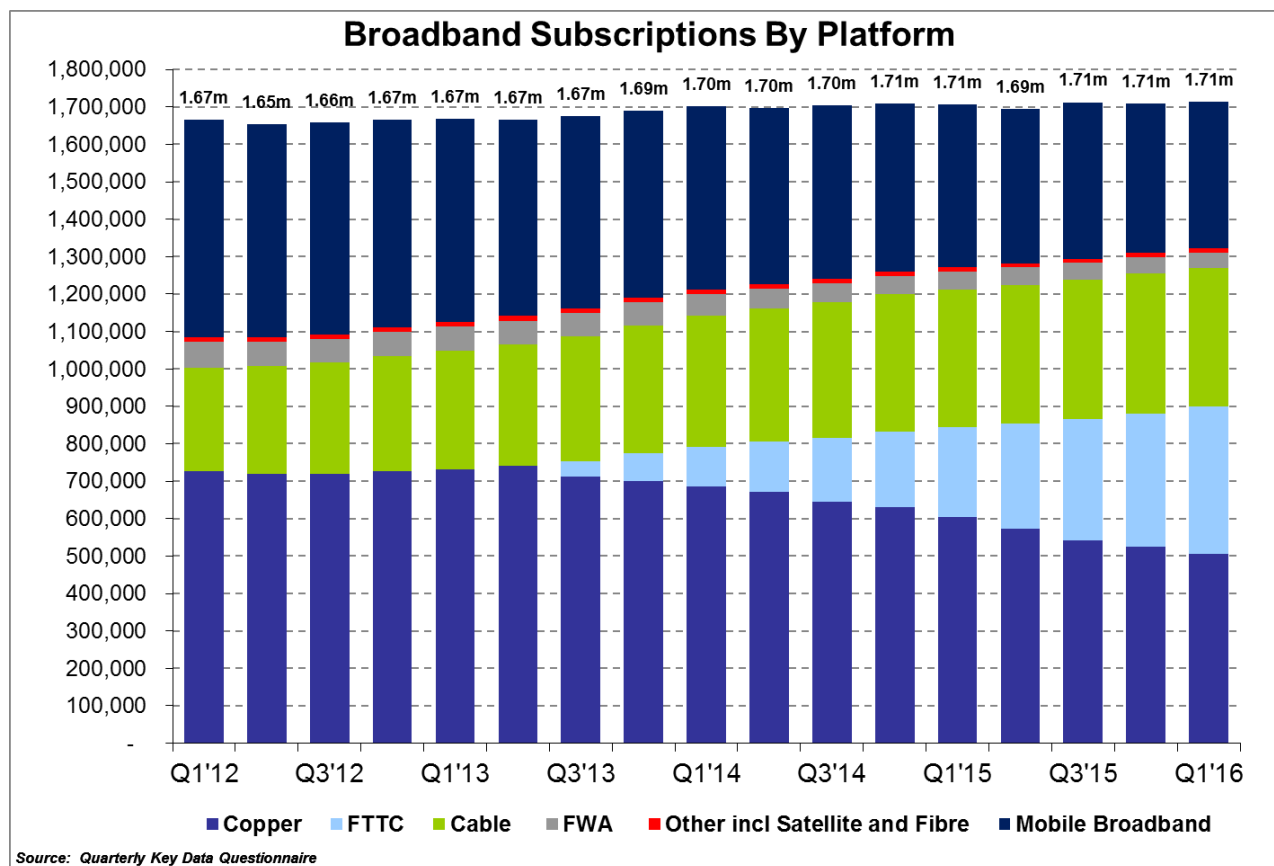
⁸⁴ Further information is available at <http://www.sky.com/ireland/>

- (d) **Resale broadband providers:** these operators' services do not involve the use of their own physical network or services directly purchased in the WLA and WCA Markets. These operators purchase products from a third party provider (typically an Independent provider) and resell services under its own brand in the retail market.
- 3.12 These Service Providers (and others) above offer a range of retail services, using wholesale inputs from the WLA and WCA markets, as well as their own network inputs.

Broadband Subscribers by Network Platform, Type and Speed

3.13 Figure 7 below illustrates the breakdown by type of broadband subscription in the Irish market since Q1 2012. As of Q1 2016, 52.4% of subscribers received their broadband service over the CGA⁸⁵ and NGA⁸⁶ xDSL platforms⁸⁷. A further 22.9% received broadband services over a mobile network using a dongle or MiFi device (typically offered by Mobile Service Providers⁸⁸) and 21.6% received broadband services over Virgin Media’s (previously UPC Ireland) DOCSIS 3 CATV network.⁸⁹ The remaining subscribers accessed services using satellite or fixed wireless networks.

Figure 7: Broadband Subscriptions by Platform



Source: ComReg Quarterly Key Data Report

⁸⁵ Current Generation Access ('CGA') is typically provided over a copper only network.

⁸⁶ Next Generation Access ('NGA') is typically provided over a fibre or fibre/copper hybrid network.

⁸⁷ These platforms include ADSL, ADSL 2+ and VDSL.

⁸⁸ These include eMobile and Meteor (both owned by Eircom Limited), Three Ireland, and Vodafone.

⁸⁹ Data Over Cable Service Interface Specification ('DOCSIS') 3.0 Cable Access Television ('CATV').

- 3.14 Subscribers using a broadband service provided over a Copper Network⁹⁰ accounted for the largest share of total broadband subscriptions⁹¹ (29.5%) in Q1 2016, but its share has decreased by 26.4% since Q1 2014. Subscribers using a broadband service provided over a Fibre to the Cabinet ('FTTC') NGA Network accounted for 22.9% of total broadband subscriptions in Q1 2016, up from 14% in Q1 2015. Between Q1 of 2015 and Q1 of 2016, FTTC Network based subscriptions increased by 64%.
- 3.15 Mobile broadband subscriptions have declined since 2014, now accounting for 22.9% of total broadband subscriptions (Q1 2016)⁹², down from 28.7% in Q1 2014. Virgin Media's CATV network has a 21.6% share of total broadband subscriptions, which has remained relatively static in the year to Q1 2016. Fixed Wireless Access ('FWA') has a 2.5% share of total broadband subscriptions down from 3.4% in Q1 2014. 'Other' (satellite/very localised fibre network) broadband subscriptions represent the remaining 0.6% of total broadband subscriptions in Q1 2016. Satellite subscriptions amounted to 5,523 subscriptions, while FTTH subscriptions totalled 4,564.
- 3.16 Overall, the most significant trend is the decline in broadband subscriptions provided over DSL (copper wire) which have fallen by 3.9% since Q4 2015 and by 26.4% between Q1 2014 and Q1 2016. At the same time, the number of subscriptions on VDSL (Next Generation Access) have increased by 279%.

⁹⁰ In this Consultation, where ComReg refers to a Copper Network or a copper only network, it is referring to a network that does not include fibre in the access path (i.e. a network which has exclusively copper in the access path). A copper network is typically used to supply, amongst other things, ADSL and ADSL2+ based broadband services. Eircom's legacy copper based network is an example of a copper only network.

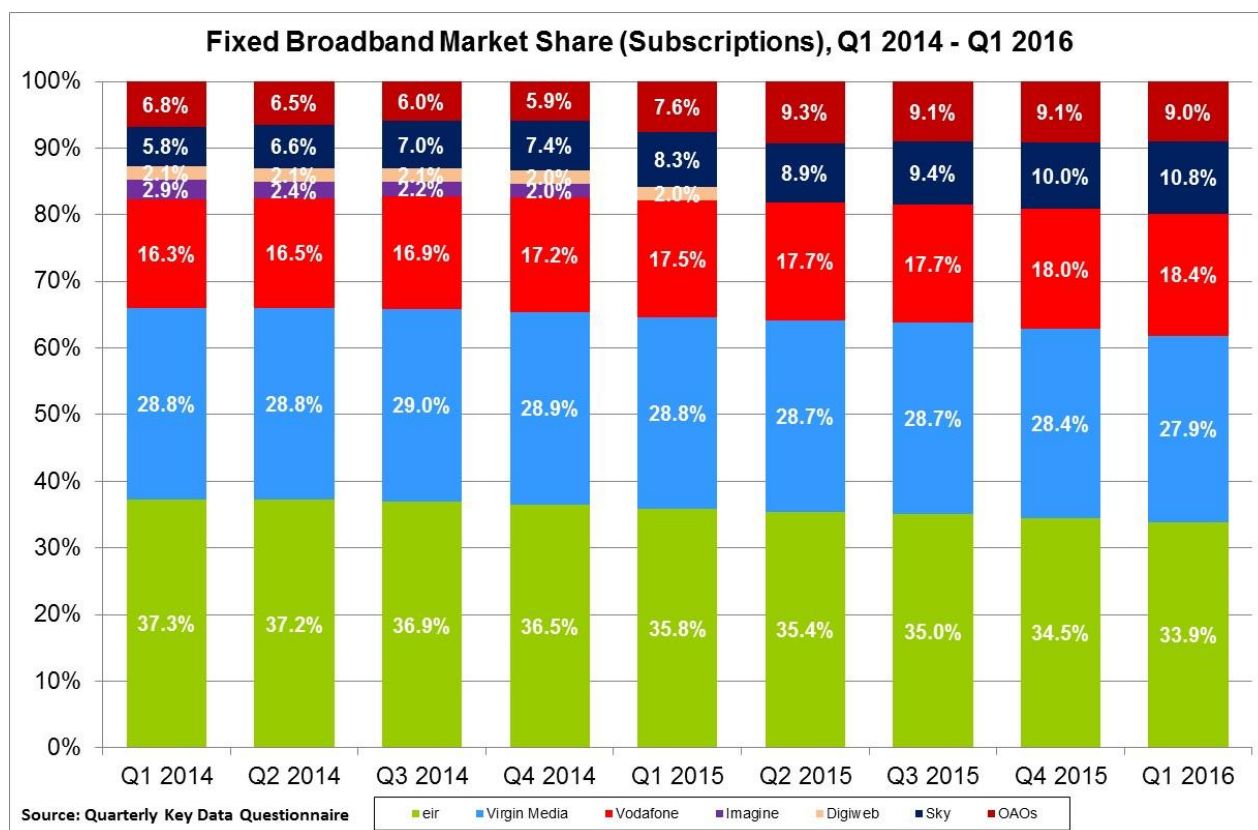
⁹¹ Total broadband subscriptions is the sum of Copper, FTTC, Cable, FWA, Other (Satellite and FTTH) and Mobile broadband, as used in the ComReg QKDR.

⁹² Total broadband subscriptions is the sum of Copper, FTTC, Cable, FWA, Other (Satellite and FTTH) and Mobile broadband, as used in the ComReg QKDR.

Market Shares of SPs providing Broadband services

3.17 Figure 8 below provides the market shares of fixed broadband operators by number of subscriptions (provided over DSL⁹³, VDSL⁹⁴, DOCSIS cable modem, FWA⁹⁵, satellite and fibre). Operators with a market share of 2% or more are shown in the chart below. All those operators with less than 2% of total fixed broadband subscriptions are grouped together under the heading ‘OAOs’⁹⁶.

Figure 8: Subscription Market Share of Fixed Broadband Market



Source: ComReg Quarterly Key Data Report Q1 2016

⁹³ DSL refers to a digital subscriber line, the means by which broadband speeds (i.e. in excess of 144k downstream) are delivered over the copper telecoms network.

⁹⁴ VDSL refers to very-high-bit-rate digital subscriber line. These lines are typically utilised in the provision of next generation broadband services.

⁹⁵ FWA or Fixed Wireless Access is broadband access that uses wireless technology to provide services at a fixed location.

⁹⁶ Access Seeker refers to Other Authorised Operator.

- 3.18 Eircom, a vertically integrated Independent SP, is currently the largest SP of WLA and WCA services in Ireland. It owns and operates a ubiquitous Public Switched Telephone Network ('PSTN') and an Integrated Services Digital Network ('ISDN') (together called a 'narrowband network'). Eircom also operates a Next Generation Access ('NGA') network, which is likely to ultimately replace Eircom's narrowband network in areas where it is economically viable for it to do so. These narrowband and NGA networks are used by Eircom to provide a range of services, including fixed phone, broadband, TV and leased lines services, to business and residential customers.
- 3.19 Eircom is also the largest retail provider of broadband services and as of Q1 2016, had 33.9% of total fixed broadband subscriptions, down from 37.3% in Q1 2014⁹⁷. In Q1 2016, Eircom had 447,678 retail broadband subscriptions, made up of 368,326 residential End Users and 79,352 non-residential/business End Users.
- 3.20 In 2008, Eircom began providing a 'White Label Broadband' service. White Label Broadband allows other SPs to purchase managed 'end-to-end' broadband access, allowing SPs to avail of broadband products without the need for any significant investment in network infrastructure. SPs purchasing White Label Broadband fall into the "Resale provider" category identified in paragraph 3.11(d) above.
- 3.21 Virgin Media, the cable TV and broadband provider, which is categorised as an Independent SP⁹⁸, has 27.9% of total fixed broadband subscriptions. Virgin Media upgraded its CATV network to the DOCSIS 3.0 standard⁹⁹ in 2010 such that, as of Q1 2016, it is potentially capable of providing retail broadband services to approximately 784,400 premises.¹⁰⁰
- 3.22 'Imagine' and 'Digiweb' are the two largest suppliers of broadband access using a FWA network in Ireland. A number of smaller, mostly regional, providers also provide services using a FWA network. FWA services appear to be more frequently used in rural areas, where fixed CGA broadband services may only offer limited quality broadband services and where NGA broadband services are not yet available. As outlined in paragraph 3.15, 2.5% of broadband users received internet access using a FWA service in Q1 2016.

⁹⁷ These market share figures are in the presence of regulation in the WPNIA and WBA Markets.

⁹⁸ As set out in paragraph 3.11(a).

⁹⁹ This standard enables high speed broadband to be delivered over a CATV network.

¹⁰⁰ See Liberty Global Q2 2016 Earnings Release, pg. 29. <https://www.libertyglobal.com/pdf/press-release/LG-Earnings-Release-Q2-16-FINAL.pdf>

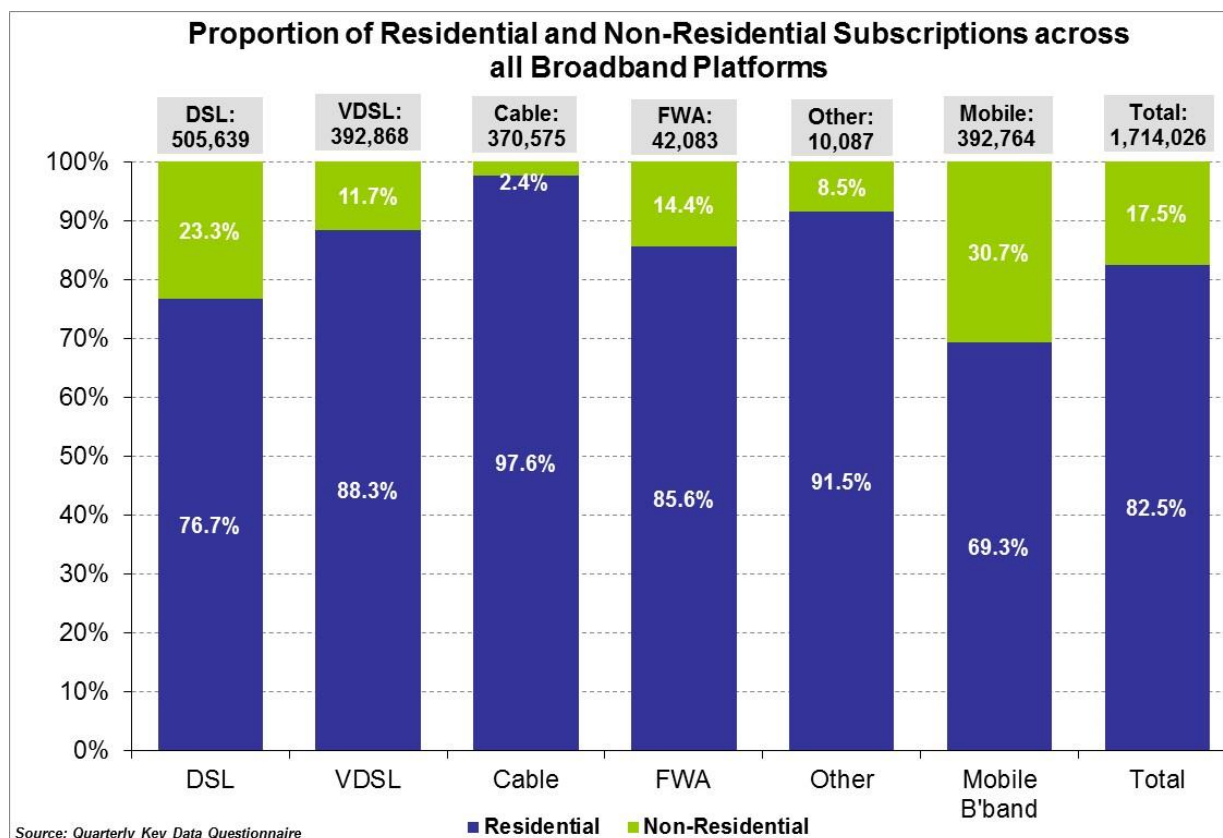
3.23 Mobile Broadband access is typically provided over a mobile network by a Mobile Network Operator (MNO) or Mobile Virtual Network Operator (MVNO) using 3G and/or 4G/LTE technology. As of Q1 2016, there were 392,764 mobile broadband subscribers in Ireland, down from 435,192 in Q1 2015.

3.24 As of Q1 2016, Vodafone had 18.4% of fixed broadband subscriptions (excluding mobile broadband subscriptions), Sky Ireland had 10.8% of fixed broadband subscriptions, and other SPs combined accounted for the remaining 9% share of fixed broadband subscriptions.

Broadband Subscriptions by Subscription Type

3.25 Figure 9 below provides an estimate of the proportion of business and residential subscriptions to DSL, VDSL, Cable, FWA, Mobile broadband and Other services.¹⁰¹ In Q1 2016, 82.5% of broadband subscriptions on all platforms were classed as residential broadband subscriptions. The platform with the highest percentage of residential vis-à-vis business subscriptions is cable broadband (only 2.4% business subscribers), while mobile broadband at 30.7% has the highest percentage of business customers.

Figure 9: Broadband Subscriptions by Subscription Type



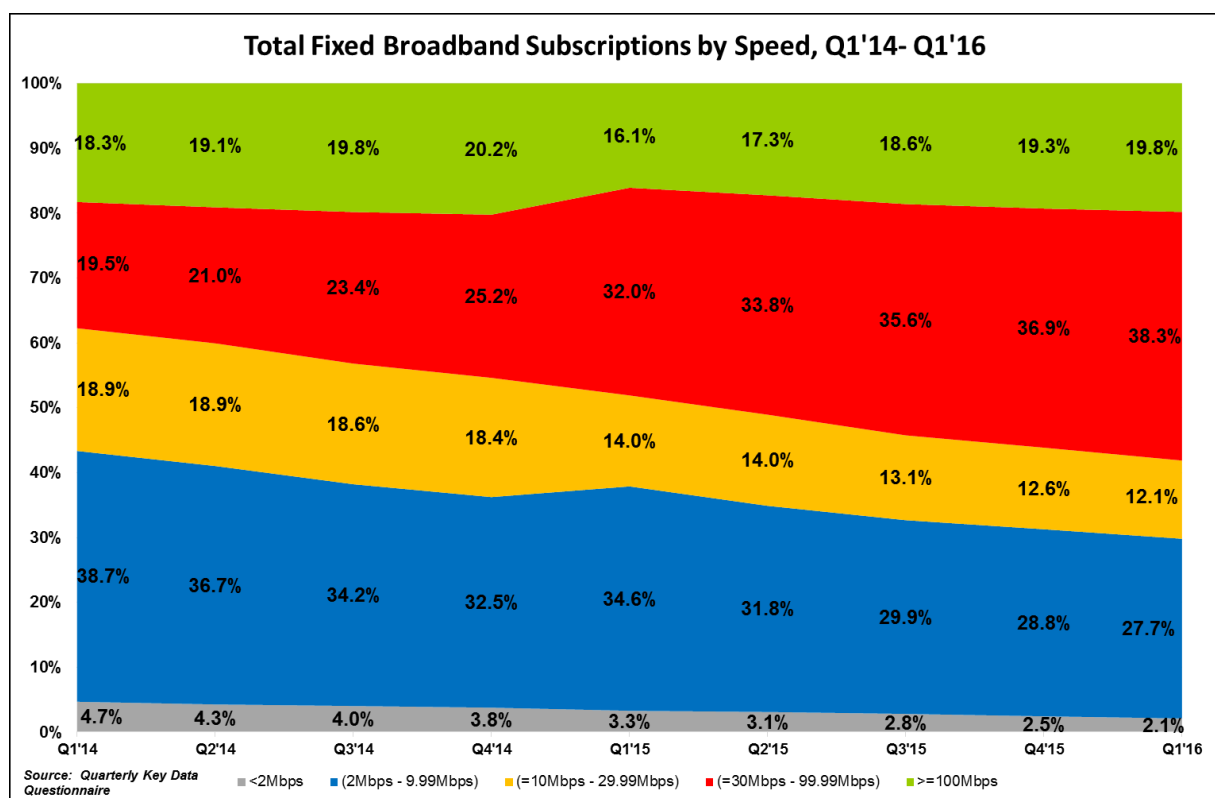
Source: ComReg Quarterly Key Data Report Q1 2016

¹⁰¹ The “Other” category includes Satellite broadband and Localised Fibre Networks.

Broadband Subscriptions by Contracted Broadband Speed

3.26 Figure 10 below shows the change in fixed broadband subscriptions by contracted download speeds between Q1 2014 and Q1 2016. Over the entire period, growth in broadband subscriptions has been mainly in the ≥30Mb category, which has increased from 37.8% to 58.1% over the two-year period. In Q1 2016, approximately 58.1% of broadband subscriptions were ≥30Mb (with 19.8% ≥100Mb). This equates to approximately 62.4% (22.7% ≥100Mb) of residential subscriptions and 21.1% (1.6% ≥100Mb) of business subscriptions.¹⁰²

Figure 10: Fixed Broadband Subscriptions by Contracted Download Speeds

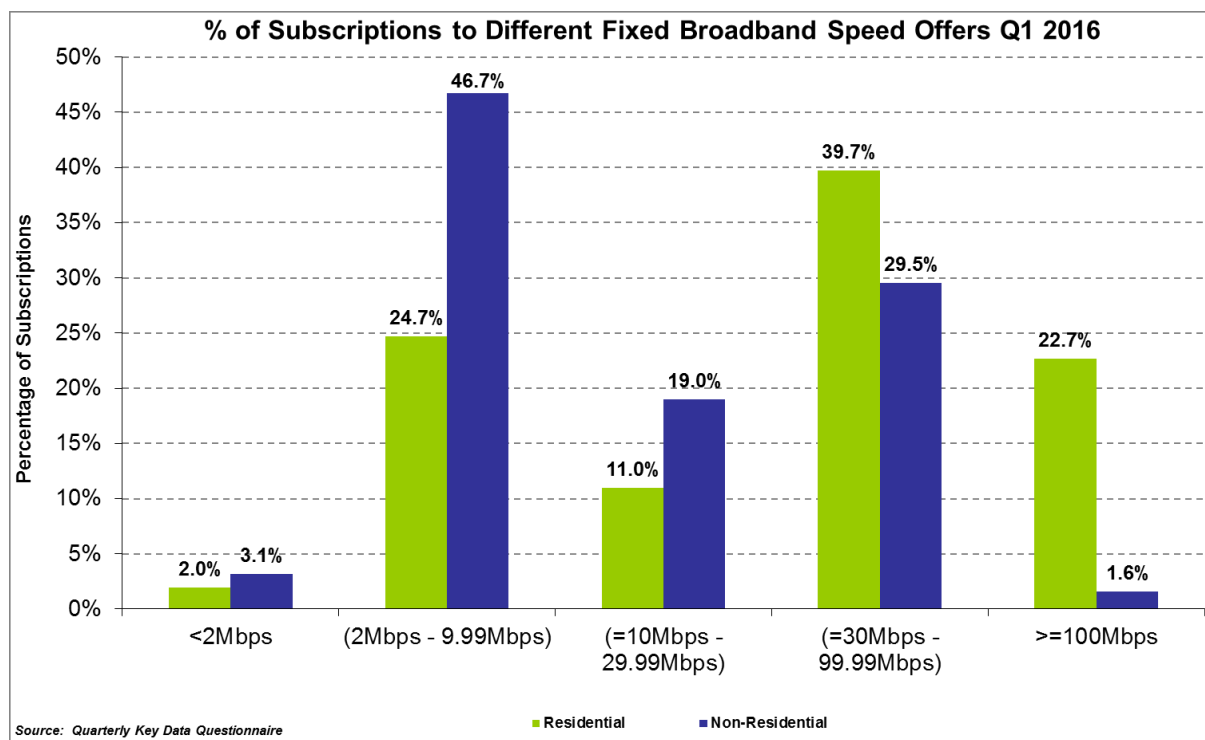


Source: ComReg Quarterly Key Data Report Q1 2016

3.27 As shown in Figure 11, 62.4% of residential fixed broadband users and 31.1% of non-residential fixed broadband users have contracted to services offering download speeds of greater than 30Mb.

¹⁰² ComReg QKDR Q1 2016, pg. 34.

Figure 11: Fixed Broadband Subscriptions by Contracted Download Speeds and Subscription Type



Source: ComReg Quarterly Key Data Report Q1 2016

3.28 Overall, there is a marked trend toward uptake of subscriptions with download speeds of above 30 Mb and a decline in subscriptions with speeds of below 30 Mb.

Other changes in broadband supply and consumption patterns

3.29 Since the 2010 WPNIA Decision and 2011 WBA Decision there have been increases in the levels of download traffic, bundling of broadband with other services and increases in the availability of higher speed services. These are discussed below.

Changes in Broadband Subscriptions and Traffic

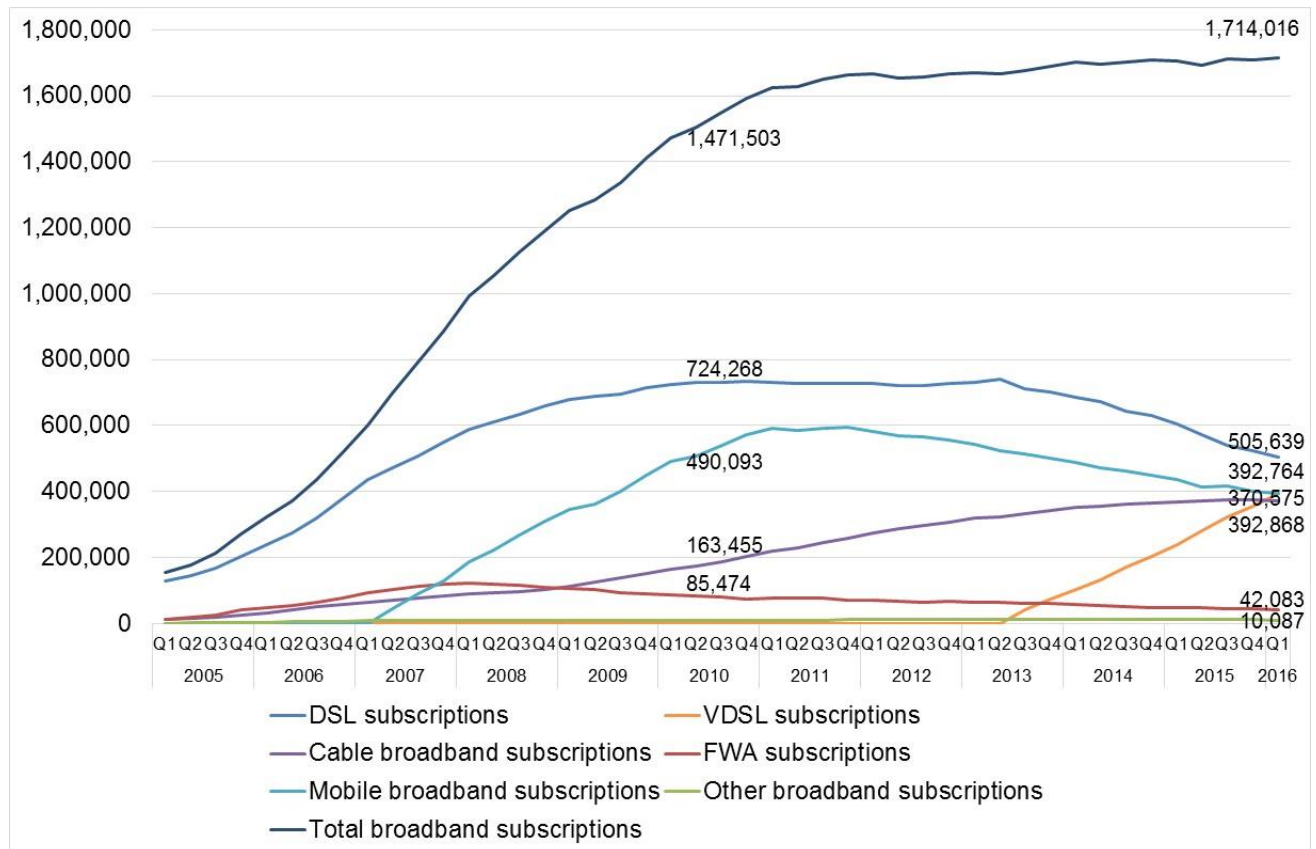
3.30 The number of broadband subscribers has increased since the previous market reviews. In Q1 of 2010, there were 1.47 million subscriptions (comprising both residential and business End Users)¹⁰³, while in Q1 of 2016, there were 1.71 million subscriptions. The pace of growth was less pronounced over 2010-2015 compared with the growth between 2005 and 2010, as illustrated in Figure 12 below.

¹⁰³ ComReg QKDR Q1 2010, pg. 29 – ComReg Document [11/44](#).

3.31 The number of End Users with Copper network based broadband subscriptions has fallen since Q1 2010 by 30.2%, while cable broadband subscriptions have increased by 126.7% since 2010. End Users with FTTC based broadband subscriptions increased substantially between 2013 and 2016, while mobile broadband subscriptions and fixed wireless have also declined.

3.32 Fixed wireless subscriptions have declined considerably from their peak in Q1 2008 of 123,456, with a 50.6% fall between Q1 2010 and Q1 2016.

Figure 12: Broadband Subscriptions Q1 2005 – Q1 2016



Source: ComReg Quarterly Key Data Report

3.33 In the last 6 years, the advertised download speed of broadband offered to End Users has also increased substantially. At the end of 2010, 6.7% of residential broadband subscribers were receiving speeds of 10Mb or greater (the highest categorisation available for data collection at the time)¹⁰⁴, while in Q1 of 2016, 22.7% of residential End Users were receiving speeds in excess of 100Mb.

¹⁰⁴ ComReg Quarterly Key Data Report Q4 2010, pg. 37.
<http://www.comreg.ie/fileupload/publications/ComReg1043.pdf>

- 3.34 Since Eircom announced its NGA rollout¹⁰⁵, a significant number of customers have taken up broadband provided over its FTTC and FTTH networks, which offers faster download speeds than broadband provided over an exclusively copper access network (using ADSL based services)¹⁰⁶. Eircom has sought to migrate its ADSL customers to its FTTC and FTTH networks through promotional offerings and the availability of TV bundles.¹⁰⁷ The patterns suggest that as Eircom increases its FTTC and FTTH network rollouts, a further decline in the number of customers with broadband provided over a copper network will occur.
- 3.35 The availability of increased broadband speeds has allowed End Users to download greater volumes of data. During Q1 of 2016, 403,936 Terabytes of data were downloaded, and Figure 13 below gives the average monthly data traffic per subscription by platform.¹⁰⁸ In Q1 2016, the average cable broadband subscriber used 116.6 GB of data per month followed by VDSL subscriber (115.9 GB) and DSL subscriber (59.6 GB). It can be seen that the average volume of data used increases on platforms offering higher download speed products, including on cable and VDSL broadband platforms.

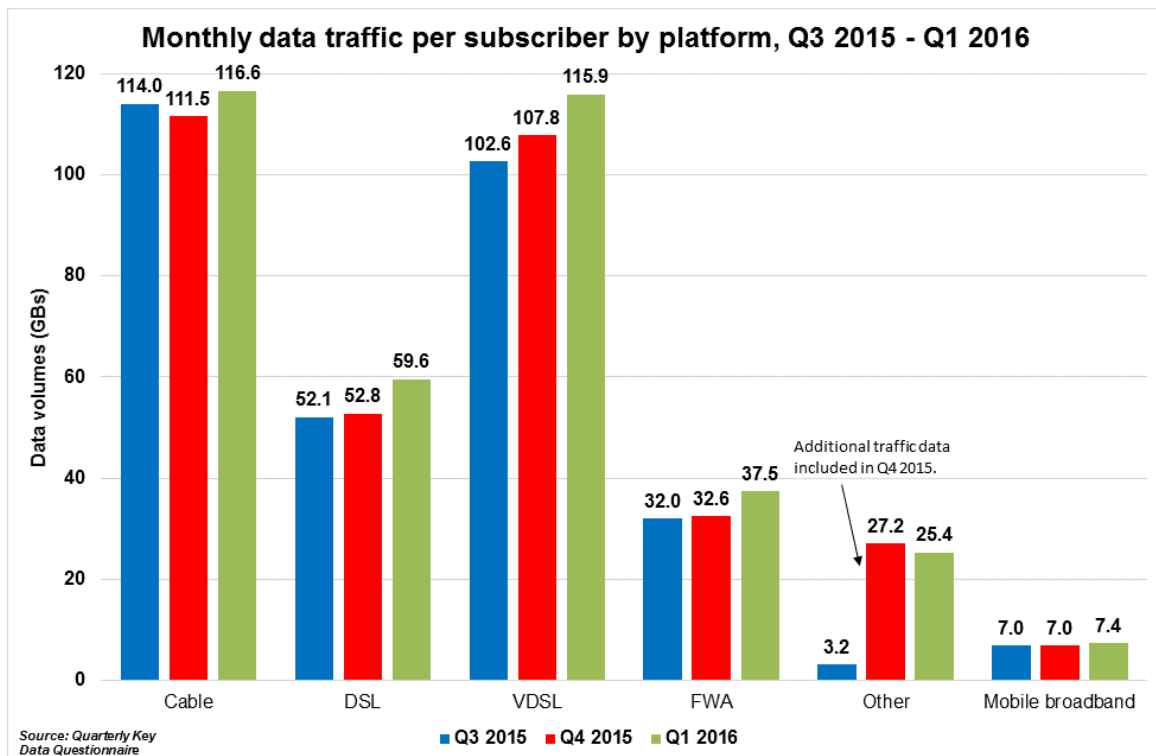
¹⁰⁵ Eircom's initial announcement of its NGA programme was in July 2011 – see the 2013 NGA Decision for an overview.

¹⁰⁶ ADSL means Asymmetric digital subscriber line.

¹⁰⁷ The February 2016 Statutory Information Requirement from Eircom revealed that efforts to migrate customers from DSL/legacy broadband to a fibre based product are continuing through marketing and sales campaigns. The Eircom website also has an option to upgrade to fibre and avail of exclusive deals: <https://www.eir.ie/bundles/>.

¹⁰⁸ ComReg QKDR, Q1 2016, p.40-41.

Figure 13: Average Monthly Data Traffic per Subscription by Platform



Source: ComReg Quarterly Key Data Report Q1 2016

Bundling of Broadband with Telephony & Other services

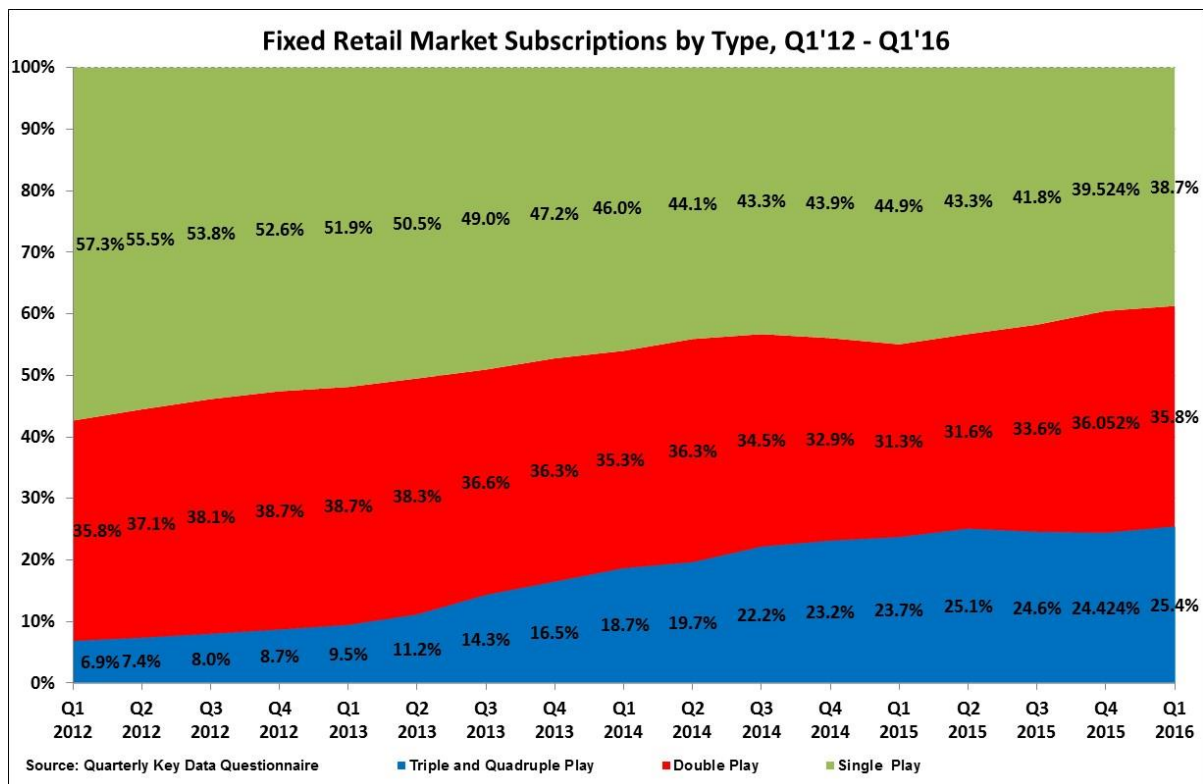
- 3.36 ComReg has identified a strong tendency for broadband services and telephone services to be purchased from a single retail SP. In addition, broadband and telephone services are often bundled with television services at the retail level.
- 3.37 A bundle can comprise broadband, fixed telephony, TV and mobile phone services or any combination of these services. Since the 2011 WBA Decision, there has been significant growth in triple-play¹⁰⁹ and quadruple-play¹¹⁰ services, combining fixed phone with broadband, mobile and television services.

¹⁰⁹ Triple-play bundles typically refer to a retail bundle of television, broadband and fixed telephone services.

¹¹⁰ Quadruple-play bundles typically refer to a retail bundle of television, broadband, fixed telephone and mobile GRatelephone services.

3.38 In Q4 2010, there were 2.23 million fixed market retail subscriptions across both residential and business End Users¹¹¹, of which 65.2% were single play, 31% were double play (a bundle of two services) and 3.8% were triple play (a bundle of three services). By Q1 2016, there were an estimated 1.82 million fixed market retail subscriptions, of which 38.7% were single play, 35.8% were double play, 25.4% were triple play and quadruple play. The figure below plots the frequency of bundles by bundle type since Q1 2012.

Figure 14: Fixed Market Retail Subscriptions by Type, Q1 2012 – Q1 2016



Source: ComReg Quarterly Key Data Report Q1 2016

3.39 As noted in paragraph 3.3 above, services offered in the WLA Market can be used as an input to deliver a range of services to the End User. Most frequently, these upstream wholesale inputs have been used to offer downstream broadband services and fixed voice services. For example, LLU and VULA can be used to provide telephone services. In addition, they can potentially be used to provide TV services and business services.

¹¹¹ ComReg QKDR Q4 2010, pg. 22. <http://www.comreg.ie/fileupload/publications/ComReg1121.pdf>

3.40 Section 3 and Appendix E of ComReg's 2015 Fixed Access Call Origination Decision ('**2015 FACO Decision**')¹¹² outlines the retail market trends and developments in the provision of retail fixed calls. ComReg is of the view the trends presented in the FACO Decision have not materially changed since it was published. These are summarised below.

3.41 The main retail trends identified in the 2015 FACO Decision included:¹¹³

- **Growth in the number and type of retail providers:** ComReg noted an increase in the number of competing SPs, with a mix of technologies/platforms used by such SPs to provide fixed telephony services. Notable entrants since the 2007 Decision¹¹⁴ included Sky, Virgin Media and Vodafone. Apart from Virgin Media and Eircom, which are the main Independent SPs, the majority of SPs providing fixed telephony services did so on the basis of wholesale access to Eircom's network, in particular, through FACO products, services and facilities such as Single Billing through Wholesale Line Rental ('SB-WLR');
- **Changes in Fixed and Mobile Traffic Growth Patterns:** ComReg noted a decline in overall fixed voice traffic and growth in mobile voice traffic (that had been relatively static since Q4 2010), although it was noted that a significant proportion of residential and business users continue to avail of fixed telephony services. It was also noted that End Users appear to use fixed and mobile telephony services for different purposes and perceive price differences between the two types of services, indicating that these services are likely to be complementary; and

¹¹² ComReg Decision D05/15, [Document 15/82](#), Market Review: Wholesale Fixed Call Origination and Transit Markets (the '2015 FACO Decision').

¹¹³ FACO Decision, Chapter 3, p. 36-37.

¹¹⁴ See "Market Analysis - Interconnection Market Review Wholesale Call Origination and Transit Services, Decision Notice D04/07, [ComReg Document No. 07/80](#)", October 2007 (the '2007 Decision').

- **Growth in the provision of Managed Voice Over Broadband ('VOB')**¹¹⁵ **and Unmanaged VoIP:** Growth in the provision of Managed VOB based fixed telephony¹¹⁶ had been observed, the majority of which is offered as part of a bundle over Virgin Media's CATV network. While there has been an uptake in the use of Unmanaged VoIP¹¹⁷ services by End Users, the degree of substitution from fixed telephony to Unmanaged VoIP services appeared to be limited, and the pattern of usage for Unmanaged VoIP appeared to be much less frequent than for other voice telephony services.

3.42 In addition, ComReg note that Eircom also offers at the wholesale level, a VULA type product called VUA¹¹⁸, offered with and without Multicast¹¹⁹ (capable of providing telephony, broadband and TV services) on its FTTC network. Vodafone began providing retail bundles of broadband and TV using VULA in January 2016.¹²⁰ Eircom also offers an IPTV product¹²¹ at the retail level over its FTTC and FTTH networks called e-Vision. To date, Eircom has not offered e-Vision as a wholesale product. Eircom currently has [redacted] customers on this service (Q1 2016). SIRO, the joint venture between Vodafone and ESB, offers VULA with Multicast over its FTTH network.

¹¹⁵ Defined in footnote 73 above.

¹¹⁶ Managed Voice over Broadband (**Managed VOB**) refers to Retail Fixed Telephony Services (**RFTS**) delivered over a broadband access path via IP rather than through traditional circuit switched telephony.

¹¹⁷ VoIP means Voice over Internet Protocol.

¹¹⁸ In this Consultation, ComReg refers to VULA products to be a type of virtual unbundled local access product. Eircom offers a wholesale VULA product called VUA.

¹¹⁹ Multicast means a service that accepts a single copy of a designated signal from the Access Seeker and distributes the resultant Multicast traffic within the Eircom network to multiple End Users. Multicast is used by a SP to provide TV services.

¹²⁰ <http://www.vodafone.ie/home/tv/>

¹²¹ Internet Protocol Television (IPTV) is the provision of TV services over the internet.

NGA rollout

- 3.43 Since the 2010 WPNIA Decision and 2011 WBA Decision, Eircom has undertaken a rollout of a FTTC network, passing 1.6 million premises.¹²² In October 2014, Eircom announced plans¹²³ to rollout FTTH to 300,000 premises mostly in urban areas, offering speeds of up to one gigabit¹²⁴.
- 3.44 Magnet, an independent FTTH network operator, operates a limited FTTH network across a number of localised areas in Dublin, Meath and Laois. As of Q1 2016, Magnet had [X [REDACTED]] customers on its FTTH network.
- 3.45 In July 2014, ESB and Vodafone Ireland, announced a fully functioning 50:50 Joint Venture ('**SIRO**'), to build an FTTH network across 50 towns, reaching potentially 500,000 customers, with download speeds up to one gigabit.¹²⁵ The European Commission approved the formation of SIRO in October 2014. The network is deployed on ESB's existing overhead and underground infrastructure. SIRO, which operates at the wholesale level only, offers a VULA based service, requiring operators who wish to use the SIRO network to build their own backhaul to SIRO's various points of interconnect. Vodafone began offering retail broadband services over the SIRO network in December 2015. Vodafone is also expected to offer TV services over the SIRO network. Digiweb began providing services in August 2016 via the SIRO network. As of September 2016, the SIRO network has passed [X [REDACTED]] premises, with [X [REDACTED]] customers served. In September 2016, SIRO announced its rollout was gathering pace, with its network rollout now passing 10,000 premises a month across 17 towns.¹²⁶

¹²² <http://fibrerollout.ie/where-and-when/>

¹²³ Eircom Press Release from 28 October 2014 is available here: http://pressroom.Eir.net/press_releases/article/Eir_to_Offer_Gigabit_Broadband_Speeds/

¹²⁴ http://www.openeir.ie/news/FTTH_programme_officially_launched/

¹²⁵ <http://siro.ie/what-is-siro/>

¹²⁶ SIRO - <http://siro.ie/siro-invest-e40-million-roll-6-new-towns-end-2016/>

3.46 The National Broadband Scheme ('NBS') was introduced in 2008 to provide a basic broadband service to residents and businesses within the NBS Coverage Area (predominately rural areas). Under EU State Aid rules, this intervention was time limited, ending in August 2014. In 2012, the then Department of Communications, Energy and Natural Resources¹²⁷ announced the National Broadband Plan ('NBP') to rollout broadband of speeds greater than 30MB to less densely populated areas of Ireland. A detailed procurement process is planned for late 2016 and ComReg expects that awarding will take place in 2017 and commence construction of the NBP network and the provision of services as soon as possible thereafter¹²⁸.

Overall Preliminary Conclusion on Retail Trends and Developments

3.47 Having regard to the discussion in paragraphs 3.13 to 3.46 above, ComReg is of the preliminary view that the most notable retail trends of potential relevance to the retail market are:

- (a) Increases in download speeds on broadband subscriptions;
- (b) Increases in download traffic on broadband subscriptions;
- (c) Retail bundling of services and patterns there within;
- (d) The continuing rollout by Eircom of its FTTC network (VDSL) and FTTH networks, providing broadband access with download speeds up to 100Mb/s and 1Gbps respectively;
- (e) The announcement of Vodafone and ESB of a Joint Venture (the 'SIRO' network) to provide broadband access using a FTTH network; and
- (f) The announcement by the Irish Government of the National Broadband Plan to provide high speed broadband access in rural areas.

Question 1: Do you agree that the main developments identified in the provision of retail services are those most relevant for the assessment of the Relevant Wholesale Markets? Please explain the reasons for your answer, clearly indicating the relevant paragraph numbers to which your comments refer, along with all relevant factual/empirical evidence supporting your views.

¹²⁷ Now the Department of Communications, Climate Action and Environment.

¹²⁸ <http://www.dcenr.gov.ie/communications/en-ie/Broadband/Pages/National-Broadband-Plan.aspx#>

4 Retail Markets Assessment

Overview

- 4.1 In this section, ComReg outlines some of the main structural and behavioural characteristics associated with the provision of retail services supplied using upstream WLA and WCA inputs.
- 4.2 ComReg is not required to conclude on a precise definition of the retail market(s) in this market review. Rather, the purpose of this section is to inform ComReg's subsequent assessment of the definition and competition assessment of the WLA and WCA markets in Sections 5 and 10 of this Consultation, including with respect to the strength of any indirect constraints from related downstream retail markets.
- 4.3 The European Commission's 2014 Recommendation identifies the WLA and WCA markets as being susceptible to *ex ante* regulation. The Explanatory Note to the 2014 Recommendation explains that any analysis of a wholesale market must be preceded by an assessment of the competitive conditions in the related retail markets, absent regulation.¹²⁹
- 4.4 While the objective of this Consultation is to define and analyse competition within the WLA and WCA markets, given wholesale demand for access in either market is largely driven by retail demand for services, it is necessary to consider the dynamics of the retail market and whether these dynamics materially impact at a wholesale level. The derived demand for WLA and WCA services is ultimately largely related to:
- End Users' demand for access to broadband and other services (including closed and private networks); and
 - End Users' demand for access to other services (including telephony or IPTV).
- 4.5 In considering the definitions of the Relevant Wholesale Markets, it is necessary for ComReg to consider whether any effective demand-side and supply-side substitutes exist (at the retail and wholesale level, as appropriate) such that they would effectively constrain the price setting behaviour of a hypothetical monopolist ('HM') supplier of WLA and/or WCA services.

¹²⁹ See section 2.6 of the Explanatory Note to the 2014 Recommendation.

- 4.6 In this section, ComReg also considers the impacts of price changes on retail market behaviour.¹³⁰ In particular, ComReg considers the likelihood of wholesale price changes impacting on retail prices and the extent to which, if any, this might indirectly lead End Users to consequently change their behaviour or switch to an alternative platform in response to the pass-through of such wholesale price changes into retail prices. ComReg further considers whether any such retail End User behavioural changes are likely to act as an effective constraint on the price-setting behaviour of a HM supplier of WLA and/or WCA, by making it unprofitable for it to raise wholesale prices by a small but significant amount above the competitive level (the so-called SSNIP¹³¹ test). This involves an assessment of the impact of retail demand-side and supply-side substitutability in response to wholesale price changes.
- 4.7 The assessment of the retail market set out in this section is, therefore, carried out to the extent that it informs the subsequent definition and analysis of the Relevant Wholesale Markets. For the purposes of examining the retail market(s), ComReg's assessment is conducted absent regulation in the WLA and WCA markets, as appropriate¹³².
- 4.8 In setting out its analysis and views on End User behaviour, ComReg has drawn on data from a number of sources, including those identified in paragraphs 2.45 to 2.49 above.
- 4.9 As noted earlier, ComReg commissioned Red C to carry out quantitative market research in the Irish retail broadband (and related) markets. Amongst the issues surveyed were the following:
- Prevalence and use of broadband and other telecommunications services;
 - Prevalence and use of the internet;
 - Pricing, Bundles and choices;
 - Switching behaviour and criteria for choosing providers; and
 - Price sensitivity to increase in cost of broadband services.
- 4.10 A summary of the WLA/WCA Market Research is set out in Appendix: 2.

¹³⁰ For the purposes of this hypothetical price increase, residential and business respondents to the WLA/WCA Market Research were asked about their response to a €2 increase in the price of their broadband service or bundle. €2 was considered to be a small but significant price increase for respondents to consider.

¹³¹ Small but Significant Non-Transitory Increase in Price.

¹³² When considering the WCA Market, in accordance with the MGA (see paragraph 2.22) ComReg factors in any regulation imposed in the WLA Market, given that the latter market lies upstream from the WCA market.

- 4.11 It should be noted that, rather than being definitive, the WLA/WCA Market Research informs the analysis presented throughout this Consultation, and its outputs are considered alongside empirical data or evidence, where available. The results of the WLA/WCA Market Research carried out are not sufficient alone to draw definitive conclusions about all aspects of End User preferences, and can indicate End User behaviour which may differ from observed End User behaviour in practice.

Assessing the Impact of Retail End User Behaviour on the Relevant Wholesale Markets

- 4.12 In line with the methodology recommended by the European Commission,¹³³ ComReg begins its analysis by considering the narrowest ‘Candidate Product’ or ‘Focal Product’ at the wholesale level and the corresponding narrowly defined retail service, and examines whether this initial narrow product (the ‘Focal Product’) should be broadened to include other products or services, taking account of demand-side and supply-side substitutability considerations at the retail level¹³⁴.
- 4.13 Having regard to the above, ComReg first considers whether, from the End User demand-side perspective, there are any products which might act as an effective substitute for a broadband service provided over a copper network. ComReg examines this from two perspectives:
- (a) Firstly, ComReg considers whether the characteristics, prices¹³⁵ and intended use of potential substitute products are sufficiently interchangeable with those attributes associated with a copper network based broadband.

¹³³ See paragraph 41 of the SMP Guidelines and paragraph 16 of the European Commission’s Notice on Market Definition.

¹³⁴ As noted in paragraph 13 of the European Commission’s Notice on Market Definition, demand substitution constitutes the most immediate and effective disciplinary force on the suppliers of a product, and paragraph 15 notes further that “*the assessment of demand substitution entails a determination of the range of products which are viewed as substitutes by the End User*”. For two products to be effective demand-side substitutes it is necessary that a sufficient number of customers are not only capable of switching between them, but would actually do so in response to a relative price change. As noted in paragraph 20 of the Commission’s Notice on Market Definition, supply-side substitution may also be taken into account where “*suppliers are able to switch production to the relevant products and market them in the short term without incurring significant additional costs or risks in response to small and permanent changes in relative prices*”. When these conditions are met, the market may be broadened to include the products that those suppliers are already producing.

¹³⁵ ComReg notes that the assessment of retail broadband pricing discussed throughout this section takes place in the presence of regulation in the WPNIA and WBA Markets. As such, the prices for some retail broadband products will depend on Eircom’s regulated WPNIA and WBA inputs.

- (b) Secondly, having examined the characteristics, prices and intended use of any such potential substitutes, ComReg also assesses the likelihood that a sufficient number of End Users might switch to using these potential substitutes in circumstances where the focal product was subject to a small but significant price increase.

4.14 An economic analytical framework for defining a relevant product through demand-side substitution analysis consists of an examination of End User behaviour in response to permanent price increases and is known as the SSNIP Test. The SSNIP test consists of observing whether a Small but Significant Non-transitory Increase in Price above the competitive level - taken to be in the range of 5 to 10% - of a Candidate Product supplied by a HM would provoke a sufficient number of End Users to switch to an alternative (substitute) product such that it would make the original price increase unprofitable. If a sufficient number of subscribers switching to the alternative product makes the price increase unprofitable, then the alternative product is considered a substitute product for the focal product and is included in the relevant product market. The SSNIP Test is carried out for any given number of alternative products, which, by their characteristics, prices and intended use, may constitute an effective substitute to the focal product. If switching to these alternative products is sufficient to also render the SSNIP (above the competitive level) of the focal product (and any included substitute products) unprofitable, then these alternatives are also included in the relevant product market.

Focal Product

4.15 As set out in Figure 7 (Section 3) above, broadband provided over a copper network is the platform over which most broadband services are provided. As of Q1 2016, 505,639¹³⁶ subscribers access broadband services over an exclusively copper based access network, with this representing 29.4% of the total number of broadband subscriptions.¹³⁷ As noted in the WLA/WCA Market Research¹³⁸, it is the most common means by which End Users access the internet, with 54% of residential broadband respondents and 64% of business broadband respondents using broadband services provided over a copper network at home or at work.

¹³⁶ ComReg Quarterly Key Data Report, Q1, 2016, ComReg Document 16/48r, available at http://www.comreg.ie/fileupload/publications/ComReg_1648r.pdf ('Q1 2016 QKDR').

¹³⁷ Total broadband subscriptions is the sum of Copper, FTTC, Cable, FWA, Other (Satellite and FTTH) and Mobile broadband.

¹³⁸ See Slides 22 to 24 of the WLA/WCA Consumer Market Research and Slides 11 and 12 of the WLA/WCA Business Market Research. See Appendix: 2, paragraphs A 2.8 to A 2.11 and paragraphs A 2.50 to A 2.52.

- 4.16 Eircom is the only SP with a ubiquitous copper network in Ireland. Broadband via Eircom's copper network is available throughout the significant majority of the State, although the number of subscribers availing of broadband on a copper network has been declining over time, due in part to End Users purchasing fibre based broadband services as well as in response to competition from other networks.

Product Characteristics

- 4.17 Table 1, below, sets out the main characteristics of a broadband service provided over a copper network.

Table 1: Product characteristics of broadband provided over copper only network

Copper Network	
Availability	Widely available
Technology	ADSL, ADSL2+
Subscribers (Q1 2016)	505,639 ¹⁴⁰
Download Speeds	Up to 24Mb
Upload Speeds	Up to 2Mb
Price Range (incl. VAT)	Typically €35.00-€59.95 per month (residential)/€18-€134 (business)
Download Allowance	Typically Unlimited
Bundles	Commonly bundled with Fixed Telephony
Contract Length	Typically 12 months

- 4.18 Broadband provided over a copper network offers advertised download speeds of up to 24 Mb and upload speeds of up to 2 Mb. ComReg's analysis of advertised speeds offered across various copper-based broadband packages showed a maximum download speed of 24 Mb on a copper (ADSL) network, with the lowest offered download speed being 3 Mb and the average speed being 22 Mb. The download allowance (i.e. the amount of data that can be downloaded by an End User without incurring additional charges) is typically unlimited.

¹³⁹ ComReg's analysis of copper-based ADSL broadband packages offered by the main SPs is outlined in Appendix: 3.

¹⁴⁰ Q1 2016 QKDR.

- 4.19 Broadband provided over a copper network is also typically bundled with fixed telephony services, by virtue of the fact that the broadband is provided through the same copper line over which the telephony service is also provided. Some SPs bundle this combination with other services (e.g. Satellite TV)¹⁴¹ using non-regulated inputs that are not provided over the copper network. An outline of the types of broadband bundles offered by the main SPs can be found in Appendix: 3.

Pricing

- 4.20 Appendix: 3 contains an outline of the typical prices of broadband packages offered by the main SPs. The price of broadband provided over a copper network typically varies from €35.00 to €59.95, with an average price of €45.00 per month¹⁴². For business customers, the price can vary from €17.80 per month to €133.50, with an average price of €45.00 per month.
- 4.21 As set out in paragraphs A 2.22 to A 2.25 of Appendix: 2, the 2014 Consumer Market Research showed that residential respondents with a bundle that includes broadband provided over a copper network paid an average of €54 per month, with 78% of End Users paying up to €60 per month.¹⁴³ For residential respondents who purchase broadband provided over a copper network as a standalone product, the average spend was €35 per month. As outlined in paragraphs A 2.66 to A 2.71 of Appendix: 2, the 2014 WLA/WCA Market Research among business respondents showed that the average national spend for a bundle consisting of broadband and a fixed phone line is €139, with 61% paying less than €100.

¹⁴¹ For example, Sky Ireland bundle satellite Sky TV with copper-based broadband and telephony services. An outline of the types of broadband bundles offered by the main operators can be found in Appendix: 3

¹⁴² ComReg analysis of ADSL packages offered by main SPs is outlined in Appendix: 3.

¹⁴³ Slide 64 of the WLA/WCA Consumer Market Research.

- 4.22 As outlined in Appendix: 2, minimum contract lengths for broadband provided over a copper network are, on average, 12 months for residential and business users. Paragraphs A 2.26 to A 2.29 of Appendix: 2 outline the findings of the WLA/WCA Market Research in relation to minimum contract lengths for residential respondents. 64% of residential respondents accessing broadband services via a traditional copper telephone network had a minimum contract period with their broadband provider for an average duration of 15 months. 55% of residential respondents had a minimum contract duration of 12 months. Paragraphs A 2.62 to A 2.65 of Appendix: 2 outline the findings of the WLA/WCA Market Research in relation to minimum contract lengths for business respondents. 65% of business respondents with broadband provided over a copper network were in a contract, with 36% of these business respondents with broadband provided over a copper network having a minimum contract period of 18 months duration and 37% having a contract duration of 12 months.
- 4.23 Paragraphs A 2.34 to A 2.42 of Appendix: 2 outline the responses of residential respondents to a hypothetical price increase¹⁴⁴. If the price of standalone broadband (i.e. a broadband service that is not offered as part of a bundle) was hypothetically increased by €2 per month, 25% of residential respondents on a fixed phone line (copper) network indicated they would definitely or maybe change their behaviour.¹⁴⁵ 64% of these respondents indicated that they would cancel their subscription and switch to an alternative network.¹⁴⁶ Of these, 64% said they were fairly likely or very likely to do so in response to a €2 increase in the price of their broadband service.¹⁴⁷ Of those residential respondents who indicated that they would cancel and switch in response to the hypothetical price increase, 33% indicated they would switch to a FWA supplier, 25% would switch to a fibre supplier and 20% would switch to a cable supplier.¹⁴⁸

¹⁴⁴ For the purposes of this hypothetical price increase, residential and business respondents to the WLA/WCA Market Research were asked about their response to a €2 increase in the price of their broadband service or bundle. €2 was considered to be a small but significant price increase for respondents to consider.

¹⁴⁵ Slide 122 of the WLA/WCA Consumer Market Research.

¹⁴⁶ Slide 124 of the WLA/WCA Consumer Market Research.

¹⁴⁷ Slide 127 of the WLA/WCA Consumer Market Research.

¹⁴⁸ Slide 130 of the WLA/WCA Consumer Market Research.

- 4.24 For respondents whose broadband is purchased as part of a bundle, 24% of residential respondents accessing services via a copper network said that they would definitely or maybe change their behaviour in response to a hypothetical price increase of €2 in their broadband bundle.¹⁴⁹ 52% of these respondents indicated that they would cancel their subscription and switch to an alternative network.¹⁵⁰ Of these, 76% said they were fairly likely or very likely to do so in response to a €2 increase in the price of their broadband service.¹⁵¹ Of those residential respondents who indicated that they would cancel and switch in response to the hypothetical price increase, 23% indicated they would switch to a FWA supplier, 22% would switch to a fibre supplier and 14% would switch to a cable supplier.¹⁵²
- 4.25 Figure 15 and Figure 16 below provide a summary of residential survey respondents' cited behavioural responses to the hypothetical price increases. Respondents were asked:
- (a) If they would change their purchasing behaviour in response to a SSNIP (hypothetical price increase);
 - (b) What they would do (cancel or switch) if they would change their purchasing behaviour;
 - (c) How likely they are to actually change their purchasing behaviour; and
 - (d) What broadband platform they would switch to if they are likely to actually change their behaviour.

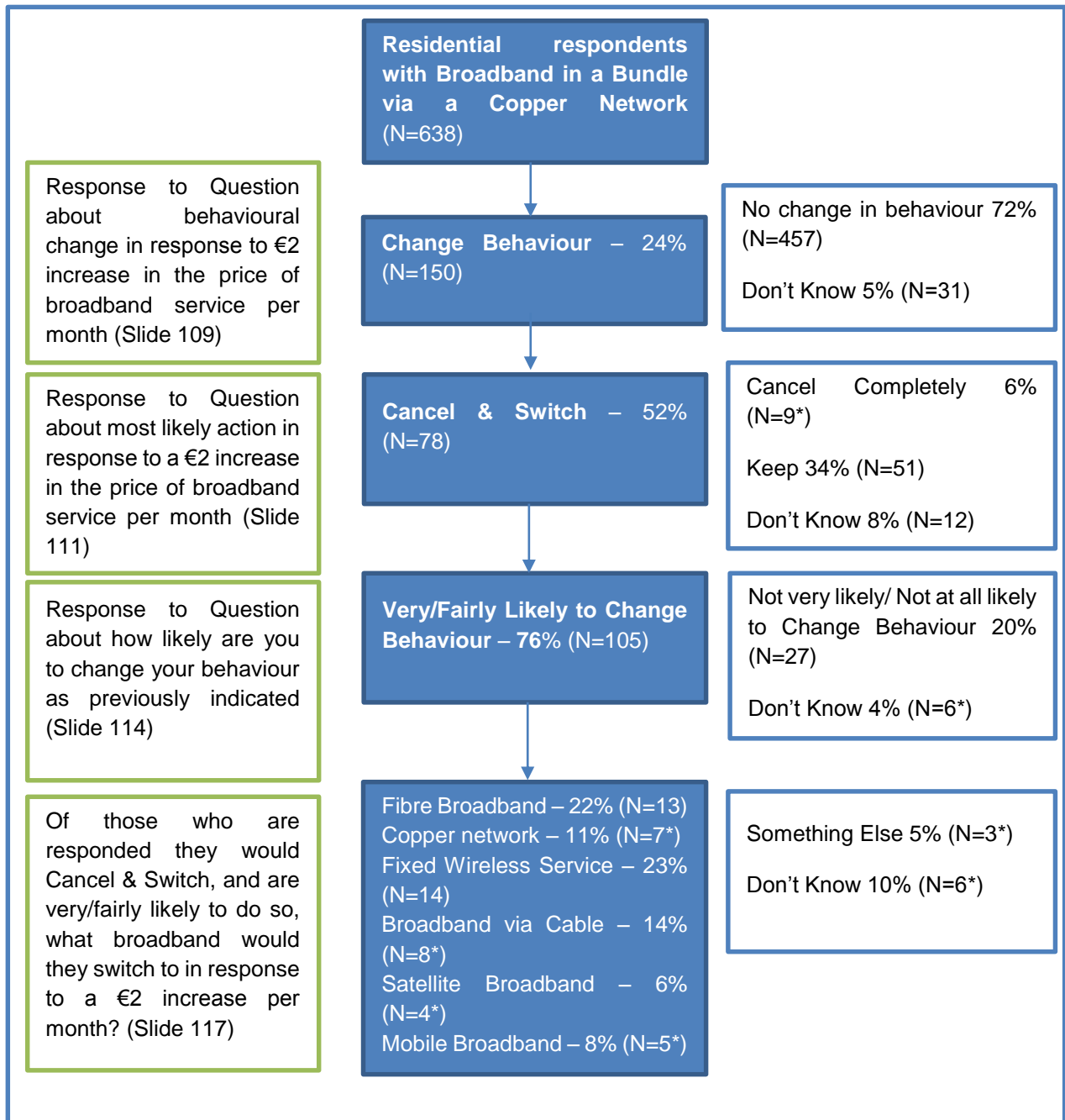
¹⁴⁹ Slide 109 of the WLA/WCA Consumer Market Research.

¹⁵⁰ Slide 111 of the WLA/WCA Consumer Market Research.

¹⁵¹ Slide 114 of the WLA/WCA Consumer Market Research.

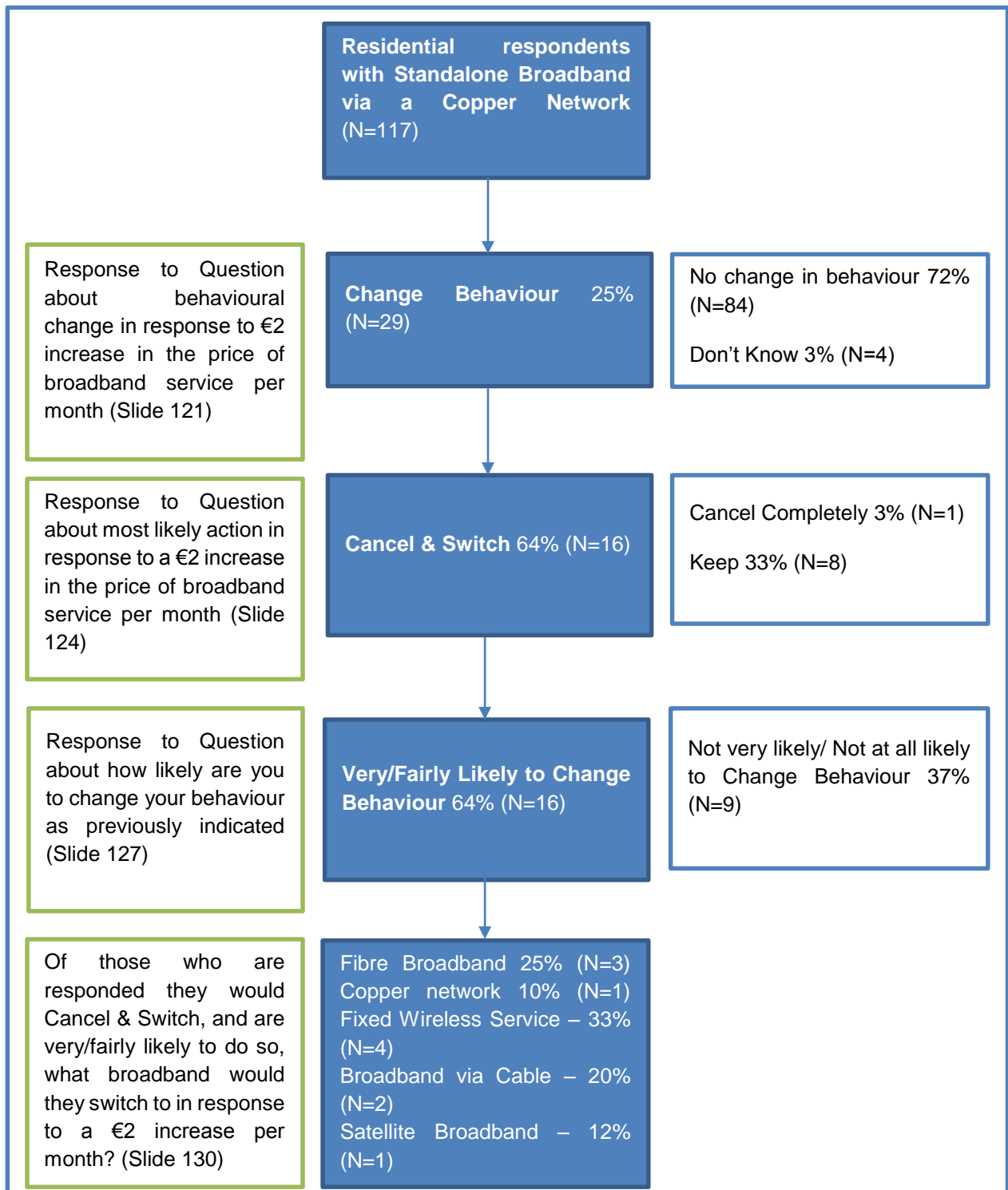
¹⁵² Slide 117 of the WLA/WCA Consumer Market Research.

Figure 15: Summary of SSNIP test for Residential Respondents in a Bundle¹⁵³



¹⁵³ It should be noted that in some cases, statistics are reported based on low sample sizes from the survey. These are marked with an asterisk (*).

Figure 16: Summary of SSNIP test for Residential Respondents purchasing Standalone Broadband¹⁵⁴



¹⁵⁴ It should be noted that in some cases, statistics are reported based on low sample sizes from the survey. These are marked with an asterisk (*).

4.26 Paragraphs A 2.78 to A 2.86 of Appendix: 3 outline the responses of business End Users to a hypothetical price increase. For businesses whose broadband is part of a bundle, if the price of broadband increased by €2 per month, 32% of businesses on fixed phone line broadband (copper network) would definitely or maybe change their behaviour.¹⁵⁵ 65% of these respondents indicated that they would cancel their subscription and switch to an alternative network.¹⁵⁶ Of these, 86% said they were fairly likely or very likely to do so in response to a €2 increase in the price of their broadband service.¹⁵⁷ Of those that said that they would switch, 28% said that they would switch to an FTTC network.¹⁵⁸ The outcomes for businesses whose broadband is not part of a bundle are similar.

Intended Use

4.27 Paragraphs A 2.13 to A 2.15 of Appendix: 2 outline the findings of the WLA/WCA Market Research in relation to broadband usage patterns among residential End Users. For respondents on a fixed phone line (copper network), the most popular devices connected to the broadband are laptop (86%), smartphone (68%) and tablet (46%) (see Figure 28 in Appendix: 2).

4.28 Table 3 and Table 4 below present the views of residential respondents to the WLA/WCA Market Research on their primary use of their home broadband service and the types of devices connected to it¹⁵⁹. In terms of derived demand for broadband, the WLA/WCA Market Research revealed that the main uses among End Users on a copper network were browsing the internet (93%), using email (77%), social media (68%) and online shopping (58%).

4.29 Paragraphs A 2.55 to A 2.57 of Appendix: 2 outline the findings of the WLA/WCA Market Research with respect to broadband usage patterns among business End Users. For fixed phone line End Users, 98% used broadband for email and internet, while 21% used it for cloud services and 16% used it for connectivity between business premises.

4.30 For End Users on a copper network, the average time spent online per day is 4 hours, with 62% spending up to 5 hours per day online.

¹⁵⁵ Slide 73 of the WLA/WCA Business Market Research.

¹⁵⁶ Slide 74 of the WLA/WCA Business Market Research.

¹⁵⁷ Slide 75 of the WLA/WCA Business Market Research.

¹⁵⁸ Slide 76 of the WLA/WCA Business Market Research.

¹⁵⁹ Paragraphs A 2.13 to A 2.15 of Appendix: 2 further outline the findings of the WLA/WCA Market Research in relation to broadband usage patterns among residential End Users.

- 4.31 The WLA/WCA Market Research among residential and business customers revealed that among the most important aspects considered when choosing a supplier are reliability of connection, fault resolution, customer service, pricing and download speeds.¹⁶⁰
- 4.32 As set out in ComReg's QKDR¹⁶¹, the average data consumption by broadband users on a Copper Network is 59.6Gb per month.

Service Providers' views on Substitutability among Products

- 4.33 The views of Service Providers were elicited through various SIRs. Among other things, Service Providers were asked for their views as to whether various platforms can be considered substitutes for each other. The assessment of potential substitutes for the copper-based broadband focal product below discusses the views of the various Service Providers.

Preliminary Conclusion on Focal Product

- 4.34 In light of the above, it is ComReg's preliminary view that broadband provided over a copper network is the focal product against which an assessment of potential alternative (substitute) products will be carried out. If an alternative network is found to be an effective substitute for the focal product, it is included in the relevant retail product market.
- 4.35 In the section below, ComReg assesses the various alternative networks used to provide broadband services, to determine whether broadband provided over such networks is an effective demand-side and/or supply-side substitute for the focal product and, if so, is consequently included in the relevant retail product market.

Assessment of Retail Broadband Substitutes

Substitution Assessment Overview

- 4.36 ComReg's starting point is to examine whether the following are likely to be considered by End Users¹⁶² as effective demand-side substitutes for an ADSL broadband service provided over a copper network:
- (a) Internet access via a narrowband network;
 - (b) Broadband provided over a FTTC network;
 - (c) Broadband provided over a FTTH/FTTP¹⁶³ network;
 - (d) Broadband provided over a CATV network;

¹⁶⁰ Slides 40 to 42 of the WLA/WCA Market Research.

¹⁶¹ Q1 2016 ComReg QKDR, pg. 41.

¹⁶² Unless otherwise stated, End Users refers to both private End Users and business End Users.

¹⁶³ Fibre to the Premises ('FTTP').

- (e) Broadband provided over a 3G/4G mobile network;
 - (f) Satellite broadband;
 - (g) Broadband provided over a FWA network; and
 - (h) Broadband provided over a leased line.
- 4.37 In Table 2, below, ComReg sets out the key characteristics of broadband services provided over each of the above platforms.
- 4.38 These potential substitutes are then considered across the range of relevant substitutability criteria set out in the European Commission's Notice on Market Definition, according to which a relevant product market is defined, namely:
- "The relevant product market comprises all those products and/or services which are regarded as interchangeable or substitutable by the end user, by reason of the products' characteristics, their prices and their intended use"*¹⁶⁴.
- 4.39 This retail assessment therefore covers an assessment of the technical characteristics (functionality), price, and any available data regarding End User usage trends/behaviour. It also considers whether a sufficient number of End Users are likely to switch to using any such potential substitutes in response to a hypothetical 5-10% increase in the retail price of the relevant broadband products.
- 4.40 In terms of analysing possible behavioural changes by End Users, ComReg considers each of the possible substitution options for a broadband service provided over a copper network.
- 4.41 ComReg also considers supply-side substitution, which examines whether, in response to a SSNIP in the market for the focal product, an operator in another market could potentially enter the market for the focal product by switching production inputs in order to offer the focal product (and any substitutes). If supply side substitution is possible, then a potential entrant could enter the market and make any hypothetical price increase unprofitable for the hypothetical monopolist. In such a case, it may be appropriate to broaden the definition of the market to include products similar to the focal product on the basis of supply-side substitution.

General Products Overview

- 4.42 Below, ComReg provides a general overview of broadband product characteristics.

¹⁶⁴ See paragraph 7 of the European Commission's Notice on Market Definition.

Product Characteristics

- 4.43 Broadband services are typically sold with headline download speeds ranging from “up to” 24Mb to 1000Mb, as outlined in Appendix: 3.
- 4.44 Traditionally, broadband provided over a copper network had been offered with download speeds of 1Mb, 3Mb and 8Mb, using ADSL technologies. In 2008, Eircom began upgrading many telephone exchanges to an ADSL2+ technology, providing download speeds up to 24Mb. At the end of Q1 2016 there were 505,639 residential and business customers receiving ADSL/ADSL2+ based broadband services provided over Eircom’s copper network.
- 4.45 In 2011, Eircom began rolling out its FTTC network, providing download speeds up to 100Mb. At the end of Q1 2016, there were 392,868 residential and business customers receiving broadband over Eircom’s FTTC network. In 2014, Eircom announced the rollout of a FTTH network with download speeds up to 1Gbps.
- 4.46 In 2005, Virgin Media (formerly UPC Ireland) began providing broadband services over its CATV network, offering download speeds up to 30Mb. In 2010, UPC began upgrading its CATV network to the DOCSIS 3 standard enabling it to provide faster broadband download (and upload) speeds, initially set at up to 100Mb and now at download speeds up to 360Mb. At the end of Q1 2016, there were 368,491 residential and business customers receiving broadband over Virgin Media’s CATV network.¹⁶⁵
- 4.47 Mobile Broadband relates to broadband provided over a mobile network, in particular over devices such as a dongle or MiFi¹⁶⁶, with attainable download speeds of up to 33Mb over a 3G/4G network (see paragraphs 4.146 to 4.180 for a discussion of mobile broadband). There are currently a number of mobile service providers (**‘MSPs’**) providing such services, including Eircom Group Mobile (which includes eMobile and Meteor), ID Mobile, Tesco Mobile, Three and Vodafone.
- 4.48 Satellite broadband offers download speeds of up to 22Mb for both residential and business End Users (see paragraphs 4.182 to 4.205 for a discussion of Satellite).
- 4.49 Fixed Wireless Access (**‘FWA’**) refers to the delivery of broadband access to a fixed location (a premises) over a wireless network and generally offers advertised broadband services at speeds of up to 70Mb (see paragraphs 4.207 to 4.237 for a discussion of FWA).

¹⁶⁵ ComReg QKDR Q1 2016.

¹⁶⁶ Mobile Wifi.

- 4.50 In Table 2 below, ComReg summarises the product characteristics of the focal product and various potential substitutes, which are considered in the subsequent assessment of the relevant retail product market.
- 4.51 In Table 3 below, ComReg summarises the stated views of residential respondents to the WLA/WCA Market Research¹⁶⁷ on the intended use of the various potential substitute considered in the subsequent assessment of the relevant retail product market.
- 4.52 In Table 4 below, ComReg presents the stated views of residential respondents to the WLA/WCA Market Research¹⁶⁸ on the types of devices connected to the various potential substitutes considered in the subsequent assessment of the relevant retail product market.

¹⁶⁷ Extracted from Slide 29 of the WLA/WCA Consumer Market Research.

¹⁶⁸ Extracted from Slide 29 of the WLA/WCA Consumer Market Research.

Table 2: Overview of Product Characteristics

	Copper Network Broadband	Dial-up Internet Access	FTTC	FTTH	Cable	Mobile Broadband	Satellite	Fixed Wireless Network	Leased Line
Technology	ADSL, ADSL2+	Dial-up over PSTN	Cabinet & Exchange launched VDSL	GPON	DOCSIS 3	3G/4G	Satellite	Uses licenced and unlicensed spectrum	TDM, Ethernet, Wireless
Subscribers (Q1 2016)¹⁶⁹	505,639	4,290	392,868	4,564	370,575	392,764	5,523	42,083	16,000
Download Speeds	Up to 24Mb	Typically up to 56Kbps	Up to 100 Mb	Up to 1000Mb	Up to 360Mb	Up to 150Mb	Up to 20Mb	Up to 70Mb	Typically symmetrical
Upload Speeds	Up to 2Mb		Up to 25 Mb	Up to 100Mb	Up to 20Mb	Up to 60 Mb	Up to 2 Mb	Up to 5 Mb	
Typical Price Range (incl. VAT)	€35 - €59.95 pm (residential) / €18 - €134 (business)	Not available	€34.95 -€112 pm (residential), €34 - €55 (business)	€50- €110 pm (residential), €55 - €90 (business)	€50 - €90 pm (residential), €45 - €99 (business)	€5 - €70 per month	€40 - €70 pm (residential), €72 - €395 (business)	€30 - €60 pm (residential), €43 - €188 (business)	Varies by contract, speed and services. Prices start at €120.
Typical Download Allowance	Unlimited	Not available	Unlimited	Unlimited	Unlimited	Typically up to 50GB ¹⁷⁰	Up to 40GB	Typically include capped allowances	Unlimited
Common Bundles	Fixed Telephony	Fixed Telephony	TV, Fixed Telephony	TV, Fixed Telephony	TV, Fixed Telephony	Typically standalone product	Typically a standalone product	Fixed Telephony or standalone product	Often sold as part of suite of business services
Typical Contract Length	12 months	Not available	12 months	12 months	12 months	0-12 months	24 months	12 months	Varies

¹⁶⁹ Source: Q1 2016 QKDR.

¹⁷⁰ ComReg notes that most mobile broadband products offer download allowances of up to 50GB, however, some products are available with higher download allowances, up to 250GB from Three Ireland. See <http://www.three.ie/eshop/broadband-plans/bill-pay-broadband/>

Table 3: Residential Respondent views on Intended use of Broadband access (Slide 29)

	BB via Copper phone (n=851) %	Fibre Network (n=98) %	Cable Network (n=405) %	Mobile broadband (n=126) %	Fixed Wireless (n=58) %	Mobile broadband (n=31*) %	Satellite (n=6*) %
Browsing the internet	93	95	94	93	97	95	100
Using email	77	77	84	78	77	59	100
Social Media, Instant Messaging (e.g. Facebook, Twitter, Snapchat etc.)	68	70	67	72	82	69	73
Purchasing goods/ services	58	58	55	54	68	43	73
Manage Banking, Pay Bills, Other Services	53	48	53	39	58	33	85
Using real-time video/voice messaging (e.g. Skype, Viber, Facetime)	37	38	47	35	40	22	25
Downloading/ streaming movies music/ TV programmes	27	39	32	18	43	21	49
Catch Up TV Services	26	28	23	9	36	11	60
Study/ College	24	24	21	25	31	19	-
Gaming	23	33	19	11	18	21	12
Working at home/ Teleworking	18	25	12	5	19	7	25
* Small sample size/base							

Table 4: Residential Respondent views on connected devices to various broadband platforms (Slide 26)

	BB via Copper phone (n=851) %	Fibre Network (n=98) %	Cable Network (n=405) %	Mobile broadband (n=126) %	Fixed Wireless (n=58) %	Mobile broadband (n=31*) %	Satellite (n=6*) %
Laptop	86	87	87	89	86	57	100
Smartphone	68	78	78	74	66	88	85
Tablet	46	59	59	44	34	19	37
Desktop Computer	25	33	33	33	15	4	12
Gaming Console	27	34	34	25	17	14	12
Smart TV	12	20	20	17	4	-	12
Mobile Phone (non-Smartphone)	11	20	20	17	12	6	12
MP3/Digital Music Player	10	13	13	15	5	11	12
Mobile gaming device	10	17	17	12	8	7	-
Mobile enabled internet device	10	19	19	11	4	7	25
* Small sample size/base							

- 4.53 Below, ComReg considers whether the following are effective substitutes for broadband provided over a copper network.
- (a) Dial-up internet access via a narrowband network (discussed in paragraphs 4.54 to 4.67 below);
 - (b) Broadband provided over a FTTC network (discussed in paragraphs 4.68 to 4.94 below);
 - (c) Broadband provided over a FTTH/FTTP¹⁷¹ network (discussed in paragraphs 4.95 to 4.116 below);
 - (d) Broadband provided over a CATV network (discussed in paragraphs 4.117 to 4.144);
 - (e) Broadband provided over a 3G/4G mobile network (discussed in paragraphs 4.145 to 4.180 below);
 - (f) Satellite broadband (discussed in paragraphs 4.181 to 4.205 below);
 - (g) Broadband provided over a FWA network (discussed in paragraphs 4.206 to 4.236 below); and
 - (h) Broadband provided over a leased line (discussed in paragraphs 4.237 to 4.249 below).

Is dial-up internet access via a narrowband network an effective substitute for broadband access provided over a copper network?

Overview

- 4.54 Having regard to the analysis set out in paragraphs 4.55 to 4.67 below, ComReg's preliminary view is that narrowband internet access (commonly referred to as '**dial-up internet access**') is not likely to be an effective substitute for broadband access provided over a copper network.

Demand-Side Substitution

- 4.55 It is ComReg's preliminary view that, from a demand-side perspective, substitutability between dial-up internet access and copper-based broadband access is likely to be very limited. The following paragraphs compare the characteristics of dial-up internet access with broadband provided over a copper network.

¹⁷¹ Fibre to the Premises ('FTTP').

Product Characteristics

- 4.56 In Table 2, above, ComReg set out the key characteristics of dial-up internet access. As of Q1 2016, there were a total of 4,290 subscribers to dial-up internet access.¹⁷²
- 4.57 Dial-up internet access is typically accessed where there is no viable alternative broadband platform, particularly in certain rural areas of the country. Dial-up internet access generally allows internet access at download speeds up to 56kb over a traditional (copper) telephone line, or up to 128kb using an Integrated Services Digital Network ('ISDN') line. On the other hand, a broadband service provided over a copper network offers significantly higher download/upload speeds than dial-up internet access and allows an End User to access a greater range of services (including video streaming and IP based services).
- 4.58 Broadband access provided over a copper network also has a broader functionality capability than dial-up internet access. Broadband internet access is "always on" and unlike dial-up internet access, does not require an End User to "dial up" every time internet access is required. A broadband connection provided on a copper network also allows an End User to use voice and broadband services at the same time, whereas a dial-up internet access user is unable to make or receive a voice call while accessing the internet. An ISDN End User would receive a lower speed internet access service if the line was being used to make or receive a voice call simultaneously.

Pricing

- 4.59 Dial-up internet access is a legacy product. Despite the initially higher price of broadband when it launched a number of years ago, the higher download/upload speeds and "always on" functionality offered has resulted in End Users migrating to broadband. Over time the price of broadband services has fallen and dial-up internet access use has all but diminished.
- 4.60 A HM supplier of a broadband access product provided over a copper network could likely sustain a SSNIP in the range of 5-10% above the competitive level without a sufficient number of customers switching to dial-up internet access to make the price increase unprofitable (given its more restrictive functionality and speeds). This view is reflected in the End User usage figures in paragraph 4.63 below.
- 4.61 A detailed examination of broadband prices is contained in Appendix: 3.

¹⁷² Q1 2016 QKDR.

Intended Use

- 4.62 As noted above, dial-up internet access allows access to the internet but offers a less rich experience than broadband access services, in particular, given its limited download/upload capabilities it cannot readily access content rich services.
- 4.63 The migration from dial-up internet access to broadband services over the last number of years has resulted in a 96% decline in the number of dial-up internet access subscribers over the 6-year period from Q1 2010 to Q1 2016. Less than 5,000 customers currently use a dial-up internet access service¹⁷³ (as at Q1 2016). The migration from dial-up internet access to broadband has been a one-way migration that has occurred as SPs have upgraded network infrastructure and offered broadband services with higher download speeds to End Users.

Supply-Side Substitution

- 4.64 ComReg has considered whether, in response to a HM SSNIP of broadband provided over a copper network, a retail dial-up internet access provider (not currently providing a retail broadband service) could, within a short timeframe and without incurring significant (sunk) costs, switch to providing a broadband service over a copper network such that it would effectively constrain the HM copper network based broadband supplier by making the SSNIP unprofitable.
- 4.65 ComReg's preliminary view is that a retail dial-up internet access provider could not enter the broadband market within a relatively short timeframe and without incurring significant sunk costs. ComReg notes that Eircom operates the only ubiquitous copper access network in Ireland, which it uses to provide retail and wholesale broadband services. Previously this copper network was used to deliver dial-up internet access services. As a result, Eircom has already made the necessary investments in new broadband routers and backhaul necessary to provide broadband services over its copper network.
- 4.66 In addition, ComReg considers that an effective competitive constraint via any such supply-side substitution by a new entrant is unlikely due to the substantial sunk costs involved in building a copper access network. Such entry would likely involve substantial costs, risks and time delays and would not provide a sufficiently immediate constraint to be taken into account for market definition purposes.

¹⁷³ Q1 2016 QKDR.

Overall preliminary conclusion on internet access via a narrowband network

- 4.67 Taking account of product characteristics, pricing and intended use, ComReg considers that End Users would not find dial-up internet access to be an effective demand-side substitute for broadband access, and this is confirmed by actual usage patterns. Furthermore, ComReg does not consider that supply-side constraints would be immediate or effective for dial-up internet access to be included in the same relevant market as broadband access provided over a copper network.

Is broadband provided over an FTTC network an effective substitute for broadband access provided over a copper network?

Overview

- 4.68 Having regard to the analysis set out in paragraphs 4.69 to 4.94 below, ComReg's preliminary view is that broadband access provided over an FTTC network is likely to be an effective substitute for broadband access provided over a copper network.

Demand Side Substitution

- 4.69 It is ComReg's preliminary view that from a demand-side perspective, substitutability between FTTC and copper-based broadband access is likely to be high (and potentially asymmetric). The following paragraphs examine whether broadband provided over an FTTC network is an effective substitute for copper network based broadband.

Product Characteristics

- 4.70 In Table 2, above, ComReg set out the key product characteristics of FTTC based broadband.

- 4.71 Eircom began rolling out its FTTC network in 2011 and it currently passes 1.6 million premises.¹⁷⁴ Eircom's rollout of its FTTC network was initially largely confined to urban areas, with smaller towns seeing local exchanges and street cabinets upgraded to FTTC in 2015 and 2016. As noted in paragraph 3.34 above, the number of customers with broadband provided over a copper network has declined since Eircom introduced its FTTC network (also potentially because of competition from broadband provided over other platforms). The patterns suggest that as Eircom increases its FTTC network rollout and competing broadband platforms provide faster download speeds, there will be a further decline in the number of customers using broadband provided over a copper network, in particular, for those customers that place a high valuation on faster broadband speeds.
- 4.72 Broadband provided over an FTTC network is commonly sold as uncontended, with unlimited download allowances. FTTC broadband is also sold in a similar manner to broadband provided over a copper network, being either sold on a standalone basis or bundled with services such as fixed telephony and TV services.
- 4.73 Broadband offered over an FTTC network is typically provided with download speeds of up to 100Mb and upload speeds of up to 25Mb. ComReg's analysis¹⁷⁵ of broadband speeds offered across various broadband packages shows a maximum speed of 100 Mb on an FTTC network, with the lowest offered speed being 24 Mb. The download limit is typically unlimited.
- 4.74 As outlined in paragraphs A 2.16 to A 2.18 of Appendix: 2, for residential End Users on an FTTC network, the average download speed was 70 Mb, with 84% of these receiving speeds up to 100 Mb (Figure 33). As outlined in paragraphs A 2.58 to A 2.61 of Appendix: 2, for business End Users on an FTTC network, the average download speed was 51 Mb, with 82% of these receiving download speeds up to 100 Mb (Figure 67).

Pricing

- 4.75 A detailed examination of broadband prices is contained in Appendix: 3. FTTC broadband prices range from €34.95 to €112.00 per month for residential End Users, and €34.00 to €55.00 per month for business End Users, depending on the speed of service and whether or not it is offered as part of a bundle.¹⁷⁶

¹⁷⁴ <http://fibrerollout.ie/where-and-when/>

¹⁷⁵ See Appendix: 3.

¹⁷⁶ ComReg analysis of FTTC based broadband packages offered by main operators outlined in Appendix: 3.

- 4.76 As set out in paragraphs A 2.22 to A 2.25 of Appendix: 2, the WLA/WCA Market Research¹⁷⁷ showed that residential respondents on an FTTC network whose broadband is part of a bundle paid an average of €50 per month, with 89% of End Users paying less than €60 per month. For residential respondents who purchase broadband as a standalone product, the average spend for those on an FTTC network is €40.09 per month.
- 4.77 As outlined in Appendix: 3, contract lengths for broadband provided over an FTTC network are typically for a minimum period of 12 months for residential End Users and likewise for business End Users. Paragraphs A 2.26 to A 2.29 of Appendix: 2 outline the findings of the WLA/WCA Market Research in relation to contract lengths for residential End Users. 82% of residential respondents on an FTTC broadband network are in a contract with their broadband SP, with the average contract lasting 16 months. Paragraphs A 2.62 to A 2.65 of Appendix: 2 outline the findings of the WLA/WCA Market Research in relation to contract lengths for business End Users. 65% of business respondents on an FTTC network were in a contract, with 41% of respondents in a contract of 18 months duration and 23% in a contract of 12 months.
- 4.78 Paragraphs A 2.34 to A 2.42 of Appendix: 2 outline the responses of residential End Users to a hypothetical price increase (see also Figure 15 and Figure 16 above). For residential respondents with broadband purchased as part of a bundle, 24% of residential respondents on a Copper Network said that they would definitely or maybe change their behaviour in response to a hypothetical price increase.¹⁷⁸ 57% of these respondents indicated that they would cancel their subscription and switch to an alternative network.¹⁷⁹ 76% of these respondents reported that they would be very likely or fairly likely to follow through on this change.¹⁸⁰ Of those residential respondents who indicated that they would cancel and switch in response to the hypothetical price increase and were likely or fairly likely to do so, 22% indicated they would switch to a broadband service provided over a Fibre network.¹⁸¹

¹⁷⁷ The WLA/WCA Market Research refers to 'fibre broadband' throughout. At the time this research was undertaken there was limited availability of FTTH based broadband products. As such, the results of the WLA/WCA Market Research for 'fibre broadband' can be reasonably interpreted to refer to FTTC based broadband access.

¹⁷⁸ Slide 109 of the WLA/WCA Consumer Market Research.

¹⁷⁹ Slide 111 of the WLA/WCA Consumer Market Research.

¹⁸⁰ Slide 114 of the WLA/WCA Consumer Market Research.

¹⁸¹ Slide 117 of the WLA/WCA Consumer Market Research.

- 4.79 In addition, 25% of residential respondents on an FTTC network said that they would definitely or maybe change their behaviour in response to a hypothetical price increase.¹⁸² 47% of these respondents indicated that they would cancel their subscription and switch to an alternative network.¹⁸³ 76% of these respondents reported that they would be very likely or fairly likely to follow through on this change.¹⁸⁴ Of those residential respondents who indicated that they would cancel and switch in response to the hypothetical price increase and were likely or fairly likely to do so, 49% indicated they would switch to a broadband service provided over a copper network.¹⁸⁵
- 4.80 Paragraphs A 2.78 to A 2.86 of Appendix: 2 outline the responses of business End Users to a hypothetical price increase. For businesses whose broadband is part of a bundle, if the price of broadband increased by €2 per month, 32% of businesses on a Copper network would definitely or maybe change their behaviour in response to a hypothetical price increase.¹⁸⁶ 66% of these respondents indicated that they would cancel their subscription and switch to an alternative network.¹⁸⁷ Of these respondents, 86% said they were fairly likely or very likely to do so in response to a €2 increase in the price of their FTTC based broadband service.¹⁸⁸ Of those that said that they would switch, 28% said that they would switch to a broadband service provided over a Fibre Network.¹⁸⁹ The outcomes for businesses whose copper-based broadband service is not part of a bundle are similar.

¹⁸² Slide 109 of the WLA/WCA Consumer Market Research.

¹⁸³ Slide 111 of the WLA/WCA Consumer Market Research.

¹⁸⁴ Slide 114 of the WLA/WCA Consumer Market Research.

¹⁸⁵ Slide 117 of the WLA/WCA Consumer Market Research.

¹⁸⁶ Slide 73 of the WLA/WCA Business Market Research.

¹⁸⁷ Slide 74 of the WLA/WCA Business Market Research.

¹⁸⁸ Slide 75 of the WLA/WCA Business Market Research.

¹⁸⁹ Slide 76 of the WLA/WCA Business Market Research.

4.81 In addition, 24% of businesses on an FTTC network would definitely or maybe change their behaviour in response to a hypothetical price increase.¹⁹⁰ 79% of these respondents indicated that they would cancel their subscription and switch to an alternative network.¹⁹¹ Of these respondents, 77% said they were fairly likely or very likely to do so in response to a €2 increase in the price of their FTTC based broadband service.¹⁹² Of those that said that they would switch, 39% said that they would switch to a broadband service provided over a Copper Network.¹⁹³ The outcomes for businesses whose FTTC based broadband service is not part of a bundle are similar.

Intended Use

4.82 Table 3 and Table 4 present the views of residential respondents to the WLA/WCA Market Research on their primary use of their home broadband service and the types of devices connected to it¹⁹⁴. Residential End Users with a Fibre network¹⁹⁵ had broadly the same intended use for broadband as those residential respondents with a Copper network based broadband service. The WLA/WCA Market Research revealed that the main uses among End Users using broadband on a fibre network were browsing the internet (95%), using email (77%) and social media (70%). Respondents with a Fibre network based broadband service were more likely to use their broadband service for downloading or streaming movies or TV content (39%) than respondents with a Copper network based broadband service (27%). Similarly, the most popular devices connected to a Fibre broadband service were a laptop (87%), smartphone (78%) and tablet (59%), broadly similar to the main uses by End Users with broadband provided over a Copper Network.

4.83 For End Users on a Fibre network, the average time spent online per day is 5 hours, with 74% spending up to 5 hours per day online, again, similar to the time spent by End Users using broadband provided over a Copper Network.

¹⁹⁰ Slide 73 of the WLA/WCA Business Market Research.

¹⁹¹ Slide 74 of the WLA/WCA Business Market Research.

¹⁹² Slide 75 of the WLA/WCA Business Market Research.

¹⁹³ Slide 76 of the WLA/WCA Business Market Research.

¹⁹⁴ Paragraphs A 2.13 to A 2.15 of Appendix: 2 further outline the findings of the WLA/WCA Market Research in relation to broadband usage patterns among residential End Users.

¹⁹⁵ For the purposes of the WLA/WCA Market Research, “fibre network” is taken to mean FTTC/FTTH based networks.

- 4.84 Paragraphs A 2.55 to A 2.57 of Appendix: 2 outline the findings of the WLA/WCA Market Research with respect to broadband usage patterns among business End Users. For fixed phone line End Users, 96% used broadband for email and internet, while 40% used it for cloud services and 28% used it for connectivity between business premises.
- 4.85 As set out in ComReg's QKDR¹⁹⁶, the average data consumption by broadband users on a FTTC Network is 115.9Gb per month.

Substitution

- 4.86 As noted in paragraph 3.43, the rollout of FTTC networks has advanced considerably since the 2010 WPNI Decision and 2011 WBA Decision. Eircom has rolled out its FTTC network to pass 1.6 million premises and currently has 392,868 wholesale and retail customers. This equates to 22.9% of all active retail broadband subscriptions in Q1 2016.¹⁹⁷ Furthermore, the trend observed by ComReg indicates that the number of retail subscribers using FTTC based broadband products is likely to increase, particularly as Eircom rolls out fibre deeper into its network and upgrades cabinets and exchanges (or equivalent handover points).
- 4.87 Whether End Users would switch from a broadband product provided over a copper network to an FTTC based broadband product depends on the geographic availability of such a network. As Eircom's rollout of its FTTC advances, ComReg is of the preliminary view that more subscribers will be likely to migrate to broadband provided over an FTTC network.
- 4.88 ComReg's preliminary view is that a HM supplier of broadband over a copper network is unlikely to be able to sustain a profitable SSNIP in the range of 5-10% above the competitive level without a sufficient number of customers switching to broadband provided over an FTTC network (where available) given the similar functionality and the download speeds offered by broadband services provided over an FTTC network. This view is reflected in the End User usage figures discussed in paragraph 4.86 above. In addition, as noted in paragraph A 3.82 and Figure 95 in Appendix: 2, there is a chain of substitution between copper and FTTC based broadband, where the average retail price of FTTC broadband falls within the minimum/maximum range of copper based broadband. It is also important to note that absent regulation in the WLA and WCA Markets, Eircom is the only supplier of broadband services over a copper network and over an FTTC network.

¹⁹⁶ Q1 2016 ComReg QKDR, pg. 42.

¹⁹⁷ Q1 2016 QKDR, page 33.

Supply Side Substitution

4.89 It is ComReg's preliminary view that given an FTTC network is an upgrade to a copper network, it is unlikely that a SP not currently providing broadband services would roll out an FTTC network. As noted previously, Eircom is the only SP with a copper network. Since 2011, it has been upgrading its network to FTTC, with customers switching to broadband services supplied over the FTTC network.

Service Provider views on Substitutability among Products

4.90 As part of the assessment, ComReg sought the views of SPs currently supplying broadband services in Ireland as to whether broadband provided over various platforms were substitutes for each other. A summary of SPs' views is set out in Table 5 below.

4.91 In response to the February 2015 13D SIR¹⁹⁸, 11 of the 23 contacted SPs offering broadband services indicated they were of the view that broadband services provided over an FTTC network were a substitute for broadband services provided over a copper network (see Table 5 below). [redacted] for example stated that [redacted]. In addition, Eircom and [redacted] noted that this substitution is one way (i.e. from DSL to FTTC and not vice versa). None of the operators who responded to this question were of the view that broadband services provided over an FTTC network were not a substitute for broadband services provided over a copper network.

Preliminary Conclusions on FTTC Broadband

4.92 ComReg's preliminary view is that given the product characteristics and pricing of FTTC based broadband, along with the evolution in observed demand to date, FTTC based broadband products are likely to be an effective demand-side substitute for copper network-based retail broadband products. However, this is only likely to be the case in geographic areas where FTTC based broadband is available¹⁹⁹.

¹⁹⁸ ComReg sent a SIR to 23 SPs in February 2015 seeking a range of quantitative and qualitative information.

¹⁹⁹ As noted in paragraph 4.71, Eircom is rolling out its FTTC network, which as of Q2 2016 passes 1.6 million premises.

- 4.93 ComReg considers that substitution between copper-based broadband and FTTC based broadband is likely to be one-way (or asymmetric) due to the higher download/upload speeds available on broadband products offered over FTTC networks. Generally, a subscriber to a FTTC based 100Mb broadband product is unlikely to find a lower speed broadband product offered on a copper network to be an effective substitute. However, a subscriber to a copper-based broadband product may, subject to the valuation attached to download/upload speed and price, find an FTTC-based retail broadband product to be an effective substitute.
- 4.94 It is ComReg's preliminary view that retail broadband products provided over an FTTC networks are, where available, likely to be an effective substitute for a broadband service provided over a copper network.

Table 5: Views of Operator’s on Substitutability of Alternative Platforms for Copper Network based broadband²⁰⁰

Technology	Airspeed	BT Ireland	Colt	Digiweb	Eircom	Imagine	Magnet	Pure Telecom	Sky	Virgin Media	Vodafone
Substitute for Copper Network based services?	FTTC²⁰¹	Yes	[X █]	Yes	Yes	Yes	Yes (one-way)	Yes	[X █]	[X █]	[X █]
	FTTH²⁰²	Yes	[X █]	Yes	Yes	Yes	Yes (one-way)	Yes	[X █]	[X █]	[X █]
	Cable²⁰³	-	[X █]	No	Yes	Yes	Yes	No	Yes	[X █]	[X █]
	Satellite²⁰⁴	-	[X █]	No	No	No only in areas of poor quality copper broadband services	Yes	No	Yes	[X █]	[X █]
	FWA²⁰⁵	-	[X █]	No	-	Yes	Yes	No	No	[X █]	[X █]
	Mobile²⁰⁶	-	[X █]	No	No	No (except in some circumstances)	Yes	No	No	[X █]	[X █]
	Leased Line²⁰⁷	-	[X █]	-	-	-	-	-	-	[X █]	[X █]

²⁰⁰ While views were sought from a total of 23 SPs, some SPs did not express any views regarding the substitutability of copper with other platforms. These operators include 3PlayPlus, Aurora, E-Net, Equant, ESB Telecoms, Lycamobile, Questzones, SIRO, Strencom, Tesco Mobile, Three and Verizon.

²⁰¹ The majority of SPs were of the view that FTTC is a substitute for copper-based broadband.

²⁰² The majority of SPs were of the view that FTTH is a substitute for copper-based broadband.

²⁰³ The majority of SPs were of the view that Cable is a substitute for copper-based broadband.

²⁰⁴ The majority of SPs were of the view that Satellite is not a substitute for copper-based broadband.

²⁰⁵ The majority of SPs were of the view that FWA is not a substitute for copper-based broadband.

²⁰⁶ The majority of SPs were of the view that Mobile is not a substitute for copper-based broadband.

²⁰⁷ No views were expressed in relation to substitution with leased lines.

Is broadband provided over an FTTH network an effective substitute for broadband access provided over copper and FTTC networks?

Overview

4.95 Having regard to the analysis set out in paragraphs 4.96 to 4.116 below, ComReg's preliminary view is that broadband access provided over a FTTH network is likely to be an effective substitute for broadband access products provided over a copper or FTTC network.

Demand Side Substitution

Product Characteristics

4.96 In Table 2, above, ComReg set out the key product characteristics of FTTH based broadband. As set out in paragraphs 3.43 to 3.45, there have been a number of FTTH based network rollout announcements by a number of SPs in Ireland. As of Q1 2016, there were 4,564 subscribers with a FTTH connection, representing 0.3% of total broadband subscriptions. As noted in paragraph 3.43, Eircom has announced the rollout of a FTTH network across Ireland to 300,000 premises. As noted in paragraph 3.45, SIRO, the joint venture between ESB and Vodafone Ireland, is currently rolling out a FTTH network across 50 towns, reaching potentially 500,000 customers, with download speeds up to one gigabit.²⁰⁸ Digiweb began providing services in August 2016 via the SIRO network. As of September 2016, SIRO has rolled out services to [redacted] premises in Ireland. In addition, Magnet operates a FTTH network in parts of Dublin, Meath and Laois²⁰⁹.

4.97 Retail broadband provided over FTTH networks offers download speeds of between 100Mb and 1Gbs (and at lower speeds). Broadband products provided over FTTH networks are typically sold in bundles, including with various combinations of fixed telephony and TV services, as well as also being sold on a standalone basis. A summary of various FTTH broadband packages is outlined in Appendix: 3.

²⁰⁸ <http://siro.ie/what-is-siro/>

²⁰⁹ Details of Magnet's Fibre network can be found here - <https://www.magnet.ie/residential/home-broadband/>

- 4.98 As was the case with FTTC based broadband, ComReg considers that substitution between copper-based broadband and FTTH based broadband is likely to be one-way due to the higher download speeds available from FTTH networks. A subscriber to an FTTH based 100Mb or 1Gb retail broadband service may not find a lower download/upload speed product offered by copper network based broadband to be a sufficiently effective substitute, but a customer of the copper network based broadband service is, from a functional perspective, likely to find an FTTH-based retail broadband service to be a good substitute. Substitution between FTTC and FTTH broadband services is also likely given there is a sufficient overlap of many functional characteristics (although higher download speeds are attainable on FTTH networks).
- 4.99 The ability to switch from a copper or FTTC based broadband service to a broadband service provided over an FTTH network is limited by the geographic availability of these networks. However, on a forward looking basis, coverage is likely to grow. ComReg also note that insofar as Eircom's networks are concerned its FTTC and FTTH networks will not overlap (as they are mutually exclusive), although FTTC is upgradable to a FTTH network topology.

Pricing

- 4.100 A detailed examination of FTTH broadband prices is contained in Appendix: 3. FTTH broadband is generally priced higher than FTTC and copper network based broadband although some overlaps in pricing exist. FTTH broadband prices range from €50.00 to €110.00 per month for residential End Users, depending on whether it is bundled with other services or not. For business End Users, FTTH broadband ranges from €55.00 to €90.00 per month.
- 4.101 As set out in paragraphs A 2.22 to A 2.25 of 13, the WLA/WCA Market Research showed that residential respondents on an FTTH network whose broadband is part of a bundle paid an average of €50 per month, with 89% of End Users paying less than €60 per month.²¹⁰ For residential respondents who purchase broadband as a standalone product, the average spend for those on an FTTH network is €40.09 per month.
- 4.102 Contract lengths vary from between 12 and 24 months, with most contracts being 12 months in duration.
- 4.103 Paragraphs 4.77 to 4.80 of the analysis above in relation to FTTC broadband outline the findings from the WLA/WCA Market Research on contract durations and the responsiveness to a hypothetical price increase among residential and business End Users.

²¹⁰ The WLA/WCA Market Research does not distinguish between FTTC and FTTH networks.

Intended Use

- 4.104 As noted above, there have been several announcements by SPs regarding the rollout of FTTH networks over the coming years, with some of this having already commenced. As of Q1 2016, there were a total of 4,564 retail subscribers accessing services via a FTTH network²¹¹. This equates to 0.3% of all active retail broadband subscriptions in Q1 2016.
- 4.105 The ability to switch to a broadband product provided over an FTTH network depends on the geographic availability of FTTH networks. To date, rollout of FTTH has been limited, as noted in paragraphs 3.43 to 3.45 of this Consultation. As the rollout of FTTH advances in the coming years, ComReg is of the preliminary view that more subscribers will switch to broadband provided over an FTTH network, given the faster download speeds available.
- 4.106 FTTH networks have the same intended use as FTTC based networks. Retail subscribers using a FTTH network can access the same retail broadband, telephony and TV services as those that can be provided over a FTTC network, albeit with faster download and upload speeds available over a FTTH network.
- 4.107 Table 3 and Table 4 present the views of residential respondents to the WLA/WCA Market Research on their primary use of their home broadband service and the types of devices connected to it²¹². Residential End Users with a Fibre network²¹³ had broadly the same intended use for broadband as those residential respondents with a Copper network based broadband service. The WLA/WCA Market Research revealed that the main uses among End Users using broadband on an fibre network were browsing the internet (95%), using email (77%) and social media (70%). Respondents with a Fibre network based broadband were more likely to use their broadband service for downloading or streaming movies or TV content (39%) than respondents with a Copper network based broadband service (27%). Similarly, the most popular devices connected to a Fibre broadband service were a laptop (87%), smartphone (78%) and tablet (59%), broadly similar to the main uses by End Users with broadband provided over a Copper Network.

²¹¹ As of Q1 2016, Eircom and Magnet supplied services via a FTTH network.

²¹² Paragraphs A 2.13 to A 2.15 of Appendix: 2 further outline the findings of the WLA/WCA Market Research in relation to broadband usage patterns among residential End Users.

²¹³ For the purposes of the WLA/WCA Market Research, “fibre network” is taken to mean FTTC/FTTH based networks.

- 4.108 For End Users on a Fibre network, the average time spent online per day is 5 hours, with 74% spending up to 5 hours per day online, again, similar to the time spent by End Users using broadband provided over a Copper Network.
- 4.109 As set out in ComReg's QKDR²¹⁴, the average data consumption by broadband users on a FTTH Network is 51.8 Gb per month.

Substitution

- 4.110 As noted in paragraphs 3.43 to 3.45, a number of SPs are currently rolling out FTTH based networks, including Eircom, which also provides FTTC and copper-based broadband services. ComReg is of the preliminary view that the number of retail subscribers using FTTH based broadband products is likely to increase as it becomes more widely available.
- 4.111 As FTTH services become more widely available, a HM supplier of copper and FTTC based broadband services is unlikely to be able to sustain a profitable SSNIP in the range of 5-10% above the competitive level without a sufficient number of customers switching to broadband provided over an FTTH network (where available) given similar functionality and the download speeds offered. As noted in paragraph 4.107 above, residential respondents to the WLA/WCA Market Research use broadband provided over Fibre and Copper networks in a similar way, using similar connected devices.

Supply Side Substitution

- 4.112 It is ComReg's preliminary view that broadband provided over an FTTH network is an effective substitute for FTTC and Copper Network based broadband services. There is currently no FTTH network operating in Ireland that is not used to provide retail and/or wholesale broadband services. Furthermore, it is unlikely that a potential entrant would rollout a FTTH based network without the aim of providing either retail and/or wholesale broadband access.

Service Provider views on Substitutability among Products

- 4.113 As part of the assessment, ComReg also drew on the views of operators on the substitutability of FTTH with copper and FTTC based broadband.
- 4.114 As set out in Table 5 above, 11 of the 23 SPs contacted expressed a view on this issue, with 10 of the view that FTTH is a substitute for copper-based broadband while 1 considered that it was not. However, as noted by [redacted], this substitution is one way (i.e. from ADSL to FTTH and not vice versa).

²¹⁴ Q1 2016 ComReg QKDR.

Preliminary Conclusions on FTTH Broadband

- 4.115 ComReg's preliminary view is that the product characteristics, pricing and intended use of retail broadband offered over alternative FTTH networks would in principle make it a good demand side substitute for an End User of FTTC and/or copper network-based retail broadband. However, this is constrained by the geographic coverage of FTTH networks, which are currently limited but expected to grow over the period of this review.
- 4.116 ComReg considers that the product characteristics, pricing and intended use of FTTH based retail broadband services are broadly similar to those of copper network-based broadband, and that FTTH can be classified as being in the same relevant market as copper-based broadband.

Is broadband provided over a CATV network an effective substitute for broadband access provided over copper, FTTC and FTTH networks?

Overview

- 4.117 Having regard to the analysis set out in paragraphs 4.118 to 4.144 below, ComReg's preliminary view is that broadband provided over a CATV network is likely to be an effective substitute for broadband access provided over a copper, FTTC or FTTH network.

Demand Side Substitution

Product Characteristics

- 4.118 In Table 2, above, ComReg set out the key product characteristics of CATV broadband. As of Q1 2016, there were 370,575 subscribers on CATV based broadband, representing 21.6% of total broadband subscriptions.²¹⁵
- 4.119 As noted in paragraph 3.21, Virgin Media operates a CATV broadband network in certain geographic locations of Ireland (predominantly urban areas). Its coverage footprint extends to 784,400 premises (representing 45% of households in Ireland). Virgin Media offers products with download speeds of up to 240Mb and 360Mb to residential customers while products of 50Mb, 100Mb, and 250Mb are offered to business customers. By comparison, as noted earlier, products offered over copper and FTTC based networks have download speeds ranging from 24Mb to 100Mb, whereas FTTH broadband products have download speeds of up to 1,000Mb. A more detailed examination of download speeds and price is contained in Appendix: 3.

²¹⁵ Total broadband subscriptions is the sum of Copper, FTTC, Cable, FWA, Other (Satellite and FTTH) and Mobile broadband.

- 4.120 As outlined in paragraphs A 2.16 to A 2.18 of Appendix: 2, for residential End Users with CATV based broadband, the average download speed cited was 83 Mb, with 76% receiving speeds up to 100 Mb. As also outlined in paragraphs A 2.58 to A 2.61 of Appendix: 2, for business End Users with CATV based broadband, the average download speed was 115 Mb.
- 4.121 Virgin Media supply broadband over its CATV network with unlimited download allowances. By way of comparison, Eircom's copper broadband products are offered with download allowances that are limited to 30Gb and allowances that are unlimited.²¹⁶ Eircom's FTTC and FTTH based broadband products are typically sold with unlimited download allowances.
- 4.122 Since the 2011 WBA Decision, Virgin Media upgraded its CATV network to DOCSIS 3. This has enabled Virgin Media to increase the download speed of broadband products offered over its network from 30Mb to 360Mb, with the potential to increase the speed further. At the same time, Eircom has undertaken a rollout of its FTTC network to provide download speeds of 100Mb and more recently its FTTH network with download speeds of up to 1Gb.

Pricing

- 4.123 A detailed examination of CATV broadband bundle prices is contained in Appendix: 3. CATV broadband bundles range from €50.00 to €90.00 per month for residential End Users, depending on speed and whether or not it is bundled with other products. For business End Users, CATV broadband ranges from €45.00 to €99.00 per month.
- 4.124 As set out in paragraphs A 2.22 to A 2.25 of Appendix: 2, the WLA/WCA Market Research showed that residential respondents on a CATV network whose broadband is purchased as part of a bundle paid an average of €72 per month for their bundle, with 74% of End Users paying up to €80 per month. For residential respondents who purchase CATV broadband as a standalone product, the average spend is €42.21 per month.
- 4.125 As outlined in Appendix: 3 of this document, contract lengths for broadband provided over a CATV network are typically for a period of 18 months for residential End Users and 12 months for business End Users.

²¹⁶ With the exception of one package, which has a download allowance of 2Gb.

- 4.126 Paragraphs A 2.26 to A 2.29 of Appendix: 2 outline the findings of the WLA/WCA Market Research in relation to contract lengths for residential End Users. 43% of residential respondents on a CATV network are in a contract with their broadband provider, with the average contract lasting 13 months. 75% of residential respondents with CATV broadband were in contracts that lasted 12 months. A 2.62 to A 2.65 of Appendix: 2 outline the findings of the WLA/WCA Market Research in relation to contract lengths for business End Users. On the business side, 59% of respondents with a CATV broadband service were in a contract. 34% of these respondents were in a contract of 12 months duration while 29% were in a contract of 18 months duration.
- 4.127 Paragraphs A 2.1 to A 2.42 of Appendix: 2 outline the responses of residential End Users to a hypothetical price increase (see also Figure 15 and Figure 16 above). For residential respondents with broadband purchased as part of a bundle, 24% of residential respondents on a Copper Network said that they would definitely or maybe change their behaviour in response to a hypothetical price increase.²¹⁷ 57% of these respondents indicated that they would cancel their subscription and switch to an alternative network.²¹⁸ 76% of these respondents reported that they would be very likely or fairly likely to follow through on this change.²¹⁹ Of those residential respondents who indicated that they would cancel and switch in response to the hypothetical price increase and were likely or fairly likely to do so, 41% indicated they would switch to a broadband service provided over a CATV network.²²⁰

²¹⁷ Slide 109 of the WLA/WCA Consumer Market Research.

²¹⁸ Slide 111 of the WLA/WCA Consumer Market Research.

²¹⁹ Slide 114 of the WLA/WCA Consumer Market Research.

²²⁰ Slide 117 of the WLA/WCA Consumer Market Research.

- 4.128 For those residential respondents on an FTTC network, 25% said that they would definitely or maybe change their behaviour in response to a hypothetical price increase.²²¹ 47% of these respondents indicated that they would cancel their subscription and switch to an alternative network.²²² 76% of these respondents reported that they would be very likely or fairly likely to follow through on this change.²²³ Of those residential respondents who indicated that they would cancel and switch in response to the hypothetical price increase and were likely or fairly likely to do so, 51% indicated they would switch to a broadband service provided over a CATV network.²²⁴
- 4.129 In addition, 29% of residential respondents on a CATV network said that they would definitely or maybe change their behaviour in response to a hypothetical price increase.²²⁵ 44% of these respondents indicated that they would cancel their CATV broadband subscription and switch to an alternative network.²²⁶ 64% reported that they would be very likely or fairly likely to follow through on this change.²²⁷ Of those residential respondents who indicated that they would cancel and switch their CATV broadband subscription in response to the hypothetical price increase and were likely or fairly likely to do so, 36% indicated they would switch to a Copper network based broadband service while 41% would switch to an FTTC network.²²⁸

²²¹ Slide 109 of the WLA/WCA Consumer Market Research.

²²² Slide 111 of the WLA/WCA Consumer Market Research.

²²³ Slide 114 of the WLA/WCA Consumer Market Research.

²²⁴ Slide 117 of the WLA/WCA Consumer Market Research.

²²⁵ Slide 109 of the WLA/WCA Consumer Market Research.

²²⁶ Slide 111 of the WLA/WCA Consumer Market Research.

²²⁷ Slide 114 of the WLA/WCA Consumer Market Research.

²²⁸ Slide 117 of the WLA/WCA Consumer Market Research.

- 4.130 Paragraphs A 2.78 to A 2.86 of Appendix: 2 outline the responses of business End Users to a hypothetical price increase. For businesses whose broadband is part of a bundle, if the price of broadband increased by €2 per month, 32% of businesses on a Copper network would definitely or maybe change their behaviour in response to a hypothetical price increase.²²⁹ 66% of these respondents indicated that they would cancel their subscription and switch to an alternative network.²³⁰ Of these respondents, 86% said they were fairly likely or very likely to do so in response to a €2 increase in the price of their copper-based broadband service.²³¹ Of those that said that they would switch, 28% said that they would switch to a broadband service provided over a Fibre Network.²³² The outcomes for businesses whose copper-based broadband service is not part of a bundle are similar.
- 4.131 For those business respondents on an FTTC network, 24% of businesses on an FTTC network would definitely or maybe change their behaviour in response to a hypothetical price increase.²³³ 79% of these respondents indicated that they would cancel their subscription and switch to an alternative network.²³⁴ Of these respondents, 77% said they were fairly likely or very likely to do so in response to a €2 increase in the price of their FTTC based broadband service.²³⁵ Of those that said that they would switch in response to a hypothetical price increase, no respondents indicated that they would switch to a broadband service provided over a CATV Network, indicating a lack of substitution.²³⁶ The outcomes for businesses whose FTTC based broadband service is not part of a bundle are similar.

²²⁹ Slide 73 of the WLA/WCA Business Market Research.

²³⁰ Slide 74 of the WLA/WCA Business Market Research.

²³¹ Slide 75 of the WLA/WCA Business Market Research.

²³² Slide 76 of the WLA/WCA Business Market Research.

²³³ Slide 73 of the WLA/WCA Business Market Research.

²³⁴ Slide 74 of the WLA/WCA Business Market Research.

²³⁵ Slide 75 of the WLA/WCA Business Market Research.

²³⁶ Slide 76 of the WLA/WCA Business Market Research.

4.132 For businesses whose CATV broadband is part of a bundle, if the price of their CATV broadband increased by €2 per month, 37% of businesses indicated they would definitely or maybe change their behaviour in response to a hypothetical price increase.²³⁷ 59% of these respondents indicated that they would cancel their CATV broadband subscription and switch to an alternative network.²³⁸ Of these, 89% said they were fairly likely or very likely to do so in response to a €2 increase in the price of their CATV broadband service.²³⁹ Of those that said that they would switch in response to a hypothetical price increase, 40% said that they would switch to a copper-based broadband service and 15% said that they would switch to an FTTC network. The outcomes for businesses whose CATV broadband is not part of a bundle are similar.

Intended Use

- 4.133 Table 3 and Table 4 present the views of residential respondents to the WLA/WCA Market Research on their primary use of their home broadband service and the types of devices connected to it²⁴⁰. Residential End Users accessing broadband services via a CATV network had broadly the same intended use for broadband as those residential respondents with a Copper network based broadband service. The WLA/WCA Market Research revealed that the main uses among End Users using broadband on a CATV network were browsing the internet (94%), using email (84%) and social media (67%). Respondents with a CATV network based broadband were more likely to use their broadband service for real-time video or voice messaging (47%) than respondents with a Copper network based broadband service (37%). Similarly, the most popular devices connected to a CATV broadband service were a laptop (87%), smartphone (78%) and tablet (59%), broadly similar to the main uses by End Users with broadband provided over a Copper Network.
- 4.134 For End Users with a CATV broadband service, the average time spent online per day is 4 hours, again, similar to the time spent by End Users using broadband provided over a Copper Network.

²³⁷ Slide 73 of the WLA/WCA Business Market Research.

²³⁸ Slide 74 of the WLA/WCA Business Market Research.

²³⁹ Slide 75 of the WLA/WCA Business Market Research.

²⁴⁰ Paragraphs A 2.13 to A 2.15 of Appendix: 2 further outline the findings of the WLA/WCA Market Research in relation to broadband usage patterns among residential End Users.

- 4.135 Paragraphs A 2.55 to A 2.58 of Appendix: 2 outline the findings of the WLA/WCA Market Research with respect to CATV broadband usage patterns among business End Users. For business CATV broadband users, 93% used their CATV broadband for email and internet, while 39% used it for cloud services and 29% used it for connectivity between business premises.
- 4.136 As set out in ComReg's QKDR²⁴¹, the average data consumption by broadband users on a CATV Network is 116.6 Gb per month.

Substitution

- 4.137 As noted in Section 3, at the end of Q1 2016 broadband provided over a CATV network accounted for 370,575 broadband subscriptions, while Copper network subscriptions stood at 505,639 subscriptions and FTTC subscriptions stood at 392,868.²⁴²
- 4.138 Given the results of the WLA/WCA Market Research presented above, ComReg's preliminary view is that a HM supplier of a copper-based broadband service is unlikely to be able to sustain a profitable SSNIP in the range of 5-10% above the competitive level without a sufficient number of customers switching to CATV broadband (where it is available).
- 4.139 Based on the above, it is ComReg's preliminary view that CATV is likely to be an effective demand-side substitute to Copper, FTTC and FTTH network based broadband services.

Supply Side Substitution

- 4.140 ComReg considers that supply-side substitution from a CATV network is unlikely to occur in the lifetime of this market review. CATV based broadband is already available from Virgin Media. ComReg notes that there is no CATV network operator in Ireland that does not already offer retail broadband services, and this situation is unlikely to change over the lifetime of this market review.

Service Provider views on Substitutability among Products

- 4.141 As part of the assessment, ComReg also drew on the views of SPs on the substitutability of CATV based broadband services with broadband provided over a copper network. Eight of the 23 broadband SPs contacted (see Table 5 above) are of the view that CATV is a substitute for broadband provided over a copper network based on the comparability of speed and price.

²⁴¹ Q1 2016 ComReg QKDR.

²⁴² Figure 7 of Section 3.

Preliminary Conclusions on CATV broadband

- 4.142 ComReg's preliminary view is that the product characteristics, pricing and intended use of CATV-based retail broadband services and broadband services offered over copper, FTTC and FTTH networks are sufficiently similar, albeit noting that download speeds can differ. This would initially suggest that customers would find them to be good demand-side substitutes, subject to availability and switching costs not posing a barrier to substitution.
- 4.143 ComReg notes, however, that CATV-based broadband is available only in certain geographic areas and that this reduces the total number of customers who could choose to buy CATV broadband instead of copper, FTTC and FTTH based broadband. Based on relevant product and pricing parameters it is conceivable that sufficient switching could take place within the areas where CATV based broadband products are sold, such that a relatively small (5-10%) retail price increase in copper, FTTC or FTTH based broadband services within the CATV network area would not likely be profitable.
- 4.144 ComReg is therefore of the preliminary view that CATV-based broadband access is in the same relevant retail market as copper, FTTC and FTTH (FTTC and FTTH referred to together as 'FTTx') based broadband access.

Is broadband provided over a 3G/4G mobile network an effective substitute for retail broadband access provided over copper, FTTC, FTTH and CATV networks?

Overview

- 4.145 Having regard to the analysis set out in paragraphs 4.146 to 4.180, ComReg's preliminary view is that broadband provided over a 3G/4G mobile network ('**mobile broadband**') is not likely to be an effective substitute for copper, CATV or FTTX based broadband service.

Demand Side Substitution

Product Characteristics

- 4.146 In Table 2, above, ComReg set out the product characteristics of mobile broadband.
- 4.147 3G/4G mobile networks can be used to supply broadband access in two ways – via a mobile phone (either on the device itself or via tethering²⁴³ to another device) or via a mobile data card (commonly referred to as a 'dongle' or 'MiFi device').

²⁴³ Tethering is a process where a mobile phone is connected to another device (e.g. laptop) to provide internet access. The two devices can either be connected physically via a cable or wirelessly using technology such as Bluetooth.

- 4.148 In the following analysis, ComReg considers specifically whether the product characteristics/functionality of broadband provided using a mobile data-card are sufficiently similar to retail broadband access provided over copper, FTTx and CATV networks, e.g. in terms of throughput capability, reliability of service, latency, and contention management.
- 4.149 ComReg’s preliminary view is that the attainable download speeds over mobile broadband platforms are likely to be highly variable. Although mobile broadband has a theoretical advertised maximum network download capability of typically up to 150Mb²⁴⁴ (depending on the network capability of the individual mobile broadband MSP) actual download speeds achieved are typically considerably lower. This is largely because the access network layer (i.e. the area served by a mobile base station) within the mobile broadband network is shared across multiple End Users utilising the broadband services within that area. This issue is exacerbated by the mobile nature of the broadband service, in particular, the ability for End Users to ‘roam’ across the mobile network means that the number of users within the footprint of a specific coverage area of a mobile base station can be variable.
- 4.150 ComReg assesses 3G/4G download speeds as part of the assessment of Mobile Network Operators’ (**MNO(s)**) compliance with spectrum license obligations. ComReg’s latest assessment of 3G/4G download speeds (**‘2015 Mobile Coverage Assessment’**)²⁴⁵, presented in Table 6 below, shows significant variation in the download speeds experienced, depending on the network used. The typical speeds experienced in the test were significantly lower than the theoretical maximum speeds available on the mobile broadband products provided by the MNOs.

Table 6: Extract from ComReg’s 2015 Mobile Coverage Assessment

Licensee	Technology	Download Speed (Stationary) (Mb)
Meteor	3G	6.81
	LTE	14.47
Three Ireland	3G	3.67
	LTE	10.60

²⁴⁴ Vodafone Ireland offer mobile broadband products with speeds up to 150Mb. Details available here - <http://shop.vodafone.ie/shop/mobile-broadband/micro-mobile-broadband-sim>

²⁴⁵ ComReg Information Notice [16/27](#) “Assessment of Mobile Network Operators’ Compliance with Licence Obligations (Coverage) – Winter 2015”, published 20th April 2016, pg. 28 (**‘2015 Mobile Coverage Assessment’**).

Licensee	Technology	Download Speed (Stationary) (Mb)
O2 Ireland (now subsumed into Three Ireland)	3G	3.89
	LTE	12.67
Vodafone	3G	8.95
	LTE	20.40

- 4.151 ComReg's analysis of available mobile broadband packages shows that advertised download speeds range from 7.2 Mb to 150 Mb, with the average being 44Mb.²⁴⁶ By comparison, retail broadband access provided over a copper network has a theoretical maximum network download capabilities of up to 24Mb. FTTC, CATV and FTTH networks have maximum advertised download capabilities of 100Mb, 360Mb and 1000Mb respectively.
- 4.152 As outlined in paragraphs A 2.16 to A 2.18 of Appendix: 2, for residential End Users on a mobile broadband product, the average download speed was 16 Mb, with 66% receiving speeds up to 15 Mb. As outlined in paragraphs A 2.58 to A 2.61 of Appendix: 2, for business End Users on mobile broadband, the average download speed was 5 Mb, with no business obtaining a speed above 24 Mb.
- 4.153 ComReg notes that the mobile broadband offerings typically include a download allowance. As noted in Table 2, the typical download allowance of mobile broadband plans is up to 50Gb, with some plans offering download allowances in excess of this amount. As set out in ComReg's QKDR²⁴⁷, the average data consumption by mobile broadband users on a 3G/4G Network is 7.4Gb per month.

²⁴⁶ ComReg analysis of mobile broadband speeds based on operators' advertised offerings, outlined in Appendix: 3. As noted in footnote 244, Vodafone offers mobile broadband packages with advertised speeds as high as 150Mb.

²⁴⁷ Q1 2016 ComReg QKDR.

4.154 It is ComReg's preliminary view that while the network capabilities on both fixed and mobile broadband networks have continued to improve as SPs have invested in their networks, the gap between the head line network download capabilities has remained, and potentially widened over time with the rollout of FTTH and DOCSIS 3 networks. ComReg anticipates that a sufficiently material gap in performance between fixed and mobile broadband networks will remain over the period of this market review.

Pricing

- 4.155 ComReg's analysis of mobile broadband packages shows that prices range from as low as €4.99 to €69.99 per month²⁴⁸, with an average price of €22.00.²⁴⁹
- 4.156 As set out in paragraphs A 2.22 to A 2.25 of Appendix: 2, the WLA/WCA Market Research showed that residential respondents on a mobile broadband product whose broadband service is part of a bundle paid an average of €56 per month, with 72% of End Users paying up to €70 per month. For residential respondents who purchase broadband as a standalone product, the average spend for those on a mobile network is €23.58 per month.
- 4.157 Contract lengths for mobile broadband vary between not having a contract period, prepaid services and contracts of up to 24 months for residential End Users (and likewise for business End Users). Paragraphs A 2.26 to A 2.29 of Appendix: 2 outline the findings of the WLA/WCA Market Research in relation to contract lengths for residential End Users. 32% of residential respondents on mobile broadband are in a contract with their MSP, with the average contract lasting 14 months. 51% of residential respondents were on a 12 month contract. Paragraphs A 2.62 to A 2.65 of Appendix: 2 outline the findings of the WLA/WCA Market Research in relation to contract lengths for business End Users. On the business side, 80% of respondents on mobile broadband were in a contract. 33% of respondents were in a contract of 12 months duration while 42% were in a contract of 18 months.

²⁴⁸ A detailed examination of fixed broadband prices is contained in Appendix: 3.

²⁴⁹ ComReg analysis of mobile broadband speeds based on SPs' advertised offerings.

- 4.158 Paragraphs A 2.1 to A 2.42 of Appendix: 2 outline the responses of residential End Users to a hypothetical price increase (see also Figure 15 and Figure 16 above). For residential respondents with broadband purchased as part of a bundle, 24% of residential respondents on a Copper Network said that they would definitely or maybe change their behaviour in response to a hypothetical price increase.²⁵⁰ 57% of these respondents indicated that they would cancel their subscription and switch to an alternative network.²⁵¹ 76% of these respondents reported that they would be very likely or fairly likely to follow through on this change.²⁵² Of those residential respondents who indicated that they would cancel and switch in response to the hypothetical price increase and were likely or fairly likely to do so, 8% indicated they would switch to a broadband service provided over a Mobile network.²⁵³
- 4.159 For those residential respondents on a Fibre network, respondents did not indicate whether they would switch to Mobile broadband in response to a hypothetical increase in the price of Fibre broadband.²⁵⁴
- 4.160 For those residential respondents on a Cable network, respondents did not indicate whether they would switch to Mobile broadband in response to a hypothetical increase in the price of Cable broadband.²⁵⁵
- 4.161 Paragraphs A 2.78 to A 2.86 of Appendix: 2 outline the responses of business End Users to a hypothetical price increase. For businesses whose broadband is part of a bundle, if the price of broadband increased by €2 per month, businesses on a Copper network did not indicate whether they would switch to Mobile broadband.²⁵⁶ The outcomes for businesses whose copper-based broadband service is not part of a bundle are similar. For businesses whose broadband is part of a bundle, if the price of broadband increased by €2 per month, businesses on a Fibre network did not indicate whether they would switch to Mobile broadband.

²⁵⁰ Slide 109 of the WLA/WCA Consumer Market Research.

²⁵¹ Slide 111 of the WLA/WCA Consumer Market Research.

²⁵² Slide 114 of the WLA/WCA Consumer Market Research.

²⁵³ Slide 117 of the WLA/WCA Consumer Market Research. Note: small sample size.

²⁵⁴ Slide 117 of the WLA/WCA Consumer Market Research.

²⁵⁵ Slide 117 of the WLA/WCA Consumer Market Research.

²⁵⁶ Slide 76 of the WLA/WCA Business Market Research.

- 4.162 For businesses whose CATV broadband is part of a bundle, if the price of their CATV broadband increased by €2 per month, respondents did not indicate if they would switch to Mobile broadband in response to this hypothetical price increase in CATV. The outcomes for businesses whose CATV broadband is not part of a bundle are similar.
- 4.163 For businesses whose broadband is part of a bundle, if the price of broadband increased by €2 per month, business respondents did not indicate whether they would switch to an alternative platform in response to a hypothetical price increase.²⁵⁷ The outcomes for businesses whose mobile broadband is not part of a bundle are similar.

Intended Use

- 4.164 Retail broadband provided on copper, FTTx²⁵⁸ and CATV networks is typically marketed on the basis of characteristics such as price, unlimited download allowances, download speed and availability within bundled offerings. On the other hand, mobile broadband offerings highlight product mobility, convenience and coverage. Mobile broadband offerings are, relative to fixed broadband, more constrained by the limited download allowances offered. This is likely to limit the substitutability of mobile broadband with other fixed broadband services, which typically have much higher download allowances (or none at all) and have faster download speeds.
- 4.165 Table 3 and Table 4 present the views of residential respondents to the WLA/WCA Market Research on their primary use of their mobile broadband service and the types of devices connected to it.²⁵⁹ Residential End Users accessing broadband services via a mobile network had different uses for their broadband service as those residential respondents with a Copper, Fibre or CATV network based broadband services. While respondents used mobile broadband to browse the internet, use email or social media to the same extent as respondents using a fixed connection, they were less likely to use a mobile broadband service for more data download intensive tasks such as streaming movies, catch-up TV or gaming. Mobile broadband users were also less likely to use the service for online banking or bill paying²⁶⁰. The lower use by mobile broadband users of more data hungry applications may, in part, be due to the more limited download allowances offered on such products.

²⁵⁷ Slide 75 of the WLA/WCA Business Market Research.

²⁵⁸ FTTx means FTTC and FTTH.

²⁵⁹ Paragraphs A 2.13 to A 2.15 of Appendix: 2 further outline the findings of the WLA/WCA Market Research in relation to broadband usage patterns among residential End Users.

²⁶⁰ Slide 29 of WLA/WCA Consumer Market Research.

- 4.166 The most popular devices connected to a mobile broadband service were a laptop (89%), smartphone (74%) and tablet (44%), broadly similar to the main uses by End Users with broadband provided over a Copper, Fibre or CATV Network.
- 4.167 Paragraphs A 2.13 to A 2.15 of Appendix: 2 outline the findings of the WLA/WCA Market Research in relation to broadband usage patterns among residential End Users. 8% of residential respondents used a 3G/4G mobile broadband device as a means of broadband access²⁶¹. When asked about how many hours a day the household uses the means of broadband access, mobile broadband users had an average usage of 3 hours per day, compared to 4 or 5 hours a day for copper, CATV or FTTC based broadband users²⁶².
- 4.168 Paragraphs A 2.55 to A 2.58 of 13 outline the findings of the WLA/WCA Market Research with respect to broadband usage patterns among business End Users. For mobile broadband users, 100% used broadband for email and internet, while 10% used it for cloud services and 5% used it for connectivity between business premises. By way of contrast, significantly more business users on a Copper (21%), Fibre (40%) or CATV (39%) network used their service for cloud computing. Furthermore, Copper (16%), Fibre (28%) or CATV (29%) network were more likely to be used for connectivity to business premises than mobile broadband. The above suggests that there are some differences in intended use of mobile broadband services relative to fixed broadband services.

Substitution

- 4.169 Having regard to the above, ComReg's preliminary view is that mobile broadband is not likely to be sufficiently functionally equivalent to broadband provided over copper, FTTx and CATV networks. In particular, the variability and reliability in download speeds due to contention (having regard to the number of users within mobile-based station areas and their nomadicity), coupled with more limited download allowances and its impact on intended use, would appear to make mobile broadband less likely to be an effective demand-side substitute for fixed broadband.
- 4.170 The functionality of broadband access over a mobile phone for example is limited in terms of screen size, resolution, and availability of applications.

²⁶¹ Slide 24 of WLA/WCA Consumer Market Research.

²⁶² Slide 27 of WLA/WCA Consumer Market Research.

4.171 ComReg notes that the main retail providers of fixed broadband services (Eircom, Vodafone and Virgin Media) also operate mobile networks and have the ability to provide 3G/4G mobile broadband services. Both Eircom (through Meteor) and Vodafone provide mobile broadband services, in addition to a number of other MSPs.

Supply Side Substitution

- 4.172 At present, several fixed broadband suppliers offer mobile broadband services. However, it may not be possible, over the short term and without incurring significant sunk costs, for a SP offering only mobile broadband services to commence offering fixed broadband services by way of supply-side substitution. In particular, this would involve substantial investment in physical infrastructure (including i.e. ducts and poles). As noted in paragraph 4.171 above, some mobile broadband providers²⁶³ also offer fixed broadband services (although in most cases this is using wholesale inputs provided by Eircom pursuant to its existing SMP obligations under the 2010 WPNIA Decision and the 2011 WBA Decision).
- 4.173 In response to a hypothetical price increase in the notional retail market for broadband provided over a copper, FTTx or CATV network, it is unlikely in the medium term that SPs offering only mobile broadband services would commence supplying such fixed broadband products, rendering the hypothetical price increase unprofitable. However, SPs that offer both mobile broadband and broadband provided over a fixed network have already been accounted for in the analysis above in paragraph 4.171 (with such fixed broadband products considered to fall within the same relevant retail market).
- 4.174 It is ComReg's preliminary view, however, that the existence of SPs offering both fixed and mobile broadband services does not constitute evidence of effective supply-side substitution as it would not be commercially rational for the diversifying mobile broadband network operator to operate two networks in parallel (i.e. a mobile broadband and a fixed broadband network) were mobile broadband to be considered a sufficiently close substitute for fixed broadband. Rather, it suggests that these services may be more complimentary in nature and that such investment is intended to allow SPs to service new markets and access a new customer base that has distinct needs.
- 4.175 To this end, it is ComReg's preliminary view that from a supply-side perspective, mobile broadband is not considered a supply side substitute for broadband provided over a Copper, FTTC, FTTH or CATV network and other fixed broadband platforms.

²⁶³ Both Meteor and Vodafone offer mobile broadband and fixed broadband services. Three Ireland provide fixed broadband services to customers formerly served by O2 Ireland. Three Ireland does not offer fixed broadband services to new customers.

Service Provider views on Substitutability among Providers

- 4.176 As part of the assessment, ComReg also drew on the views of operators on the substitutability of mobile broadband with DSL broadband.
- 4.177 As noted in Table 5 above very few of the broadband SPs contacted are of the view that mobile broadband is a substitute to copper-based broadband services (and by implication FTTx and CATV services).
- 4.178 Eircom (incorporating the views of Meteor), [redacted] and [redacted] were of the view that mobile broadband was not an effective substitute for fixed broadband²⁶⁴ for the majority of customers, and that only in some circumstances could mobile broadband be considered a substitute for fixed broadband. Three and Tesco Mobile, who both provide mobile broadband services, did not express any views.

Preliminary Conclusions on Mobile Broadband

- 4.179 Having considered relevant demand-side factors including functionality, pricing and End User usage, as well as relevant supply side factors, ComReg's preliminary view is that retail mobile broadband is not likely to be a sufficiently effective substitute for retail broadband provided over a copper, FTTC, FTTH and CATV network.
- 4.180 ComReg's preliminary view is that there are sufficient functional differences between mobile broadband and broadband provided over a copper, FTTC, FTTH and CATV network, which mean that mobile broadband is not likely to be considered an effective substitute by most fixed broadband customers. In particular, mobile broadband offers the customer mobility, but is more limited compared to fixed broadband in terms of actual download speeds, reliability of service and download allowances. Differences in intended use are also evident.

Is broadband provided over Satellite an effective substitute for retail broadband access provided over copper, FTTC, FTTH and CATV networks?

Overview

- 4.181 Having regard to the analysis set out in paragraphs 4.182 to 4.205 below, ComReg's preliminary view is that broadband provided over satellite is not likely to be an effective substitute for broadband access provided over a copper, FTTC, FTTH and CATV network.

²⁶⁴ [redacted], Digiweb and [redacted] supported this view, although they do not offer mobile broadband.

Demand Side Substitution

Product Characteristics

- 4.182 In Table 2, above, ComReg set out the key product characteristics of satellite broadband. As of Q1 2016, there were 5,523 subscribers to satellite broadband with this figure having broadly remained at this level over the last number of years.
- 4.183 Satellite services in Ireland are typically available at a headline download speed of up to 20Mb and an upload speed of between 128kb–2Mb (22Mb on business packages).²⁶⁵ Satellite broadband packages are usually differentiated by the size of the inclusive download allowance, as well as the download speed. These download allowances can make satellite broadband products more restrictive relative to broadband provided over other platforms. For example, as at Q1 2016, Digiweb offered four different satellite based broadband services, all with an advertised download speed between 7Mb and 22Mb and with varying download allowances of 15Gb, 20Gb, 30Gb and 40Gb.²⁶⁶ Digiweb also offer a “Night-time Traffic discount” for use outside peak hours.

Pricing

- 4.184 A detailed examination of broadband prices is contained in Appendix: 3. Satellite broadband prices range from €39.95 to €69.95 per month for residential End Users, depending on download speed and download allowance, as well as whether it is bundled with other products. For business End Users, satellite broadband ranges from €71.95 to €395.50 per month.
- 4.185 There is a large difference in the cost of broadband provided over satellite relative to the cost of broadband provided over copper, FTTC, FTTH and CATV networks.²⁶⁷ This includes costs associated with monthly rental fees, available download allowances as well as the substantially different connection/installation fees.
- 4.186 As outlined in Appendix: 3 of this document, contract lengths for broadband provided over satellite are typically 24 months for residential End Users and 12 months for business End Users.

²⁶⁵ ComReg analysis of satellite packages offered by the main SPs is outlined in Appendix: 3.

²⁶⁶ See Appendix: 3.

²⁶⁷ See Appendix: 3.

- 4.187 Paragraphs A 2.62 to A 2.65 of Appendix: 2 outline the findings of the WLA/WCA Market Research in relation to contract lengths for business End Users.²⁶⁸ On the business side, 33% of respondents on satellite broadband were in a contract. 59% of respondents were in a contract of 18 months duration while 12% were in a contract of 12 months.
- 4.188 Paragraphs A 2.1 to A 2.42 of Appendix: 2 outline the responses of residential End Users to a hypothetical price increase (see also Figure 15 and Figure 16 above). For residential respondents with broadband purchased as part of a bundle, 24% of residential respondents on a Copper Network said that they would definitely or maybe change their behaviour in response to a hypothetical price increase.²⁶⁹ 57% of these respondents indicated that they would cancel their subscription and switch to an alternative network.²⁷⁰ 76% of these respondents reported that they would be very likely or fairly likely to follow through on this change.²⁷¹ Of those residential respondents who indicated that they would cancel and switch in response to the hypothetical price increase and were likely or fairly likely to do so, 6% indicated they would switch to a broadband service provided by Satellite.²⁷²
- 4.189 For those residential respondents with broadband purchased as part of a bundle on a Fibre network, respondents did not indicate whether they would switch to Satellite broadband in response to a hypothetical increase in the price of Fibre broadband.²⁷³

²⁶⁸ It should be noted that the WLA/WCA Market Research contains low sample sizes for residential respondents on satellite broadband such that survey results may not be reliable indicators.

²⁶⁹ Slide 109 of the WLA/WCA Consumer Market Research.

²⁷⁰ Slide 111 of the WLA/WCA Consumer Market Research.

²⁷¹ Slide 114 of the WLA/WCA Consumer Market Research.

²⁷² Slide 117 of the WLA/WCA Consumer Market Research. Note: Small sample size.

²⁷³ Slide 117 of the WLA/WCA Consumer Market Research.

- 4.190 For those residential respondents on a CATV network, 29% said that they would definitely or maybe change their behaviour in response to a hypothetical price increase.²⁷⁴ 44% of these respondents indicated that they would cancel their CATV broadband subscription and switch to an alternative network.²⁷⁵ 64% reported that they would be very likely or fairly likely to follow through on this change.²⁷⁶ Of those residential respondents who indicated that they would cancel and switch their CATV broadband subscription in response to the hypothetical price increase and were likely or fairly likely to do so, 8% indicated they would switch to Satellite broadband in response to a hypothetical increase in the price of CATV broadband.²⁷⁷
- 4.191 Paragraphs A 2.78 to A 2.86 of Appendix: 2 outline the responses of business End Users to a hypothetical price increase. For businesses whose broadband is part of a bundle, if the price of broadband increased by €2 per month, 32% of businesses on a Copper network would definitely or maybe change their behaviour in response to a hypothetical price increase.²⁷⁸ 66% of these respondents indicated that they would cancel their subscription and switch to an alternative network.²⁷⁹ Of these respondents, 86% said they were fairly likely or very likely to do so in response to a €2 increase in the price of their copper-based broadband service.²⁸⁰ Of those that said that they would switch, 11% said that they would switch to a broadband service provided over Satellite.²⁸¹ The outcomes for businesses whose copper-based broadband service is not part of a bundle are similar.
- 4.192 For business End Users on FTTx broadband purchased as part of a bundle, respondents did not indicate whether they would switch to Satellite broadband in response to a hypothetical increase in the price of FTTC broadband.²⁸²

²⁷⁴ Slide 109 of the WLA/WCA Consumer Market Research.

²⁷⁵ Slide 111 of the WLA/WCA Consumer Market Research.

²⁷⁶ Slide 114 of the WLA/WCA Consumer Market Research.

²⁷⁷ Slide 117 of the WLA/WCA Consumer Market Research.

²⁷⁸ Slide 73 of the WLA/WCA Business Market Research.

²⁷⁹ Slide 74 of the WLA/WCA Business Market Research.

²⁸⁰ Slide 75 of the WLA/WCA Business Market Research.

²⁸¹ Slide 76 of the WLA/WCA Business Market Research.

²⁸² Slide 76 of the WLA/WCA Business Market Research.

4.193 For businesses whose CATV broadband is part of a bundle, if the price of their CATV broadband increased by €2 per month, 37% of businesses indicated they would definitely or maybe change their behaviour in response to a hypothetical price increase.²⁸³ 59% of these respondents indicated that they would cancel their CATV broadband subscription and switch to an alternative network.²⁸⁴ Of these, 89% said they were fairly likely or very likely to do so in response to a €2 increase in the price of their CATV broadband service.²⁸⁵ Of those that said that they would switch in response to a hypothetical price increase, 18% said that they would switch to Satellite broadband.²⁸⁶ The outcomes for businesses whose CATV broadband is not part of a bundle are similar.

Intended Use

4.194 As noted in Section 3²⁸⁷, in Q1 2016 satellite broadband accounted for 5,523 retail subscriptions (or 0.3% of all active retail broadband subscriptions). The low number of active satellite broadband subscriptions vis-à-vis other fixed broadband platforms noted in Figure 7 (Section 3) suggests that satellite broadband may be viewed as a broadband service where other fixed broadband platforms are not available.

4.195 Paragraphs A 2.13 to A 2.15 of Appendix: 2 outline the findings of the WLA/WCA Market Research in relation to broadband usage patterns among residential satellite End Users²⁸⁸. For End Users on satellite broadband, the most popular devices connected to the broadband are laptop (100%), smartphone (85%) and tablet (37%). In terms of derived demand for broadband, the WLA/WCA Market Research revealed that the main uses among End Users on a satellite network were browsing the internet (100%), using email (100%), social media (73%) and online shopping (73%).

²⁸³ Slide 73 of the WLA/WCA Business Market Research.

²⁸⁴ Slide 74 of the WLA/WCA Business Market Research.

²⁸⁵ Slide 75 of the WLA/WCA Business Market Research.

²⁸⁶ Slide 76 of the WLA/WCA Business Market Research.

²⁸⁷ Paragraph 3.15.

²⁸⁸ It should be noted that the sample size of residential satellite broadband users is very small (n=6). For this reason, the figures presented in this section are not compared with those results from elsewhere in the WLA/WCA Market Research.

- 4.196 Paragraphs A 2.55 to A 2.58 of Appendix: 2 outline the findings of the WLA/WCA Market Research with respect to broadband usage patterns among business End Users. For such satellite users, 100% used broadband for email and internet, while 34% used it for cloud services and 33% used it for connectivity between business premises.
- 4.197 As set out in ComReg's QKDR²⁸⁹, the average data consumption by broadband users on a satellite network is 3.6 Gb per month.

Substitution

- 4.198 The latency inherent in satellite communications, because of the delay involved in transmission to and from the satellite on both the "up" and the "return" paths, can make it unsuitable for certain applications (e.g. TV/Video streaming of Over-the-Top content). Given such differences, it is probable that End Users would be unlikely to switch away from their copper, FTTx and CATV network based broadband service to a satellite-based broadband service in response to a hypothetical price increase in the former.
- 4.199 A HM supplier of a copper, FTTC, FTTH and CATV network broadband service is likely to be able to sustain a profitable SSNIP in the range of 5-10% above the competitive level because End Users are unlikely to switch in sufficient numbers from such services to satellite broadband in response to this price increase. This is somewhat corroborated by the continuing low numbers of subscribers on satellite broadband.²⁹⁰
- 4.200 On this basis, it is ComReg's preliminary view that satellite broadband is not likely to be an effective demand-side substitute for broadband provided over copper, FTTC, FTTH and CATV networks.

Supply Side Substitution

- 4.201 ComReg is of the view that effective supply-side substitution by satellite operators to fixed network-based broadband services through own network build, would be constrained by the upfront investment costs and associated time delays for building/installing necessary infrastructure.
- 4.202 In response to a hypothetical price increase in the market for broadband provided over a copper, FTTC, FTTH and CATV network, it is unlikely in the medium term that satellite broadband SPs would enter the market and supply such products in such a way as to render a SSNIP unprofitable. Such entry would incur significant costs and potentially delays in network rollout.

²⁸⁹ Q1 2016 ComReg QKDR.

²⁹⁰ Paragraph 3.13.

Service Provider views on Substitutability among Products

- 4.203 As part of the assessment, ComReg also drew on the views of SPs on the substitutability of satellite broadband with other broadband platforms.
- 4.204 As noted in Table 5 above, 7 of the 23 SPs contacted are of the view that satellite broadband is not an effective substitute for Copper Network broadband based on the coverage and speeds offered by satellite broadband.

Preliminary Conclusions on Satellite broadband

- 4.205 ComReg's preliminary conclusion is that retail broadband offered via satellite is not an effective substitute for retail broadband offered over copper, FTTC, FTTH and CATV networks. In its current form, the substantially different pricing structure and higher up-front cost of the satellite product as well as its lack of suitability for all applications, including higher bandwidth applications, mean that it is likely to be viewed by End Users as a complement to, rather than a substitute for, other forms of retail fixed broadband services.

Is broadband provided over a Fixed Wireless Access (FWA) network an effective substitute for broadband access provided over copper, FTTC, FTTH and CATV networks?

Overview

- 4.206 Having regard to the analysis set out in paragraphs 4.207 to 4.236 below, ComReg's preliminary view is that broadband access provided over a FWA network is not likely to be an effective substitute for broadband access provided over a copper, FTTC, FTTH or CATV network over the lifetime of this market review.

Demand Side Substitution

Product Characteristics

- 4.207 In Table 2, above, ComReg sets out the key product characteristics of FWA broadband. FWA is a form of internet access delivered using wireless signals (rather than copper, fibre or coaxial cables) to connect the End User's premises to the internet, i.e. FWA is delivered wirelessly to a fixed location. FWA enables the delivery of wireless broadband access to a fixed location (a premises) and generally offers broadband services at speeds of up to 70Mb (typically less than 10Mb) which is broadly comparable to the copper and fibre network-based offerings outlined above.

- 4.208 FWA services usually require a line of sight between the local transmission tower or mast and the End User's premises. Obstructions to the line of sight, or adverse weather conditions, can influence the quality of the End User's broadband experience. FWA services are more often used by End Users in rural areas, where broadband access provided over copper, FTTC, FTTH and CATV networks is not available.
- 4.209 There are currently 42,083 subscribers to FWA broadband. The number of subscribers using FWA for broadband services has been in constant decline over the last number of years. As noted in paragraph 3.15, FWA subscriptions fell by 11% between Q1 2015 and Q1 2016 and at the time of the last market review in 2010, there were 96,759 subscribers to FWA (a decline of just over 54,600 subscribers).²⁹¹
- 4.210 FWA broadband offerings often have download caps, with Digiweb having a product with a 30GB download limit for one FWA based product and an unlimited download allowance for another FWA based product. Similarly, Imagine places a download cap of a 20Gb daily download limit on its 'LTE' fibre package²⁹², and a fair usage policy on download allowances on its WiMax phone and broadband package.²⁹³
- 4.211 As outlined in paragraphs A 2.16 to A 2.18 of Appendix: 2, for residential End Users on fixed wireless services, the average reported download speed was 15 Mb, with 81% reporting download speeds up to 15 Mb. As outlined in paragraphs A 2.58 to A 2.61 of Appendix: 2, for business End Users on fixed wireless, the average reported download speed was 21 Mb, with 78% obtaining a speed up to 48 Mb.

²⁹¹ ComReg document [10/81](#) Market Review: Wholesale Broadband Access (Market 5), 01 October 2010, pg. 17.

²⁹² <http://www.imagine.ie/broadband/#smart>.

²⁹³ <http://www.imagine.ie/offer/>.

- 4.212 ComReg has recently published a decision on the proposed 3.6 GHz spectrum auction²⁹⁴ (**‘2016 Spectrum Decision’**). The 3.6 GHz spectrum has been identified by the Radio Spectrum Policy Group (**‘RSPG’**)²⁹⁵ as a suitable band for wireless broadband²⁹⁶ and future wireless network rollouts (5G)²⁹⁷. ComReg will have due regard to any spectrum auction and subsequent awards which may impact the product characteristics (or other factors) of a FWA based service when reaching its final views in the Decision for the WLA and WCA Markets.
- 4.213 ComReg’s analysis is based largely on the characteristics of the FWA services currently available in the retail market. FWA based services provided via LTE-TDD²⁹⁸ are currently deployed only on a trial basis in very limited geographical areas, and it is not currently possible to predict how extensively and in what timeframe they might be deployed in Ireland. It is possible that new evidence may become available following the 3.6 GHz spectrum assignment process. ComReg will consider any such evidence before determining whether LTE-TDD FWA services are likely to be a sufficiently widespread and effective substitute for the focal product for such services to be included in the retail market.

Pricing

- 4.214 A detailed examination of broadband prices is contained in Appendix: 3. Where SPs offer both copper network based broadband and FWA based broadband, the prices are generally similar. FWA broadband prices range from €29.95 to €59.99 per month for residential End Users, depending on speed and whether it is bundled with other products. For business End Users, fixed wireless broadband ranges from €43.00 to €188.50 per month. As set out in paragraphs A 2.22 to A 2.25 of Appendix: 2, the WLA/WCA Market Research showed that for residential respondents with a standalone FWA service, the average monthly cost is €31.10.

²⁹⁴ ComReg document 16/57, (D04/16) Response to consultation and substantive Decision on 3.6 GHz Band Spectrum Award, (**‘2016 Spectrum Decision’**)

²⁹⁵ See RSPG Website <http://rspg-spectrum.eu>.

²⁹⁶ RSPG Opinion on Strategic Challenges facing Europe in addressing the Growing Spectrum Demand for Wireless Broadband - 13 June 2013 Document RSPG13-521 rev1.

²⁹⁷ DRAFT RSPG Opinion on spectrum related aspects for next-generation wireless systems (5G) <http://rspg-spectrum.eu/>.

²⁹⁸ LTE-TDD means Long-Term Evolution Time-Division Duplex.

- 4.215 As outlined in Appendix: 3, contract lengths for broadband provided over fixed wireless access are typically for a period of 12 months for residential End Users and likewise for business End Users. Paragraphs A 2.26 to A 2.29 of Appendix: 2 outline the findings of the WLA/WCA Market Research in relation to contract lengths for residential End Users. 33% of residential respondents on fixed wireless are in a contract with their broadband provider, with the average contract lasting 13 months. 81% of these residential respondents were on a 12 month contract. A 2.62 to A 2.65 of Appendix: 2 outline the findings in relation to contract lengths for business End Users. On the business side, 42% of respondents on fixed wireless were in a contract. 62% of these respondents were in a contract of 12 months duration while 38% were in a contract of 18 months.
- 4.216 Paragraphs A 2.1 to A 2.42 of Appendix: 2 outline the responses of residential End Users to a hypothetical price increase (see also Figure 15 and Figure 16 above). For residential respondents with broadband purchased as part of a bundle, 24% of residential respondents on a Copper Network said that they would definitely or maybe change their behaviour in response to a hypothetical price increase.²⁹⁹ 57% of these respondents indicated that they would cancel their subscription and switch to an alternative network.³⁰⁰ 76% of these respondents reported that they would be very likely or fairly likely to follow through on this change.³⁰¹ Of those residential respondents who indicated that they would cancel and switch in response to the hypothetical price increase and were likely or fairly likely to do so, 23% indicated they would switch to a broadband service provided over a FWA network.³⁰²

²⁹⁹ Slide 109 of the WLA/WCA Consumer Market Research.

³⁰⁰ Slide 111 of the WLA/WCA Consumer Market Research.

³⁰¹ Slide 114 of the WLA/WCA Consumer Market Research.

³⁰² Slide 117 of the WLA/WCA Consumer Market Research.

4.217 For those residential respondents on an Fibre network, respondents did not indicate whether they would switch to FWA in response to a hypothetical increase in the price of FTTC broadband.³⁰³ For those residential respondents on a CATV network, respondents did not indicate whether they would switch to FWA in response to a hypothetical increase in the price of CATV broadband.³⁰⁴ For businesses whose broadband is provided (as part of a bundle) over Copper, Fibre and CATV did not indicate if they would switch to FWA in response to a hypothetical increase in the price of each of these respective platforms. For businesses whose FWA broadband is part of a bundle, respondents did not indicate which platform they would switch to (if applicable) in response to a hypothetical increase in the price of FWA business broadband.³⁰⁵

Intended Use

- 4.218 In general terms there appears to be relatively good coverage of FWA across Ireland (FWA is available in major metropolitan areas and rural areas), although due to the local-area nature of the licences³⁰⁶, supply in rural areas is fragmented across a number of SPs. In addition, FWA services can suffer from congestion, especially when delivered over licensed-exempt spectrum.
- 4.219 Some FWA SPs also offer copper network-based services and do not appear to promote one at the expense of the other, suggesting the services are considered substitutes by the supplier and their target market.³⁰⁷
- 4.220 ComReg recognises the role played by FWA based broadband services in areas (mainly rural) where broadband services over Copper, FTTx or CATV are not available to the End User.

³⁰³ Slide 117 of the WLA/WCA Consumer Market Research.

³⁰⁴ Slide 117 of the WLA/WCA Consumer Market Research.

³⁰⁵ Slide 117 of the WLA/WCA Consumer Market Research.

³⁰⁶ FWALA licences are granted for a specific geographic area, within which an operator may offer telecommunications services by means of a local area FWA network. There are currently 289 FWALA licences granted by ComReg. A map outlining the various operators with licences in each area is available via the ComReg SiteViewer website - <http://siteviewer.comreg.ie/fwala/>

³⁰⁷ For example, on their homepage Digiweb promotes equally their unlimited broadband packages across both wireless and DSL platforms, as well as its fibre and Next Generation packages.

- 4.221 While the underlying product and pricing characteristics of copper network and FWA based broadband are identified as broadly similar, recent retail trends in FWA³⁰⁸ suggest that retail subscribers do not consider FWA a demand side substitute for a copper, FTTX or CATV based broadband alternative when such an alternative is available, suggesting a degree of asymmetric substitution. As noted in Section 3 paragraph 3.15, FWA accounted for 2.5% of broadband subscriptions at the end of Q1 2016. This represented an 11% overall decline over the previous 12-month period.
- 4.222 Table 3 and Table 4 present the views of residential respondents to the WLA/WCA Market Research on their primary use of their FWA broadband service and the types of devices connected to it³⁰⁹. Residential End Users accessing broadband services via a FWA network had similar uses for their broadband service as those residential respondents with a Copper, FTTx or CATV network based broadband services. The WLA/WCA Market Research revealed that the main uses among End Users using broadband on a FWA network were browsing the internet (97%), using email (77%) and social media (82%). Respondents with a FWA network based broadband were more likely to use their broadband service for social media and instant messaging (82%) than respondents with a Copper network based broadband service (68%). Similarly, the most popular devices connected to a FWA broadband service were a laptop (86%), smartphone (66%) and tablet (34%), broadly similar to the main uses by End Users with broadband provided over a Copper Network.
- 4.223 Paragraphs A 2.13 to A 2.15 of Appendix: 2 outline the findings of the WLA/WCA Market Research in relation to broadband usage patterns among residential End Users. When asked about how many hours a day the household uses the broadband access method of choice, FWA broadband users had an average usage of 4 hours per day, compared to 4 or 5 hours a day for copper, CATV or FTTC based broadband users³¹⁰.
- 4.224 Paragraphs A 2.55 to A 2.58 of 13 outline the findings of the WLA/WCA Market Research with respect to broadband usage patterns among business End Users. For FWA broadband users, 100% used broadband for email and internet, while 39% used it for cloud services, similar to the proportion of business users on a Copper (21%), Fibre (40%) or CATV (39%) network who used their service for cloud computing.

³⁰⁸ See paragraph 3.15.

³⁰⁹ Paragraphs A 2.13 to A 2.15 of Appendix: 2 further outline the findings of the WLA/WCA Market Research in relation to broadband usage patterns among residential End Users.

³¹⁰ Slide 27 of WLA/WCA Consumer Market Research.

4.225 As set out in ComReg's QKDR³¹¹, the average data consumption by broadband users on a FWA network is 37.5Gb per month.

Substitution

4.226 ComReg's preliminary view is that a HM supplier of copper, FTTC, FTTH and CATV network based broadband service is likely to be able to sustain a profitable SSNIP in the range of 5-10% above the competitive level because an insufficient number of End Users are unlikely to switch from a copper, FTTC, FTTH or CATV network based broadband service to a FWA service in response to a hypothetical price increase in the cost of their copper, FTTC, FTTH or CATV network based broadband service. In the WLA/WCA Market Research ComReg sought views of residential respondents on the likelihood of switching broadband services to a FWA based broadband service in response to a €2 price increase. Of those residential respondents who had a copper-based broadband service in a bundle, and who indicated that they were likely to switch in response to the hypothetical price increase, 23% said they would switch to a FWA based broadband service.³¹²

4.227 In addition, as set out in paragraph 3.15, FWA subscriptions fell by 11% between Q1 2015 and Q1 2016 and at the time of the 2011 WBA Decision, there were 96,759 subscribers to FWA (a decline of just over 54,600 subscribers).³¹³ ComReg considers that this decline illustrates that FWA and Copper, FTTx and CATV network based broadband services are in different markets. During the period since the 2011 WBA Decision, a significant number of FWA subscribers have moved off the FWA platform, while Copper, FTTx and CATV networks have grown their subscriber numbers significantly, as set out in Section 3 of this Consultation³¹⁴.

4.228 Furthermore, ComReg notes that the contended nature of FWA broadband services (typically 24:1 or 48:1) is significantly different from Copper or FTTx network based broadband services, which typically have a low contention ratio or are uncontended in practice³¹⁵.

³¹¹ Q1 2016 ComReg QKDR.

³¹² See Figure 52 in Section 13. ComReg cannot conclude on the prevalence of switching to FWA from CATV or Fibre network users in response to a SSNIP due to the small sample sizes in the WLA/WCA Market Research.

³¹³ ComReg document [10/81](#) Market Review: Wholesale Broadband Access (Market 5), 01 October 2010, pg. 17.

³¹⁴ As discussed in paragraphs 3.13 to 3.16 of this Consultation.

³¹⁵ ComReg notes that broadband provided over a CATV network is also a contended service, however the download speeds typically experienced by End Users mean contention in the CATV is often not an issue.

- 4.229 On this basis, it is ComReg's preliminary view that FWA broadband is not likely to fall within in the same retail market as other fixed broadband platforms (copper, FTTx and CATV). While the underlying product and pricing characteristics of FWA appear similar to other fixed broadband platforms, the degree of substitution is likely to be asymmetric, with limited switching to FWA from other fixed broadband platforms. This view is supported by the majority of SPs responding to the February 2015 SIR, as set out in Table 5 above.

Supply Side Substitution

- 4.230 ComReg considers that effective supply-side substitution by FWA operators to Copper, FTTx or CATV network-based broadband services through own network build or through use of upstream inputs, such as civil engineering infrastructure inputs, would be constrained by the upfront investment costs and associated time delays for building/installing necessary infrastructure. In addition, the capacity of a FWA broadband operator to develop services over its existing network that would sufficiently reflect the characteristics of Copper, Fibre or CATV network-based broadband services would likewise be constrained by such investment costs and time delays.

Service Provider views on Substitutability among Products

- 4.231 As part of the assessment, ComReg also drew on the views of SPs on the substitutability of FWA based broadband.
- 4.232 As noted in Table 5 above, of the 7 SPs that provided views, 5 are of the view that FWA broadband is not an effective substitute for a copper, FTTC, FTTH or CATV network based broadband services having regard to differences in coverage and speeds offered by FWA broadband. Eircom noted that where the speeds delivered over fixed wireless are comparable with a copper, FTTC, FTTH or CATV network based broadband service, they could be considered substitutes.

Preliminary Conclusions on FWA broadband

- 4.233 Retail market trends, set out in Section 3³¹⁶, indicate that while subscriptions for some broadband platforms have continued to grow, subscription take-up of FWA based broadband services has declined significantly since its peak in Q1 2008 where it was 123,456. ComReg is of the preliminary view that this decline, coupled with the analysis presented above suggests that a sufficient number of End Users are not likely to consider FWA services to be an effective substitute for copper, FTTC, FTTH or CATV network based broadband.

³¹⁶ See paragraphs 3.15 and 3.32.

- 4.234 ComReg's preliminary conclusion is that retail broadband offered via FWA is not an effective substitute for a copper, FTTC, FTTH or CATV network based broadband service. However, ComReg recognises that FWA based broadband services are used by End Users in areas where copper, FTTC, FTTH or CATV network based broadband services may not be available.
- 4.235 While some product characteristics are similar, and the intended use for some users will be similar, the different pricing structure, falling subscriber figures and lack of suitability for all applications, including higher bandwidth applications, suggests that on a forward looking basis it is likely to be viewed by End Users as a complement to, rather than a substitute for a copper, FTTC, FTTH or CATV network based broadband service. This position is unlikely to change over the lifetime of this market review. ComReg also notes that given the relatively low number of subscribers to FWA services, its inclusion or exclusion from the retail broadband market definition is not likely to materially affect the analysis of the WLA or WCA markets.
- 4.236 Furthermore, ComReg will have due regard to any spectrum auction and subsequent awards which may impact the product characteristics (or other factors) of a FWA based service when reaching its final views in the Decision on the WLA and WCA Markets.

Is a Leased Line an effective substitute for retail broadband access provided over copper, FTTC, FTTH and CATV networks?

Overview

- 4.237 Having regard to the analysis set out in paragraphs 4.240 to 4.248 below, ComReg's preliminary view is that a Leased Line is not likely to be an effective substitute for broadband access provided over a Copper, FTTC, FTTH or CATV network.
- 4.238 As set out in the Explanatory Note to the 2014 Recommendation, Wholesale High Quality Access ('**WHQA**') (which includes Leased Lines ('**LL**')) is a market in and of itself (Market 4 identified in the 2014 Recommendation).³¹⁷

³¹⁷ Explanatory Note accompanying the Commission Recommendation on relevant product and service markets within the electronic communications sector susceptible to *ex ante* regulation, dated 9.10.2014 (the 'Explanatory Note to the 2014 Recommendation'), at page 49. The Explanatory Note to the 2014 Recommendation is available at <https://ec.europa.eu/digital-agenda/en/news/explanatory-note-accompanying-commission-recommendation-relevant-product-and-service-markets>.

4.239 ComReg has recently published a Consultation³¹⁸ on its analysis of the Wholesale High Quality Access (**'WHQA Market Review Consultation'**), within which it considered, at both a retail and wholesale level, whether high quality broadband access might be an effective substitute for a leased line. ComReg's preliminary conclusion is that it is not an effective substitute given, amongst other things, functional, quality and pricing differences.

Demand Side Substitution

4.240 A leased line³¹⁹ is a retail product typically used by business End Users that involves the supply of dedicated transmission capacity between fixed locations via a fixed or wireless connection. In 2015, there were a total of 15,953 active retail leased lines in Ireland.³²⁰ Leased lines are sold by many of the SPs that also sell retail broadband services and typically include guaranteed high quality service levels, symmetric upload and download speeds, and guaranteed availability.³²¹ On the other hand, retail broadband services provided over copper, FTTC, FTTH and CATV networks are generally asymmetric (i.e. lower upload than download speeds) and contended services with bandwidth that is often lower than that found with retail leased line services. Furthermore, the Service Level Agreements (**'SLAs'**) that are provided by SPs for retail broadband services, if any, are generally of a lower standard than for leased line services.

Product Characteristics

4.241 In this section, ComReg summarises the product characteristics of business broadband and LL services. The extent to which broadband may represent an effective retail substitute for either Traditional Interface (TI)³²² LL or Modern Interface (MI)³²³ LL is considered in paragraphs 4.242 to 4.247 below.

³¹⁸ Market Review: Wholesale High Quality Access at a Fixed Location, Consultation, [ComReg Document 16/69](#), August 2016 (**'WHQA Market Review Consultation'**). See paragraphs 4.9 to 4.57 for the assessment in a retail context.

³¹⁹ Herein abbreviated 'LL.'

³²⁰ See WHQA Market Review Consultation, pg. 43.

³²¹ Section 4.2.1; Explanatory Note to the 2014 Recommendation.

³²² Traditional Interface refers to copper-based LL interfaces such as Analogue, Digital and TDM interfaces.

³²³ Modern Interface refers to fibre based LL interfaces such as Ethernet, xWDM and other such technologies.

- 4.242 Business broadband services are generally asymmetric (i.e. lower upload than download speeds) and contended services with limited bandwidth and standard SLAs. In Ireland, retail broadband services to businesses are provided over multiple platforms including ADSL, FTTx, Cable, Mobile broadband (3G/4G network), Fixed Wireless Access (FWA) and Satellite.
- 4.243 The WLA/WCA Market Research indicated that the average download speed cited by surveyed business broadband purchasers (who were aware of their service download speed) was 36Mbps. This compared to an average download speed of 96Mbps by purchasers of LLs for their service³²⁴. Similarly, the average upload speed cited by surveyed business broadband purchasers (who were aware of their service upload speed) was 12Mbps compared to an average upload speed of 92Mbps by purchasers of LL services³²⁵. This suggests that bandwidth provided by broadband services is sufficiently different to the identified bandwidth requirements of the majority of businesses currently purchasing retail LLs. Furthermore, the average upload speed cited by LL purchasers are almost symmetrical with download speeds.

Pricing

- 4.244 The WLA/WCA Market Research indicates that respondents identified substantial differences between costs of broadband and LL services. For example, the average monthly cost of a standalone broadband service cited by surveyed business broadband purchasers that were aware of their service cost was €235 (see paragraph A 2.71 in Appendix: 2) compared to the €1,129 average monthly cost of a standalone LL service cited by purchasers of LL services.³²⁶
- 4.245 ComReg considers that given LLs are typically more expensive than business broadband products, business subscribers of Copper, Fibre and CATV network based broadband services are unlikely to switch to a leased line service in response to a hypothetical price increase in their broadband service. Therefore, a hypothetical monopolist of HM Copper, FTTx and CATV network based broadband services would likely be able to sustain a SSNIP in the range of 5-10% above the competitive level without a substantial number of customers switching to LL type services.

³²⁴ The WLA/WCA Market Research, Slides 40 and 97.

³²⁵ The WLA/WCA Market Research, Slides 42 and 99.

³²⁶ The WLA/WCA Market Research, Slide 22.

4.246 In addition, as part of the WLA/WCA Market Research, respondents purchasing LLs were asked to indicate their likely behaviour in response to a SSNIP in their LL service. Among respondents purchasing LL in a bundle with other services, 65% noted that they would potentially change their behaviour with 11% of these respondents noting that they would cancel their existing LL service and switch to a broadband provider³²⁷. Among respondents purchasing LL as a stand-alone service, 37% noted that they would potentially change their behaviour with 7% of these respondents noting that they would cancel their existing service and switch to a broadband provider³²⁸. This evidence would suggest that a HM of LL services is likely to be able to sustain a SSNIP in the range of 5-10% above the competitive level without a substantial number of customers switching to broadband services.

Intended Use

4.247 As part of the WLA/WCA Market Research respondents were asked to indicate what they are using their broadband and/or LL services for. LLs were mostly used by businesses for email and internet access (85%), connectivity between premises (53%), remote access for employees (49%) and data services (47%)³²⁹. Business broadband respondents also used their service for email and internet access (97%), but significantly less business broadband respondents used their broadband service for connectivity between premises (19%), remote access for employees (18%) or data services (25%)³³⁰. These differences suggest that End Users purchase and use business broadband products provided over Copper, FTTx or CATV networks and LL products in different ways within their business, suggesting that these products may not be substitutes from a demand side perspective.

Supply Side Substitution

4.248 ComReg considers that effective supply-side substitution by LL operators to Copper, FTTx or CATV network-based broadband services through own network build or through use of upstream inputs, such as civil engineering infrastructure inputs, would be constrained by the upfront investment costs and associated time delays for building/installing necessary infrastructure. In addition, the capacity of a LL operator to develop services over its existing network that would sufficiently reflect the characteristics of Copper, FTTx or CATV network-based broadband services would likewise be constrained by such investment costs and time delays.

³²⁷ The WLA/WCA Market Research, Slides 124 and 125.

³²⁸ The WLA/WCA Market Research, Slides 129 and 130.

³²⁹ The WLA/WCA Market Research, Slide 85.

³³⁰ The WLA/WCA Market Research, Slide 28.

Preliminary Conclusions on Leased Lines

4.249 Having considered relevant demand-side factors including functionality, pricing and consumer usage, as well as relevant supply-side factors, ComReg's preliminary view is that leased lines are not likely to be a sufficiently effective substitute for broadband services provided over Copper, FTTx, and CATV networks.

Chain of Substitution

4.250 In Appendix: 3 ComReg considers whether retail broadband packages, with varying download speeds, that are provided over copper, FTTx and CATV networks should all be included in the same retail market. While ComReg has proposed excluding satellite and FWA broadband from the retail market, for completeness it nonetheless considers these as part of the chain of substitution analysis.

4.251 ComReg assesses whether a 'chain of substitution'³³¹ exists between products offered at various speeds which are sufficiently close (i.e. the next links in the chain), and are thereby subject to a common pricing constraint. Where there is no common pricing constraint, a break in the chain of substitution exists and two separate markets may be defined.

4.252 On the basis of the analysis in Appendix: 3, ComReg is of the preliminary view that, on a forward looking basis, there is likely to be a single market for retail broadband services, at all speeds, provided over copper, FTTC, FTTH and CATV networks.

Residential and Business Broadband Users

4.253 ComReg has considered whether retail fixed broadband products used by residential and business users form part of the same relevant retail market.

4.254 As set out in Appendix: 3, SPs which supply both business and residential retail customers tend to offer a similar range of products to both types of customer. Some SPs differentiate service offerings and pricing by providing business customers with products that have higher specification, such as lower contention ratios, higher upload speeds or static IP addresses.

4.255 ComReg has considered, from the demand-side, whether a subscriber of a residential broadband service would be likely to find a business broadband service to be an effective substitute, and vice versa.

³³¹ The concept of a 'chain of substitution' is described in the EC's Notice on Market Definition (paragraphs 56-58).

- 4.256 In terms of product characteristics, similar products are offered to residential and business broadband subscribers. A customer who chooses to purchase retail broadband would have similar requirements for routers, download speeds and data allowances, regardless of whether it is a business or residential subscriber. While some SPs may structure their offers slightly differently, the analysis presented in Appendix: 3 shows that there are no significant differences in the range of broadband services which are available to residential and business users. For example, SPs offer a range of products differentiated by speed and download allowances, so that a customer who was using a 24Mb residential product with unlimited download allowances could switch to a 24Mb business product with unlimited download allowances and vice versa.
- 4.257 In terms of usage, ComReg notes a strong trend amongst all users to subscribe to higher speed products, and this was discussed earlier in Section 3³³². At the end of Q1 2016, around 31.1% of business users and 62.4% of residential users were subscribing to fixed broadband at speeds above 30Mb.³³³ This suggests a similarity in the demand for higher speeds by residential and business customers.
- 4.258 The main difference between business and residential products arises in the packages offered. Residential broadband subscribers are more likely to bundle their broadband service with telephony and/or TV services, while business broadband subscribers are more likely to purchase broadband as a standalone product or as part of a suite of business services, with SLAs for fault repairs.³³⁴
- 4.259 ComReg is of the preliminary view that, while a customer using the most basic residential broadband package would be unlikely to find the highest specification business package to be a good substitute, and vice versa, overlaps in product specification and pricing between adjacent broadband offerings indicate a chain of substitution in retail broadband provided over a Copper, FTTC, FTTH or CATV network.³³⁵

³³² See paragraph 3.27 and Figure 11.

³³³ Q1 2016 ComReg QKDR.

³³⁴ See 13 paragraphs A 2.66 to A 2.72 where the findings from the WLA/WCA Market Research among businesses with respect to bundling are summarised.

³³⁵ See Appendix: 3 paragraphs A 3.77 to A 3.82.

- 4.260 ComReg has also considered from the supply side whether an operator which supplied only residential broadband services would be able to switch to supply business broadband services, or vice versa, without incurring significant additional costs or risks and within a short timeframe. While it may be the case at present that some operators may choose to serve only the business market or only the residential market, or may choose to serve both but to market them separately, it is noted that the definition of the product market is not based on how operators currently behave, but rather on whether, if they supply only one product, they could provide an effective constraint on the other by switching their supply.
- 4.261 ComReg is of the preliminary view that the underlying inputs used to supply retail broadband are fundamentally similar regardless of whether that broadband is eventually offered to a business or a residential customer. For example, an operator which was offering retail broadband over a Copper Network would need access to a Digital Subscriber Line Access Multiplexer (“DSLAM”)³³⁶ and backhaul connection from the exchange, and would then be able to provide residential and/or business broadband services. ComReg considers that this is the case whether retail broadband is offered by a vertically-integrated operator, or via purchased wholesale inputs available in the WLA or WCA market. It is possible that there may be differences in some elements of service provision – for example, business users may require more extensive customer support or account management facilities – but ComReg does not view such service-related features as precluding an operator which was currently offering only residential or only business retail broadband from switching to supply the other group of customers within, for example, a 12-month period.
- 4.262 ComReg is therefore of the preliminary view that, taking both demand and supply-side considerations into account, the retail broadband market should not be further differentiated by customer type.

³³⁶ DSLAM means Digital Subscriber Line Access Multiplexer, is a device that aggregates DSL subscriber connections.

Standalone Broadband and Bundled Offerings

- 4.263 As set out in paragraph 3.38 the current telecoms and TV related markets are characterised by double-play³³⁷, triple-play and quad-play bundles. Retail broadband services can be bought alongside a combination of fixed telephony, TV and mobile phone services to form a bundle. Currently Eircom, Virgin Media and Vodafone offer bundles with all four products, while Sky offer bundles with three products. Eircom, Sky, Virgin Media and Vodafone also supply broadband as a standalone product. Examples of such bundles and standalone products are set out in Appendix: 3.
- 4.264 These services are typically bundled together in order to benefit from economies of scope in the supply of those services. Bundling products into one service offering is likely to achieve savings in production, distribution and transaction costs. Bundling may offer suppliers the possibility of reducing churn in a market which is characterised by high customer acquisition costs, and may increase the revenue per customer even when the price of individual services is decreasing.³³⁸
- 4.265 ComReg has considered whether it is appropriate to define a retail market that combines broadband access with other retail services, or whether the broadband access service element constitutes a relevant retail market in its own right. In Ireland, there are various types of broadband bundles, with most SPs offering both bundled and stand-alone broadband access offers available to End Users. There are also operators focused on providing retail broadband access services that are independent of a bundle.
- 4.266 Since the 2011 WBA Decision, there has been rise in the numbers of subscribers purchasing retail broadband services in a bundle. As noted in Section 3 paragraph 3.38, in Q1 2010, 65.2% of subscriptions were single play, 31% were double play and 3.8% were triple play.³³⁹ By Q1 2016, 38.7% of subscriptions were single play, 35.8% were double play, and 25.4% were triple play and quadruple play.³⁴⁰
- 4.267 On the matter of how bundles should be treated within a market analysis, the Explanatory Note to the 2014 Recommendation³⁴¹ notes the following:

³³⁷ Double-play bundles are usually bundles that incorporate broadband and fixed telephony.

³³⁸ See Section 3 paragraph 3.36 for a discussion of bundling.

³³⁹ Q1 2016 ComReg QKDR.

³⁴⁰ Q1 2016 ComReg QKDR.

³⁴¹ Section 3.2, page 18 of the Explanatory Note to the 2014 Recommendation.

“High levels of bundling have been reported, particularly in relation to broadband access and fixed voice. However, despite the fact that bundling is one of the dominant trends observed at the retail level, this Recommendation does not propose to define a separate retail market for bundles because evidence to date has not indicated that there is a need for ex ante regulation of bundles, which may contain a previously regulated input.”

- 4.268 ComReg is of the preliminary view that a sufficient number of customers could (and would) unpick a bundle if there were to be a hypothetical price increase in the price of the bundle which contained broadband access. This is evidenced by the WLA/WCA Market Research outlined in Appendix: 2, where both residential and business End Users are asked about their likely response to a SSNIP (see paragraphs A 2.1 to A 2.42 and A 2.78 to A 2.86). These customers could choose to purchase the individual components of the bundle separately such as to render the price increase unprofitable. As such, the broadband access component of the bundle constitutes a relevant market in its own right, and the various bundles available, incorporating broadband access along with other service elements, do not constitute separate relevant markets at this time.

Fixed Voice & Broadband Bundles

- 4.269 Broadband bundled with fixed voice telephony is the most popular bundle consumed by residential and business broadband subscribers.³⁴² These two products were traditionally bundled together to take advantage of economies of scope as the services were supplied over the same copper network. The cost and popularity of broadband and fixed voice bundles suggests that the economies of scope may be sufficient to inhibit switching from the bundle to standalone offerings. Furthermore, the price of standalone broadband and standalone voice services are sufficiently high, such that it is significantly more expensive to buy these products separately than to buy a broadband and fixed voice bundle. As a result, it is not clear that a sufficient number of customers could (and would) unpick a broadband and fixed voice bundle if there were to be a SSNIP in the price of the bundle.

³⁴² See 13, paragraphs A 2.19 to A 2.21 and A 2.66 to A 2.72. For example, 59% of residential End Users bundle broadband with fixed telephony.

Broadband & TV Bundles

- 4.270 Broadband & TV bundles are currently available from Eircom, Sky, Virgin Media and Vodafone. At the end of Q1 2016, [redacted] residential customers subscribed to a broadband & TV bundle.³⁴³ A significant number of customers also choose to purchase these services separately.³⁴⁴ ComReg notes the growing prevalence of TV services provided over broadband (via Multicast) including the streaming of non-linear TV content. It is too early to conclude on how these developments might impact the retail broadband market.
- 4.271 ComReg considers that a sufficient number of customers could (and would) unpick a bundle containing broadband and TV services if there were to be a hypothetical price increase in the cost of the bundle. These customers could choose to purchase the individual components of the bundle separately such as to render the price increase unprofitable. As such, the broadband access component of the bundle constitutes a relevant market in its own right, and the various bundles available, incorporating broadband access along with other service elements, do not constitute separate relevant markets at this time. In any event, ComReg considers that the access network used to supply broadband and TV services is the bottleneck service (with the exception of Sky, who use a different platform). As such, it is unlikely that a different WLA/WCA definition would result if ComReg considered that bundles with TV and standalone broadband services were in separate markets.

Conclusion

- 4.272 For the purposes of assessing the retail market, ComReg has not concluded on whether broadband sold in a bundle constitutes a separate retail market to broadband sold on a standalone basis. However, ComReg is of the preliminary view that this result does not alter the wholesale WLA and WCA market definitions, as the underlying wholesale products are clearly substitutable between bundled and unbundled offerings, regardless of how the retail service is packaged.

³⁴³ The subscriber number is less than 20,000.

³⁴⁴ Analysis of data from ComReg's Q1 2016 QKDR shows that [redacted] residential customers purchase TV and broadband separately (i.e. as a single play subscription).

Overall Preliminary Conclusion on Likely Retail Product Market

4.273 As noted earlier, ComReg is not required to conclude on the precise scope of the retail market, but has carried out this analysis in order to inform the analysis of the WLA and WCA markets. ComReg has focused on the extent to which different retail broadband products can be considered to be effective substitutes for other retail broadband products. The evaluation of substitutability has included the consideration of product and functional characteristics, pricing, and customer usage as well as relevant supply side considerations. ComReg's preliminary conclusions on the retail market can be summarised as follows:

- Retail broadband and retail narrowband internet access constitute separate markets. All broadband products provided over copper, FTTC, FTTH and CATV networks have the same intended use. The analysis of product speed, packages and prices outlined above provides evidence that these products are positioned as alternative methods of accessing the internet and internet based services.
- There is a Chain of Substitution between broadband products provided over copper, FTTC, FTTH and CATV networks. Evidence shows that it is possible for a broadband subscriber to switch to a faster broadband service for a similar or cheaper price. However, the availability of FTTC, FTTH and cable broadband products may limit the ability of customers to switch between platforms in response to a hypothetical price increase.
- Retail Mobile broadband and broadband products provided over Fixed Wireless Access networks and Satellite networks are not effective substitutes for retail fixed broadband provided over copper, FTTC, FTTH and CATV networks. This result is primarily due to the functional differences, customer usage and difference in pricing. Retail broadband provided over copper, FTTC, FTTH and CATV networks is in a separate market to broadband provided over satellite, FWA and 3G/4G networks.
- The retail broadband market should be segmented neither by customer type (i.e. residential or business) nor by whether the broadband access is sold as part of a bundle or on a stand-alone basis.

Geographic Scope of the market

4.274 The purpose of this section is to define the scope of the geographic market. ComReg's approach follows the approach adopted by the European Commission in the 2014 Recommendation.

4.275 The European Commission in its Notice on Market Definition states that the relevant geographic market is:

“... an area in which the undertakings concerned are involved in the supply and demand of the relevant products or services, in which area the conditions of competition are similar or sufficiently homogeneous and which can be distinguished from neighbouring areas in which the prevailing conditions of competition are appreciably different.”³⁴⁵

4.276 The European Commission further notes in its SMP Guidelines that:

“According to established case-law, the relevant geographic market comprises an area in which the undertakings concerned are involved in the supply and demand of the relevant products or services, in which area the conditions of competition are similar or sufficiently homogeneous and which can be distinguished from neighbouring areas in which the prevailing conditions of competition are appreciably different. The definition of the geographic market does not require the conditions of competition between traders or providers of services to be perfectly homogeneous. It is sufficient that they are similar or sufficiently homogeneous, and accordingly, only those areas in which the conditions of competition are ‘heterogeneous’ may not be considered to constitute a uniform market. In general, the process of defining the geographic boundaries of markets involves identifying any geographic areas where a distinct break in competitive conditions can be observed. This approach places weight on the underlying structural and behavioural factors that are relevant in determining the competitiveness of a market.”³⁴⁶

4.277 Below, ComReg assesses the geographic features of the retail market by having regard to the following issues:

- (a) geographic variation in entry conditions;
- (b) the evolution of operators’ market shares; and
- (c) geographic variances in products and pricing.

4.278 This initial assessment is not intended as an SMP assessment, which is addressed later in this Consultation paper, but as an overview of the geographic features of the retail market, which may require further assessment when defining geographic market boundaries at the wholesale level.

³⁴⁵ European Commission Notice on Market Definition, paragraph 8.

³⁴⁶ European Commission SMP Guidelines, paragraph 56.

Geographic variation in entry conditions and the availability of services

- 4.279 In considering the geographic scope of the market, ComReg assesses the extent to which different competitive conditions may evolve in particular geographic areas over the lifetime of this review. To do this, ComReg assesses the coverage and market share evolution of alternative networks over time as a means of identifying any existing or potential variances in entry and competitive conditions across different areas.
- 4.280 ComReg's preliminary assessment of the scope of the retail product market suggested that broadband offered over Copper, FTTC, FTTH and CATV networks may be viewed as relatively close substitutes by the End User in terms of their key characteristics and pricing. In the paragraphs below, ComReg provides its preliminary assessment of the network coverage and market share distribution of these alternative platforms.
- 4.281 ComReg has observed significant differences in the coverage of platforms and the availability of services. ComReg's preliminary view is that the availability of alternative forms of broadband access in Ireland is geographically limited. The broadband options available to a given retail End User will depend on the location of the End User. In general, the availability of alternative platforms is correlated with the population density of a given area (i.e. End Users in urban areas are more likely to have alternatives than End Users in rural areas).
- 4.282 Eircom's copper network is ubiquitous, and ADSL and ADSL2+ services are available from 80% of the Eircom exchanges.
- 4.283 Eircom's FTTC network, currently serves 392,868 customers as of Q1 2016, at [redacted] exchanges. To date, Eircom's FTTC rollout has focussed on urban areas, in the main. As noted in paragraph 3.43, in 2014 Eircom announced a rollout of a FTTH network to serve 300,000 premises.³⁴⁷ In total, Eircom note that its FTTC and FTTH network will pass 1.9 million premises when complete. Where Eircom has announced FTTC (or FTTH) services, it has provided access to its TV service, Eircom Vision.

³⁴⁷ http://www.openeir.ie/news/FTTH_programme_officially_launched/

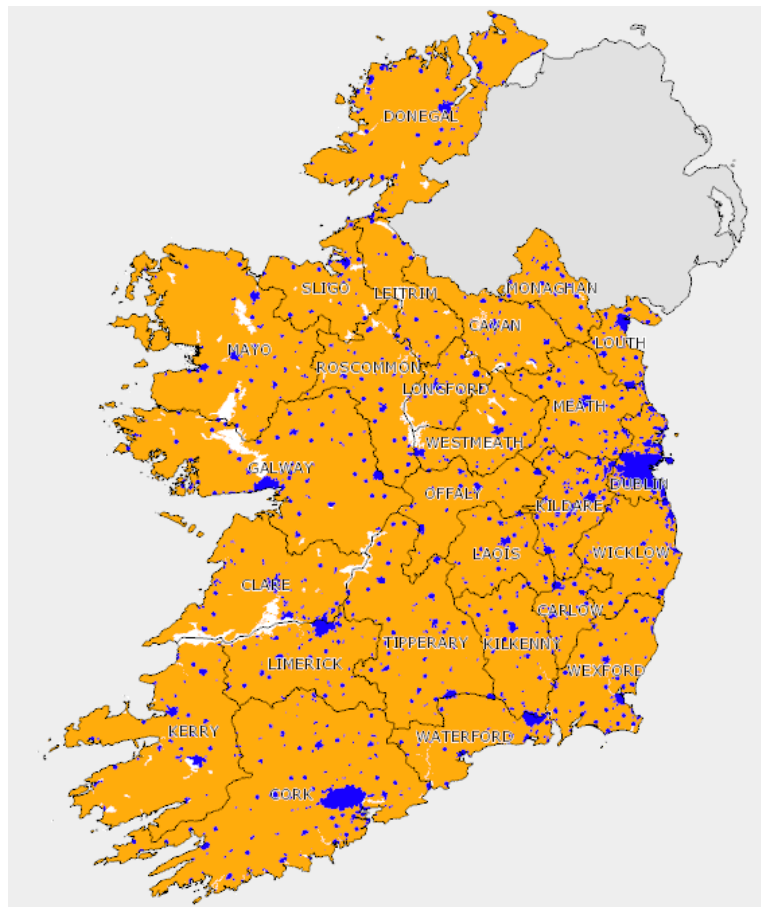
- 4.284 Virgin Media's DOCSIS 3 CATV network currently serves 784,400³⁴⁸ homes and businesses, with 368,491 End Users (Q1 2016). This network is largely available in urban areas, where the density of population and buildings has facilitated the rollout.
- 4.285 In 2014, SIRO (a joint venture between ESB and Vodafone) announced a Phase 1 rollout of a FTTH network to 50 larger towns. Retail services (via Vodafone) began in January 2016. Digiweb began providing services in August 2016 via the SIRO network. In September 2016, SIRO announced its rollout was gathering pace, with its network rollout now passing 10,000 premises a month across 17 towns.³⁴⁹
- 4.286 Despite the announcements of various network rollouts, many parts of Ireland remain unserved by a quality broadband platform. The Irish Government has proposed the National Broadband Plan ('**NBP**'), which will support the provision of high speed broadband access to households and businesses that currently fall outside the reach of existing broadband networks.³⁵⁰ The aim of the NBP is to ensure a minimum download speed of 30Mb is available nationally.
- 4.287 In 2014, DCENR published an intervention map, highlighting the proposed areas to be served by the NBP. This is reproduced below in Figure 17.

³⁴⁸ See Liberty Global Q2 2016 Earnings Release, pg. 29. <https://www.libertyglobal.com/pdf/press-release/LG-Earnings-Release-Q2-16-FINAL.pdf>

³⁴⁹ SIRO - <http://siro.ie/siro-invest-e40-million-roll-6-new-towns-end-2016/>

³⁵⁰

<http://www.dcenr.gov.ie/communications/SiteCollectionDocuments/Broadband/National%20Broadband%20Plan.pdf>

Figure 17: The NBP Intervention Area map³⁵¹

Note: The areas in blue are served by commercial SPs. The areas in orange are to be served by the NBP designated SP(s), with the support of state aid.

- 4.288 ComReg expects that the implementation of the NBP will get underway in late 2017, however this is dependent on the contract being awarded to the successful SP(s).

Geographic differences in operator market shares

- 4.289 ComReg's preliminary view is that there is likely to be variation in operator market shares in different geographic areas, driven by the differing availability of platforms, as discussed in the previous section. Eircom operates a widely available copper network and an FTTx based network which passes 1.6 million premises (as of September 2016). While both Virgin Media and SIRO operate alternative networks to Eircom, these are limited to particular geographic areas.

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<http://dcenr.maps.arcgis.com/apps/webappviewer/index.html?id=74eaa7c5f5a64adfb6e3dff0cd05bd4&level=1>

Geographic variances in products and pricing

- 4.290 As noted by the Commission, evidence of differentiated retail pricing applied by the incumbent and/or alternative operators over time might help indicate different regional or local competitive pressures.
- 4.291 Despite the geographic variation in network coverage, ComReg has no evidence of differing competitive constraints on retail broadband pricing. As part of its data gathering process³⁵², ComReg asked operators specific questions about any geographic variations in the pricing of their retail broadband offerings. All operators indicated in their responses that they did not differentiate the prices of their retail broadband services on a geographic basis.
- 4.292 A further indicator of potential regional/local variations in competitive conditions noted by the European Commission includes differences in the functionalities or types of products being offered by both the incumbent and alternative operators or in the marketing strategies being pursued.
- 4.293 With regard to product functionality, no operators have indicated to ComReg in the course of its data gathering process that they offer retail products with different functionalities or types of products in different geographic areas. ComReg is of the preliminary view that any differences in functionality stem from technical constraints (for example, network capacity, spectrum availability, whether the local exchange has been unbundled or not) rather than a direct response to differences in End User demand/localised competitive pressures.

Preliminary conclusion on geographic market

- 4.294 Having considered the above, it is ComReg's preliminary view that there are likely to be a national market for retail broadband, absent regulation in the WLA and WCA Market. While ComReg recognise that there are likely to be some differences in competitive conditions due to the regional presence of an alternative network operator (i.e. SIRO or Virgin Media), the lack of differentiated pricing and limited differences in demand characteristics across regions suggests the retail broadband market is likely to be national, absent regulation in the WLA and WCA Markets. However, it is not ComReg's intention, in this Consultation, to conclude on the geographic scope of retail broadband market, absent regulation in the WLA and WCA Markets.
- 4.295 The remaining sections of this Consultation will discuss the WLA and WCA markets and ComReg sets out its preliminary views on the respective geographic market definitions in the relevant sections.

³⁵² Specifically, the February 2015 13D Information Requirement sought a response from operators on issues relating to geographically differentiated pricing.

Overall Preliminary Conclusion on Retail Market Assessment

4.296 Having defined the focal product (broadband provided over a copper network) and the available substitutes, it is ComReg's preliminary view that:

- Retail broadband and retail narrowband internet access constitute separate markets;
- All broadband products provided over copper, FTTC, FTTH and CATV networks constitute a single market;
- Bundles, in which broadband is a key component, do not constitute separate markets, as the broadband access component of the bundle constitutes a relevant market in its own right; and
- There is likely to be a single national geographic market for retail broadband.

Question 2: Do you agree with ComReg's preliminary conclusions on the retail product and geographic market assessment to the extent that it informs the analysis of the Relevant WLA and WCA Markets? Please explain the reasons for your answer, clearly indicating the relevant paragraph numbers to which your comments refer, along with all relevant factual/empirical evidence supporting your views.

5 Assessment of the WLA Market

- 5.1 As noted in Section 4³⁵³, the European Commission has established that the WLA market is susceptible to *ex ante* regulation and, in doing so, refers to the WLA market as “Wholesale local access provided at a fixed location”.
- 5.2 Market definition is a framework that enables the identification and assessment of the boundaries of competition between firms, ultimately to assess whether any SP has SMP in a particular market. In the context of this review the aim of this section is to consider whether there are any WLA products or services which might be considered by a SP as an effective substitute for wholesale local access, taking account of demand-side and supply-side considerations. This ultimately results in the identification of the product and geographic boundaries within which a SP is subject to any direct and indirect constraints in a given market.
- 5.3 In defining the WLA Market, ComReg begins by identifying the appropriate wholesale focal product. From here, ComReg examines whether this focal product is in a market of its own, or whether a broader market should be defined taking into account direct supply-side or demand-side substitutes. ComReg also assesses the degree to which indirect constraints arising from downstream retail markets might effectively and sufficiently constrain behaviour in the WLA Market, before then assessing the geographic scope of the WLA Market.
- 5.4 The European Commission’s Notice on Market Definition defines a relevant market as follows:
- (a) a relevant product market comprises all those products and/or services which are regarded as interchangeable or substitutable by the End User by reason of the products’ characteristics, their prices and their intended use;
 - (b) a relevant geographic market comprises the area in which the firms concerned are involved in the supply of products or services and in which the conditions of competition are sufficiently homogeneous.

³⁵³ See paragraph 4.3.

- 5.5 In line with the Modified Greenfield Approach (MGA)³⁵⁴ ComReg's assessment starts from the assumption that regulation is not present in the market under consideration, i.e. the WLA market. However, regulation present in other related markets, or through other aspects of the regulatory framework, is assumed to be present. This is to avoid drawing conclusions regarding the competitive structure of a particular market which may be influenced by, or indeed premised on, existing regulation on that market. Considering how the WLA market may function absent regulation helps to ensure that regulation is only applied (or withdrawn) in those circumstances where it is truly justified and proportionate.
- 5.6 Market definition is not an end in itself, but is undertaken to provide the context for the subsequent competition/SMP analysis. It allows ComReg to consider the competitive constraints imposed by demand and supply side substitutes (and consequently the buyers and suppliers of those substitute products/services) on a forward-looking basis; that is, taking into account expected or foreseeable technological or economic developments over a reasonable time horizon linked to this market review.
- 5.7 The remainder of this section addresses the WLA product and geographic market assessment in which the following issues are considered:
- (a) identifying the focal product, being the initial product from which potential wholesale substitute products will then be considered (discussed in paragraphs 5.8 to 5.13);
 - (b) whether any alternative WLA products should be included in the relevant wholesale markets having regard to the effectiveness of any direct constraints from demand-side substitutes and/or supply-side substitutes (including self-supplied inputs) (discussed in paragraphs 5.16 to 5.97);
 - (c) whether any retail products should be included in the relevant wholesale markets having regard to the effectiveness of any indirect constraints from the retail market (discussed in paragraphs 5.98 to 5.170); and
 - (d) the geographic scope of the relevant WLA market (discussed in paragraphs 5.174 to 5.199).

³⁵⁴ See pg. 8 of the Explanatory Note to the 2014 Recommendation. The Modified Greenfield Approach begins by looking at the retail market before working up the value chain to the wholesale market. The analysis of the competitive nature of these markets assumes that no SMP derived regulations are in place to avoid circularity in the analysis.

Relevant Product Market Assessment

Identifying the Focal Product

5.8 The first step in defining the WLA Market involves identifying the relevant focal product. As noted in Section 3³⁵⁵, Eircom is the largest supplier of wholesale local access products to third parties via its access network (over copper, FTTC and FTTH access media). ComReg considers that Eircom's current generation local access product, referred to as Local Loop Unbundling³⁵⁶ ('LLU'), represents a suitable starting point for the product market definition exercise.

Eircom's WLA Product

5.9 Eircom provides wholesale local access to its own retail division (self-supply), as well as to third party SPs (external merchant market wholesale supply) using its copper only access network inputs. For the purpose of this market definition exercise, ComReg considers that Eircom's self-supply of local access falls within the market regardless of whether it is used to supply other SPs, or to supply Eircom itself³⁵⁷. Eircom's existing copper-based LLU products are available on a national basis, and are purchased by a number of SPs³⁵⁸. Eircom's self-supply can likely be converted relatively easily to external merchant market supply in the short term without incurring significant additional costs or risks, and there is likely to be sufficient demand from third parties for such a WLA product over Eircom's network. In this respect, the Explanatory Note to the 2014 Recommendation states:³⁵⁹

"The issue of how to take into account the self-provision of wholesale inputs arises frequently in both defining and analysing wholesale markets. In some cases, what is under consideration is the self-supply of the incumbent operators. In others, it is the self-supply of alternative operators."

³⁵⁵ See paragraph 3.18.

³⁵⁶ For the purposes of this exercise, Local Loop Unbundling includes LLU products, and associated services and facilities.

³⁵⁷ ComReg considers that Eircom's self-supply could be relatively easily converted into merchant market supply within a reasonable timeframe and without incurring significant costs.

³⁵⁸ For further information about SPs purchasing WLA products see Section 3 of this Consultation.

³⁵⁹ See pg. 8 of the Explanatory Note to the 2014 Recommendation.

In many cases the incumbent is the only undertaking that is in a position to provide a potential wholesale service. It is likely that there is no merchant market as this is often not in the interest of the incumbent operator. Where there is no merchant market and where there is consumer harm at retail level, it is justifiable to construct a notional market when potential demand exists. Here the implicit self-supply of this input by the incumbent to itself should be taken into account.

In cases where there is likely demand substitution, i.e. where wholesale customers are interested in procuring from alternative SPs, it may be justified to take the self-supply concerned into consideration for the sake of market delineation. Even where there is an alternative potential supplier, it may share the same strategic interests as the incumbent regarding supply to third parties, to discourage market entry. Alternative SPs' self-supply should, in particular, be assessed when alternative SPs' networks are included in the relevant market due to the strong direct pricing constraints they exert on the incumbent operator. However, this is not justified if alternative operators face capacity constraints, or their networks lack the ubiquity within the relevant geographic market expected by Access Seekers³⁶⁰, and/or if alternative providers have difficulty in entering the merchant market readily.”

- 5.10 Pursuant to the 2010 WPNIA Decision and 2013 NGA Decision Eircom offers a range of passive local access³⁶¹ products, services and facilities in accordance with its existing SMP regulatory obligations in the WPNIA market.³⁶² The details of Full Unbundling³⁶³ and Line Share³⁶⁴ (together referred to as ‘**LLU**’), already provided on foot of such obligations, are published in Eircom’s Access Reference Offer (‘**ARO**’), with details of VULA products published in Eircom’s Wholesale Bitstream Access Reference Offer (‘**WBARO**’).³⁶⁵ Whether VULA products are included in the WLA market is assessed in paragraphs 5.19 to 5.47.

³⁶⁰ We refer to Access Seekers as those SPs who seek access to wholesale services.

³⁶¹ Passive access products enable an Access Seeker to utilise the networks facilities of the SMP undertaking, where powered electronic equipment is not required for the network facilities to function.

³⁶² Such obligations are discussed in more detail in Section 6 of this Consultation.

³⁶³ Full Unbundling allows Access Seekers to use the entire physical copper access path located between Eircom’s telephone exchanges (or equivalent) and the customer’s premises for the purposes of supplying voice, broadband and other services

³⁶⁴ (‘**LS**’) is where the Access Seeker only rents part of the copper access path, namely the frequencies which enable the offering of a broadband service. LS requires the existence of a narrowband connection, namely the retail customer must also maintain a line rental service.

³⁶⁵ Available at http://www.openeir.ie/Reference_Offers/.

- 5.11 In summary, the local access products currently provided by Eircom include copper-based Full Unbundling and Line Share products (referred to as '**Current Generation WLA**').
- 5.12 As of Q1 2016, Eircom provided 62,523 Full Unbundling and paths in the WLA market. These products are purchased by a number of Eircom's wholesale customers (including BT Ireland, Magnet and Digiweb) and can be availed of throughout Ireland (although in practice are only availed of in areas where there is a greater density of premises, making it economically viable). WLA is used by Access Seekers as a means of providing various communications services either to End Users or, in some cases, to their own wholesale customers. In practice, WLA provides the Access Seeker with connectivity between a physical point of interconnection (typically at an exchange or aggregation point) and the End User premises.

Overall Preliminary View on the WLA Focal Product

- 5.13 ComReg's preliminary view is that LLU products, provided over Eircom's copper network, are the focal product in the WLA market.

Treatment of self-supply

- 5.14 Prior to considering any demand-side or supply-side substitutes for the focal product, ComReg sets out how it intends to treat the self-supply of SPs in the WLA markets. In summary, ComReg treats self-supply of SPs' WLA to its retail businesses as being part of the WLA market due to the fact that such supply is typically readily divertible to the wholesale merchant market.
- 5.15 Eircom provides WLA to its own retail divisions (self-supply), as well as to third party SPs (external merchant market supply) using its copper and fibre network inputs. For the purpose of this market definition exercise, ComReg considers that Eircom's self-supply of WLA falls within the market regardless of whether it is used to supply other SPs, or by Eircom to its own retail arm. Eircom's existing WLA products are available on a national basis and are purchased by a number of SPs. Its self-supply to its retail arm could be converted relatively easily to external merchant market supply in the short term without incurring significant additional costs. Similarly, ComReg considers that the retail self-supply of other SPs active in the merchant wholesale market should also fall within the relevant WLA markets.

Assessment of Direct Constraints

- 5.16 Below ComReg considers the strength of any direct constraints present in the WLA market with a view to considering whether the WLA product market should be broadened to include other effective substitute products. In particular, ComReg considers potential:
- (a) Demand-side substitution (paragraphs 5.18 to 5.54); and

- (b) Supply-side substitution, including the self-supply of vertically integrated Service Providers (see paragraphs 5.55 to 5.96).

5.17 ComReg's overall preliminary conclusions on the assessment of the above direct constraints are set out in paragraphs 5.97 to 5.98.

Demand-Side Substitution

5.18 As noted previously, an economic analytical framework for defining a relevant product from a demand-side perspective is an examination of customer behaviour in response to price increases. This is known as the hypothetical monopolist test ('HMT'). The HMT consists of observing whether a small but significant non-transitory increase in price ('SSNIP') above the competitive level - taken to be in the range of 5 to 10% - of a candidate product supplied by a Hypothetical Monopolist ('HM') would provoke a sufficient number of customers to switch to an alternative product (a substitute product) such that it would make the price increase unprofitable. If a sufficient number of subscribers switching to the alternative product results in the price increase being unprofitable, then the alternative product is also included in the relevant product market. The HMT is carried out for any given number of alternative products which, by their characteristics, prices and intended use, may constitute an effective substitute to the focal/candidate product.

Do Virtual Unbundled Local Access ('VULA') products provided over a FTTC or FTTH network fall within the WLA product market?

5.19 VULA is an active local access³⁶⁶ service that, similar to LLU, allows SPs to provide downstream retail and/or wholesale End Users with a range of services. VULA is different from LLU products in that it is only available over FTTC or FTTH networks in Ireland. ComReg considers that VULA products, which are active 'Layer 2'³⁶⁷ products with local hand off, has the potential to mimic an unbundled copper access path insofar as is practical, and can allow operators to have a high level of control over their product offerings. VULA products allow operators to replicate the potential which LLU affords i.e. in this sense it is "virtual unbundled access" and can allow the Access Seeker the ability to significantly differentiate products and services to those offered by the incumbent.

³⁶⁶ Active access products enable an Access Seeker to utilise the networks facilities of the wholesale supplier, where the network facilities are supplied and function over powered electronic equipment. As noted above, LLU products are passive in the sense that they are supplied without active powered equipment.

³⁶⁷ Layer 2 is the second layer of the seven-layer OSI model of computer networking. It is the protocol layer that transfers data between adjacent network nodes in a network.

- 5.20 The purchase of VULA is likely to be attractive to entrants in the downstream wholesale and/or retail markets that have not invested in local access network infrastructure, such as local loops or fibre loops. VULA products are currently offered by Eircom and SIRO over their FTTC/FTTH network platforms. As set out in paragraph 3.18, Eircom is currently the largest supplier of VULA products.

Product Characteristics

- 5.21 The Explanatory Note to the 2014 Recommendation³⁶⁸ makes reference to non-physical or virtual unbundled access products as potentially falling within the WLA market (i.e. moved upstream from the current WBA (now WCA) market³⁶⁹) where the following criteria are cumulatively met:

***“Access occurs locally.** This means that traffic is handed over at a level which is much closer to the customer premises than access at the national or regional level as generally granted with traditional bitstream access. Such "localness" is typically given in a scenario where access is granted at or close to the central office/MDF (including newly built ODF) or the street cabinet³⁷⁰. However, while the virtual access product should aim to replicate LLU effectively, the number of interconnection points does not necessarily need to be equivalent to the copper network's points of interconnection;*

Access is generic and provides Access Seekers with a service-agnostic transmission capacity uncontended in practice, i.e. providing guaranteed bandwidths according to the Access Seekers' needs, whereby respective access requests are subject to the principle of proportionality, and would normally not require the SMP operator to deploy new physical infrastructure. Uncontended access requires in principle the establishment of a dedicated logical connection between the customer facilities and the point of handover. The technical features of the connection (backhaul connecting the street cabinet and central office and capacity dimensioning in particular) should only be limited by the inherent capabilities of the access technologies deployed and support LLU-like services (e.g. multicast where appropriate); and

³⁶⁸ Explanatory Note to the 2014 Recommendation, Page 43 onwards.

³⁶⁹ VULA products are currently subject to SMP regulation in the WBA market, pursuant to the 2011 WBA Decision.

³⁷⁰ At Layer 2 of the International Standard Organisation's seven layer model for communications protocols ('Data Link Layer').

Access seekers need to have sufficient control over the transmission network to consider such a product to be a functional substitute to LLU and to allow for product differentiation and innovation similar to LLU. In this regard, the Access Seekers' control of the core network elements, network functionalities, operational and business process as well as the ancillary services and systems (e.g. customer premises equipment) should allow for a sufficient control over the End User product specification and the quality of service provided (e.g. varying QoS parameters)."

- 5.22 In the paragraphs below, ComReg assesses each of the above criteria to determine whether VULA products offered by Eircom and SIRO fall into the same market as passive unbundled products, such as LLU and Line Share.

Does access occur locally?

- 5.23 Eircom's VULA product, called Virtual Unbundled Access ('**VUA**') is offered across its FTTC and FTTH networks which, as noted in paragraph 3.43 passes some 1.6 million premises. ComReg's analysis has identified two types of Eircom VUA product:

- (a) Local VUA – where the Eircom MDF/ODF³⁷¹ and the customer traffic handover point (being the serving AGG node/WEIL³⁷²) are co-located in the same exchange (referred to as '**Local VUA**'); and
- (b) Remote VUA – the Eircom MDF/ODF and the customer traffic handover point (being the serving AGG node/WEIL) are not co-located in the same exchange (referred to as '**Remote VUA**').

- 5.24 An assessment as to whether the above two Local VUA and Remote VUA products fall in the WLA market is undertaken having regard to the EC's above cumulative criteria.

³⁷¹ Main Distribution Frame ('**MDF**') and Optical Distribution Frame ('**ODF**') respectively. The Main Distribution Frame is a termination point within the local exchange where exchange equipment and terminations of local loops are connected via jumper wires. The Optical Distribution Frame uses fibre cable.

³⁷² Aggregation Node ('**AGG node**') and Wholesale Ethernet Interconnection Link ('**WEIL**'). The WEIL is the interconnection service provided by Eircom which provides a handover for various wholesale products including its NGA and NGN wholesale products.

- 5.25 In the case of Eircom's Local VUA product the customer traffic handover point is at the same point in the network hierarchy as a physical LLU product (i.e. at the local exchange). Therefore, the local access condition is likely satisfied for Local VUA. In the case of Eircom's Remote VUA product, the traffic handover point is not at the local exchange, but at a higher point in the network hierarchy. Therefore, a deeper level of analysis is required to determine whether Remote VUA meets the local access condition. This is outlined in paragraphs 5.26 to 5.31 below.
- 5.26 To give context to the analysis of Remote VUA's local access credentials, it is important to understand some of the high-level technical and historical background that defined the demarcation point between Eircom's access and core network.
- 5.27 The location of the demarcation point between the core and access networks has historically been determined by the signal propagation characteristics of the access path, i.e. customers needed to be relatively close to the serving exchange, otherwise their telephone or broadband service would not work (as the signal degrades with distance). For FTTC/FTTH access, the access path is either fibre (in the case of FTTH networks) or a combination of copper and fibre (in the case of FTTC networks). Fibre optic cables use optical signals which can transmit customer data over much greater distances than their copper equivalent. Therefore, the traffic handover point between the access and core networks no longer needs to be as close to the customer's premises as is the case for Eircom's copper network, which uses exclusively copper cables in the access path. The change in the access path media from being exclusively copper has had consequences for network build and the positioning of traffic handover points in the network.
- 5.28 In densely populated areas the number of potential customers per Eircom local exchange is high, typically serving 5,000-20,000 premises, which results in increased economies scale (and potentially scope) for the SP. In less sparsely populated³⁷³ areas physical constraints associated with the copper access path, such as the distance that signals can be transmitted over a copper network, requires the SP to build out a number of exchanges with a low customer density per local exchange, typically less than 1,000 premises. The result is a large number of rural traffic handover points.

³⁷³ While we refer to population, this includes premises.

- 5.29 The migration to FTTC/FTTH based services generally has provided an opportunity for a network SP to optimise network architecture (i.e. reduce the number of traffic handover points in the network), while still providing the same (upgraded) services to its retail and wholesale customers. When the access path media changed from being exclusively copper, the physical distance limitation associated with the copper access path that pre-determined traffic handover points was altered significantly. It meant that it was no longer necessary to connect customers to the core network at the nearest local exchange in order provide retail services and was now more efficient to aggregate customer traffic at a higher point in the network hierarchy (i.e. at larger, more centralised exchanges). This approach simultaneously benefits both the network SP and potential wholesale customers, because the network SP can optimise their investment, and the wholesale customer will be able to offer retail or wholesale services based on VULA at exchanges that may not have been economically viable to unbundle without aggregation of customer traffic.
- 5.30 As the Eircom FTTC/FTTH network has been rolled-out, first at larger exchanges with high customer density, local traffic handover points were maintained. However, as the FTTC/FTTH rollout advances to less densely populated locations, the traffic handover points are moved from the local exchange to a larger nearby exchange, in order to optimize the network investment. The Explanatory Note to the 2014 Recommendation notes that such changes are likely and that the number of interconnection points do not need to be equivalent to the copper network's point of interconnection³⁷⁴.
- 5.31 ComReg has formed the preliminary view that the local condition can be fulfilled for Eircom's VUA products even if the point of interconnection is not at the local exchange, but at a suitable location in the network hierarchy i.e. at a higher point in the network.
- 5.32 It is therefore ComReg's preliminary view that Eircom's Local VUA and Remote VUA products meet the local access condition for inclusion in the WLA market.

Is access generic and does it provide Access Seekers with a service-agnostic transmission capacity that is uncontended in practice?

- 5.33 The second condition of the EC's criteria has two main themes, which can be summarised as guaranteed bandwidth and uncontended access.

³⁷⁴ Explanatory Note to the 2014 Recommendation, page 43.

Guaranteed Bandwidth

- 5.34 The Access Seeker manages the bandwidth requirements of their customers as the VUA product supports a range of data speed profiles that the Access Seeker can select (both rate adaptive and stable). The maximum data rate available to the End User is limited only by the maximum line speed determined by the physical characteristics of the copper path element (applied to FTTC rather than FTTH) of the access circuit. The wholesale customer, based on a pre-qualification result (i.e. the maximum obtainable speed of the line), selects the appropriate profile that satisfies the needs of their customer. As a result the potential data rate that can be offered to an End User by the Access Seeker is not curtailed whether they are using Eircom's Local VUA or Remote VUA product.

Uncontended access

- 5.35 Eircom's VULA product set is designed to be uncontended in principle i.e. the sub-loop and VDSL port are dedicated to the customer. The fibre connection between the cabinet DSLAM and the AGG Node is shared. However, the fibre path will have more than sufficient bandwidth capacity to match customer demands, and should a capacity limit be reached in terms of bandwidth, then additional capacity can be added, if required.
- 5.36 This effectively provides a dedicated logical uncontended path between the customer's premises and the customer traffic handover point. In the case of Eircom's Remote VUA product, there is an inter-exchange link between the local exchange and the customer traffic handover point that will be dimensioned with sufficient transmission capacity to ensure the link will not become congested.

Do Access Seekers have sufficient control over the transmission network?

- 5.37 To be able to customise the service offerings (Broadband, Voice, IPTV etc.), it is necessary for the Access Seeker to have sufficient control over the functions and features of the customer premises equipment ('CPE'), the Access Path and core network functionality. In the case of Eircom's VUA product, the product demarcation points are the NTU and the interconnection link (i.e. the WEIL). Therefore, the Access Seeker must self-supply both the CPE and core network components. Since the Access Seekers self-supplies both CPE and Core Network components, the Access Seeker has full control over them.
- 5.38 The Access Path component is virtual and is delivered through Eircom's VUA product, which is a flexible and configurable product. The feature list³⁷⁵ of Eircom's VUA product below demonstrates this flexibility:

³⁷⁵ This feature list is non-exhaustive.

- (a) Traffic based class/quality of service ('**QoS**') that provides the ability for the Access Seeker to manage and prioritise their upstream and downstream traffic;
- (b) Service Access bandwidth ('**SAB**') - the logical partitioning of WEIL into bandwidth segments that the Access Seeker requires;
- (c) Multi VPLS³⁷⁶ support;
- (d) WEIL bandwidth capabilities 1/10/100 Gb/s;
- (e) Network resilience from the NGA to the Access Seeker core network, if the Access Seeker requires resilience;
- (f) Multicast³⁷⁷ and unicast traffic support;
- (g) An extensive variety of service profiles; and
- (h) Eircom has announced³⁷⁸ the introduction of a specific co-location product with flexible interconnection (ISH, IBH and CSH³⁷⁹) with this to be available from October 2016.

5.39 Having regard to the above, it is ComReg's preliminary view that an Access Seeker has sufficient control over the transmission network such that it meets the EC's third criteria, set out above. Furthermore, an Access Seeker has sufficient control over broadband (and other) service offerings available to the End User, in terms of product specification and the quality of service parameters. This is achieved, because an Access Seeker has control of the CPE, the core network elements, and has indirect control of the Access Path by means of a flexible and configurable virtual access product. This combination of direct and indirect control facilitates innovation and product differentiation comparable to LLU.

³⁷⁶ Virtual Private LAN Service.

³⁷⁷ Multicast means a service that accepts a single copy of a designated signal from the Access Seeker and distributes the resultant Multicast traffic within the Eircom network to multiple End Users.

³⁷⁸ See http://www.openeir.ie/Reference_Offers/.

³⁷⁹ In-span Handover ('**ISH**') means the connection between the Exchange and the Access Seeker's nominated Point of Handover; In-building Handover ('**IBH**') means the connection from the Eircom network to the Access Seeker's equipment within the Exchange, or equivalent facility; and Customer-sited Handover ('**CSH**') means the connection from the Eircom network to the Access Seeker's equipment in the Access Seeker's premises, which includes the installation of an Eircom NTU at the Access Seeker's premises.

Conclusion on Product Characteristics

- 5.40 Having considered the issues above, it is ComReg’s preliminary view that Eircom’s VUA products share a sufficient number of the product characteristics of LLU products such that they should be included in the WLA Market.

Pricing

- 5.41 Eircom’s VUA products are currently priced at €23.00 per month (with higher prices for higher speeds) having been increased by Eircom following a notification to Access Seekers in June 2016³⁸⁰. However, Eircom’s LLU and VUA pricing is in the presence of regulation, in particular price control obligations, in the WPNIA Market and WBA Market.³⁸¹ Paragraphs 5.117 to 5.119 below further discuss the pricing of WLA products including Eircom’s VUA product.

Intended Use

- 5.42 As set out above, Eircom’s VUA products offer Access Seekers a similar level of local access as LLU products over a copper network. Access Seekers can use Eircom’s VUA products to provide a range of downstream services at the wholesale and retail level, including (but not limited to) broadband access, telephony, multicast TV services and other services.
- 5.43 Due to the download speeds attainable over an FTTC or FTTH network, Eircom’s VUA products can be used to provide a broader range of services than a copper-based LLU product. ComReg notes that the intended use of FTTC/FTTH based VUA services and copper based LLU is derived from the demand for retail broadband (and other services).

Substitution

- 5.44 The ability to switch to an Eircom VUA product provided over an FTTC or FTTH network depends on the geographic availability of such a network. As Eircom’s rollout of its FTTC and FTTH network advances, and largely overlaps with existing Access Seekers LLU footprints, ComReg is of the preliminary view that Access Seekers will be in a position to switch more services to an Eircom VUA product provided over an FTTC or FTTH network. This switching will be partially driven by End User demand for faster data services.

³⁸⁰ Access Seekers were notified of the proposed price increase in VUA on 1 June 2016. The price increases became effective from 1 September 2016.

³⁸¹ Eircom Bitstream price list v.7 34 – pg. 26
http://www.openeir.ie/Reference_Offers/?selectedtab=wbaro.

- 5.45 As well as investing in WEILs, Access Seekers may need to upgrade their existing backhaul (used for LLU products) to higher bandwidths to provide the necessary capacity required for VULA products. This is largely driven by retail End Users' demand for faster download speeds and the resulting higher consumption of data.
- 5.46 ComReg's preliminary view is that a hypothetical monopolist (HM) of an LLU service is unlikely to be able to sustain a SSNIP in the range of 5-10% above the competitive level without a sufficient number of Access Seekers switching to a VULA product provided over an FTTC or FTTH network (where available) given similar functionality and the download speeds offered. ComReg also note that SPs are switching customers from LLU to VULA based services. Use of both of these services is based on derived demand for the same retail broadband (and other) services.

Preliminary Conclusion on Virtual Unbundled Local Access Products

- 5.47 Having considered the issues above, ComReg is of the preliminary view that Eircom's VUA products are likely to be an effective substitute for physical unbundled services, such as LLU, and should be included in the WLA product market. We refer to VULA products provided over FTTx networks as '**Next Generation WLA**'.

Do Wholesale Local Access Products provided over SIRO's FTTH network fall within the WLA Product Market?

- 5.48 As set out in paragraph 3.45, SIRO is currently rolling out a FTTH network capable of providing VULA products. SIRO currently supplies VULA to Vodafone, a parent company in the 50:50 Joint Venture ('JV'), which owns SIRO. Vodafone sell services over the SIRO network, marketed as "LightSpeed Broadband".³⁸² SIRO has also recently announced³⁸³ that it is providing services to Digiweb with Digiweb marketing these services as "Electric Broadband"³⁸⁴.
- 5.49 ComReg has considered whether SIRO's VULA products should fall within the WLA Market using the criteria outlined by the EC in the 2014 Recommendation³⁸⁵. These three criteria, outlined in paragraph 5.21 above, are used to assess whether non-physical local access products can be included in the WLA market. ComReg is of the preliminary view that SIRO's VULA products meet these criteria, for the following reasons:

³⁸² <https://www.vodafone.ie/home/broadband/lightspeed-broadband>

³⁸³ See <http://siro.ie/digiweb-partnership/>.

³⁸⁴ See <http://www.digiweb.ie/siro-powered-broadband/#1470933683719-c74850f1-1303>.

³⁸⁵ Information was sought from SIRO on its proposed VULA products in the February 2015 SIR.

- (a) **Criteria 1 - Access occurs locally:** SIRO's products meets the local access condition, because the customer's traffic is handed over at the first technically and economically available Point of Interconnect ('POI').
- (b) **Criteria 2 - Access is generic and provides Access Seekers with a service-agnostic transmission capacity uncontended in practice:** SIRO's VULA products incorporate technical features such as VLANs, dedicated VLANs, CoS and bandwidth profiles. The combination of these technical features provides the bandwidth management necessary for SIRO's access product portfolio to fulfil Criteria 2.
- (c) **Criteria 3 - Access seekers need to have sufficient control over the transmission network:** SIRO's products have two interfaces. The first is at the customer premises and the second is at the POI. Therefore the third party SP provides both the CPE and the transmission network, which means that CPE and transmission network is under the control of the third party Access Seeker. If the third party SP self-supplies both the CPE and the transmission network, then by definition third party SP should have sufficient control.

Coverage

- 5.50 The SIRO network is being rolled out to 50 towns across Ireland³⁸⁶. The planned SIRO footprint overlaps with Eircom's FTTC network (over which VULA products can also be purchased). Eircom has announced further plans to roll out its own FTTH network in some of the areas to be served by the SIRO network.
- 5.51 The SIRO rollout has been slow to date. As set out in Table 7 below³⁸⁷, the SIRO network, to the end of September 2016, has passed [redacted] premises³⁸⁸. At the end of September 2016 SIRO's network was available in 7 towns – Carrigaline, Cavan, Drogheda, Dundalk, Letterkenny, Sligo and Tralee. SIRO's rollout plan to the end of 2017 notes the network is expected to pass [redacted] premises.³⁸⁹ In September 2016, SIRO announced its rollout was gathering pace, with its network rollout now passing 10,000 premises a month across 17 towns.³⁹⁰

³⁸⁶ Details of the SIRO network rollout are found here - <http://siro.ie/roll-out/>

³⁸⁷ Information supplied to ComReg on 18 February 2016.

³⁸⁸ The SIRO network has passed less than 50,000 premises at the end of September 2016.

³⁸⁹ The SIRO network is expected to pass less than 200,000 premises by the end of 2017.

³⁹⁰ SIRO - <http://siro.ie/siro-invest-e40-million-roll-6-new-towns-end-2016/>

[REDACTED]				[REDACTED]	[REDACTED]					[REDACTED]
[REDACTED]				[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]			[REDACTED]
[REDACTED]	[REDACTED]									[REDACTED]
[REDACTED]									[REDACTED]	[REDACTED]
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[REDACTED]		[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]				[REDACTED]
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[REDACTED]			[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]				[REDACTED]
[REDACTED]					[REDACTED]	[REDACTED]				[REDACTED]

5.52 Given SIRO’s rollout to date and limited network availability, ComReg is of the preliminary view that SIRO is unlikely to impose an effective constraint on Eircom in the WLA market over the short term. In this respect, if Eircom were to impose a hypothetical price increase in its WLA products, a sufficient number of existing purchasers would not be in a position to readily switch services to a WLA product provided over the SIRO network, to render the price increase unprofitable. Although switching to another network may be technically possible for an Access Seeker, ComReg has some concerns that the significant investments required to move to an alternative network (moving backhaul, new CPE and interconnection etc.) may make such a switch unviable for Access Seekers who have to date already invested in WLA products over Eircom’s network.

5.53 However, ComReg recognises that where the SIRO network is present (i.e. in some parts of the country), it has the potential to impose a degree of competitive constraint on Eircom in the WLA market.

5.54 On balance, notwithstanding the above concerns, on a forward looking basis, ComReg intends to include SIRO’s VULA products within the WLA product market and will assesses the impact of alternative networks’ presence in the WLA Market in the SMP assessment in Section 6 of this Consultation.

Supply Side-Substitution

- 5.55 In the context of market definition, it should be considered whether a SP not currently operating in the WLA market would be likely, in response to a HM's SSNIP in WLA prices (above the competitive level), to switch production to WLA products in the immediate to short term (typically within one year) without incurring significant costs, and start supplying services of equivalent characteristics to the focal product and, as a consequence of such provision, render the HM's price increase unprofitable.
- 5.56 Therefore, while a limited demand-side substitute may exist, constraints could arise from potential competitors who may, in the future, through supply-side substitution, seek to provide WLA either at the wholesale level to other SPs and/or self-supply as an input to the provision of their own downstream retail and/or wholesale services. This could, for example, include WLA supplied by vertically-integrated alternative³⁹² retail and/or wholesale broadband SPs and suppliers of high capacity business data services (such as leased lines).
- 5.57 In carrying out this assessment, ComReg has considered SPs' responses to the SIRs, in particular, views and evidence provided by SPs that indicate the strength of any direct constraints arising from supply-side substitution (including from vertically integrated SPs).
- 5.58 Below ComReg considers the potential for WLA supply-side substitution by SPs (including the issue of self-supply where relevant) over the following platforms:
- (a) CATV (paragraphs 5.59 to 5.72);
 - (b) FWA (paragraphs 5.73 to 5.79);
 - (c) Alternative FTTH (paragraphs 5.80 to 5.88);
 - (d) Mobile (paragraphs 5.89 to 5.92); and
 - (e) Leased lines (paragraphs 5.93 to 5.96).

Supply-side substitution (including self-supply) over the CATV platform

- 5.59 ComReg has considered potential supply-side substitution arising from the vertically integrated CATV network SP. As discussed in Section 3, Virgin Media is a CATV operator that offers retail bundles that predominately include fixed telephony, broadband, and Pay TV.
- 5.60 In terms of assessing any direct constraint posed by Virgin Media, ComReg notes that Virgin Media has, neither publicly nor in its response to ComReg's SIRs, expressed an interest in providing WLA on its CATV network.

³⁹² We use the word 'alternative' in the sense that it refers to Fixed Service Providers (FSPs) other than Eircom.

- 5.61 In terms of whether or not it is not it is technically feasible to provide a WLA type service over a CATV network, in October 2015, ComReg commissioned independent consultants WIK ('**WIK**') to examine the possibility of providing WLA and WCA over a CATV network in Ireland³⁹³. In November 2015, a SIR was sent to Virgin Media³⁹⁴ seeking information relating to its DOCSIS network and any planned upgrades, with this feeding into WIK's assessment. In March 2016, WIK produced a report for ComReg setting out its findings ('**WIK CATV Report**'), a copy of which is attached at Appendix: 8 to this Consultation. The WIK CATV Report came to the following conclusions:
- (a) VULA products are not currently technically feasible due to the complexity of their delivery over a CATV network;
 - (b) DOCSIS 3 does not support the Layer 2 (Ethernet) protocol, which is typically associated with VULA products;
 - (c) In well-established CATV networks, there is no capacity left for VULA-like access services with dedicated bandwidth;
 - (d) DOCSIS 3.1 is unlikely to be widely used within the next 3 to 5 years and VULA products are unlikely to be possible over the DOCSIS 3.1 standard when it is adopted;
 - (e) It is possible to provide WCA type Bitstream services over a CATV network.
- 5.62 Having considered the WIK CATV Report, ComReg is of the preliminary view that, within the lifetime of this review, it is and will not be possible to provide a VULA type service over a CATV network.
- 5.63 Quite apart from technical infeasibility, it is likely that an Access Seeker would incur significant costs when switching from purchasing a WLA product on an existing copper/FTTx network, to a hypothetical VULA product available on Virgin Media's CATV network (for example, the costs involved in interconnecting with Virgin Media's local access handover points and in migrating retail customers to the cable platform). Furthermore, switching to a Virgin Media WLA product could also involve stranding existing investments made in backhaul and associated equipment (such as WEILs) in procuring WLA on the Eircom network. It is also likely that Access Seekers would be required to further develop their own IT and order handling systems in order to integrate with any Virgin Media order handling/management systems.
- 5.64 Access Seekers providing retail services would also be tasked with replacing its retail customers' CPE (such as modems) to specific CPE designed for operating on a DOCSIS CATV network.

³⁹³ The WIK CATV Report for ComReg is attached at Appendix: 8.

³⁹⁴ SIR of 5 November 2015.

- 5.65 It is ComReg's preliminary view that, such factors would be likely to discourage Access Seekers from switching to a hypothetical CATV based VULA product, and even if they were to switch, the transition process would likely take a sufficient period of time such that it would undermine the immediacy of any competitive impact. This lack of likely demand would also undermine the business case for Virgin Media entering the WLA market. ComReg also notes that Virgin Media does not likely face an incentive to do so, given that it would lead to increased competition in areas where it provides retail services.
- 5.66 Nevertheless, ComReg would note that even if Virgin Media were to enter the WLA market in response to a SSNIP by the HM, such entry would be likely to involve significant time delays.
- 5.67 Virgin Media's network coverage extends to approximately 45% of households in Ireland, predominately households, in contrast to the availability of Eircom's WLA products and services which have national coverage and also connect to businesses. Therefore, even if Virgin Media were to offer WLA services, such services may lack the ubiquity expected by WLA Access Seekers, who would then also have to use more than one supplier of WLA in order to supply a national retail and/or wholesale service.
- 5.68 ComReg considers that factors such as these are likely to undermine the strength of any direct constraint arising from potential supply-side substitution from CATV networks.
- 5.69 Similarly, ComReg considers that, having regard to the Explanatory Note to the 2014 Recommendation³⁹⁵, self-supply of local access on a CATV network should not be included within the WLA Market because:
- (a) The network is unlikely to provide the coverage expected by Access Seekers;
 - (b) There is unlikely to be significant demand from third parties for a WLA product self-supplied by Virgin Media's CATV network;
 - (c) It is unlikely that Virgin Media could/would provide a WLA product to third parties in the short term without incurring significant additional costs or risks; and
 - (d) Virgin Media would be unlikely to enter the WLA Market in response to small and permanent changes in relative prices.
- 5.70 For these reasons, ComReg considers that CATV networks are unlikely to provide an effective supply-side constraint on the provision of WLA by the HM within the period of this market review.

³⁹⁵ Explanatory Note to the 2014 Recommendation, Section 3.3.

- 5.71 Similarly, having regard to the discussion in paragraphs 5.14 to 5.15 and ComReg's preliminary view that hypothetical WLA over a CATV network is not an effective supply-side substitute for the focal products, ComReg's preliminary view is that self-supply by vertically integrated CATV SP should not be included in the WLA market.
- 5.72 ComReg considers the strength of any indirect constraints from Virgin Media's CATV network in paragraphs 5.144 to 5.152 below.

Supply-side substitution (including self-supply) over FWA platforms

- 5.73 Despite ComReg's preliminary view that broadband services provided over a FWA platform do not fall within the defined retail product market³⁹⁶, ComReg has nonetheless considered the potential for supply-side substitution to arise from vertically integrated FWA SPs entering the WLA market, as well as the issue of their self-supply. As noted in paragraph 4.210, two FWA SPs, namely Digiweb and Imagine, both offer FWA based broadband services and FWA based retail fixed voice telephony.³⁹⁷ As noted in paragraph 3.32, FWA has been declining in numbers since 2010, suggesting a decline in End Users switching to this service such that, from an economic perspective, it does not seem likely on a forward-looking basis to be an effective substitute for retail services provided over fixed networks. Nevertheless, ComReg considers whether supply-side substitution from FWA may warrant its inclusion in the WLA market.
- 5.74 ComReg notes that neither Digiweb nor Imagine provides WLA. However, with respect to the potential for supply-side substitution on FWA networks, ComReg notes that:
- (a) Having regard to the responses to the SIRs, FWA SPs have not expressed an interest in providing WLA services;
 - (b) It is unclear whether it would be technically possible to provide a suitable technical substitute for WLA over the Digiweb or Imagine FWA networks. In particular, whether their FWA network would support a local access service of sufficient quality to meet the expectations of Access Seekers (and ultimately the retail and/or wholesale customers);

³⁹⁶ See paragraphs paragraphs 4.207 to 4.234 in Section 4.

³⁹⁷ In addition to using their FWA network for providing retail calls and broadband, Digiweb also purchase LLU and WCA services and use these wholesale inputs to offer traditional PSTN fixed telephony and DSL/FTTC-based retail broadband services.

- (c) It is unlikely that there would be significant wholesale demand for a WLA service provided over FWA networks, even if it were technically possible to provide such a service. In this respect, as noted in Section 3 paragraph 3.15, demand for broadband and other services provided over FWA networks has fallen significantly and as at Q1 2016 stood at 42,083 subscribers, having declined by 11% since Q1 2015.³⁹⁸ As a platform, FWA therefore appears to be in decline and this is likely to dampen demand for any retail and/or wholesale service and, therefore, any derived demand for WLA products provided over FWA;
- (d) The fragmented nature of any hypothetical WLA service on FWA networks is likely to hinder effective supply-side substitution. In this respect, ComReg notes that there are two larger FWA SPs and a number of smaller regional operators (as at Q1 2016)³⁹⁹, and no individual FWA network would likely be in a position to offer ubiquitous, or extensive WLA coverage relative to Eircom's WLA product availability (nor is there likely to be national coverage of WLA between all of the FWA networks collectively).⁴⁰⁰ This means that Access Seekers would need to purchase wholesale services from (and interconnect with) multiple FWA based WLA SPs in order to reach the retail and/or wholesale customers that are ultimately serviced by Eircom's current WLA products. This could impose significant additional costs associated with switching away from Eircom's WLA product or indeed using it in parallel; and
- (e) Access Seekers would be likely to incur costs when switching to an alternative FWA based WLA provider. For example, the costs involved in establishing new backhaul (and associated interconnect) and installing customer premises equipment capable of receiving signals from a FWA service. Switching to a WLA product like this could also involve the stranding of existing interconnects and backhaul with Eircom. These factors may discourage Access Seekers from switching.

5.75 For the reasons set out above, ComReg's preliminary view is that there is unlikely to be demand from Access Seekers for any hypothetical FWA based WLA product. ComReg therefore considers that this would further undermine the credibility of FWA as an effective supply-side substitute for the focal WLA product.

³⁹⁸ Q1 2016 QKDR.

³⁹⁹ These are Digiweb and Imagine, while the smaller providers include Regional Broadband, Aptus Broadband, Net1, BBnet, Airwire, Lightnet, and Bounce Broadband among other. For a complete list of authorised undertakings in this space, see http://www.askcomreg.ie/erau/search_result.0.0.fnbOtfqzUlspxufO.DTFE.eraresults.LE.asp.

⁴⁰⁰ Imagine's network coverage, while advertised on its website as being national, is not as thorough as Eircom's WLA coverage in the sense that there are areas where coverage is unavailable - http://www.imagine.ie/wimax_coverage.php.

- 5.76 Similarly, ComReg considers that self-supply of local access by an FWA Service Provider should not be included within the WLA Market because:
- (a) It is unlikely that an FWA SP could provide a WLA product to third parties in the short term without incurring significant additional costs or risks;
 - (b) There is unlikely to be significant demand from third parties for a WLA product over FWA networks; and
 - (c) It is not clear that FWA SPs would be in a position to start supplying a WLA service of equivalent characteristics on an immediate basis in response to small and permanent changes in relative prices of WLA.
- 5.77 Furthermore, FWA SPs have not indicated that any wholesale product would be made available on a FWA network in response to a SSNIP of WLA by a HM supplier.
- 5.78 For the above reasons, ComReg's preliminary view is that FWA networks are unlikely to provide an effective direct wholesale constraint on the focal WLA products over the period of this market review, and self-supply of WLA on FWA networks also should not be included in the relevant WLA product market.
- 5.79 Similarly, having regard to the discussion in paragraphs 5.14 to 5.15 and ComReg's preliminary view that hypothetical WLA over a FWA network is not an effective supply-side substitute for the focal products, ComReg's preliminary view is that self-supply by vertically integrated FWA SPs should not be included in the WLA market.

Supply-side substitution (including self-supply) over alternative FTTH networks

- 5.80 In paragraphs 5.48 to 5.53, ComReg has considered the potential for demand-side substitution from the SIRO network. ComReg set out its preliminary view that SIRO's VULA product, on a forward looking basis, falls within the WLA product market. As such supply-side considerations do not arise. Given that SIRO is a wholesale only SP, the issue of self-supply to a downstream arm does not arise.
- 5.81 Eircom's FTTC and FTTH networks were considered above in paragraphs 5.19 to 5.47 and are included in the WLA market. As such supply-side substitution does not arise. Additionally, as noted in paragraphs 5.14 to 5.15 ComReg's preliminary view is that Eircom's self-supply to its retail arm should also be included in the WLA market.

- 5.82 With regard to other alternative FTTH networks⁴⁰¹, as noted in paragraph 3.44, Magnet is a vertically integrated SP providing retail fixed telephony and broadband (and other) services over its very localised FTTH network. ComReg notes that Magnet has not expressed an interest in or an intention to provide WLA products in their responses to ComReg's SIRs. Magnet also uses WLA (and WCA) products purchased from Eircom to provide its retail services.
- 5.83 The total coverage of alternative fibre networks and the take-up⁴⁰² of FTTH based retail products (either broadband, TV and/or fixed telephony) in Ireland is currently very limited.
- 5.84 ComReg considers, with the exception of the SIRO network, that it is unlikely that a WLA service offered over alternative localised FTTH networks, would meet the expectations of Access Seekers, given the very limited geographic coverage of these networks at present. Similar to the case described above in relation to FWA networks, an alternative FTTH SP could only offer a WLA service in fragmented and very small geographic areas. Therefore, ComReg's preliminary view is that an Access Seeker would be unlikely to switch from Eircom's widely available WLA products to wholesale WLA products provided over these alternative FTTH networks.
- 5.85 Similarly, ComReg considers that self-supply of local access by these alternative (localised) FTTH network operators should not fall within the WLA Market because:
- (a) It is unlikely that such an alternative FTTH operator could provide an WLA product to third parties in the short term without incurring significant additional costs or risks;
 - (b) There is unlikely to be significant demand from Access Seekers for such a WLA product over these fibre networks; and
 - (c) It is not clear that an FTTH SP would be in a position to start supplying a WLA service of equivalent characteristics on an immediate basis in response to small and permanent changes in relative prices of WLA.
- 5.86 For this reason, ComReg's preliminary view is that, over the period of this market review, alternative localised FTTH networks, are unlikely to provide an effective direct wholesale constraint in the WLA Market, and should not be included in the relevant product market.

⁴⁰¹ ComReg notes that such alternative FTTH networks are localised networks providing retail broadband services only.

⁴⁰² According to figures presented in the Q1 2016 QKDR there are 4,564 subscribers with a FTTH connection, representing 0.3% of total subscriptions.

5.87 Similarly, having regard to the discussion in paragraphs 5.14 to 5.15 and ComReg's preliminary view that hypothetical WLA over an alternative localised FTTH network is not an effective supply-side substitute for the focal products, ComReg's preliminary view is that self-supply by alternative vertically integrated FTTH SPs should not be included in the WLA market.

Supply-side substitution over the NBP network

5.88 ComReg noted in paragraph 3.46 that the Irish Government has plans to provide high speed broadband services to areas where no concrete plans for industry investment exist and in areas that are not currently served by network operators. The NBP programme expects to rollout high-speed services to 757,000 premises.⁴⁰³ It is expected that the SP(s) awarded the NBP contracts will provide VULA type products over the relevant network. While this product is likely to be a functional and technical substitute for WLA products provided by Eircom, given the timing and uncertainty as to the successful candidate(s), it is too early to conclude whether and to what extent this will act as effective constraint on Eircom's WLA products, particularly given that the NBP winner may have an effective monopoly in the NBP footprint.

Supply-side substitution over 3G/4G Networks

5.89 ComReg has considered the potential for supply-side substitution arising from vertically integrated MSPs that provide mobile broadband services. As noted in Section 3, various MSPs provide data connectivity services to retail customers. There are currently three MSPs providing data services, namely Vodafone, Meteor (Meteor is the mobile arm of Eircom) and Three Ireland. ComReg's preliminary view in Section 4⁴⁰⁴ is that broadband services provided over a 3G/4G mobile network do not fall within the retail broadband product market.

5.90 ComReg notes that none of the MNOs have expressed an interest in or an intention to provide WLA products over their 3G/4G networks in their responses to ComReg's SIRs.

5.91 ComReg's preliminary view is that 3G/4G networks would not represent an effective supply-side substitute for WLA (given, for example, services provided via 3G/4G networks are not an effective substitute at the retail level), and would therefore be unlikely to pose an effective direct constraint in the WLA market.

⁴⁰³ The Department is currently updating the High Speed Broadband Map, to add up to 170,000 premises into the intervention area, see <http://www.dccae.gov.ie/communications/en-ie/Broadband/Pages/National-Broadband-Plan.aspx>.

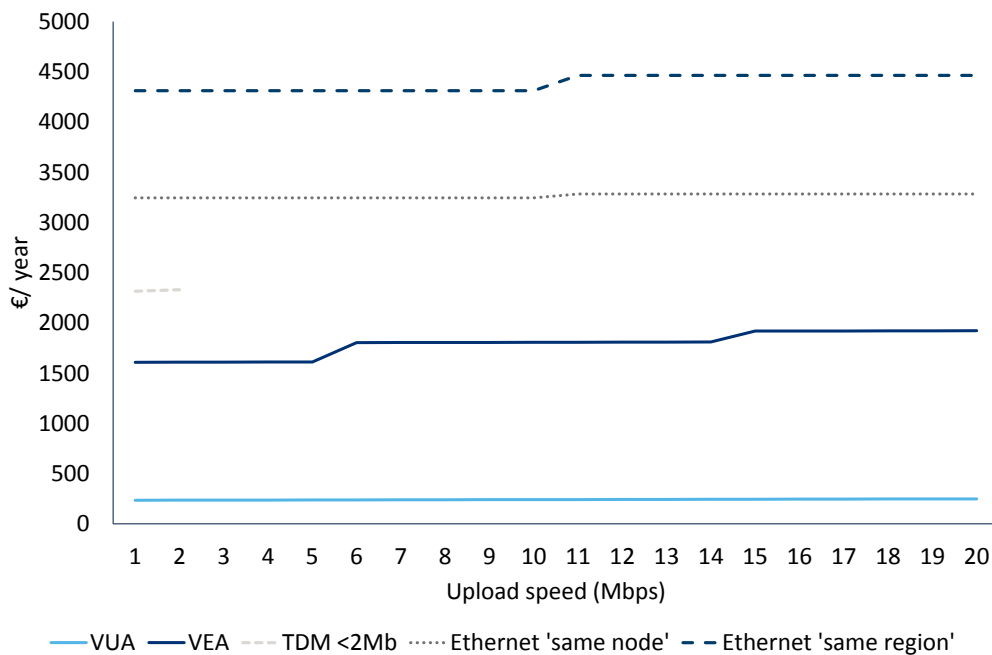
⁴⁰⁴ See paragraphs 4.145 to 4.180.

- 5.92 Similarly, having regard to the discussion in paragraphs 5.14 to 5.15 and ComReg's preliminary view that hypothetical WLA over a 3G/4G networks is not an effective supply-side substitute and should not be included in the WLA market. ComReg notes that Vodafone, Three and Meteor (Eircom's mobile arm) self-supply 3G/4G data services, but Vodafone also separately purchases WLA and WCA services from third party suppliers in order to offer retail services (rather than solely using their mobile networks to provide retail services). This suggests that mobile broadband provided over a 3G/4G network is a complementary product, rather than a substitute for services provided in the WLA market.

Supply-side substitution over Leased Lines

- 5.93 In Section 4, paragraphs 4.240 to 4.248, ComReg set out its preliminary view that leased lines are not likely to be an effective substitute for retail broadband services provided over copper, FTTC, FTTH or CATV platforms.
- 5.94 ComReg considers that these differences equally apply at the wholesale level. For example, Oxera's analysis of Eircom's wholesale leased lines and wholesale broadband products, set out in Figure 18 below, illustrates that there are substantial differences in the cost of these services⁴⁰⁵ such that a SSNIP in WLA would still result in a price that is significantly lower than the cost of a leased line. This suggests that supply-side substitution over leased lines would not act as an effective competitive constraint.

⁴⁰⁵ Report by Oxera for ComReg on its analysis of the market for Wholesale High Quality Access ('WHQA'), [ComReg Document 16/69a](#), August 2016 (the 'Oxera WHQA Report').

Figure 18: Comparison of wholesale broadband and LL services

Source: Oxera analysis of Eircom wholesale leased line and broadband products' pricing.

- 5.95 On the basis of the analysis presented in Section 4 and paragraphs 5.93 to 5.94 above, ComReg is of preliminary view that wholesale leased lines are not within the same product market as WLA products.

Summary of Overall Preliminary Conclusions on Direct Constraints

- 5.96 In paragraphs 5.16 to 5.96 above, ComReg has considered whether demand-side and supply-side constraints (including, in some cases, self-supply) exercised by alternative platforms, including CATV, FWA, alternative localised FTTH networks, mobile 3G/4G networks and leased lines, are likely to exert a sufficient timely and effective direct constraint on the WLA market such that products provided over these alternative platforms warrant inclusion in the relevant WLA product market.

5.97 ComReg notes that, with the exception of VULA products provided over the SIRO network, none of the above identified potential supply-side substitutes are likely to provide a sufficiently immediate and effective competitive constraint on a HM's provision of WLA such that it would warrant their inclusion in the WLA market. ComReg also notes that while SIRO offers WLA products, its limited network coverage may mean that it does not provide an immediate and sufficiently effective competitive constraint on Eircom in the WLA Market. However, it is recognised that where the SIRO network is rolled out and taking a forward looking view on SIRO's roll-out, there is likely to be a degree of constraint on Eircom's WLA products. On a forward looking basis ComReg therefore includes VUA products provided over the SIRO network within the relevant WLA product market, however, ComReg intends to consider this question further having regard to the progress of SIRO's rollout.

Assessment of Indirect Constraints

5.98 Despite the absence of actual or potential direct constraints, a vertically-integrated alternative SP's self-supply of WLA (who is not active in the merchant WLA market) could potentially fall within the WLA Market if it is shown that its presence in the retail market is able to exert a sufficiently strong, immediate and effective indirect pricing constraint on a HM's pricing of WLA. In this respect, retail customer behaviour may, through demand-side substitution at the retail level, indirectly impact the ability of the HM WLA supplier to profitably sustain an increase in WLA prices above the competitive level, i.e. indirect constraints arising from the retail market may affect the wholesale price setting behaviour in the WLA Market.

5.99 In this section, ComReg seeks to determine whether retail (demand-side) substitution to alternative network platforms in response to an increase in the price of WLA by the HM would indirectly prevent the HM from imposing a profitable SSNIP of WLA. This might occur, for example, if the HM faced a reduction in overall profitability after increasing the price of WLA due to, for example, a fall in the sales of WLA products. Such a fall in profitability might occur if, and to the extent that, Access Seekers pass the WLA price increases into their retail prices and this, in turn, results in their retail customers switching away in sufficient numbers to other SPs (not dependent on the HM's WLA products) or lowering their consumption of existing WLA services.

- 5.100 It should be borne in mind that WLA wholesale charges are an input to the overall costs of the SP providing the retail services (such as telephony, broadband access or TV services, including bundles). As such, ComReg assumes that an increase in the price of WLA is likely (to some extent) to be passed on by the purchasing Access Seeker to retail prices charged to customers. As part of the indirect constraints assessment, what is being examined therefore is the retail End User's most likely switching response to an increase in the price of WLA and the pass-through of this increase by Access Seekers into retail prices charged for the relevant retail service.
- 5.101 To this end, ComReg assesses the magnitude of any possible indirect retail price constraints emanating from those network platforms that are provisionally considered to form part of the retail broadband product market, as set out in Section 4.
- 5.102 In line with EC guidance⁴⁰⁶ on the assessment of indirect retail substitution effects arising from a SSNIP by a HM at wholesale level, the following factors are considered relevant:
- (a) Whether and to what extent Access Seekers would be forced to pass a hypothetical wholesale price increase on to their End Users at the retail level based on the wholesale/retail price ratio⁴⁰⁷, i.e. how would a SSNIP of WLA be likely to impact on the retail market? (discussed in paragraphs 5.106 to 5.127);
 - (b) Whether there would be sufficient demand substitution at the retail level in response to the pass-through of the SSNIP in WLA into retail prices such as to render the wholesale price increase unprofitable i.e. what likely response in retail demand would be required to make a SSNIP unprofitable? (discussed in paragraphs 5.128 to 5.161); and

⁴⁰⁶ Explanatory Note to the 2014 Recommendation page 47-48.

See also cases UK/2007/0733: Wholesale Broadband Access in the UK (Comments pursuant to Article 7(3) of Directive 2002/21/EC1);

ES/2008/0804 and ES/2008/0805: Wholesale (Physical) network infrastructure access and Wholesale Broadband access in Spain (Article 7(3) of Directive 2002/21/EC1: comments regarding case ES/2008/0804/Article 7(4) of Directive 2002/21/EC: opening of Phase II investigation regarding case ES/2008/0805);

PT/2008/0850: Wholesale (physical) network infrastructure access (including shared or fully unbundled access) at a fixed location (Comments pursuant to Article 7(3) of Directive 2002/21/EC1); and

UK/2010/1064 and UK/2010/1065: Wholesale local access market and Wholesale broadband access market (Comments pursuant to Article 7(3) of Directive 2002/21/EC).

⁴⁰⁷ This is the wholesale price as a proportion of the overall retail price.

- (c) Whether the retail customers of the Access Seekers purchasing the WLA products would switch to a significant extent to the retail arm of the integrated HM, in particular if the HM does not raise its own retail prices when it raises its wholesale prices (discussed in paragraphs 5.162 to 5.167).
- 5.103 A summary of ComReg's preliminary conclusions on the above is then set out in paragraphs 5.168 to 5.171.
- 5.104 ComReg has carefully considered the guidance from the EC on indirect constraints by assessing each of the above three criteria in turn below. While the EC suggests taking any indirect constraints, where they are found to exist, into account in the SMP assessment rather than at the market definition stage, ComReg assesses the strength of any such constraints at both the market definition and SMP analysis stages to ensure that any immediate constraints, as well as any more medium-to-longer term effects if they arise, are accurately captured and considered.⁴⁰⁸

How is a SSNIP of WLA likely to impact on downstream markets?

- 5.105 As noted in paragraph 5.103(a) above, the assessment of indirect constraints is ultimately about determining the likely impact of a 5% to 10% increase in the price of WLA on the relevant retail price and assessing likely retail customer substitution.
- 5.106 ComReg considers the EC's *first criterion* in paragraph 5.103(a) above by assessing the relationship between wholesale and retail prices, and by considering the extent to which wholesale purchasers (Access Seekers) would be likely to pass through a potential wholesale price increase imposed by a HM supplier of WLA to their own retail customers.
- 5.107 The extent/intensity of competition in affected retail markets could impact the degree to which, if at all, WLA price increases would be passed on to retail End Users. For example, faced with a strong competitor who had the ability to absorb a WLA price increase (i.e. not pass it through into higher retail prices), a competing SP would need to consider, in response to a WLA price increase, the degree to which it would raise its retail prices and whether subscribers would switch to the competitor's service in response to this. Where a decision was made not to pass on the WLA price increase, it would still represent a cost to the SP.

⁴⁰⁸ As noted in BEREC "Report on self-supply", BoR 10(09), March 2010, a majority of NRAs address self-supply at both the market definition and SMP analysis stages of their market reviews.

- 5.108 Assuming that all other elements of the downstream retail service were provided at a competitive price level⁴⁰⁹, an increase in the price of WLA may translate into a retail price increase given that the SP would otherwise be operating its service at a loss over the long-term⁴¹⁰. However it has also been noted that, even in the case of competitive retail markets, there may not be an immediate pass through of an increase in the price of a wholesale input if fixed sunk investments are non-trivial.⁴¹¹ If the retail market was not fully competitive, the Access Seeker purchasing WLA may choose not to pass through some or all of the wholesale price increase, but instead may choose to absorb the wholesale price increase. In such circumstances, the strength of an indirect constraint may be less potent than a direct constraint might be.
- 5.109 Furthermore, even where the purchaser of WLA is intending to pass through some or all of the WLA price increase into the retail prices, any wholesale price increase will nonetheless be diluted once it is translated into a retail price increase. This is because the wholesale service costs are just one input to the overall retail price. In this respect, an increase of 10% in the price of WLA would not directly translate into an equivalent percentage increase at the retail level. In the context of assessing indirect constraints, establishing this ratio between the WLA price and downstream prices is central to the application of the *second criteria* and *third criteria* set out in paragraphs 5.103(b) and 5.103(c) above for assessing indirect constraints.
- 5.110 The EC's *second criterion* also notes the need to establish whether there would be sufficient demand-side substitution at the retail level to render the wholesale price increase in question unprofitable.

⁴⁰⁹ In general, this is a price level sufficient to cover its costs plus a reasonable rate of return.

⁴¹⁰ Assuming no cross-subsidisation from other services sold within bundles.

⁴¹¹ See Robert Lipschitz, Paul Anderson and Fatima Fiandero "Self-supply and indirect constraints within competition analysis", 22 May 2008.

- 5.111 In establishing the wholesale/retail price ratio, that is, the relationship between the wholesale input cost and the retail price (the '**Price-Cost Ratio**'), the first decision is which prices to use to calculate this ratio. ComReg is aware that the pricing of retail services that use WLA inputs is multifaceted and often complicated by bundling and discounts. As noted in paragraphs 3.37, a bundle can for example, include fixed telephony, broadband, TV and/or mobile telephony. The WLA/WCA Market Research revealed that 76% of residential respondents with broadband access at home, bundle their broadband with at least one other communications service, with 84% of those on a copper line bundling with at least one other service.⁴¹² The bundling breakdown is as follows: broadband and home phone (59%), broadband, home phone and TV (24%), broadband and TV (10%), broadband, home phone and mobile phone (3%), broadband and mobile phone (3%) and broadband, home phone, TV and mobile phone (1%).⁴¹³
- 5.112 End Users may also take various product characteristics and broader pricing features into account when deciding whether or not to switch between SPs. However, the SSNIP being assessed in this instance would only apply to the WLA input of the bundle, not to all of the wholesale inputs used to create the bundle.
- 5.113 For SPs that only offer services provided through WLA inputs as part of a broader bundle of services, it is not possible to be definitive about the retail price associated with the WLA-related element of the bundle. However, ComReg is able to consider the price of WLA within the context of the overall retail price for the service bundle provided by the SP.
- 5.114 Having regard to the above, ComReg calculates the margin between retail prices and the wholesale price of WLA products based on the following proxy values:
- (a) A notional **retail-price** based on an estimated average monthly spend for a package or bundle which includes WLA-related products (which may also contain other services); and
 - (b) A notional estimate of the **WLA costs** that would be incurred by a SP to provide the average retail package or bundle that contains WLA products (given only WLA costs would be included in the hypothetical SSNIP).
- 5.115 This is discussed in the paragraphs below.

⁴¹² Figure 34 in Appendix: 2.

⁴¹³ Figure 35 in Appendix: 2.

- 5.116 ComReg would note that Eircom's current prices for LLU and Line Share⁴¹⁴ are subject to a cost orientation obligation. ComReg uses the regulated prices for these services as a proxy for cost in a competitive market outcome.
- 5.117 Eircom's current prices for VUA are subject to a margin-squeeze test obligation, and while these are not cost orientated, ComReg uses the regulated prices for these services as a proxy for cost in a competitive market outcome. In Section 8 of this Consultation ComReg proposes a price control obligation on Eircom, including the imposition of a cost orientation obligation on Eircom's FTTC based VUA product set. This price will be further specified in the Separate Pricing Consultation.
- 5.118 The current regulated monthly cost for Eircom's WLA products is as follows:
- LLU product - €9.34⁴¹⁵
 - LLU Line Sharing product - €0.77⁴¹⁶
 - FTTC VUA product - €23.00.⁴¹⁷

Residential Retail Prices

- 5.119 To estimate average residential retail prices, ComReg looks at bundles that include broadband and fixed telephony for LLU based products, and at bundles that include broadband, fixed telephony and TV for VULA based products. The operators included are Eircom retail, Sky, Digiweb, Vodafone and Imagine. Table 8 below outlines the estimation of the residential prices (excluding VAT) and a full outline of the derivation of these prices is given in Appendix: 4. The average prices are broadly similar to the findings from the WLA/WCA Market Research among residential customers.⁴¹⁸

⁴¹⁴ See discussion in Section 1 regarding existing price control obligations for WLA products.

⁴¹⁵ Pricing of Eircom's Wholesale Fixed Access Services: Response to Consultation Document 15/67 and Final Decision – [ComReg Document 16/39](#) ('2016 Pricing Decision'), pg. 19.

⁴¹⁶ 2016 Pricing Decision, pg. 176. Openeir Access Reference Price list v.7 2 – pg. 30 http://www.openeir.ie/Reference_Offers/?selectedtab=aro.

⁴¹⁷ At present the price for VUA is not cost orientated, but is rather a "retail minus" price, as discussed in Section 8 of this Consultation. The current price for VUA is set out in the "Openeir Bitstream price list" v.7 34 – pg. 26, available at http://www.openeir.ie/Reference_Offers/?selectedtab=wbaro.

⁴¹⁸ Findings outlined in 13 and Appendix: 2. The average national spend on broadband (in a bundle) is €58 (see Figure 38), with those on a fixed phone line (copper network) paying €54 and those on a fibre network paying €50. For those not in a bundle the average spend is €32 (Figure 40), with those on a fixed phone line (copper network) paying €35.14 and those on a fibre network paying €40.09.

Table 8: Estimation of residential retail prices for products based on Eircom's LLU and VUA inputs – excluding VAT

		Standalone broadband	Broadband and Fixed Telephony	Broadband, Fixed Telephony and TV	Combined Average Price
LLU	Min	€26.95	€26.95		€26.95
	Average	€30.79	€37.56		€34.17
	Max	€34.65	€46.16		€40.41
Eircom VUA	Min	€30.80	€26.91	€55.44	€37.72
	Average	€42.97	€44.98	€65.10	€51.02
	Max	€69.30	€66.99	€84.70	€73.66

- 5.120 Having regard to the above assumptions, ComReg estimates the ratio of the LLU price relative to the retail bundle product (the '**LLU Price-Cost Ratio**') to be approximately 27%⁴¹⁹. ComReg's estimates the ratio of the VULA price relative to the retail bundle product (the '**Eircom VUA Price-Cost Ratio**') to be approximately 45%.
- 5.121 The LLU Price-Cost Ratio (27%) and VULA Price Cost Ratio (45%) effectively reflect the proportion of the total bill for a package or bundle containing retail services that would likely be affected by a SSNIP in such WLA products. These can be used to derive the 'dilution effect', being the percentage increase in retail prices that would occur in response to the pass-through of a SSNIP in WLA.
- 5.122 The approximate dilution effects for Eircom's LLU and VUA WLA products are set out in Table 9 below. ComReg estimates that:
- a SSNIP in LLU would translate into approximate retail price increases of 1.4% and 2.7% for a SSNIP of 5% and 10% SSNIP respectively; and
 - a SSNIP in VULA would translate into approximate retail price increases of 2.2% and 4.5% for a SSNIP of 5% and 10% respectively.

⁴¹⁹ Computed as €9.34/€34.17.

Table 9: Dilution Ratios - % increase in residential retail prices from SSNIP in WLA

WLA Product (Eircom)	Wholesale Price €	SSNIP Level %	Wholesale Price Increase €	Price -Cost Ratio	Pre-SSNIP Retail Price ⁴²⁰	Effective Retail Price Increase €	% Retail Price Increase from SSNIP pass-through
LLU	€9.34 ⁴²¹	5%	€0.47	27%	€34.17	€34.64	1.4%
		10%	€0.93			€35.11	2.7%
VUA	€23.00 ⁴²²	5%	€1.15	45%	€51.16	€52.31	2.2%
		10%	€2.30			€53.46	4.5%

Business Retail Prices

5.123 ComReg undertook a similar analysis for business End Users. The estimation of business retail prices is outlined in Table 10. Business bundles tend to include broadband and fixed telephone lines as well as other business services but tend not to include TV services.

Table 10: Estimation of business retail prices for products based on LLU and VUA inputs – excluding VAT

		Standalone broadband	Broadband and Fixed Telephony	Combined Average Price
LLU	Min	€17.80	€29.00	€23.40
	Average	€50.69	€39.67	€45.18
	Max	€133.53	€45.00	€89.27
VUA	Min	€44.36	€40.00	€42.18
	Average	€54.65	€50.00	€52.32
	Max	€64.79	€55.00	€59.90

5.124 The approximate dilution effects for LLU and VULA are set out in Table 11 below and are similar to those for residential retail prices. The WLA prices are symmetric across business and residential customers. ComReg estimates that:

- (a) a SSNIP in LLU would translate into approximate retail price increases of 1.0% and 2.1% for a SSNIP of 5% and 10% SSNIP respectively; and

⁴²⁰ The estimation of these retail prices is outlined in Table 8 above.

⁴²¹ Openeir Access Reference Price list v.7 2 – pg. 22 http://www.openeir.ie/Reference_Offers/.

⁴²² This is the price of FTTC VUA. Higher prices are charged for FTTH: €23.50 (FTTH 100 Mb), €28.50 (FTTH 300 Mb), €38.50 (FTTH 1000Mb) - Open Eir Bitstream price list v.7 34 – pg. 26: http://www.openeir.ie/Reference_Offers/?selectedtab=wbaro.

- (b) a SSNIP in VULA would translate into approximate retail price increases of 2.2% and 4.4% for a SSNIP of 5% and 10% respectively.

Table 11: Dilution Ratios - % increase in business retail prices from SSNIP in WLA

WLA Product	Wholesale Price €	SSNIP Level %	Wholesale Price Increase €	Price -Cost Ratio	Pre-SSNIP Retail Price	Effective Retail Price Increase €	% Retail Price Increase from SSNIP pass-through
LLU	€9.34	5%	€0.47	21%	€45.18	€45.65	1.0%
		10%	€0.93			€46.11	2.1%
VUA	€23.00	5%	€1.15	44%	€52.32	€53.47	2.2%
		10%	€2.30			€54.62	4.4%

- 5.125 As noted in paragraphs 5.108 to 5.110 above, the SP purchasing WLA inputs may not necessarily choose to pass through all, or indeed any, of the SSNIP in WLA, but may instead choose to absorb the wholesale price increase. However, in the long run where a SP is not covering its costs (in a competitive market), it may have to exit the market. This would be likely to further limit the extent to which retail substitution by End Users might undermine the profitability of the SSNIP. While it is uncertain whether the entire WLA price increase will be passed through to the price of retail services or other associated prices (or indeed if it is passed through at all), ComReg makes the assumption that it is passed through in full for the purpose of market definition, since this will prevent any underestimation of any indirect retail constraints on the WLA market arising from the pass-through of a WLA price increase into retail prices.
- 5.126 The next question to be answered is whether retail price increases of up to 4.4% would induce sufficient retail switching (or reduced demand) to services provided on other alternative platforms (i.e. platforms other than those operated by the HM), such that it would make the price increase unprofitable.

What response in retail demand would be likely required to make a SSNIP unprofitable?

- 5.127 The threshold at which changes in retail demand may undermine the profitability of a SSNIP can be estimated using what is known as the Critical Loss Test ('CLT'). The CLT seeks to support a SSNIP analysis by providing an estimate of the percentage of customers that would have to divert away from the focal product in response to a SSNIP (in this case the pass-through of a wholesale SSNIP) to make the increase in the price of the focal product unprofitable.

- 5.128 Any increase in the retail price will typically have two competing effects: a fall in sales (as customers switch to another operator) and higher profits on sales to customers who remain with the HM. These effects work in opposite directions: the first decreases profits, the second increases profits.⁴²³ The CLT provides an estimate of the point at which the two effects directly offset each other.
- 5.129 An estimate of actual sales loss from the price increase can then be compared to the critical loss value. If the degree of demand substitution from the focal product to another given product is less than the critical loss, then the SSNIP can be considered profitable and the market can be no wider than the focal product. If the degree of demand substitution from the focal product to another given product is greater than the critical loss, then the SSNIP can be considered unprofitable and that alternative product may belong to the same relevant market as the focal product.
- 5.130 Calculating the critical loss is not straight forward as it requires detailed information regarding, for example, marginal cost of WLA products in a competitive environment scenario⁴²⁴, as well as profitability. The CLT, for the purposes of this Consultation, is by no means conclusive, and is considered by ComReg alongside other information referred to throughout this Consultation.
- 5.131 ComReg has estimated critical loss values associated with a 5% and 10% SSNIP for Eircom's WLA products as follows (detailed calculation outlined in Appendix: 7):
- (a) For a 5% SSNIP of the price of WLA, the critical loss value is likely to be approximately 8.5% for residential retail subscriptions;⁴²⁵ and
 - (b) For a 10% SSNIP of the price of WLA, the critical loss value is likely to be approximately 15.7% for residential retail subscriptions.⁴²⁶
- 5.132 For business customers, ComReg estimates the critical loss values as follows:

⁴²³ Oxera (2008) 'Could or would? The difference between two hypothetical monopolists' <http://www.oxera.com/Oxera/media/Oxera/downloads/Agenda/Hypothetical-monopolists.pdf>

⁴²⁴ In a competitive environment, it would be assumed that prices would, over the long run, be set at long run marginal cost.

⁴²⁵ Table 90 in Appendix: 7.

⁴²⁶ Table 91 in Appendix: 7.

- (a) For a 5% SSNIP of the price of WLA, the critical loss value is likely to be approximately 7.8% for business retail subscriptions;⁴²⁷ and
 - (b) For a 10% SSNIP of the price of WLA, the critical loss value is likely to be approximately 14.5% for business retail subscriptions.⁴²⁸
- 5.133 These estimates represent the proportion of retail customers (i.e. those who are currently purchasing retail services for which Eircom's WLA products are a wholesale input) that would have to switch to a retail product provided on an alternative platform in order for that alternative product to be potentially included in the WLA market on the basis of a sufficient indirect constraint.
- 5.134 For the purposes of this analysis, and in order to take a prudent approach to assessing potential product substitutes due to the presence of effective indirect constraints, as noted above ComReg assumes that all of the wholesale price increase would be passed through by the Access Seeker to prices at the retail level. ComReg would note that such retail price increases could manifest themselves in a number of ways including either individual service elements of bundles or bundle overall charges. The dilution effects discussed in paragraph 5.123 above mean that a wholesale price increase results in a lower price increase at the retail level.
- 5.135 As identified in paragraph 5.122, the LLU Price-Cost Ratio was 27% and the VULA Price Cost Ratio was 45%. It was also noted that a 5% SSNIP of LLU and VULA would translate into an increase in the price of related retail services of 1.4% and 2.2% respectively, while a 10% SSNIP of LLU and VULA would translate into an increase in the price of related retail services of 2.7% and 4.5% respectively. Therefore, broadly speaking the potential maximum retail price increases arising from the pass-through of a 5% and 10% SSNIP are 2.7% and 4.5% respectively.

⁴²⁷

Table 92 in Appendix: 7.

⁴²⁸ Table 93 in Appendix: 7.

- 5.136 As noted previously, the retail customers affected by the SSNIP are those who purchase retail services (whether on a standalone basis or as part of a broader bundle) from a SP that purchases WLA inputs. These customers will incur the SSNIP related retail price increases, and, depending on their response, may affect the profitability of the SSNIP by the HM. This group of potentially affected retail customers represents approximately 94,397⁴²⁹. If a sufficient number of such retail customers were to switch to alternative platforms in response to the SSNIP of WLA by the HM, then the WLA market may potentially be broadened to include the alternative retail products within the WLA Market.
- 5.137 ComReg recognises that a wide range of factors are likely to be taken into account by End Users when deciding whether to switch suppliers and/or reduce their consumption of services, including factors not related to the price and characteristics of the retail service (including where it is a component of a broader bundle of services). For example, there are costs associated with switching between SPs⁴³⁰, and preferences around other aspects of a retail package or bundle that cause inertia (for example, regarding choice of broadband provider).
- 5.138 As discussed in Appendix: 2 (Figure 37), 55% of residential respondents to the WLA/WCA Market Research were definitely aware of the monthly cost of their retail package or bundle (68% for those not in a bundle (Figure 39)), while 20% were not aware of the monthly cost of their retail package or bundle (17% for those not in a bundle). Such levels of awareness are likely to impact the potential behaviour of End Users in relation to price changes resulting from a SSNIP of WLA. i.e., those that are more aware of the cost of their retail package are more likely to notice any price increases.
- 5.139 The WLA/WCA Market Research and 2015 ICT Surveys⁴³¹ reported that there is a relatively low incidence of churn between retail SPs, with 11% of residential respondents (Figure 44) and 15% of business respondents (Figure 81) having reportedly switched within the previous 12 months of the survey date. The WLA/WCA Market Research accordingly showed that 55% of residential and 53% of business respondents have never switched. Higher numbers of residential and business respondents had switched in the previous 1-3 years.⁴³²

⁴²⁹ This is total number of WLA products made available by Eircom in Q1 2016 to wholesale purchasers, i.e. LLU and VUA. Source: ComReg Q1 2016 QKDR.

⁴³⁰ Possible switching costs include search costs and costs associated with the purchase of new customer premises equipment and installation charges and potential costs for early contract termination (given that, particularly in the purchase of bundles, customers are usually tied to contracts). Service disruption during the switching process may also be a factor, particularly for business customers.

⁴³¹ See [ComReg Document 15/123a](#).

⁴³² See Figure 44 and Figure 81 respectively in Appendix: 2.

- 5.140 The low rate of churn suggests that there is a certain amount of inertia amongst End Users with respect to switching SP, some of which may be explained by the increased prevalence of bundling of retail services (although a substantial cohort still purchase services on a standalone basis) which has a tendency to increase complexity of purchasing and switching decisions.
- 5.141 Appendix: 2 of this Consultation summarises outputs from the WLA/WCA Market Research with respect to household and business respondents' reported behaviour in response to a notional 10% increase in the **retail price** of broadband services. ComReg notes that, in the context of an assessment of indirect constraints, this 10% notional retail price increase would likely significantly overestimate retail customers' behavioural responses, in particular, having regard to the maximum retail price increases arising from the pass-through of a 5% and 10% SSNIP in WLA. Nevertheless, respondents' reported behavioural changes in response to 10% price increases can be informative to the indirect constraints assessment.
- 5.142 Having regard to the above responses and other relevant information discussed previously, ComReg proposes to consider whether retail services provided over an alternative CATV or FTTH network could pose a sufficient and immediate indirect competitive constraint such that it warrants inclusion in the WLA Market. The likelihood of indirect constraints from other potential retail substitutes can later be considered if an effective indirect constraint is found to arise from these more commonly reported alternatives as considered by survey respondents in the SSNIP section of the WLA/WCA Market Research.

Retail services provided over CATV

- 5.143 In paragraphs 4.118 to 4.144, ComReg identified that retail broadband services provided over a CATV network to a fixed location as being a likely substitute for residential customers. While noting the outputs from ComReg's various QKDRs Reports, the WLA/WCA Market Research and the 2015 ICT Survey, as shown in Figure 12 there were steady increases in the number of overall retail subscriptions on Virgin Media's CATV network between Q1 2010 to Q1 2016⁴³³.

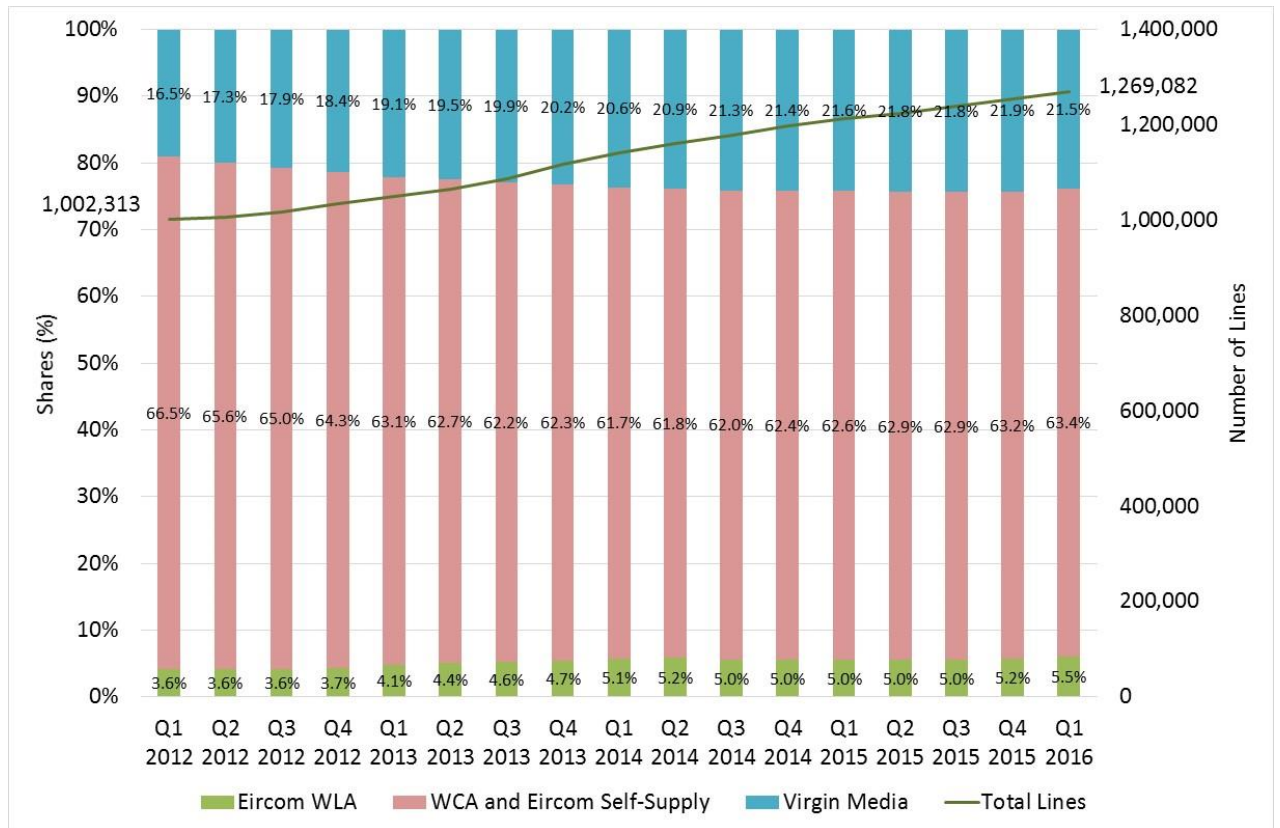
⁴³³ The WLA/WCA Market Research (Appendix: 2, Figure 46: Incidence of Ever Switching Broadband (Slide 101) suggests that Virgin Media has gained 21% of retail broadband 'switching customers' over the 3 years prior to the survey.

- 5.144 However, we are now considering whether retail services provided over a CATV network should be included within the WLA market on the basis of the strength of indirect constraints. i.e., if in response to a 5% to 10% SSNIP in WLA being passed by Access Seekers on to higher retail prices, would a sufficient number of customers switch to CATV based retail services such that it would make the SSNIP in WLA unprofitable? Given the indirect link between the retail market and WLA Market, any competitive constraint posed by CATV products in the retail market is potentially softened in terms of its constraint in the WLA Market given the dilution effects discussed earlier.
- 5.145 In addition, ComReg notes that, as noted previously⁴³⁴, Virgin Media's CATV network coverage extends to approximately 45% of households in Ireland (approximately 784,000 households), largely in urban areas. Furthermore, Virgin Media's network provides predominantly retail services to the residential customer segment, with minimal provision of retail services to businesses⁴³⁵. This means that a significant proportion of retail customers that are affected by SSNIP of WLA are not in a position to switch to a CATV based retail product (i.e. those outside the Virgin Media network footprint, or business customers within it). Any constraint is, therefore, likely to be sub-geographic in nature and limited to those areas where the network has been rolled out. This ability to switch is further limited by the Virgin Media network not serving business customers.
- 5.146 In Figure 19 below ComReg presents market share figures for the WLA market, including the hypothetical scenario whereby Virgin Media's retail subscriber base were to be included in the WLA market on the basis of indirect constraints. Given its network rollout is limited to largely urban households, in the main, Virgin Media has a sizeable presence in the retail broadband market.
- 5.147 Virgin Media has more retail subscribers than there are subscribers served via products sold to third parties in the WLA Market. However, the inclusion of Virgin Media's 368,000 retail subscribers does not materially alter the conclusion that Eircom is the primary supplier and consumer (i.e. self-supply) of WLA products.

⁴³⁴ See paragraph 3.21.

⁴³⁵ This is discussed in paragraph 3.25, Figure 9, where it is noted that Virgin Media's business customers comprise just 2.2% of its total subscriber base.

Figure 19: Hypothetical Market Shares – WLA Market



Note: The figures presented above relate to Broadband supply, and do not include self-supply of voice by Eircom or Virgin Media. Eircom would likely have a higher market share if self-supply of voice was included. Eircom WLA is Eircom’s merchant supply of WLA, including LLU and VUA supply. In considering the WLA market, which is that which is upstream from the WCA market, in accordance with the MGA ComReg assumes no regulation exists downstream, i.e. the WCA market is not regulated. In this scenario, ComReg assumes that Eircom’s WCA merchant market supply would become WLA supply to its retail arm.

5.148 The WLA/WCA Market Research indicates that 24% of residential broadband customers who are in a bundle indicated they would consider changing their behaviour in response to a €2 increase in the price of their broadband service. Of those residential respondents that indicated they would switch their SP in response to a SSNIP of €2 in the price of their broadband service and were likely to do so, 13% indicated they would switch to a CATV based network.⁴³⁶

⁴³⁶ Figure 52 in Appendix: 2.

- 5.149 As noted earlier, Virgin Media's network coverage is largely confined to urban centres. In view of this only customers, located in this network footprint could potentially switch to a CATV based retail service in response to SSNIP related retail price increases. As the 13% figure referred to in paragraph 5.149 above is based on nationally representative sample of respondents, it is likely that a number of such respondents could not actually switch to a CATV network given none is available in their geographic area⁴³⁷. As such, this 13% figure may overstate the potential CATV switching response.
- 5.150 ComReg notes that Eircom published proposed price increases to the rental price for FTTC based VUA by €3.50, from €19.50 to €23, and to increase the rental price for FTTH based VUA by €3, effective from 1 September 2016.⁴³⁸ ComReg considers that these price increases, made in the presence of regulation (as currently in the WPNIA and WBA Markets), are evidence that Eircom faces a weak price constraint from Virgin Media in the WLA Market.
- 5.151 ComReg considers that, it is questionable whether there would be sufficient demand substitution to CATV based retail services at the retail level in response to the pass-through of a SSNIP in WLA into retail prices such as to render the wholesale price increase unprofitable.

Retail services provided over alternative FTTH networks

- 5.152 In paragraphs 4.96 to 4.116, ComReg identified that retail broadband services provided over an alternative FTTH networks as falling within the Retail Broadband Market.
- 5.153 However, we are now considering whether retail services provided over a FTTH network should be included within the WLA market on the basis of indirect constraints. i.e., in response to a 5% to 10% SSNIP in WLA being passed by Access Seekers on to retail prices, would a sufficient number of customers switch to FTTH based retail services such that it would make the SSNIP unprofitable?

⁴³⁷ ComReg notes that CATV network based broadband services are available to approximately 45% of residential premises in Ireland.

⁴³⁸ Please see Eircom's Bitstream price list at http://www.openeir.ie/Reference_Offers/?selectedtab=wbaro

- 5.154 Given the indirect link between the retail market and WLA Market, any competitive constraint posed by FTTH products in the retail market is likely to be muted in terms of its constraint in the WLA Market given the dilution effects discussed earlier. For example, there is likely to be a significantly lesser response from End Users to a diluted 5% to 10% retail price increase arising from the SSNIP of a wholesale input, compared with what could be expected from a direct SSNIP of 5% to 10% in retail prices.
- 5.155 The coverage of the various FTTH networks is limited, and is capable of providing retail services to circa 30,000 premises at the end of 2015⁴³⁹, largely in urban areas. This means that a significant proportion of retail customers that are affected by SSNIP of WLA would not be in a position to switch to FTTH based retail products.
- 5.156 The WLA/WCA Market Research indicates that some residential broadband customers would consider switching to FTTH products in response to a SSNIP of their current retail broadband product. 25% of residential customers on a copper network who are likely to switch would switch to fibre in response to this SSNIP.⁴⁴⁰ As noted above, the diluted retail price increase is likely to dampen incentives for effective retail substitution compared to a direct SSNIP.
- 5.157 The WLA/WCA Market Research data indicates 22% of residential customers on a copper network would switch to a FTTH product in response to a SSNIP of their retail broadband product.⁴⁴¹
- 5.158 Given that the likely response from retail customers to a diluted 5% to 10% increase in retail prices is likely to be less than that, it is unlikely that the proportion of customers switching to alternative network FTTH retail products in response to a SSNIP of WLA would exceed the approximate critical loss values identified in paragraph 5.132.

⁴³⁹ Eircom's FTTH network passed 28,000 premises at the end of Q4 2015. See Slide 12 of the linked presentation.

https://www.eir.ie/opencms/export/sites/default/.content/pdf/IR/presentations/2015_2016/quarter1/eir_1st_quarter_results_presentation_FY1516.pdf

⁴⁴⁰ Figure 56 in Appendix: 2. These customers purchase broadband as a standalone product (i.e. not part of a bundle).

⁴⁴¹ Figure 52 in Appendix: 2. These customers purchase broadband as a standalone product (i.e. not part of a bundle).

5.159 Given the above, ComReg's preliminary view is that retail services provided over an alternative FTTH network are not likely to exert a sufficiently effective indirect constraint on Eircom's WLA products. As noted in paragraphs 4.115 and 4.116, while ComReg's preliminary view is that the product characteristics, pricing and intended use of retail broadband offered over alternative FTTH networks would in principle make it a good demand side substitute for an End User of FTTC and/or copper network-based retail broadband, this is limited by the geographic coverage of alternative FTTH networks, which are currently limited but expected to grow over the period of this review.⁴⁴²

Retail services provided over FWA, Satellite and Mobile networks

5.160 In paragraphs 4.207 to 4.234, ComReg identified that retail broadband services provided over FWA, Satellite and mobile networks as not falling within the Retail Broadband Market. In view of this, ComReg is of the preliminary view that that such services are not likely to exert a sufficiently effective indirect constraint on Eircom's WLA products given the likely lack of effective demand-side substitution in response to the pass-through of a SSNIP on WLA products.

Whether the strength of indirect constraints would be weakened by retail customers switching to Eircom's own retail arm?

5.161 ComReg now considers the European Commission's *third criterion* as identified in paragraph 5.103(c)⁴⁴³, namely whether the retail customers of the Access Seekers purchasing WLA would switch to the retail arm of the vertically integrated hypothetical monopolist (HM) if the latter does not raise its own retail prices following the SSNIP in WLA.

5.162 In the context of Eircom's supply of WLA, if customers switched to Eircom in response to a SSNIP of WLA, Eircom could benefit from increased retail revenue which may act to off-set any lost wholesale revenue from a reduction in wholesale demand for WLA products.

5.163 Having regard to the Modified Greenfield Approach, absent regulation, it can be expected that a vertically-integrated HM supplier of WLA over a widespread or ubiquitous network would have incentives to at least hold its own retail prices constant⁴⁴⁴ so as to attract as many retail customers as possible to switch away from SPs whose services are based on WLA (and which are subject to the SSNIP).

⁴⁴² The rollout of SIRO's network was discussed in paragraph 5.51.

⁴⁴³ See footnote 406, pg. 182.

⁴⁴⁴ Although it is possible that it could increase retail prices for less price sensitive customers and decrease them for more price sensitive customers.

- 5.164 As noted in paragraph 5.9, Access Seekers compete at the retail and (downstream) wholesale level predominantly through the purchase of Eircom's WLA products, which are available on a national basis. However, ComReg would also note that, in accordance with the Modified Greenfield Approach, without existing regulation of the WLA market (which is discounted in the current analysis) LLU and/or VULA services are unlikely to be made available by Eircom and, therefore, Access Seekers would not be able to offer retail and other downstream services using these wholesale inputs. As set out in Figure 19, even in the presence of WLA regulation, Eircom's market share is approximately 63.4%⁴⁴⁵, while Virgin Media's is 21.5%. The remaining 5.5% market share is accounted for by Service Providers providing retail services using Eircom's various WLA products.
- 5.165 The HM supplier's retail service is likely to be considered a suitable substitute by retail customers affected by the WLA SSNIP because of the similarity of product characteristics and relatively low switching costs (since the service would be provided over the same network and with the same or similar customer premises equipment, there would be no requirement for the porting of telephone numbers and any service downtime would be limited). Furthermore, the near ubiquity of the HM's network implies that its downstream arm would not be limited by coverage in the same way as some of the potential alternative platforms, in particular, the CATV network (and localised FTTH networks) which as noted earlier covers 45% of households.
- 5.166 In light of the above, ComReg considers it likely that in response to a SSNIP in LLU or VULA products, Access Seekers who offer retail services based on such wholesale inputs would be likely to switch to retail products offered by Eircom's retail arm. This would have the effect of mitigating any loss of Eircom's wholesale revenue. This effect further diminishes the potential for alternative platforms to act as an effective indirect constraint on a vertically integrated HM supplier of WLA.

Overall Preliminary Conclusions on Indirect Constraint Assessment

- 5.167 In paragraphs 5.99 to 5.167 above, ComReg has assessed the extent to which a HM supplier of WLA would face a sufficiently strong indirect pricing constraint from downstream retail services provided over alternative networks.

⁴⁴⁵ See Figure 19, page 195 of this Consultation.

- 5.168 In paragraphs 5.144 to 5.161 above, ComReg assessed the indirect constraint posed by retail services provided over alternative CATV, FTTH and FWA platforms. ComReg notes that the coverage and use of retail services provided over such networks is less than that of Eircom's copper and fibre networks (Figure 7). Therefore, taking all of the above into account, ComReg considers that indirect constraints from alternative FTTH and FWA platforms are not likely to be sufficient to warrant their inclusion in the WLA Market.
- 5.169 ComReg does not consider that Indirect constraints from CATV networks would be sufficiently effective to constrain the price setting behaviour of a HM supplier of WLA based LLU and VULA products. The degree of indirect constraint posed by CATV based retail services will be considered further in the context of the assessment of competition in the WLA Market in Section 6, in particular, whether the effectiveness of this constraint is likely to be more effective over a longer time horizon.
- 5.170 In addition, ComReg also intends to continue to monitor the extent of any constraints from downstream retail services provided over alternative networks over the period of this review and, if appropriate, and having regard to the extent of any such indirect constraints, initiate a further analysis to update its definition of the WLA Market, competition assessment and/or remedies.

Overall Preliminary Conclusions on Relevant WLA Product Market

- 5.171 In paragraphs 5.8 to 5.171 above ComReg has considered the definition of the relevant WLA market from a product perspective and, in so doing has considered demand-side, supply-side and indirect constraints. ComReg's preliminary view is that the WLA product market ('**WLA Product Market**') is comprised of the following:
- (a) Current Generation WLA products (being LLU and Line Share products over copper networks); and
 - (b) Next Generation WLA products (being VULA products offered over FTTH networks).
- 5.172 Eircom's self-supply of the above products, including its self-supply via its FTTC and FTTH networks is also included in the WLA Product Market.
- 5.173 Having regard to the likely lack of effective indirect constraints, ComReg's preliminary view is that the WLA Product Market does not include retail services provided over the following networks:
- (a) CATV networks;
 - (b) Alternative FTTH networks;
 - (c) FWA;
 - (d) Satellite broadband; and

- (e) Mobile broadband.

Geographic Assessment of WLA Market

- 5.174 In paragraphs 4.274 to 4.295 ComReg considered the geographic scope of the retail market and set out its preliminary view that it is likely to be national in scope. ComReg now considers the geographic scope of the WLA Product Market.
- 5.175 In assessing potential geographic variances in competitive conditions, ComReg takes utmost account of the European Commission's Notice on Market Definition and the BEREC Common Position on Geographic Aspects of Market Analysis⁴⁴⁶. Having regard to the above, ComReg assesses the geographic scope of the WLA Product Market according to the following criteria:
- Geographic differences in entry conditions over time;
 - Variation in the number and size of potential competitors;
 - Distribution of market shares;
 - Evidence of differentiated pricing strategies or marketing; and
 - Geographical differences in demand characteristics.
- 5.176 As was the case with the WLA product market assessment, having regard to the Modified Greenfield Approach, the WLA geographic market assessment, assumes the absence of regulation in the WLA market (and downstream related markets).

Geographic Differences in Entry Conditions

- 5.177 In this section, ComReg assesses geographic differences in entry conditions in the WLA Product Market over time.
- 5.178 As Eircom offers similar WLA products across its ubiquitous network⁴⁴⁷, this means that the geographic WLA market does not typically exhibit variation by region.

⁴⁴⁶ BEREC "[Common Position on Geographic Aspects of Market Analysis](#)", BoR (14) 73, 05.06.2014.

⁴⁴⁷ ComReg notes that it may not be economically viable to offer WLA products in all areas.

- 5.179 However, there is some variation in the type of WLA products available because while Eircom's copper network is ubiquitous (enabling the provision of LLU and Line Share), the rollout of fibre (whether FTTC or FTTH) has not reached every location where LLU is available. This means that VULA products are only available in regions where Eircom has currently rolled out fibre access. As noted in Section 3⁴⁴⁸, the rollout of fibre to date has mainly been in urban areas.
- 5.180 As discussed in paragraph 3.46, the NBP aims to bring high-speed broadband services to every home in the country and this will likely enable the provision of VULA products in certain areas. Given the NBP is targeting the provision of high speed broadband services to unserved areas of the State, its coverage is not likely to significantly overlap existing Next Generation WLA network coverage. However, given the stage of the NBP procurement process there is not yet sufficient certainty as to who the successful NBP tenderer(s) will be or the detailed timing of network rollout.
- 5.181 As noted in paragraph 5.146, the Virgin Media network is geographically limited to urban areas covering 38% of premises, where the population density has made the rollout of a DOCSIS 3.0 network economically viable. However, as noted above we do not propose to include CATV products in the WLA market on the basis of indirect constraints. However, even if ComReg were to we do not consider that this, in and of itself, would be suggestive of sufficient differences in entry conditions over time to potentially warrant the delineation of different geographic markets.
- 5.182 As set out in Section 3⁴⁴⁹, SIRO has begun rolling out its FTTH network to 50 locations across Ireland. As set out in paragraphs 5.48 to 5.54 ComReg considers that's SIRO's FTTH network and its VULA offering should be included in the WLA Market. As set out in Table 7 above⁴⁵⁰, the SIRO network, to the end of September 2016, has passed [x< [REDACTED]] premises⁴⁵¹ and by the end of 2017 was expected to pass [x< [REDACTED]] premises.⁴⁵² ComReg noted that Eircom is likely to face some degree of constraint from the SIRO network in areas where the network has been rolled out. In September 2016, SIRO announced its rollout was gathering pace, with its network rollout now passing 10,000 premises a month across 17 towns.⁴⁵³

⁴⁴⁸ See paragraph 3.43.

⁴⁴⁹ See paragraph 3.45.

⁴⁵⁰ Information supplied to ComReg on 18 February 2016.

⁴⁵¹ The SIRO network has passed less than 50,000 premises at the end of September 2016.

⁴⁵² The SIRO network is expected to pass less than 200,000 premises by the end of 2017.

⁴⁵³ SIRO - <http://siro.ie/siro-invest-e40-million-roll-6-new-towns-end-2016/>

- 5.183 Given the level of investment that would be required to replicate a network capable of offering WLA services, such as Eircom's ubiquitous network (with large elements of the associated costs having been sunk), barriers to entry are likely to remain and ComReg considers that these are likely to be sufficiently homogenous by geographic region. These barriers to entry are further discussed in Section 6 of this Consultation in the context of the SMP assessment.
- 5.184 Overall, having regard to the above, there is insufficient evidence to suggest that there are clear differences in geographic entry conditions in the WLA Market.

Variation in the number and size of potential competitors

- 5.185 The main existing competitors in the WLA market are Eircom and SIRO. In response to the SIRs, no other SPs indicated an intention to enter the WLA market. As noted above, it is expected that the NBP will result in the provision of VULA services in its coverage area, however, given the status of the procurement process it remains to be seen whether this will result in a new entrant to the WLA market or the extension of the network footprint of an existing competitor.
- 5.186 As noted in paragraph 5.182, SIRO's rollout of fibre to date has been slower than expected. In Table 7 above, it is shown that SIRO's total rollout is planned to reach [redacted] premises by the end of 2016 across 14 towns, while Eircom's current rollout of fibre passes 1.6 million premises (see paragraph 4.71).
- 5.187 As noted in paragraph 3.21, Virgin Media operates its CATV network using the 'DOCSIS' 3.0 standard⁴⁵⁴ and as of Q1 2016, it is potentially capable of providing retail broadband services to approximately 784,400 premises (38% of the 2 million premises in Ireland) in mainly urban areas. While we have proposed to exclude retail CATV services from the WLA Product Market on the basis of a likely lack of effective indirect constraint, we nonetheless consider it here for completeness. [redacted]
[redacted] Virgin Media is not currently offering wholesale products in the WLA market and has informed ComReg that it does not intend to offer any wholesale products in the foreseeable future. The WIK CATV Report in Appendix: 8, concluded that was not technologically feasible to offer WLA products over a CATV network in Ireland at present.
- 5.188 While there is some variation in the number and size of potential competitors in the WLA market from a geographic perspective, ComReg is of the preliminary view that the evidence on the number and size of potential competitors is insufficient to support the view that there is more than one geographic market.

⁴⁵⁴ This standard enables high speed broadband to be delivered over a CATV network.

Distribution of market shares

5.189 As noted above, Eircom and SIRO are the only SPs offering WLA products. Prior to Q1 2016, Eircom was the sole supplier of WLA products with 100% market share, and in Q1 2016 SIRO entered the WLA market. However, given SIRO's rollout to date and future rollout plans (as discussed in paragraphs 5.48 to 5.54) ComReg's preliminary conclusion is that SIRO is unlikely to pose a sufficiently effective national competitive constraint on Eircom in the WLA market within the timeframe of this review, such that it suggests that competitive conditions within the areas where they do compete are sufficiently distinguishable from other geographic areas. However, ComReg recognises that as SIRO's rollout progresses and the geographic distribution of market shares will evolve, Eircom is likely to face a degree of constraint from the SIRO network in areas where the network has been rolled out.

5.190 As noted in paragraph 5.72 above, ComReg proposes to exclude Virgin Media's self-supply in the WLA Market. The exclusion of Virgin Media's subscribers does not materially change the conclusion that Eircom's network has a significant presence in the WLA Market. Virgin Media's subscriber base has remained relatively static since Q1 2015, as set out in Figure 7. [X ██████████ ██████████ ██████████]. In addition, Eircom continues to rollout its FTTC and FTTH based network in areas where Virgin Media's network is present, suggesting it expect to compete with Virgin Media in urban areas. As set out in Figure 19, the inclusion of Virgin Media in the WLA Market would not alter Eircom's position in the WLA Market.

5.191 Given SIRO's limited network rollout and Virgin Media's relatively static market share over time indicates that Eircom is likely to maintain its relatively high market share (close to 80%, as set out in Figure 19) over the lifetime of this market review.

5.192 Thus, it is ComReg's preliminary view that on a geographic basis, the distribution of market shares is not suggestive of differences in competitive conditions across different geographic areas.

Evidence of differentiated pricing or marketing strategies

5.193 ComReg has assessed whether there is evidence of differentiated pricing or marketing that might indicate the presence of different regional and/or local competitive conditions, in particular, geographically de-averaged or differentiated wholesale (or retail) pricing. Furthermore, variation in product quality between geographic areas (which may infer effective price differences), or variation in the marketing of WLA products may also be suggestive of localised competitive pressures within a market.

- 5.194 As noted above, WLA is provided by Eircom on a national basis, albeit in the presence of regulation. Eircom's pricing of WLA products is uniform across the country, although this is in the presence of regulation⁴⁵⁵. The only geographic difference in pricing arises based on the availability of the various access products. This is driven by the availability of technologies within an exchange and the rollout of FTTC and FTTH by Eircom. For example, in areas where Eircom's FTTC and/or FTTH network has not yet been rolled out, Eircom's VUA product is unavailable and Access Seekers seeking to use WLA products must purchase LLU or Line Share. This differentiated pricing is not driven by competitive conditions but rather by availability of specific WLA products.
- 5.195 In response to the February 2015 Statutory Information Requirement, SIRO and Virgin Media indicated that they price their products (WLA products in the case of SIRO and retail products in the case of Virgin Media) on a national basis, where their respective networks are available. Neither SIRO nor Virgin Media vary product offerings or prices by geographic area.
- 5.196 Insofar as potential differences in prices across different geographic areas is concerned there is little behavioural evidence to suggest that Eircom is facing significantly different competitive conditions specifically in the provision of WLA between different geographic areas. However, as noted above, ComReg proposes to continue to monitor the situation and to revisit its market definition, competition analysis and/or remedies as appropriate.

Geographic differences in demand characteristics

- 5.197 Demand for WLA emanates from Access Seekers who do not have an access network at all or one with sufficient coverage to compete in downstream markets, but who wish to provide downstream wholesale and/or retail services on a national basis.⁴⁵⁶ National coverage of WLA ensures that these Access Seekers are able to offer downstream retail and/or wholesale services. Demand for WLA products is likely to only vary geographically based on premises density and investment decisions, e.g. in sparsely populated areas, Access Seekers are unlikely to demand WLA products if the downstream demand is insufficient to recover investments made. As such, ComReg considers that demand for WLA is likely to be national in nature.

⁴⁵⁵ ComReg notes that at present, Eircom's pricing of VUA is subject to a "retail minus" obligation (as discussed in Section 8 of this Consultation). As such the wholesale price of VUA is set based on Eircom's price of its retail offerings. As ComReg does not regulate Eircom's retail offerings, the price of VUA can be increased by Eircom by virtue of a retail price increase. While Eircom does not vary the price of its VUA offerings in different geographic areas, it could have done so, while remaining compliant with its existing obligations under the 2011 WBA Decision and 2013 NGA Decision.

⁴⁵⁶ Eircom's largest WLA customers are BT Ireland, Vodafone, Digiweb and Magnet. All of these Service Providers use WLA to provide retail and/or wholesale services.

Preliminary Conclusion on Geographic Definition of WLA Market

- 5.198 ComReg's preliminary view is that the WLA Product Market is national in scope. This is based on the existence of a small number of competitors in the WLA market, with Eircom having a high and relatively static market share, a lack of differentiated pricing and limited differences in demand characteristics across regions.
- 5.199 ComReg notes that, given the lack of direct and indirect constraints in the WLA Market generally, the conditions of competition appear to be sufficiently homogenous such that there are no sub-geographic markets. This is notwithstanding the emergence of some localised competitive pressure.

Overall Preliminary Conclusions on Definition of the WLA Market

- 5.200 In paragraphs 5.8 to 5.174 ComReg analysed the WLA Market from a product perspective and set out its preliminary view that the WLA Market included a number of local access products provided over Copper and FTTx networks, including Local Loop Unbundling, Line Share and Virtual Unbundled Local Access products, provided by Eircom and SIRO. Furthermore, Eircom's self-supply of the above products, including its self-supply via its FTTC and FTTH networks is also included in the WLA Product Market.
- 5.201 ComReg's preliminary view is therefore that the WLA Market ('**WLA Product Market**') is comprised of the following:
- (a) Current Generation WLA products (being LLU and Line Share products over copper networks); and
 - (b) Next Generation WLA products (being VULA products offered over FTTx networks).
- 5.202 In paragraphs 5.175 to 5.199 ComReg analysed the WLA Market from a geographic perspective and set out its preliminary view that the WLA Market is national in scope.
- 5.203 The WLA Market is, from product and geographic perspectives, referred to as the '**WLA Market**'.

Question 3: Do you agree with ComReg's preliminary conclusions on the WLA Product Market assessment? Please explain the reasons for your answer, clearly indicating the relevant paragraph numbers to which your comments refer, along with all relevant factual evidence supporting your views.

Question 4: Do you agree with ComReg's preliminary conclusions on the geographic market assessment for the WLA Market? Please explain the reasons for your answer, clearly indicating the relevant paragraph numbers to which your comments refer, along with all relevant factual evidence supporting your views.

6 Competition Analysis and Assessment of SMP in the WLA Market

Framework for Assessing SMP

- 6.1 Having defined the WLA Market, ComReg is required to determine whether the WLA Market is effectively competitive having regard to whether or not any of the Service Providers operating within the defined market have SMP.
- 6.2 The European regulatory framework for electronic communications networks and services has aligned the concept of SMP with the competition law definition of dominance advanced by the Court of Justice of the European Union in *United Brands v. Commission*⁴⁵⁷:
- “The dominant position referred to [by Article 102 of the Treaty on the Functioning of the European Union] relates to a position of economic strength enjoyed by an undertaking which enables it to prevent effective competition being maintained on the relevant market by affording it the power to behave to an appreciable extent independently of its competitors, customers and ultimately of its end users.”*
- 6.3 Article 14(2) of the Framework Directive⁴⁵⁸ effectively mirrors this definition of dominance and states that:
- “An undertaking shall be deemed to have significant market power if, either individually or jointly with others, it enjoys a position equivalent to dominance, that is to say a position of economic strength affording it the power to behave to an appreciable extent independently of competitors, customers and ultimately end users.”*
- 6.4 Arising from this definition, ComReg assesses whether SMP exists in accordance with the framework established by the European Commission.
- 6.5 The European Commission’s SMP Guidelines, to which ComReg is required to take utmost account⁴⁵⁹, refer to a range of criteria that may be considered by National Regulatory Authorities (NRAs) when seeking to establish whether an undertaking(s) has SMP in a relevant market.

⁴⁵⁷ Case 27/76 *United Brands v European Commission* [1978] ECR 207, Paragraph 65. See also paragraph 70 of [SMP Guidelines](#).

⁴⁵⁸ Which is transposed by Regulation 25(1) of the Framework Regulations.

⁴⁵⁹ In accordance with Regulation 25(2) of the Framework Regulations.

6.6 The SMP Guidelines state:

“According to established case-law, very large market shares — in excess of 50% — are in themselves, save in exceptional circumstances, evidence of the existence of a dominant position. An undertaking with a large market share may be presumed to have SMP, that is, to be in a dominant position, if its market share has remained stable over time”⁴⁶⁰

6.7 Market shares in excess of 50% therefore give rise to a strong presumption of SMP. However, the SMP Guidelines also state that the existence of a high market share alone is not sufficient to establish the existence of SMP; rather it means that the undertaking concerned might be in a dominant position and this needs to be considered alongside other potentially relevant criteria for assessing the existence of SMP, including the following:

- Overall size of the undertaking;
- Control of infrastructure not easily duplicated;
- Technological advantages or superiority;
- Absence of or low countervailing buyer power;
- Easy or privileged access to capital markets/financial resources;
- Product/services diversification (e.g. bundled products or services);
- Economies of scale;
- Economies of scope;
- Vertical integration;
- A highly developed distribution and sales network;
- Absence of potential competition; and
- Barriers to entry and expansion.

6.8 The relative importance of each factor may vary from one analysis to the next as the characteristics or dynamics of the relevant market under examination change. Consequently, flexibility is needed in applying the above criteria. In addition, many of the above factors, while presented separately, may in fact be interrelated and all available evidence is considered by ComReg as a whole before a determination on SMP is made. In this respect, the SMP Guidelines note that:⁴⁶¹

⁴⁶⁰ Paragraph 75 of the SMP Guidelines.

⁴⁶¹ Paragraph 79 of the SMP Guidelines.

“A dominant position can derive from a combination of the above criteria, which taken separately may not necessarily be determinative.”

Approach to Assessing SMP in the Relevant WLA Market

6.9 ComReg’s approach to assessing whether an undertaking has SMP in the Relevant WLA Market is to carry out a forward looking analysis on the basis of existing and likely future market conditions⁴⁶² and to consider the range of factors identified above that are of most relevance to the market being examined.

Relevant SMP Criteria

6.10 For the purposes of the analysis of the WLA Market, ComReg considers that the following criteria are of most relevance to the assessment of SMP:

- Overall size of the undertaking;
- Control of infrastructure not easily duplicated;
- Absence of or low countervailing buyer power;
- Product/services diversification (e.g. bundled products or services);
- Economies of scale and scope;
- Vertical integration;
- Absence of potential competition;
- Barriers to entry and expansion.

6.11 ComReg also views factors such as historical and likely future pricing behaviour as relevant considerations.

6.12 Other factors in addition to those in paragraph 6.10 above which could be used to assess the existence of market power of an undertaking have been considered but, for the reasons set out in Appendix: 11, are considered of less or no relevance for the purposes of the SMP assessment in the Relevant WLA Market.

⁴⁶² Paragraph 20 of the SMP Guidelines states that *“In carrying out the market analysis....NRAs will conduct a forward looking, structural evaluation of the relevant market, based on existing market conditions. NRAs should determine whether the market is prospectively competitive, and thus whether any lack of effective competition is durable, by taking into account expected or foreseeable market developments over the course of a reasonable period. The actual period used should reflect the specific characteristics of the market and the expected timing for the next review of the relevant market by the NRA. NRAs should take past data into account in their analysis when such data are relevant to the developments in that market in the foreseeable future.”*

Approach to Existing Regulation

- 6.13 In markets subject to *ex ante* SMP regulation, an authorised undertaking's behaviour may also be restricted by way of existing SMP regulatory controls. It is necessary, however, to consider the potential ability of the undertaking to exert market power in the absence of *ex ante* SMP regulation⁴⁶³ in the markets concerned. To do otherwise could lead to a circular finding of non-dominance on the basis of SMP regulatory remedies that would cease to exist following the completion of a market analysis and, in the absence of which, the authorised undertaking may be able to exert market power. In the context of an SMP assessment, in the Relevant WLA Market, the key hypothetical questions to be assessed are:
- (a) How the Service Provider in question would be likely to behave in the markets being assessed if it were free from current or potential SMP regulatory constraints; and
 - (b) How the Service Provider in question would be likely to behave in the market being assessed having regard to the existence of any SMP and other obligations in related markets that could impact in the Relevant WLA Market.

Assessment of SMP

- 6.14 Each of the relevant factors identified in paragraph 6.10 above are considered in detail below. Given an inherent degree of overlap, ComReg proposes to combine its assessment of these factors under the following three broad headings:
- **Existing competition in the Relevant WLA Market:** an assessment of factors such as market shares, indirect constraints, vertical integration, relative strength of existing competitors, barriers to expansion, and pricing behaviour (discussed in paragraphs 6.15 to 6.43);
 - **Potential competition in the Relevant WLA Market:** an assessment of factors such as overall size of the undertaking and control of infrastructure not easily duplicated, barriers to entry in the WLA Market, product/services diversification, economies of scale/scope, as well as considering the overall strength of potential competitors (discussed in paragraphs 6.44 to 6.102);

⁴⁶³ However, as noted in paragraph 5.5 of this Consultation, while discounting SMP regulation in the market concerned, other obligations (such as, for example, relevant SMP remedies existing in other markets, or obligations relating to general End User protection) are assumed to be in place.

- **Strength of any countervailing buyer power (CBP):** an assessment of the impact posed by any strong buyers of WLA on the competitive behaviour of the WLA provider (discussed in paragraphs 6.103 to 6.125).

Existing Competition in the WLA Market

- 6.15 As set out in paragraphs 3.18, Eircom is the largest supplier of WLA to third parties. Eircom provides WLA over its widely available copper and its FTTx network, where present. In paragraph 5.48 ComReg noted that SIRO also supplies VULA based WLA services in areas where it has rolled out its FTTH network. Furthermore, ComReg noted in paragraphs 5.50 to 5.53, the limited nature of the SIRO rollout to date and highlighted its expected coverage plans. On this basis, ComReg is of the view that Eircom does not face a sufficient competitive constraint in the WLA Market from existing competitors. ComReg recognises that Eircom is likely to face an increased degree of constraint in geographic areas where the SIRO network is or is likely to be present, however, given the timing of such roll-out, this is not likely to be sufficient to constrain Eircom's behaviour in the WLA Market.
- 6.16 In paragraphs 5.128 to 5.171, ComReg also considered the likely impact of any indirect constraints generated by retail providers offering services over CATV, alternative FTTH, FWA, satellite and mobile networks. The strength of any such constraints were not considered likely to be sufficient to warrant their inclusion in the WLA Market. However, these constraints are further examined below for the purpose of identifying the effectiveness of any competitive constraints on Eircom arising from existing competition, albeit over a longer time horizon.

Market Shares

6.17 Although both Eircom and SIRO supply WLA services, prior to Q1 2016, Eircom was the sole Service Provider operating in the WLA Market. As a result, its near 100% market share has remained high and stable over time. As noted in paragraph 5.190, SIRO's limited network rollout to date and rollout plan suggests that Eircom's high market share is unlikely to change sufficiently over the lifetime of this market review to be suggestive that it would not have SMP. Table 12 below outlines market share figures for Eircom's merchant supply of WLA, Eircom's own Retail supply of broadband services (based on WLA inputs), Eircom's merchant supply of WCA⁴⁶⁴ (which would, absent regulation, become part of Eircom's own supply) and SIRO's supply of WLA inputs in Q1 2016.

Table 12: Market Shares in the WLA Market – Q1 2016⁴⁶⁵

Operator	Lines – Q1 2016	Share
Eircom merchant supply of WLA	94,397	10.4%
Eircom Self-Supply of WLA & Supply of WCA ⁴⁶⁶	804,110	89.4%
SIRO	≈< [REDACTED] ⁴⁶⁷	≈< [REDACTED]%
Total	≈< [REDACTED]	100.0%

6.18 Figure 20 below presents market share figures between 2010 and 2016. Eircom's market shares in its self-supply (to their retail arm), the provision of WLA and the implicit supply of WLA in providing WCA has remained relatively constant since 2010.

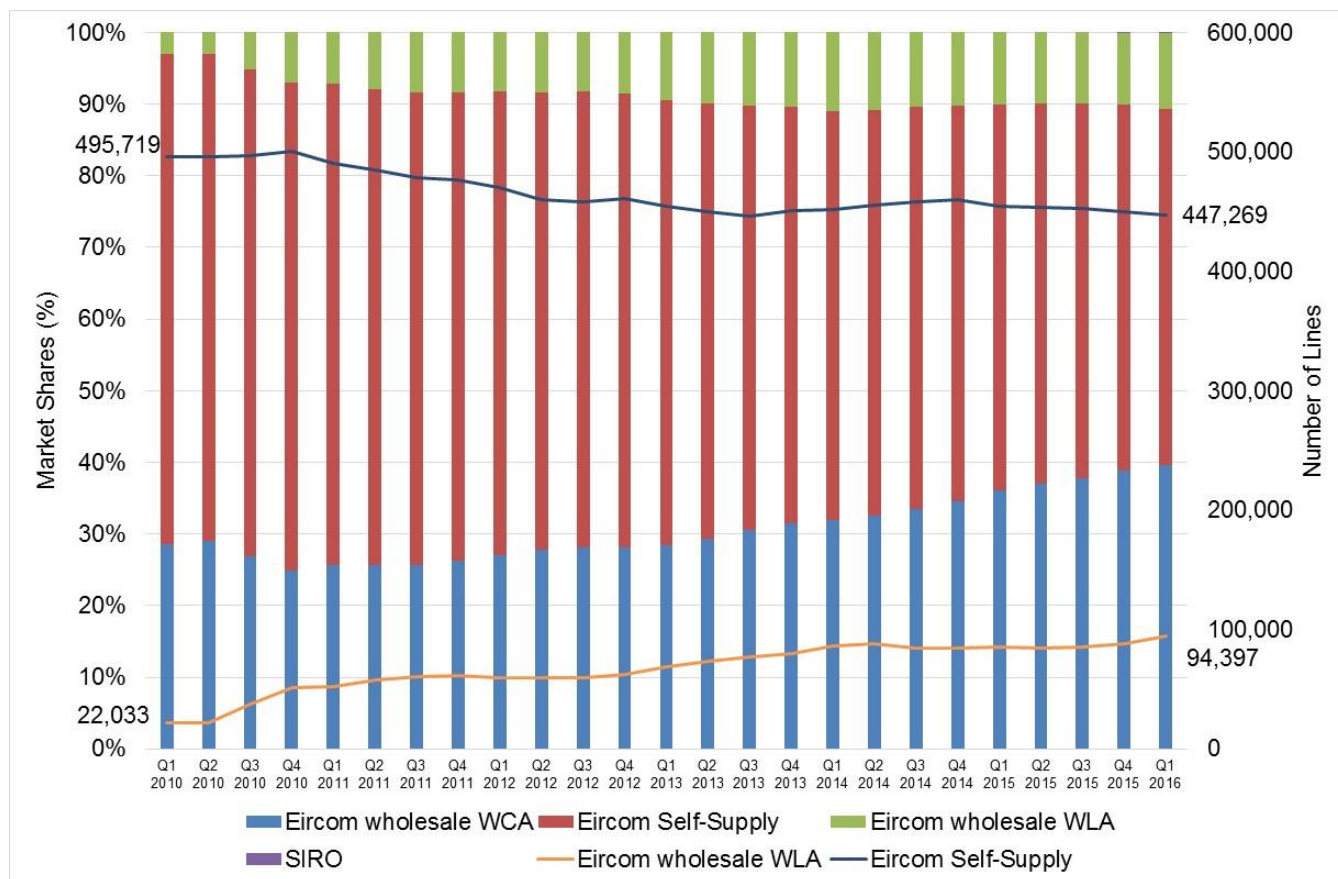
⁴⁶⁴ As discussed in Sections 10 to 13.

⁴⁶⁵ Q1 2016 QKDR and SIRO response to SIRs.

⁴⁶⁶ Eircom's supply of WCA lines is included here as WLA inputs are required to supply services in this market.

⁴⁶⁷ Less than 5000 lines as at September 2016.

Figure 20: Market Shares in the WLA Market – 2010-2015



Indirect Constraints

6.19 Insofar as existing competition based on indirect retail constraints is concerned, in paragraphs 5.99 to 5.171 ComReg set out its preliminary view on indirect constraints. ComReg concluded that indirect constraints from CATV, alternative fibre, FWA, satellite and mobile networks were insufficient and such products should not to be included in the WLA Market given that indirect substitution to services provided over such networks is not likely to be sufficiently effective or immediate to prevent Eircom from exercising a profitable SSNIP of WLA. For the same reasons set out therein, ComReg does not consider it likely that the strength of these constraints would change sufficiently over a longer time horizon such that it would prevent Eircom from behaving to an appreciable extent independently of its competitors, customers or End Users.

6.20 While in paragraph 6.17 ComReg excluded vertically integrated alternative SPs’ self-supply from the WLA Market, ComReg has nonetheless examined what Eircom’s hypothetical market share position might be in the scenario where such alternative platforms were to be included in the WLA Market.

- 6.21 ComReg has, nevertheless, considered the notional market share position, if the self-supply of vertically-integrated CATV, FWA, and alternative FTTH based SPs providing retail services are included in the WLA Market. Table 13 below shows these hypothetical shares for Q1 2016.

Table 13: Hypothetical Market Shares in WLA Market – Q1 2016

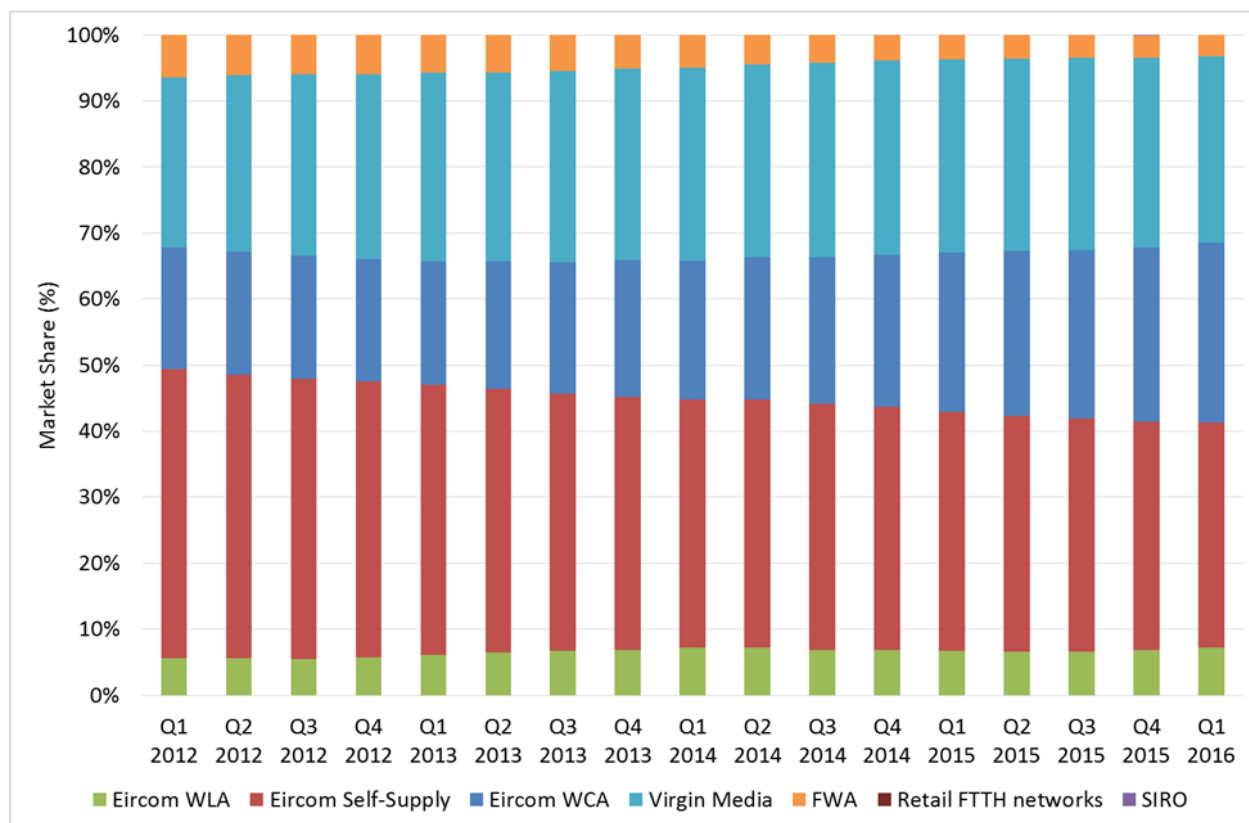
Operator	Volumes of Lines	Hypothetical Market Share
Eircom merchant supply of WLA	94,397	7.2%
Eircom Self-Supply of WLA & Supply of WCA ⁴⁶⁸	804,110	61.2%
SIRO	≈ [REDACTED] ⁴⁶⁹	≈ [REDACTED]%
Virgin Media - Self Supply	368,491	28.1%
FWA	42,083	3.2%
Other Retail FTTH networks	4,564	0.3%
Total	≈ [REDACTED]	100.0%

- 6.22 Table 13 shows that, even if the self-supply of vertically integrated retail Service Providers were included within the WLA Market, Eircom would have a high and stable market share of approximately 68%.
- 6.23 Figure 21 plots these hypothetical market shares over time. While this hypothetical market share has declined approximately 2% since Q1 2010, based on the trend to date, ComReg does not consider it probable that, within the lifetime of this review, Eircom's market share will fall below 50%.

⁴⁶⁸ Eircom's supply of WCA lines is included here as WLA inputs are required to supply services in this market.

⁴⁶⁹ Less than 5000 lines as at September 2016.

Figure 21: Hypothetical Market Shares in the WLA Market – 2010-2015



- 6.24 In this respect, ComReg has set out its preliminary view that the WLA Market is considered to be national in scope and in paragraph 5.188 it was noted that that Virgin Media’s CATV network is available to approximately 45% of households and future market growth is likely to be confined to this coverage area. [§< [REDACTED]]. As of Q1 2016, Virgin Media’s retail subscriber base stood at 368,491 subscribers giving it a retail market share of 21.5% which is the same as it was in Q1 2015.
- 6.25 ComReg’s preliminary view, therefore, is that Eircom’s high market share in the WLA Market is suggestive (but not determinative in itself) of the ability to behave, to an appreciable extent, independently or competitors, customers and End Users.
- 6.26 As discussed in paragraphs 5.99 to 5.105 even in the absence of existing competition, a vertically-integrated retail Service Provider’s self-supply could pose a competitive constraint in the WLA Market if it is shown that its presence in the retail market exercises a sufficiently strong indirect pricing constraint on Eircom’s supply of WLA.
- 6.27 However, ComReg’s preliminary view was that any indirect constraint arising from Eircom’s competitors in the retail market would be mitigated by the following factors:

- (a) Given the price-cost ratio, a SSNIP of WLA would (assuming pass-through) translate into a diluted retail price increase. Fewer customers are therefore likely to respond to such a diluted retail price increase, compared to a situation where a SSNIP is applied directly to retail services;
- (b) As noted in paragraph 4.99, the coverage of alternative fibre (FTTH) networks is very limited and the slow rollout of SIRO to date (discussed in paragraphs 5.50 to 5.53) means that alternative FTTC networks are limited. Furthermore, it has been noted in paragraph 4.207 that FWA, as a platform, is in decline; and
- (c) In practice, Eircom would be likely to sustain its retail prices whilst applying a SSNIP to the price of WLA. In such circumstances, Eircom (given its brand recognition and network ubiquity) would be likely to gain a significant proportion of any retail customers that switch away from its WLA based retail services. The increased revenue accruing to Eircom from such switching retail customers would contribute to offsetting any loss in wholesale revenue⁴⁷⁰, thereby mitigating the effects of any indirect retail constraint that otherwise may have been present.

6.28 ComReg considers that these mitigating factors are likely to remain of relevance when assessing the effectiveness of any constraints arising from existing competition in the WLA Market. For the reasons set out above, and in greater detail in Section 5, ComReg's preliminary view is that over the period covered by this market review, retail CATV, FWA and alternative FTTH based networks are not likely to provide a sufficiently effective indirect competitive constraint in the WLA Market such that it would prevent Eircom from behaving, to an appreciable extent, independently or competitors, customers or End Users.

⁴⁷⁰ There would also be some reduction in Eircom's wholesale costs corresponding to any decline in wholesale demand which would impact profitability.

Vertical Integration

- 6.29 A vertically integrated SP enjoys significant efficiencies arising from its presence in upstream and downstream markets.⁴⁷¹ Such efficiencies can also be passed on to End Users in the form of more competitive prices, lower transaction costs and/or enhanced product quality. However, vertical integration can also constitute an entry barrier where the presence of a firm at multiple levels of the production or distribution chain raises the costs of new entry (for example, where prospective new entrants perceive the need to enter multiple markets simultaneously to pose a viable competitive constraint on the vertically integrated operator) and/or increases the possibilities for the integrated operator to foreclose competition at one or more levels in the value chain, the threat of which could in turn act as a disincentive to new entry.
- 6.30 As well as being the largest WLA supplier, Eircom is also a significant provider of retail fixed telephony and broadband (and other) services.⁴⁷² As such, Eircom's significant customer base in the retail market is likely, at this point in time, to consolidate its market power in the WLA Market.
- 6.31 As a supplier of WLA and retail services, Eircom also has the ability to raise the cost of its rivals supplying retail services (and other services) by, for example, applying a margin/price squeeze between these prices.⁴⁷³
- 6.32 Eircom's vertically integrated structure also mitigates the extent to which Eircom is dependent on its WLA revenue.⁴⁷⁴ As such, absent regulation, Eircom could potentially seek to maximize its total profits by increasing WLA prices (or indeed refusing access to supply WLA) and, in doing so, seek to foreclose competition in downstream wholesale and/or the retail markets.

⁴⁷¹ Such efficiencies may include vertical efficiencies.

⁴⁷² See paragraphs 3.19 for discussion on Eircom's market shares in various retail markets.

⁴⁷³ See further discussion of the potential for Eircom to apply a margin squeeze between WLA and retail prices in Section 8 of this Consultation.

⁴⁷⁴ See further discussion of this impact under the countervailing buyer power section in paragraphs 6.103 to 6.125 below.

- 6.33 Virgin Media also provides retail services using its own CATV network. However, as noted previously, Virgin Media does not supply WLA, and is not expected to enter the WLA Market over the timeframe of this review. Furthermore, ComReg has assessed whether it possible for Virgin Media to enter the WLA market and provide WLA products. As set out in paragraphs 5.60 to 5.62, ComReg does not consider that it is technically feasible for WLA products can be offered over a CATV network within the lifetime of this market review.
- 6.34 Other than Virgin Media, Eircom's competitors in the various retail markets are, for the most part, not vertically integrated. For example, Vodafone and Sky provide retail telephony and broadband services using wholesale inputs provided by Eircom and BT Ireland (which is effectively reselling Eircom WLA and WCA products).⁴⁷⁵ Vodafone also purchases VULA services from SIRO (to which it is a 50% co-owner in a Joint Venture with the ESB, as set out in paragraph 3.45), albeit on a small scale to date.
- 6.35 Having regard to the above, ComReg's preliminary view is that Eircom's vertically integrated structure could enhance Eircom's suggested SMP position in the WLA Market by allowing it to behave, to an appreciable extent, independently of its competitors, customers and End Users (and by potentially increasing barriers to entry by, for example, requiring an entrant to enter multiple vertically-related markets concurrently). In this respect, Eircom, absent regulation, is not reliant on its wholesale arm to generate sales (and profitability) as it could do so via its downstream arm.

Barriers to Expansion

- 6.36 As set out in Section 4 and 5 regarding the retail and WLA market, the rollout of networks in Ireland depends heavily on the economies of density. By virtue of its incumbency, Eircom has already overcome such barriers to expansion and is capable of providing WLA services to itself and its wholesale customers on a national basis. Existing competitors in the WLA Market may be unable to overcome such barriers to expansion due to the lower population density in rural areas. ComReg further considers barriers to entry and expansion in paragraphs 6.47 to 6.77 below.

⁴⁷⁵ BT Ireland supplies only Current Generation Bitstream services to Vodafone Ireland. Vodafone also buys CGA and NGA services from Eircom.

Pricing Behaviour

- 6.37 The development and extent of competition in a market over time may be evident in the pricing of WLA products, services and facilities. In an SMP assessment, the ability of a SP to behave, to an appreciable extent, independently of the pricing behaviour of its competitors may be suggestive (but not determinative in itself) of SMP when considered alongside other factors. In view of this, ComReg has reviewed trends in the WLA pricing over time.
- 6.38 Eircom's wholesale prices for LLU, Line Share and VULA products are regulated by ComReg. Table 14 below outlines Eircom's wholesale prices and changes in them since 2007. The price of LLU dropped by 24.5% when the price was adjusted in March 2010 and subsequently fell by a further 20.1% in February 2013. These adjustments were as a result of regulatory intervention by ComReg, however, and are not determinative as to what Eircom might do absent regulation. Nevertheless, the fact that the only circumstances within which LLU prices have dropped has been based on regulatory intervention, may be suggestive of a lack of outside effective competitive constraints on Eircom's price setting behaviour.

Table 14: Eircom's regulated WLA prices 2007 - 2016

	Dates to and from	Prices	% Change
LLU	01/12/2007 - 08/03/2010	€16.43	
	09/03/2010 - 31/01/2013	€12.41	-24.5%
	01/02/2013 - 31/06/2016	€9.91	-20.1%
	01/07/2016 - 30/06/2017	€9.34	-5.8%
	01/07/2017 - 30/06/2018	€9.88	5.8%
	01/07/2018 - 30/06/2019	€10.40	5.3%
VUA (FTTC)	20/05/2014 - 30/06/2015	€17.50	
	01/07/2015 - 30/08/2016	€19.50	11.4%
	01/09/2016 - present	€23.00	17.9%
VUA (FTTH)	31/08/2015 - 31/08/2016	€20.50 (150Mb)	
		€25.50 (300Mb)	
		€35.50 (1000Mb)	
	01/09/2016 - present	€23.50 (150Mb)	14.6%
		€28.50 (300Mb)	11.8%
		€38.50 (1000Mb)	8.4%

- 6.39 Eircom's VUA products, used in the provision of retail FTTC and FTTH services are currently set at €23.50 and €28.50 to €38.50 (depending on speed) respectively. Eircom's pricing of VUA is currently subject to a 'Retail Minus' obligation (as discussed in Section 8) by virtue of its SMP position, as designated in the 2011 WBA Decision. Eircom, through retail price increases can raise the price of its wholesale VUA inputs, thereby raising the cost of Access Seekers and its rivals in downstream and retail markets.
- 6.40 However, given the lack of effective (existing) competition in the WLA Market it is ComReg's preliminary view that, absent regulation, Eircom has both the ability and incentive⁴⁷⁶ to increase prices (above the competitive level) offered/charged to Access Seekers for WLA.
- 6.41 In light of the above, there is no firm behavioural evidence to suggest that Eircom is facing effective pricing constraints in the provision of WLA.

Preliminary Conclusion on Existing Competition

- 6.42 Having regard to ComReg's assessment in paragraphs 6.17 to 6.41 above, ComReg's preliminary view is that, absent regulation in the WLA Market, it is unlikely that Eircom would be sufficiently constrained by existing competition such that it would prevent Eircom from behaving, to an appreciable extent, independently of competitors, customers and End Users.
- 6.43 Eircom's persistently high market shares, the lack of effective indirect pricing constraints and no notable evidence of competition materially impacting Eircom's pricing behaviour is suggestive of Eircom having SMP in the WLA Market. Below, ComReg considers other relevant factors (potential competition and CBP) which may have the effect of diminishing or undermining Eircom's suggested SMP position in the WLA Market.

Potential Competition in the WLA Market

- 6.44 Noting the absence of an effective competitive constraint posed by existing competition, ComReg now assesses the likely effectiveness of any constraints likely to be posed by potential competition in the WLA Market.
- 6.45 This assessment considers whether entry (and expansion) in the WLA Market is likely, timely, and credible to such an extent that it would effectively constrain Eircom's ability to act independently of its competitors, customers and End Users over the medium term⁴⁷⁷.

⁴⁷⁶ These abilities and incentives are discussed in Section 6 dealing with competition problems.

⁴⁷⁷ See paragraph 74 of the European Commission's SMP Guidelines.

6.46 In considering constraints posed by potential competition, ComReg first examines the barriers to entry and expansion insofar as they may impact upon the effectiveness of the constraints posed by potential competitors. Then, ComReg assesses the strength of any such potential competition having regard to the barriers to entry and expansion that have been identified.

Barriers to Entry and Expansion

6.47 In assessing the likelihood of potential competition to act as an effective constraint on Eircom over the period of this review, ComReg has examined the nature and extent of any barriers to firms both entering and subsequently expanding⁴⁷⁸ in the WLA Market.

6.48 Barriers to entry⁴⁷⁹ generally comprise any disadvantage that a new entrant faces when entering a market that incumbents do not currently face. According to the Explanatory Note to the 2014 Recommendation:⁴⁸⁰

“...high structural barriers may be found to exist when the market is characterised by absolute cost advantages, substantial economies of scale and/or economies of scope, capacity constraints, and high sunk cost. Such barriers can be found in sectors that rely on the deployment of networks, such as fixed networks for electronic communications.”

6.49 Assessing the barriers to entry and expansion involves initially identifying what represents credible entry into the WLA Market. In order to provide an effective competitive constraint in the WLA Market, a potential entrant must provide a product that at least meets the characteristics of the WLA products, services and facilities discussed in Section 5 (thereby meeting the expectations of Access Seekers). ComReg examines the barriers to entry according to the criteria identified in paragraphs 6.10 to 6.14 above.

⁴⁷⁸ ComReg notes that barriers to expansion would more typically be considered under constraints from existing competition, however, given similarities associated with issues concerning barriers to entry we considered them in this context.

⁴⁷⁹ Barriers to growth and expansion are obstacles that a new entrant (or smaller existing competitor) faces in its ability to grow or expand in a particular market, and which limit its ability to assert an effective competitive constraint over the medium to longer term.

⁴⁸⁰ Explanatory Note to 2014 Recommendation, page 9.

Overall size of the undertaking and control of infrastructure that is not easily replicated

- 6.50 The SMP Guidelines cite control of infrastructure not easily duplicated as one relevant criterion for assessing whether SMP exists and that this may be relevant where:
- (a) access to a certain infrastructure is necessary to produce a particular product or service (in this case WLA);
 - (b) the required infrastructure is exclusively or overwhelmingly under the control of a certain undertaking; and
 - (c) there are high and non-transitory barriers associated with replacing the infrastructure in question.⁴⁸¹
- 6.51 As set out in paragraphs 6.17 to 6.18 above, Eircom is by far the largest supplier of WLA products. Eircom is also the largest provider of retail telecommunications services in Ireland. Eircom enjoys control of an extensive or near ubiquitous access infrastructure that is not easily replicated by its retail and/or wholesale competitors.⁴⁸² Eircom also benefits from its large network coverage, subscriber base size and product portfolio thereby giving it the ability to exploit greater economies of scale and scope in the provision of services, including WLA, than might otherwise be achievable by actual or potential competitors.
- 6.52 As discussed in Section 5, SPs require access to infrastructure in order to provide WLA. Potential entry into the WLA Market by a SP would involve one or more of the following actions:
- (a) Building an independent network to offer WLA; and/or
 - (b) Adapting an existing network to provide WLA.

⁴⁸¹ Note that the replicability of Eircom's infrastructure is also directly related to the criterion of sunk costs, the overall size of Eircom's network coverage and customer base, as well as economies of scale, scope and density associated with a largely ubiquitous network infrastructure.

⁴⁸² However, it should be noted that it may not be necessary to fully replicate Eircom's infrastructure in order to pose an effective potential competitive constraint in the WLA Market.

- 6.53 Each of the above approaches would entail varied but significant entry barriers and the degree to which each would be potentially effective for replicating Eircom's WLA service (and effectively constrain Eircom's behaviour) would vary, including having regard to the depth of network coverage provided⁴⁸³. In this respect, ComReg assesses below whether a SP's ability to replicate Eircom's WLA service by using one of the above entry strategies would effectively act to constrain Eircom's pricing behaviour in the WLA Market over the period of this review.
- 6.54 ComReg recognises that it may not be necessary to fully replicate Eircom's infrastructure in order for a potential entrant to pose an effective competitive constraint in the WLA Market. However, factors such as cost advantages that Eircom is likely to have relative to the potential competitors arising from sunk costs, economies of scale and scope, and vertical integration are all likely to influence the extent to which Eircom's WLA infrastructure is replicable, and hence the degree of competitive constraint arising from potential competition in the WLA Market through entry.

EU Civil Infrastructure Directive

- 6.55 ComReg notes that the EU Civil Infrastructure Directive ('CID'),⁴⁸⁴ which came into force on 1st July 2016, aims to assist the rollout of high speed telecommunications networks by ensuring that Access Seekers can obtain access to infrastructure operated by various infrastructure owners (including, but not limited to telecommunications infrastructure owners).

⁴⁸³ In this regard ComReg notes that localised entry would be easier than broader entry into the WLA Market.

⁴⁸⁴ Directive 2014/61/EU of the European Parliament and of the Council of 15 May 2014 on measures to reduce the cost of deploying high-speed electronic communications networks (L 155/1) (the '**Civil Infrastructure Directive**' or '**CID**'). The CID is transposed into Irish law by the European Union (Reduction of Cost of Deploying High speed Public Communications Networks) Regulations 2016 [S.I. No. 391 of 2016](#) ('**2016 Network Cost Reduction Regulations**').

- 6.56 While the CID requires infrastructure owners to grant access (upon request) to their infrastructure for the purposes of rolling out fibre networks, thereby lowering the barriers to entry for Access Seekers, it is important to note that obligations imposed under the CID are considered as being a complement to, rather than alternative to the remedies imposed on a SP designated with SMP.⁴⁸⁵ The obligations imposed under the Directive require the terms of access to be fair and reasonable, but do not specifically impose any transparency, non-discrimination or price control obligations. In addition, there is no requirement for access to infrastructure to be provided on an Eol basis⁴⁸⁶, allowing access to be provided on a different basis to Access Seekers than the SP provides to itself.
- 6.57 In Sweden, PTS, the telecoms regulator, initially proposed not to impose duct access obligations on the SMP operator, then subsequently changed course, noting that the CID was not aimed exclusively at overcoming competition problems.⁴⁸⁷

Sunk Costs

- 6.58 Sunk costs are costs incurred that cannot be recovered if an entrant decides, or is forced, to exit the market. The existence of sunk costs does not automatically imply that entry barriers are high. In fact, a certain level of sunk costs will be involved in entering most markets, and the incumbent may also have had to pay a similar level of sunk cost before it entered retail markets and/or the WLA Market (and related markets).
- 6.59 However, in some circumstances it is more difficult for new entrants to break into a market than it was for the first firm (or subsequent firms) to enter. Such circumstances create a decisional asymmetry, where an incumbent has already incurred and recovered sunk costs but a new entrant has not. In general, it is understood that higher sunk costs associated with market entry discourage entry.⁴⁸⁸

⁴⁸⁵ Paragraph 12 of the CID.

⁴⁸⁶ Eol is discussed further in Section 8, paragraphs 8.399 to 8.412.

⁴⁸⁷ PTS, Utkast till beslut om fastställande av företag med betydande inflytande på marknaden för lokalt tillträde till nätinfrastruktur (marknad 3a) (28 October 2014) pg. 159, available at <http://www.pts.se/upload/Remisser/2014/11-9306-utkast-beslut-lokalt-tilltrade.pdf>.

⁴⁸⁸ OECD, Barriers to Entry, (DAF/COMP(2005)42), 2006, Paris.

- 6.60 Eircom operates a ubiquitous copper and wide coverage FTTx access network that supports nationally or widespread available WLA products (amongst others). A significant portion of the sunk costs that were involved in the initial construction of Eircom's copper and FTTx network⁴⁸⁹ are likely to be largely amortised at this point in time. ComReg recognises that Eircom, through its ongoing FTTx network upgrade, is also likely to continue to utilise a large number of assets for which the costs are already sunk⁴⁹⁰ in upgrading and replacing its network infrastructure. Any new entrant would, nonetheless, face higher sunk costs than that which is faced by Eircom given its existing network, including the recent FTTx upgrades.
- 6.61 The degree of sunk costs associated with future entry into the WLA Market would depend on the approach being taken for entry, and the extent to which the potential entrant already has infrastructure in place that can be harnessed to provide WLA. The following is a summary of the sunk costs associated with the options for market entry that were identified in paragraph 6.52 above.

Building an independent network to provide WLA services

- 6.62 Building an independent network would require significant financial investment and time. The proportion of expenditure on, for example, trenches, ducts and over-ground/underground plant is likely to be particularly high and sunk when it comes to deploying a local access network. Therefore entry into the WLA Market is likely to involve significant costs which would be largely sunk and, relative to an existing WLA SP, an entrant faces an increased the risk of non-recovery of sunk costs.
- 6.63 In order to impose an effective competitive constraint it may not be necessary for an alternative SP to entirely replicate the coverage of Eircom's WLA network, however, ComReg notes that the geographic coverage of a hypothetical alternative WLA product is likely to be an important feature for Access Seekers. Therefore, while a more extensive infrastructure deployment would have the potential to have a greater impact on competition in the WLA Market, so too would it incur higher sunk costs which could deter entry and/or expansion.

⁴⁸⁹ Note that Eircom provides retail and wholesale services over its copper access network and its FTTx network.

⁴⁹⁰ Eircom's FTTC/H deployment re-utilises existing assets such as duct/trench, exchanges etc.

- 6.64 As set out in paragraphs 5.48 to 5.53, SIRO has begun to rollout an FTTH network over which it offers WLA services. In doing so, SIRO is utilising the duct/pole (and other) assets of ESB (its partner in the JV) thereby lowering its entry costs somewhat. As noted previously, to date, the SIRO rollout has been slow, with a small number of premises passed within a limited geographic footprint. As noted in paragraph 5.50, SIRO have indicated to ComReg that it expects its rollout to advance in coming 2016/2017 period. In September 2016, SIRO announced its rollout was gathering pace, with its network rollout now passing 10,000 premises a month across 17 towns.⁴⁹¹
- 6.65 However, ComReg has taken account of SIRO's rollout in the consideration of the impact of existing competition above, including SIRO's expected future coverage and the awarding of the NBP due in 2017.

Adapting an existing network to provide WLA

- 6.66 The sunk costs involved in entering the WLA Market may be lessened where the entrant has an existing network in place. For example, Virgin Media as an existing CATV network SP may be able to avoid certain sunk costs that would otherwise be incurred by SPs entering the WLA Market. However, this will depend on the extent to which the Virgin Media CATV network is conducive to provision of WLA.
- 6.67 Furthermore, an entrant using an existing network would still be likely to incur other sunk costs associated with developing and marketing a wholesale product and putting in place the necessary order handling, product management and billing systems. There may also be other sunk costs also associated with reconfiguration of the network and points of interconnection with wholesale customers to accommodate entry in the WLA Market.
- 6.68 As part of ComReg's assessment of the WLA market, ComReg has assessed whether it is possible to provide WLA services over a CATV network, from a technical and economic perspective. As noted in paragraph 5.61, the WIK CATV Report concluded that it is unlikely that WLA products could be offered over a CATV network. Insofar as Virgin Media is concerned, absent regulation, it is also questionable as to whether Virgin Media has an incentive to enter the WLA Market given it would potentially result in the cannibalisation of its own retail customer base, network quality and associated revenues/profits.
- 6.69 Given the above, we do not consider that potential entry by Virgin Media would credibly constrain Eircom's suggested market power.

⁴⁹¹ SIRO - <http://siro.ie/siro-invest-e40-million-roll-6-new-towns-end-2016/>

Economies of scale, economies of scope and economies of density

- 6.70 Economies of scale, scope and density refer to potential advantages that larger operators may enjoy over smaller operators. Economies of scale generally refer to the cost advantage which a large-scale operator may have over a smaller operator where the marginal cost of production decreases as the quantity of output produced increases. Economies of scope refer to the potential efficiencies which may be gained by a firm jointly producing a range of goods and services, For example, where a FTTx network could be used to provide telephony, TV, broadband and leased line services simultaneously. Economies of density refer to potential efficiencies associated with supplying customers who are geographically concentrated.
- 6.71 Economies of scale, scope and density in relation to the provision of WLA have to be considered in light of the retail market, where the cost of supply per customer decreases in line with the number of customers supplied. Economies of scale and scope could act as a barrier to entry in the WLA Market because Eircom has a more substantial customer base (comprised of its self-supply of WLA to its retail subscribers and Access Seekers purchasing WLA and WCA services) than any other SPs.
- 6.72 It is ComReg's preliminary view that the WLA Market (and related markets) is characterised by economies of scale, scope and density. This is because a large portion of the costs of building and maintaining a telecommunications network are fixed, therefore the average costs of providing services, per subscriber, will fall as the number of customers served by the network increases. Economies of scale and density will, therefore, be achieved where a SP can serve as many subscribers as possible from its investment in a given part of the network, e.g. an exchange/MPoP (or equivalent). That also means that the ability of a SP to offer a viable service can often depend on its ability to acquire a large number of retail and/or wholesale customers on a local and national level.
- 6.73 Economies of density are evident from the uneven deployment of competing networks across Ireland. As discussed in paragraphs 5.50 and 5.67 respectively, the SIRO FTTH network and the Virgin Media CATV network have a subnational footprint, predominately in areas with a higher premises density⁴⁹².

⁴⁹² A further discussion on the uneven deployment of competing networks is contained in paragraphs 5.185 to 5.188 of this Consultation

- 6.74 Economies of scope are also evident in that WLA products are often used in the provision of a retail bundle, and networks used to supply such services can typically support a range of wholesale and retail services. As discussed in paragraphs 3.37 to 3.38, there is an increasing trend towards bundles, but some 8% of retail End Users (i.e. total subscriptions across mobile, fixed telephony, internet and TV) purchase services over the Eircom network on a standalone basis.⁴⁹³ Economies of scope could represent an entry barrier if a potential entrant into the WLA Market were required to offer a range of wholesale and retail services in order to compete effectively in the provision of WLA. Thus potentially increasing the costs associated with entry.
- 6.75 For example, in some cases a SP may enjoy a unique ability to provide a diverse product range. In this respect, it may be the case that, in order to compete with Eircom in the supply of WLA, a SP would also need to provide wholesale services of similar quality to those provided by Eircom as an Access Seeker may not wish to contract with a number of separate suppliers of wholesale services (depending on the scale and coverage of such suppliers).
- 6.76 ComReg notes that there are potential competitors to Eircom in the downstream markets, such as Vodafone, Virgin Media and BT Ireland (which sells wholesale services to Sky Ireland), which offer a variety of retail and/or wholesale services. Such companies either have already, to one degree or another, or have the potential to gain benefits from economies of scale and scope by growing retail customer numbers, including through cross selling and bundling products. However, other than Virgin Media, this has been largely enabled through having regulated access to WLA (and WCA) products. It is unlikely, having regard to the responses to SIRs, that such SPs would seek to enter into the WLA Market through the building of a network.
- 6.77 Overall there is evidence to suggest that economies of scale, scope, and density are factors that are relevant for consideration in terms of their potential to strengthen Eircom's suggested SMP position in the WLA Market. Eircom has benefited from its economics of scale, scope and density in the provision of WLA products. These economies are likely to result in high barriers to entry for others SPs who may seek to enter the WLA market.

Product/services diversification (e.g. bundled products or services)

- 6.78 As noted above in Section 3⁴⁹⁴ and in paragraphs 6.74 and 6.75, bundling at the retail level of products and services that are based on WLA (and WCA) inputs are becoming commonplace. ComReg notes that Eircom, Virgin Media and SIRO have the capability to offer downstream bundles based on their respective network inputs.

⁴⁹³ ComReg analysis of data from Q1 2016 QKDR.

⁴⁹⁴ Paragraphs 3.37 to 3.38

Strength of Potential Competitors

- 6.79 Having regard to the barriers to entry identified in paragraphs 6.47 to 6.78 above that are likely, in ComReg's preliminary view, to act to strengthen Eircom's suggested SMP position, ComReg now examines the likelihood, extent and timeliness of potential entry occurring in the WLA Market over the lifetime of the review and whether this is likely to mitigate Eircom's suggested SMP position.
- 6.80 While Section 5 looked at the definition of the WLA Market in terms of short to medium term constraints on the HM provider of WLA, in the context of an SMP assessment, the effectiveness of potential direct and indirect competitive constraints that may materialise are considered over a longer term horizon.
- 6.81 In paragraph 6.52 ComReg identified that Service Providers wishing to compete with Eircom in the WLA Market need would need to either:
- (a) Build an independent network to offer WLA; and
 - (b) Adapt an existing network to provide WLA.
- 6.82 Below, ComReg considers the effectiveness of any competitive constraints arising from potential entry under each of these scenarios.

Building an Independent Network to Provide WLA

- 6.83 ComReg has considered the extent to which potential competition from Greenfield network builds would be likely to materialise and constrain Eircom's suggested SMP position over the period of this market review.
- 6.84 As discussed from paragraphs 6.62 to 6.64 above, there are a number of factors that may act as a barrier to this type of entry occurring in the WLA Market:
- (a) The incumbent WLA supplier controls infrastructure that is difficult for a new entrant to replicate;⁴⁹⁵
 - (b) The incumbent WLA supplier has a large customer base and diversified product range, and therefore benefits from significant economies of scale, scope and density;⁴⁹⁶

⁴⁹⁵ See paragraphs 6.62 to 6.64 for discussion on the sunk costs associated with replicating Eircom's WLA network.

⁴⁹⁶ See paragraphs 6.70 to 6.77 for further discussion on economies of scale, scope and density.

- (c) There are significant sunk costs that would be incurred when entering the WLA Market;⁴⁹⁷ and
- (d) The incumbent WLA supplier benefits from being vertically integrated.⁴⁹⁸
- 6.85 Eircom's strong position in retail market(s) is also likely to exacerbate the barriers to entry/expansion for SPs do not have an existing foothold in related markets (such as fixed telephony, fixed broadband or Pay TV markets).
- 6.86 As noted in paragraphs 5.48 to 5.53, SIRO is constructing an FTTH network that offers WLA products across 50 locations in Ireland. As noted previously, the SIRO rollout has been slow to date with [redacted] premises passed as of September 2016]. Given the barriers to entry outlined above, ComReg considers that while SIRO has entered the WLA market, its network is and is likely to remain of a limited size and scale to not effectively constrain Eircom's behaviour in the WLA Market within the period of this market review. Furthermore, it is ComReg's preliminary view is that the further entry into the WLA Market based on a new network build is unlikely to effectively constrain Eircom within the period of this market review.
- 6.87 However, as noted in Sections 3⁴⁹⁹ and 5, the NBP is expected to commence roll-out as soon as a contract(s) are awarded to the winning bidder(s). This may impact competition in the WLA market as such tenderer(s) are required to offer WLA based VULA products in the identified intervention areas (see NBP coverage map in Figure 17). This means that over the next few years, a potential constraint on Eircom could emerge from an additional supplier of WLA in such areas.

Adapting an Existing Network to Provide WLA

- 6.88 ComReg has considered the extent to which potential entry in the WLA Market by an existing vertically integrated Service Provider would be likely to occur over the period of this market review and effectively constrain Eircom's suggested SMP position.
- 6.89 As discussed above and summarised in paragraph 6.84, the barriers to entry present in the WLA Market may be lessened, in part, if a potential entrant has an existing network that is used to provide other services and could be leveraged to also provide WLA services.

⁴⁹⁷ See paragraphs 6.58 to 6.68 for discussion on the varied degrees of sunk costs associated with different types of entry.

⁴⁹⁸ See paragraphs 6.29 to 6.35 for a further explanation of vertical integration as a barrier to entry.

⁴⁹⁹ See paragraph 3.46 for a discussion on the NBP.

6.90 Relative to a 'Greenfield' entrant, an existing vertically integrated SP seeking to enter the WLA Market could face reduced sunk costs, particularly those relating to the upfront civil costs involved in building a network. An existing SP also has an existing customer base over which it may, through cross-selling, more easily recover entry costs, and may be better placed to achieve economies of scale, scope, and density relative to a 'new build' Greenfield entrant.

Potential WLA entry by Virgin Media

6.91 The second largest vertically integrated network operator in Ireland (the largest being Eircom) is Virgin Media. As discussed in Section 3⁵⁰⁰ and Section 5⁵⁰¹, Virgin Media CATV network coverage extends to approximately 45% of households (38% of total premises in Ireland). As noted in paragraph 3.15, Virgin Media has a large residential subscriber base, and as at Q1 2016, had a 21.6% share of retail broadband subscribers and 24.1% share of retail telephony subscribers⁵⁰², the significant majority of which are residential subscribers.

6.92 As discussed above, Virgin Media's retail services are provided over its CATV network. This is fundamentally different to the WLA products provided by Eircom over its copper and FTTx network. As set out in paragraph 5.61, Virgin Media may not be in a position to offer a WLA type service during the lifetime of this market review.

6.93 In addition, and as noted in paragraphs 5.59 to 5.70, the coverage of Virgin Media's network is more limited, compared to that of Eircom's copper and FTTx network, and for that reason may also not provide the WLA coverage expected by Access Seekers. Virgin Media may need to extend its CATV network in order to attract sufficient Access Seekers to purchase its WLA product, in order for this to ultimately effectively constrain Eircom's behaviour in the WLA Market.

⁵⁰⁰ As discussed in paragraph 3.21

⁵⁰¹ As discussed in paragraph 5.145.

⁵⁰² Q1 2016 QKDR.

- 6.94 Furthermore, as noted in paragraph 5.61, the WIK CATV Report has considered whether it is possible for WLA products to be offered over a CATV network in Ireland from a technical and economic perspective. ComReg is of the preliminary view that it is not possible for Virgin Media to adapt its CATV network to provide WLA services within the lifetime of this market review. Even if it were technically feasible to offer WLA products over a CATV network, Virgin Media would have to incur costs associated with the development of wholesale systems to support, for example, order handling and billing of WLA services. Having regard to Virgin Media's response to the SIRs⁵⁰³, ComReg's preliminary view is that entry by Virgin Media into the WLA Market within the timeframe of this market review is not likely.
- 6.95 For the above reasons, despite Virgin Media having an existing CATV network, it is ComReg's preliminary view that Virgin Media would be likely to face sufficiently high and non-transitory barriers to entry, such that entering upstream WLA Market is, within the period of this market review, unlikely.
- 6.96 ComReg considers it unlikely that Virgin Media would enter the WLA Market on any significant scale, if at all, over the period of this market review such that it would mitigate Eircom's suggested SMP position.

Potential WLA entry by FWA and alternative FTTH networks

- 6.97 ComReg has considered the extent to which entry by other vertically integrated network operators would be likely to constrain Eircom's market power over the period of this market review.
- 6.98 As discussed in 5.153 to 5.161, FWA and alternative FTTH networks are currently and likely to continue to (over the period of this market review) lack the ubiquity expected by WLA Access Seekers⁵⁰⁴. As noted in paragraphs 4.207 to 4.214, FWA as a platform for the provision of retail telephony and broadband access is in decline, which in turn is likely to dampen any notional demand by Access Seekers for a WLA product on this platform.

503 [X] [REDACTED]

504 Potential entry by FWA and alternative FTTH network based operators are considered here for completeness purposes. As set out in Section 5, FWA and alternative FTTH networks have been excluded from the WLA Market definition.

- 6.99 While it may be possible for Access Seekers to purchase WLA on a 'patchwork' basis (using, for example, multiple FWA and/or alternative FTTH suppliers to achieve a high level of coverage⁵⁰⁵), ComReg's preliminary view is that this is unlikely to be a realistic or suitable option due to the transaction costs⁵⁰⁶ involved in doing so.
- 6.100 For these reasons, ComReg considers that alternative FWA and FTTH providers are likely to face many of the same barriers to entry into the WLA Market that are faced by 'Greenfield entrants', as identified in paragraph 6.84, because:
- (a) Vertically integrated FWA and alternative FTTH Service Providers are unlikely to benefit from the economies of scale enjoyed by the incumbent WLA supplier. Thus making it more difficult to compete effectively; and
 - (b) Vertically integrated FWA and alternative FTTH Service Providers are likely to face significant sunk costs in attempting to replicate (even to a lesser scale) the WLA service offered by the incumbent WLA supplier.
- 6.101 Given the barriers to entry identified above, the general decline in demand for retail services provided over FWA and the limited rollout of alternative FTTH networks, over the period of this review ComReg does not expect that the entry of these alternative vertically integrated network operators into the WLA Market is likely, nor that sufficient demand would arise for WLA services provided across these platforms such that it would constrain Eircom's suggested SMP position.

Preliminary Conclusion on Potential Competition in the WLA Market

- 6.102 In paragraphs 6.44 to 6.101 ComReg has considered the extent to which potential competition would, over the period of this market review, be likely to effectively constrain Eircom's behaviour in the WLA Market such that it would mitigate Eircom's suggested SMP position. Overall, ComReg's preliminary view is that absent regulation in the WLA Market, it is unlikely that Eircom would be sufficiently constrained by potential competition such that it would prevent Eircom from behaving, to an appreciable extent, independently of competitors, customers and End Users.

⁵⁰⁵ ComReg considers that even if alternative FTTH networks were to exist, these would likely have a limited geographic scope and coverage.

⁵⁰⁶ These could include the expense associated with developing and maintaining automated customer management systems with multiple providers, migration costs, the need to potentially build new IT system interfaces, the need to develop/agree operational and technical aspects of the service, other costs associated with switching to new CPE and network equipment.

Countervailing Buyer Power

- 6.103 Below, ComReg considers whether bargaining power on the buyer side of the WLA Market is likely to impose a sufficient competitive constraint on Eircom, such that it would credibly offset Eircom's suggested power to behave, to an appreciable extent, independently of competitors, customers and ultimately End Users.
- 6.104 In so doing, ComReg examines whether sufficient⁵⁰⁷ countervailing buyer power ('**CBP**') exists such that it results in Eircom not being able to sustain WLA prices that are above the competitive level, i.e. the effective exercise of CBP is one which results in WLA prices being constrained to the levels that would be achieved in a competitive market outcome.

Overview of Framework for CBP Assessment

Necessary Conditions for Effective CBP

- 6.105 The effectiveness of CBP is likely to be significantly dependent on the strength of the bargaining power of the purchaser in its WLA negotiations. The European Commission's 2009 enforcement priorities in applying Article 102 of the Treaty of the Functioning of the European Union to abusive exclusionary conduct by dominant undertakings⁵⁰⁸ (the '**2009 Enforcement Priorities**') are informative on the issue of CBP in competition assessments. These state⁵⁰⁹ that:

⁵⁰⁷ The existence of some level of CBP would not, in itself, be sufficient. Rather, it must be sufficiently strong such that it results in WLA pricing being prevented from rising above a level that would pertain in a competitive market outcome.

⁵⁰⁸ Communication from the Commission — Guidance on the Commission's enforcement priorities in applying Article 82 of the EC Treaty to abusive exclusionary conduct by dominant undertakings (2009/C 45/02). Available at <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:C:2009:045:0007:0020:EN:PDF>.

⁵⁰⁹ Paragraph 18 of the 2009 Enforcement Priorities.

“Competitive constraints may be exerted not only by actual or potential competitors but also by customers. Even an undertaking with a high market share may not be able to act to an appreciable extent independently of customers with sufficient bargaining strength. Such countervailing buying power may result from the customers' size or their commercial significance for the dominant undertaking, and their ability to switch quickly to competing suppliers, to promote new entry or to vertically integrate, and to credibly threaten to do so. If countervailing power is of a sufficient magnitude, it may deter or defeat an attempt by the undertaking to profitably increase prices. Buyer power may not, however, be considered a sufficiently effective constraint if it only ensures that a particular or limited segment of customers is shielded from the market power of the dominant undertaking.”

6.106 In its Horizontal Mergers Guidelines⁵¹⁰, the European Commission also notes that:

“Countervailing buyer power should be understood as the bargaining strength that the buyer has vis-à-vis the seller in commercial negotiations due to its size, its commercial significance to the seller and its ability to switch to alternative suppliers.”

6.107 In light of the above, it is ComReg’s preliminary view that effective CBP results from buyers/customers that:

- (a) Account for a significant proportion of the supplier’s total output;
- (b) Are well-informed about credible alternative sources of supply; and
- (c) Are able to switch to other suppliers at little cost to themselves, or to self-supply the relevant product relatively quickly and without incurring substantial sunk costs.

6.108 It is also of note that effective CBP is that which has a broader market impact and not that which only results in a limited segment of customers benefiting from better terms and conditions.

Impact of Regulation on CBP Assessment

6.109 In carrying out an assessment of CBP it is also necessary to consider the impact of existing or future potential regulation and, in this regard, ComReg sets out its approach to the treatment of:

⁵¹⁰ European Commissions “Guidelines on the assessment of horizontal mergers under the Council Regulation on the control of concentrations between undertakings”, [Official Journal C 31, 05.02.2004](#), para 64, (the ‘**Horizontal Mergers Guidelines**’).

- (a) Existing SMP regulation in the WLA Market, being the markets within which prospective SMP is now being assessed; and
- (b) Existing SMP regulation in markets other than the Relevant WLA Market.

Existing SMP Regulation

- 6.110 Insofar as existing SMP regulation in the WLA Market is concerned, ComReg has already noted that throughout this analysis it adopts the European Commission's Modified Greenfield Approach⁵¹¹, whereby SMP regulation in the market under consideration is discounted when considering the prospective SMP analysis of the Relevant WLA Market.
- 6.111 In the context of the assessment of the existence of any effective CBP, ComReg considers the potential bargaining outcomes in the absence of Eircom having been designated with SMP (or being potentially designated with SMP) and absent SMP obligations being imposed on it. This is to avoid drawing conclusions regarding the competitive structure of a particular market which may be influenced by, or indeed premised on, existing or potential regulation on that market. Considering how the WLA Market may function absent regulation helps to ensure that regulation is only applied (or withdrawn) in those circumstances where it is truly justified and proportionate. To do otherwise could result in a circularity of argument whereby, for example, the WLA Market is found to be effectively competitive (or not) only by virtue of constraints arising from existing or potential SMP obligations. Once found then to be effectively competitive, SMP obligations would be withdrawn in the WLA Market, thereby undermining the original finding of effective competition within those markets.

SMP Regulation in markets other than the Relevant WLA Market

- 6.112 The bargaining position of an undertaking with SMP obligations in markets other than the WLA Market is likely to be somewhat weakened in any negotiations regarding WLA. In this respect, Eircom is designated with having SMP in a number of regulated markets⁵¹² and has SMP obligations imposed upon it.

⁵¹¹ See paragraph 5.5.

⁵¹² This includes FVCT, FACO and MVCT (through Meteor) market. While Eircom is also designated with SMP in the Wholesale Central Access ('WCA') Market, for the purposes of the CBP assessment, we discount this given the requirements of the Modified Greenfield Approach (outlined in paragraph 5.5 and footnote 354). The WCA market also forms part of the current market review, and is assessed as a downstream market to the WLA market in Sections 8 to 11 of this Consultation.

- 6.113 As a consequence, this somewhat weakens its bargaining position insofar as it limits the credibility of, for example, threats of increased wholesale prices in those markets – but not the credibility of threats of price increases in the WLA Market. Similarly, a number of Eircom’s largest WLA customers⁵¹³ are also subject to SMP regulation in other markets which also constrains their bargaining positions. In particular, BT Ireland, Magnet and Digiweb (through its purchase of Smart Telecom) is subject to SMP obligations in the FVCT Market pursuant to the 2007 FVCT Decision. Furthermore, Vodafone is subject to SMP obligations in the MVCT Market pursuant to the 2012 Termination Rates Decision.
- 6.114 In light of the above, it is ComReg’s preliminary view that Eircom’s WLA customers’ positions in these markets is not likely to strengthen their bargaining power in its negotiations with Eircom, in particular, given its SMP position in such markets undermines the credibility of any threat to retaliate by, for example, imposing price increases or denying access to wholesale services provided in these markets.

CBP Assessment

- 6.115 As noted in paragraph 6.107, the circumstances in which CBP could act as an effective competitive constraint are where buyers/customers:
- (a) account for a significant proportion of the supplier’s total output;
 - (b) are well-informed about credible alternative sources of supply; and
 - (c) are able to switch to other suppliers at little cost to themselves, or to self-supply the relevant product relatively quickly and without incurring substantial sunk costs.
- 6.116 The above factors are considered below (note that ((b) and ((c) are considered together), along with any evidence of effective CBP being exercised in negotiations between Eircom and Access Seekers.

Size of the Buyer and its Relative Importance to the Seller

- 6.117 The strength of CBP can be influenced by the relative size of the buyer, with this being measured according to the buyer’s share of WLA lines purchased from the SP (in this case, Eircom) relative to total purchases of WLA lines from the same SP. The degree to which high shares of WLA purchases are concentrated amongst one or more buyers could also be relevant.

⁵¹³ For example, BT Ireland, Magnet and Digiweb (through its purchase of Smart Telecom).

6.118 Table 15 below shows the relative share of WLA Access Seekers' and Eircom's own self-supply of WLA subscriptions (LLU, Line Share or VULA lines). It illustrates that Eircom's retail business, with a [~~REDACTED~~%] share of overall WLA purchases is, by a significant margin, the largest purchaser. BT Ireland has a [~~REDACTED~~%] share of overall WLA purchases and is by far the largest third-party purchaser of WLA. BT Ireland also competes with Eircom in the WCA Market on the basis of its wholesale purchases from Eircom in the WLA Market. This has the potential to increase Eircom's incentives to frustrate BT Ireland purchases in the WLA Market. The remaining shares of WLA purchases are split amongst a number of smaller Access Seekers (in terms of purchases).

Table 15: Share of Total WLA subscriptions by customer February 2016
[~~REDACTED~~]

	LLU		VUA		Total (LLU and VUA)	
Total Wholesale	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED
Total Self-Supply	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED
Total Wholesale and Self-Supply	REDACTED	100%	REDACTED	100%	REDACTED	100.0%
Operator Name	Lines Purchased	Share of Total Wholesale	Lines Purchased	Share of Total Wholesale	Total Lines Purchased	Share of Total Wholesale and Self-Supply
3Play Plus	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED
BT Ireland	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED
Colt	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED
Magnet	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED
Smart	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED
Total	REDACTED	100.0%	REDACTED	100.0%	REDACTED	100%

- 6.119 Therefore, while one Access Seeker represents a significant proportion of Eircom's WLA sales, the largest purchaser of WLA by a significant margin is Eircom's own downstream business. Eircom is a vertically integrated SP that earns most of its revenue from supplying retail services. Eircom is not, therefore solely reliant on WLA revenues. Indeed, absent regulation, it is ComReg's preliminary view that WLA Access Seekers' (direct or indirect) subscribers would purchase retail services from Eircom.⁵¹⁴ Assuming that Eircom's retail division is profitable, then Eircom would be likely to increase its profitability and revenue by gaining a retail customer at the expense of WLA revenue.
- 6.120 Vodafone have indicated plans to avail of Eircom's VUA product⁵¹⁵ [redacted].
- 6.121 Having regard to the above, ComReg's preliminary view is while BT Ireland is the largest external purchaser of WLA from Eircom, this is not likely to strengthen its bargaining position as any dependency by Eircom's on wholesale revenues earned from BT Ireland could be largely converted to retail revenues. ComReg also note that BT Ireland has no external source of supply, other than Eircom, in the WLA Market at present.

Credible Alternative Sources of Supply

- 6.122 As noted in paragraphs 6.51 to 6.52, Eircom is the largest supplier of WLA and Access Seekers purchasing WLA have, within the lifetime of this review, limited options for switching to another supplier⁵¹⁶. As noted previously, the SIRO network rollout has been slow to date, and is likely to have a limited footprint within the period under review in this market review. As such, the SIRO network may not be a credible alternative source of local access for Access Seekers looking for a large scale footprint. ComReg has set out its preliminary view above that effective potential competition in the WLA Market is also not likely to emerge within the period of this market review.

⁵¹⁴ As noted in paragraphs 5.161 to 5.166, ComReg set out its preliminary view that, absent regulation, a significant number of retail subscribers of Access Seekers using WLA inputs would switch to purchasing services directly from Eircom.

⁵¹⁵ Vodafone began migrating customers to Eircom's VUA product set in August 2016.

⁵¹⁶ Given BT Ireland, Vodafone and Sky are (either directly or indirectly) the largest End Users of Eircom's WLA products and that these are relatively large organisations having significant experience of operating within electronic communications markets, they would be likely to be reasonably well informed about alternative sources of supply, were they to exist.

6.123 Access Seekers therefore rely on Eircom's WLA services to provide retail (and wholesale) services to their customers, and in the absence of regulation, are unlikely to be in a position to credibly threaten to respond to changes in Eircom's commercial terms and conditions by seeking an alternative source of supply. As discussed in paragraphs 5.97 to 5.98, in response to a WLA price increase by Eircom, barriers to entry would be likely to inhibit Access Seekers from switching to self-supplied WLA in response.

Evidence of bargaining power from operator negotiations

6.124 ComReg has considered whether effective CBP being exercised is evident from bargaining in WLA negotiations between Eircom on the one hand and Access Seekers on the other. In this respect, in paragraphs 6.37 to 6.41 ComReg examined Eircom's WLA pricing behaviour and set out its view that there is no firm behavioural evidence to suggest that Eircom is facing effective pricing constraints in the provision of WLA. This also suggests that effective CBP has not been or is likely to be a relevant factor in constraining Eircom's behaviour in the WLA Market.

Preliminary Conclusion on CBP Assessment

6.125 Having regard to the analysis in paragraphs 6.103 to 6.124 above, ComReg's preliminary view is that it is unlikely that Eircom would be sufficiently constrained by CBP such that it would prevent it from behaving, to an appreciable extent, independently or competitors, customers and End Users.

Proposed Designation of Eircom with Significant Market Power

6.126 In paragraphs 6.14 to 6.125 above, ComReg has considered a wide range of factors to identify whether any undertaking enjoys a position of SMP in the Relevant WLA Market identified in Section 5. These factors have included:

- (a) Existing competition in the Relevant WLA Market;
- (b) Potential competition in the Relevant WLA Market; and
- (c) The strength of any Countervailing Buyer Power.

6.127 ComReg's preliminary view is that the WLA Market is not effectively competitive and that Eircom would not be sufficiently constrained by the above factors such that it would prevent it from behaving, to an appreciable extent, independently of competitors, customers and End Users.

- 6.128 Where ComReg determines, as a result of a market analysis carried out by it in accordance with Regulation 27 of the Framework Regulations, that a given market identified in accordance with Regulation 26 of the Framework Regulations is not effectively competitive, ComReg is obliged to designate an undertaking under Regulation 27(4) of the Framework Regulations as having significant market power.
- 6.129 Having regard to the preliminary conclusions of the above market analysis, ComReg is of the preliminary view that Eircom should be designated as having SMP in the WLA Market.

Question 5: Do you agree with ComReg's assessment of SMP? Please explain the reasons for your answer, clearly indicating the relevant paragraph numbers to which your comments refer, along with all relevant factual evidence supporting your views.

7 WLA Market Competition Problems and Impacts on Competition and Consumers

Overview

- 7.1 In this Section ComReg now seeks to identify those competition problems which, absent regulation⁵¹⁷, could potentially arise in the WLA Market (and related markets) and, having done so, ComReg proceeds in Section 8 to consider the imposition of appropriate remedies to address the identified competition problems.
- 7.2 In Section 6, ComReg set out its preliminary view that, in accordance with Regulation 27(4) of the Framework Regulations, the WLA Market is not effectively competitive and proposed that Eircom be designated as having SMP, thereby meaning that it has the ability to act independently of its competitors, customers and consumers.
- 7.3 In accordance with Regulation 27(4) of the Framework Regulations, where an undertaking is designated as having a position of SMP in a relevant market, ComReg is required to impose on that undertaking each of the obligations (or remedies) set out in Regulations 9 to 13 of the Access Regulations, as ComReg deems appropriate.
- 7.4 As noted in the European Commission's Explanatory Note to the 2014 Recommendation, the underlying purpose of the *ex ante* regulatory framework is to deal with predictable competition problems that have their origin in structural factors in the industry. For example, the finding of an absence of effective competition in the WLA Market indicates the potential for competition problems to arise within it (and related markets) over the review period in question, thereby justifying the imposition of *ex ante* regulation.
- 7.5 It is ComReg's preliminary view that the underlying ability and incentives for Eircom to potentially engage in anti-competitive behaviour absent regulation is due to the lack of effective competition in the WLA Market, coupled with Eircom's position as a vertically integrated supplier competing with its wholesale customers in downstream markets.

⁵¹⁷ WLA products have to date been provided by Eircom pursuant to regulatory obligations imposed on it under the 2010 WPNIA Decision and the 2013 NGA Decision respectively. The assessment carried out in this section of the Consultation is carried out in the context of what competition problems would be likely assuming that such SMP obligations were not in place.

- 7.6 ComReg would note that it is neither necessary to catalogue examples of actual abuse nor to provide exhaustive examples of potential abuse. Rather, the purpose of *ex ante* regulation is to prevent the possibility of abuse of dominance given that Eircom has been identified on a preliminary basis as having SMP in the WLA Market.

Types of Competition Problems

- 7.7 In determining what form of *ex ante* regulatory remedies are justified in the WLA Market, ComReg has carried out an assessment of potential competition problems that are likely to arise, assuming regulation is absent and taking account of the structure and characteristics of the WLA Market.
- 7.8 In the absence of regulation in the WLA Market, ComReg considers that Eircom would have the ability and incentive to influence competition through effects on prices, innovation, output and the variety or quality of goods and services provided. In general, there are a number of competition problems that may arise when an SMP operator seeks to:
- (a) Exploit customers or End Users by virtue of its SMP position;
 - (b) Leverage its market power into adjacent vertically or horizontally related markets with a view to foreclosing or excluding competitors in downstream and/or upstream markets; and
 - (c) Exclude or delay investment and market entry in the WLA Market (and ultimately downstream markets).
- 7.9 In considering the above competition problems that could arise⁵¹⁸, ComReg has also been guided by experience in the market. Although it is not necessary *per se* to demonstrate actual abuse, examples of competition problems which have previously arisen even in the presence of existing regulation, can help ground the analysis in actual experience.

⁵¹⁸ Such issues are also considered in Section 8 dealing in the context of appropriate remedies (regulatory obligations) to address competition problems.

Exploitative Practices

7.10 Economic theory suggests that where a firm holds market power it is in a position to increase prices above competitive levels and/or reduce output below competitive levels, thereby earning supernormal profits. These higher profits effectively create a wealth transfer from the End User to the firm with market power.⁵¹⁹ It is ComReg's preliminary view that Eircom is the undertaking with SMP in the WLA Market and, given its presence in a number of adjacent markets, would have the ability and incentive to engage in exploitative practices. Such exploitative practices could include excessive pricing, inefficiency or inertia to the ultimate detriment of End Users. These potential concerns are considered below.

Excessive pricing

7.11 According to EU competition case law, excessive pricing refers to a situation where the prices charged by a dominant undertaking are not closely related to the value to the End User and/or the cost of producing or providing the relevant service.⁵²⁰ Concerns about excessive pricing arise where, absent regulation, price levels are likely to be persistently high with no effective pressure (e.g. from new entry or innovation) to bring them down to competitive levels over the period of the review.

7.12 Eircom's presence in the WLA Market is characterised by a high and relatively stable market share (as set out in paragraphs 6.17 and 6.18), an absence of existing effective competition, high barriers to entry associated with control over infrastructure not easily replicated and high sunk costs, limited scope for potential effective competition within the market review period and insufficient CBP. Thus, there is insufficient pressure to constrain Eircom from behaving, to an appreciable extent, independent of its customers, competitors or End Users. There is also insufficient pressure to prevent Eircom from engaging in excessive pricing behaviour in the WLA Market. ComReg considers that Eircom likely has incentives to exploit its WLA customers in this manner as it competes with these SPs in downstream retail and/or wholesale markets.

⁵¹⁹ In addition, ComReg notes there is a potential deadweight loss which can result from the exercise of such market power.

⁵²⁰ Case C 27/76 United Brands v. Commission, [1978] ECR 207, [1978] 1 CMLR 429, para. 250. In United Brands the Court of Justice of the European Union held that: "...charging a price which is excessive because it has no reasonable relation to the economic value of the product supplied would be... an abuse".

- 7.13 For example, by raising the price of WLA inputs above the competitive level, this would raise input costs for those SPs that purchase Eircom's WLA products/services (assuming Eircom would provide them with such inputs absent regulation) in order to offer services in the downstream retail and/or wholesale markets. Given that such inflated wholesale prices may be passed on by the SPs to their retail and/or wholesale customers via higher retail prices, it could lead to reduced revenues for these SPs (through lower sales) and possibly their exit from the downstream retail and/or wholesale markets. In this way, Eircom's excessive pricing of WLA inputs could lead to the exclusion of competitors who purchase these inputs from the downstream retail and/or wholesale markets, and ultimately hinder effective competition in these related markets.
- 7.14 Excessive prices can pose a deterrent to entry and also distort investment incentives as the higher charges raise costs of production for the SPs that purchase from Eircom and constrain their ability and incentive to invest in additional infrastructure.
- 7.15 To address the potential for excessive pricing in the WLA Market, ComReg considers that *ex ante* regulation is required. Competition law applied on an *ex-post* basis is often unsuitable in preventing excessive pricing, and this is evidenced by the scarcity of successful *ex-post* excessive pricing cases within EU jurisprudence. Given the absence of potential competition in the WLA Market (evidenced by the barriers to entry), an *ex-post* approach is not appropriate. An *ex-post* approach to excessive pricing in markets such as the WLA market which is characterised by a lack of effective competition and high and entry barriers, does not likely offer adequate protection for End Users or promote effective competition. This is because addressing the issue of excessive pricing through competition law approaches (if it is proven to the required competition law standard) would likely occur substantially after the occurrence of the competition problem itself, thereby contributing to significant uncertainty amongst downstream market participants in the interim and undermining the development of effective competition to the detriment of End Users.
- 7.16 As noted in the analysis in Section 5 and 6, Eircom's WLA products are currently regulated via various price control obligations. Absent such regulation, ComReg considers that prices for such products would not be set at a competitive level. Given the ability and incentives for Eircom, as the SMP undertaking, to engage in excessive/exploitative pricing, transparency, price control and related cost accounting obligations are therefore considered justified by ComReg to ensure that prices are set at an appropriate level.

7.17 Price control and related non-discrimination obligations are therefore considered justified by ComReg to ensure appropriate WLA charges are set at levels that are reflective of the underlying efficient cost of providing these products and that such charges are applied in a non-discriminatory fashion to other Access Seekers and between Access Seekers and Eircom to itself.

Inefficiency/Inertia

7.18 A firm with SMP in a relevant market may also, by virtue of the lack of effective competitive pressure in that market, be insulated from the need to innovate and improve efficiency and quality of service to stay ahead of rivals. This may limit the development of new technology and/or lead to costlier and less efficient methods of supply⁵²¹ and consequently higher prices for End Users than would otherwise exist under competitive market conditions.

7.19 It may also decide to withhold investment in related markets to delay or impede the development of competition in those markets, e.g. where the SMP firm has control over certain key inputs necessary for Access Seekers to compete in neighbouring markets and delays upgrading those inputs or providing newer, potentially more cost effective inputs in line with technological developments.

7.20 Given Eircom's proposed SMP position in the WLA Market, ComReg is of the preliminary view that absent regulation Eircom would face limited competitive pressure to innovate and provide efficient and effective WLA products. This means that Eircom may be in a position where it could delay any implementation of technology and systems without being vulnerable to the threat of competitors acting first. Any such delayed developments might have otherwise enabled the more efficient provision of retail and/or wholesale services by Access Seekers in the interim. Eircom's WLA customers are, to an extent, dependent on Eircom's timely investment in technology and systems to realise certain efficiency gains, which could potentially be passed on, to some degree, to End Users. As such, potential lower levels of innovation and investment resulting from a lack of effective competition in the WLA Market would likely be to the detriment of End Users.

7.21 ComReg recognises that Eircom's lower incentives to innovate may not be uniform throughout the State, with Eircom more likely to innovate where it faces a degree of competition, including in downstream markets.

⁵²¹ Such inefficiency could potentially be considered an abuse under competition law. Article 102(2)(b) of the TFEU and Section 5(2)(b) of the Competition Act 2002 specifically gives, as an example of an abuse, the limitation of production, markets or technical development to the prejudice of End Users. For example, in *Merci Convenzionali Porto di Genova v. Siderurgica Gabrielli*⁵²¹ the refusal of dock workers (who had a monopoly for the loading and discharging of cargo on behalf of third parties in the port of Genoa) to use modern technology for the unloading of vessels meant that operations were more expensive than they would otherwise be. This failure to use new technology was found to constitute an abuse.

- 7.22 Given the above, apart from price control obligations, ComReg's preliminary view is that access obligations are also justified and required in order to address this potential competition problem. The access obligations may, for example, enable Access Seekers not only to obtain access to currently available services but also to make reasonable requests for access to new services (or more efficient means of providing them) that emerge over the period of the review (and which fall within the scope of the WLA Market). These access obligations would also be supported by non-discrimination, transparency, accounting separation, and price control and cost accounting remedies to ensure that the effectiveness of such access obligations is maintained.
- 7.23 For example, transparency remedies should provide Access Seekers with greater visibility of potential efficiency gains that might arise through technological or system developments. Access and non-discrimination remedies could enable Access Seekers to gain access to effective wholesale products or services that are the same as Eircom's self-provided wholesale WLA inputs. Price control remedies, combined with cost accounting and accounting separation remedies, would then help to prevent excessive and/or discriminatory prices being imposed by the SMP undertaking for new services.

Leveraging

- 7.24 Where a vertically integrated undertaking has SMP in one market that has close links with other adjacent markets either at a similar (e.g. horizontal) or different (e.g. vertical) level in the production or distribution chain, the SMP undertaking may attempt to transfer (leverage) its market power to such vertically and/or horizontally related markets. This could enable the SMP undertaking to strengthen its position in those related markets and/or potentially reinforce its existing market power in the SMP market in question.
- 7.25 Given the close relationship between the WLA Market and vertically related markets (e.g. WCA and various retail markets), there is potential for leveraging to occur, absent regulation. Leveraging may raise rivals' costs, introduce barriers to effective access to WLA products, services and facilities in a timely manner, reduce competitive pressures on related wholesale/retail services and enable the SMP undertaking to extract additional revenues from its competitors, customers and ultimately End Users.
- 7.26 In the context of the WLA Market, horizontal leveraging may occur given that Eircom, as the proposed SMP undertaking, could seek to restrict or distort entry by undermining the alternative supplier (e.g. SIRO) through practices such as unreasonable bundling/tying or by seeking to limit its customer base.

Vertical Leveraging

- 7.27 Vertical leveraging arises where a vertically integrated undertaking is able to leverage its SMP position at one level in the production or distribution chain into downstream markets in which it is also active.
- 7.28 In the context of the WLA Market, vertical leveraging may occur given that Eircom, as the proposed SMP undertaking, has the incentive to use its market power in the WLA Market to affect the competitive conditions in downstream wholesale and/or retail markets, in particular, through its ability to control the key network inputs used by Access Seekers - which compete against Eircom in the downstream markets. This could result in a distortion of or reduction in competition in these downstream markets, potentially resulting in harm to End Users in the form of higher prices, lower output/sales, reduced quality or End User choice.
- 7.29 ComReg considers that, absent regulation, vertical leveraging could arise in the WLA Market because Eircom is a vertically-integrated undertaking, has SMP in this market, and has the ability and incentive to leverage that market power into downstream markets, including (but not limited to) the provision of retail services and Wholesale Central Access. This would serve to enhance its market power in these downstream markets.

Refusal to deal / denial of access / restrictions on access

- 7.30 Vertical leveraging can manifest itself as an outright refusal to supply or a constructive refusal to supply. Refusal to supply is particularly relevant when the SMP undertaking is vertically integrated which facilitates the SMP undertaking to gain strategic advantage over rivals in the downstream markets. Constructive refusal to supply could include delaying tactics such as protracted negotiations in respect of the supply of new wholesale products or features, discriminatory use or withholding of information, excessive prices for WLA products, quality discrimination, disproportionate entry criteria as well as unreasonable terms and conditions associated with access. Further examples of potential leveraging behaviour can include creating or exploiting information asymmetries, margin squeeze, and practices aimed generally at raising an Access Seeker's costs.
- 7.31 A restriction on access might involve an SMP operator restricting the use of a WLA product to specific downstream retail or wholesale services. For example, Eircom could restrict Access Seekers' use of its WLA products, services or facilities, (including ducts or poles) to the provision of only certain services by Access Seekers (while at the same time Eircom's own self-supply is not subject to any such restrictions). This potentially has the effect of limiting Access Seeker' investment, as they cannot benefit from the economies of scale and scope that would result from the ability to use WLA inputs across a range of downstream markets (including but not limited to. retail and wholesale broadband access, fixed telephony, retail TV services or leased lines).

7.32 It should be noted also that even where access is provided to Access Seekers, an SMP undertaking can impose capacity constraints on an Access Seeker that could hinder the latter's ability to provide a timely and quality service to its downstream retail/wholesale customers. For example, an SMP operator could impose order limits or limits on Access Seekers' use of wholesale products (and services that can be offered over them) through restrictive contractual terms and conditions. Such behaviour on the part of an SMP undertaking would serve to enhance their position in the WLA Market and downstream markets by undermining Access Seekers' ability to have reasonable access to wholesale services and thereby compete downstream.

Non-Price Based Vertical Leveraging Behaviour

7.33 Eircom could engage in vertical leveraging behaviours in a number of ways, absent regulation in the WLA Market. Perhaps the most obvious example would be an outright refusal to provide access to WLA services to its downstream competitors. Other examples of non-price vertical leveraging, which can be closely related to each other, can amount to constructive rather than outright denial of access, including:

- (a) **Delaying tactics:** this relates to issues such as protracted negotiations relating to the supply of existing or new WLA products, services or associated facilities to downstream competitors. Another example would be the use of retail contract terms to effectively dissuade a customer from moving to a competing Service Provider in a timely manner, thereby undermining the effectiveness of access to WLA products, services and facilities. An SMP operator has the ability and incentive to engage in a 'first mover advantage' by offering a retail offering before an equivalent wholesale product is made available (at all or effectively) to potential Access Seekers. This first mover advantage has the potential to raise the Access Seekers' costs relative to the SMP operator and restrict the Access Seekers potential future retail sales. Other examples include only agreeing certain contractually terms and conditions while prolonging negotiations on others. For example, agreeing to provide access to WLA services, but delaying negotiations on other terms and conditions such as Service Level Agreements etc.
- (b) **Quality discrimination:** providing downstream competitors with WLA at a lower quality of service (or inferior information) to that which Eircom provides to its own downstream arm (or to certain other competitors). For example, the SMP operator could give priority to its own retail customers when repairing faults or upgrading network assets.

- (c) **Creating or exploiting information asymmetries and the withholding of relevant information:** where downstream competitors are dependent on Eircom to provide WLA and need certain (quality or technical) information in order to effectively compete in downstream wholesale or retail markets, a lack of transparency or asymmetry in the provision of relevant information can impede competition. For example, a lack of transparency in the terms and conditions of supply for WLA products that are self-supplied by the SMP WLA provider could make it difficult for Access Seekers to make effective commercial or operational decisions that involve the use of or investment in WLA inputs for the provision of their own downstream services. Such a lack of transparency could also fail to assure Access Seekers that WLA products are provided on a non-discriminatory basis (including whether Eircom is in a position to demonstrate that there is equivalence of access).
- (d) **Disproportionate entry criteria:** This may, for example, include Eircom setting unreasonable terms and conditions for supply/use of access to WLA products (including associated facilities). An example of this behaviour would include an undue requirement to use a particular (more expensive) technology beyond the extent which might be economically or technically justified. A further example may be contractual terms and conditions limiting an Access Seekers ability to share the infrastructure it uses in availing of WLA services with other Access Seekers.
- (e) **Unwarranted withdrawal of access already granted:** Eircom could seek to unreasonably withdraw access to facilities already granted.
- (f) **Unreasonable product bundling/tying:** this could include the bundling/tying of WLA products in such a way that it damages the ability of Access Seekers to compete downstream. For example, if Eircom required Access Seekers using WLA to also purchase additional and unnecessary services that raises Access Seekers' costs of providing downstream retail and/or wholesale services, this could damage their ability to compete effectively.

- 7.34 Further examples of the above non-price leveraging behaviours arise where a vertically-integrated SMP undertaking may create or exploit information asymmetries to the detriment of downstream competition. This could include for example any differences in interface between the SMP undertaking's internal access to IT systems, and wholesale customers' access. The infrastructure associated with Operational Support Systems ('**OSS**') and Business Support Systems ('**BSS**') is supported by IT systems, which evolve over time. Where, for example, Access Seekers do not have visibility or input into relevant Eircom IT system changes and are not aware of the IT development process and its timetable, they will be unable to contribute or to make a request for service at the appropriate point. Further, it may be that operational changes of this kind are not implemented simultaneously or to the same standard for external and internal access.

Information Asymmetries

- 7.35 Given that Eircom is vertically integrated, it may also be difficult to compare the WLA products (and associated facilities) its uses internally with those offered to Access Seekers, as well as to compare how WLA products are developed and implemented. A lack of transparency in how products are both developed and implemented internally could also make it difficult to demonstrate equivalence and could provide an incentive for non-price means of leveraging market power. For example, in terms of product development, absent regulation, Eircom as the undertaking proposed to be designated with SMP in the WLA Market could launch downstream retail and or wholesale products using WLA inputs which Access Seekers could not match because no wholesale equivalent has been made available. In terms of product implementation, if Access Seekers are not aware of all the features of the wholesale products which are available to Eircom internally, they will not know that they can request these features themselves, and ultimately may find themselves offering an inferior product at the retail level. Furthermore, where certain WLA services/information necessary for preparing a bid/tender proposal for a customer contract are not made available to downstream competitors in sufficient time, this could also impede their ability to compete with the SMP operator for important downstream customers.

- 7.36 Another example of information asymmetries could include situations where Access Seekers require metrics on order processing, service delivery and fault repair to view the overall performance of Eircom's WLA products from a provisioning and service assurance perspective. Failure by Eircom to provide such data to its wholesale customers would likely impair their ability to compare the performance of Eircom's supply of wholesale products (including to itself). Uncertainty for Access Seekers (and their retail and/or wholesale customers) as to the performance and quality of their purchased WLA inputs relative to the services and information made available internally to Eircom's retail arm could potentially discourage investments in markets dependent upon Eircom's wholesale products (for example, through a lack of visibility of average line-fault repair time between Eircom retail and wholesale customer faults).
- 7.37 Information asymmetries may also apply to future planning by the SMP undertaking. For example, changes by Eircom to its network topography such as its FTTC and FTTH rollout, to location of points of interconnect or any intentions to withdraw its copper network may have significant implications for Access Seekers using WLA products. Insufficient notice of network and process changes relevant to the delivery of services in the retail market could significantly impede the ability of WLA Access Seekers to launch corresponding retail products and to compete with Eircom on an equivalent basis in downstream markets. A lack of information and the associated uncertainty may discourage Access Seekers from investing in or expanding their network footprint (to avail of WLA products)⁵²² or downstream footprint (since there may be a perceived risk of stranded assets). Further, such information asymmetries may lead to a delayed consideration of Access Seekers' wholesale requirements as part of such network developments, also delaying/impeding their ability to respond to any new downstream offerings by the SMP undertaking.

⁵²² Access Seekers' use of WLA products depends on the extent of their backhaul network. Investing in backhaul depends on the location of Eircom's Points of Interconnection.

- 7.38 A vertically-integrated SMP undertaking could also have an incentive to frustrate the retail/wholesale switching process through which retail customers can switch to an alternative product or an alternative SP. Access Seekers may wish to migrate their downstream customers between wholesale products, and may wish to carry out single or bulk migration of their customer base (for example, migrations from current generation WLA products to next generation WLA products). This should involve minimal disruption or delay from the downstream customer's perspective. Examples of actions which could disrupt the migration process could include rejecting migration orders on the basis of technicalities which were not made known to the requesting Access Seekers, requesting additional customer authorisation agreements, or preventing the shift of a large number of retail customers to alternative service provision. This type of action would impose an additional and unnecessary switching cost on Access Seekers and ultimately retail customers.
- 7.39 Further examples of potential leveraging behaviour related to the above could include possible disruption of customer migration processes such as failing to switch bundles of services in a seamless and co-ordinated manner (such that any service loss by the switching retail customer is minimised, if not entirely eliminated) and practices aimed generally at raising rivals' costs.⁵²³
- 7.40 ComReg considers that, absent regulation, these types of issues could arise in the WLA Market given that Eircom is competing in downstream markets within which Access Seekers also compete or may seek to compete.

Price Based Vertical Leveraging Behaviour

- 7.41 Vertical leveraging may also be evident in pricing behaviour and, absent regulation, Eircom could attempt to foreclose competition in a downstream market by offering a WLA product at a price that would not allow an efficient Access Seeker to earn a sufficient margin and recover their efficiently incurred costs. This could result in the foreclosure of competition from an Access Seeker through margin squeeze.
- 7.42 A margin squeeze could distort competition and have an adverse effect on End Users in a number of ways:
- Foreclosure of competitors, leading to higher prices;

⁵²³ Unlike predatory pricing, certain practices can be employed which unfairly raise a rival's costs and reduce competition but which do not necessarily require the SMP undertaking to incur short run losses. For example, an integrated firm with market power in an upstream market may have incentives to raise the price of the inputs it sells to its downstream rivals, thereby potentially raising their costs and reducing demand for their products. Furthermore, the integrated operator could potentially give priority to its own traffic at network bottlenecks or apply standards that are easier for its own retail affiliate to meet than for its downstream competitors. (See Krattenmaker, T.G. and S.C. Salop (1986) "Anticompetitive Exclusion: Raising Rival's Costs To Achieve Power over Price", Yale Law Journal, 96:209-93; Salop, S.C. and D.T. Scheffman (1987), "Cost-Raising Strategies", Journal of Industrial Economics, 36:19-34).

- Setting higher prices for WLA products to negate rivals' competitive advantages;
- Raising prices for WLA products to expropriate the benefits of rivals' investments in the WLA and downstream markets; and
- Raising rivals' uncertainty, through the threat of a margin squeeze to deter competition or investment.

7.43 ComReg considers that, absent regulation, vertical leveraging could arise because Eircom is a vertically-integrated undertaking, has SMP in the WLA Market, and has the ability and incentive to raise prices for WLA products to foreclose competitors, including in downstream markets. If a vertically integrated SMP operator were to increase the price of WLA products, without a corresponding retail price increase (or related downstream wholesale product price increase) , its retail competitors might respond by raising their retail prices (as a result of higher wholesale prices), thereby lowering their margins or volume of orders for WLA products (as a result of switching to the now-relatively cheaper SMP operator). Regardless of the response of downstream and retail competitors, it leads to a lower profits, thereby reducing their ability to exploit the economies of scale and lowering the available capital to invest.

7.44 Price Discrimination could be used by a vertically integrated operator with SMP in the WLA Market to raise an Access Seekers' costs downstream and induce a margin squeeze. This is achieved by charging a higher price (above cost) to downstream competitors than implicitly charged to its own retail arm. Such a margin squeeze between WLA price and downstream prices could undermine the effectiveness of a WLA product offering and, in doing so, could harm competition in downstream retail and/or wholesale markets by eliminating competing SPs, distorting competition or discouraging the entry of new SPs (or expansion by existing SPs).

7.45 Another example of pricing behaviour is predatory pricing. This could occur where a vertically integrated operator with SMP seeks to sell a WLA product (or a product which relies on this upstream input) below the costs of production for a sustained period of time, with the intention of deterring market entry or putting a rival SP out business, enabling the SMP operator to further increase its market power and later to raise prices. While End Users may benefit in the short run from low prices, End User welfare is reduced in the long run due to the elimination of competition and End User choice in the market. A vertically integrated operator with SMP upstream supplying an input to downstream wholesale and/or retail competitors might engage in predatory pricing at the retail level to expose retail competitors to a margin squeeze.

7.46 In addition to the above, ComReg plans to issue a separate pricing consultation in the coming months (referred to as the '**Separate Pricing Consultation**'). The Separate Pricing Consultation will include further information on pricing related competition problems, amongst other things⁵²⁴.

Exclusionary practices

7.47 The SMP undertaking may also have the ability and incentive to behave in such a way that delays/deters network investment and entry into the downstream retail and/or wholesale markets. The SMP undertaking may attempt to defend its existing SMP position in the relevant market by engaging in conduct aimed at foreclosing the market.

7.48 ComReg's preliminary view is that exclusionary behaviours likely to take place in the WLA Market are closely associated with the ability and incentives of a vertically-integrated SMP undertaking, as discussed in paragraphs 7.10 to 7.45 above in the context of leveraging and the exclusionary impacts in horizontally or vertically related markets. These include (but are not limited to) foreclosing competition by:

- (a) Imposing a margin squeeze between WLA and downstream services which would reinforce entry barriers in the WLA Market and related markets and potentially foreclose entry or investment by other SPs;
- (b) Refusing to supply access, applying unreasonable or discriminatory terms and conditions of access, and/or creating or exploiting information asymmetries;
- (c) Engaging in predatory pricing of WLA services to discourage entry of other potential WLA suppliers (or downstream SPs that rely on WLA inputs);
- (d) Engaging in exclusive contracts with downstream customers and exclusionary actions aimed generally at raising customer or End User switching costs thereby impacting on potential competition;
- (e) Raising costs of those SP competitors that rely on Eircom's WLA inputs in providing downstream retail and/or wholesale services; it can be more difficult for those SPs to expand their sales and attain the economies of scale/scope necessary for deeper infrastructure investment and potentially facilitate entry into the WLA market and related wholesale markets over time.

⁵²⁴ The Separate Pricing Consultation will also include an assessment of the appropriate costing methodologies, modelling inputs and assumptions and associated prices for 3A/3B inputs. The Separate Pricing Consultation is further discussed in Section 8 of this Consultation.

- 7.49 ComReg is of the preliminary view that, as the vertically integrated undertaking with SMP in the WLA Market, Eircom has both the ability and incentives to restrict or distort the development of competition in the WLA Market and in related markets.

Overall Preliminary conclusions on competition problems

- 7.50 Having regard to the analysis set out in paragraphs 7.7 to 7.49, ComReg set out its preliminary view that, absent regulation, Eircom, as the proposed SMP undertaking in the WLA Market has the ability and incentive to engage in actions which could negatively impact on competition and customers in related retail and/or wholesale markets, as well as having the potential to reinforce its dominance in the WLA Market over time.
- 7.51 ComReg has presented examples of such behaviour and therefore considers that it is justified and proportionate to impose robust obligations on Eircom in the WLA Market relating to access, transparency, non-discrimination, price control and cost accounting and accounting separation. The detail of these obligations is discussed in Section 8 below.

Question 6: Do you agree that the competition problems and the associated impacts on competition End Users identified are those that could potentially arise in the WLA Market? Please explain the reasons for your answer, clearly indicating the relevant paragraph numbers to which your comments refer, along with all relevant factual evidence supporting your views.

8 Remedies for the WLA Market

Approach to Specifying and Implementing Remedies

- 8.1 In Section 6, ComReg set out its preliminary view that Eircom has SMP in the WLA Market and identified a range of competition problems and End User impacts that, absent regulation, could arise in the WLA Market (and related retail markets) as a result. These competition problems related to, amongst other things, Eircom having the ability and the incentive to foreclose competition in the WLA Market and related markets, leverage its SMP into adjacent markets, and exploiting wholesale and retail customers, ultimately to the detriment of competition and End Users.
- 8.2 In this Section, ComReg considers the imposition of regulatory remedies (or obligations) to address these competition problems, and ComReg:
- reviews the legal framework for imposing remedies (paragraphs 8.3 to 8.7 below);
 - reviews existing WLA remedies imposed under the 2010 WPNIA Decision, 2013 NGA Decision and in other decisions (paragraphs 8.8 to 8.22 below);
 - assesses the regulatory approaches to imposing regulatory remedies in the WLA Market (paragraphs 8.23 to 8.29 below); and
 - proposes and justifies regulatory remedies in the WLA Market relating to access, non-discrimination, transparency, price-control, cost accounting and accounting separation as well as the withdrawal of certain remedies (paragraphs 8.30 to 8.726 below).

Legal Framework for Imposing Remedies

- 8.3 In accordance with Regulation 8(1) of the Access Regulations, where an undertaking is designated as having SMP in a relevant market, ComReg is required⁵²⁵ to consider the imposition of obligations as set out in Regulations 9 to 13. In this regard, the obligations that may be imposed by ComReg on SMP undertakings are those relating to:
- Access;
 - Transparency;

⁵²⁵ The SMP Guidelines also state at paragraph 17 that “NRAs must impose at least one regulatory obligation on an undertaking that has been designated as having SMP”.

- Non-Discrimination;
 - Price Control and Cost Accounting; and
 - Accounting Separation.
- 8.4 In addition, Regulation 8(6) of the Access Regulations provides that any of the above obligations imposed must:
- be based on the nature of the problem identified;
 - be proportionate and justified in the light of the objectives laid down in Section 12 of the Communications Regulation Act 2002 (as amended) and Regulation 16 of the Framework Regulations⁵²⁶; and
 - only be imposed following public consultation and notification of the draft measures to the European Commission, BEREC and other NRAs in accordance with Regulation 12 of the Framework Regulations.
- 8.5 Regulations 12(1) and 12(4) of the Access Regulations also provide statutory criteria that ComReg must take into account before imposing access obligations on an SMP undertaking. These criteria include, inter alia, examining the technical and economic viability of using or installing competing facilities; the feasibility of providing access; the initial outlay of investment by the undertaking; and the need to safeguard competition in the long term.
- 8.6 Regulation 13(2) and Regulation 13(3) of the Access Regulations provide that ComReg is also required, when imposing price control obligations, to take into account the following:
- the investment made by the SMP operator which ComReg considers relevant and allow the operator a reasonable rate of return on adequate capital employed, taking into account any risks involved specific to a particular new investment network project⁵²⁷; and
 - ensure that any cost recovery mechanism or pricing methodology that ComReg imposes serves to promote efficiency and sustainable competition and maximise consumer benefits⁵²⁸.

⁵²⁶ Pursuant to section 12 of the Communications Regulation Act 2002 (as amended), ComReg's relevant objectives in relation to the provision of electronic communications networks and services are: (i) to promote competition, (ii) to contribute to the development of the internal market, and (iii) to promote the interests of users within the Community. Regulation 16 of the Framework Regulations specifies ComReg's obligations.

⁵²⁷ Pursuant to Regulation 13(2) of the Access Regulations.

⁵²⁸ Pursuant to Regulation 13(3) of the Access Regulations.

8.7 These considerations are taken into account throughout this Section, as appropriate, when assessing whether and what form of remedy to impose, and are also discussed in further detail in the context of the Regulatory Impact Assessment (RIA) found in Section 15. ComReg has also taken the following into account in considering the imposition of remedies on the SMP service provider:

- the European Regulators Group (ERG⁵²⁹) common position on the approach to appropriate remedies in the electronic communications networks and services regulatory framework⁵³⁰; and
- the comments letters issued by the European Commission pursuant to Articles 7 and 7a of the Framework Directive in its review of regulatory measures notified by Member States under the EU consultation mechanism for electronic communications services.

Existing WLA Remedies

8.8 Before considering which remedies would best meet ComReg's statutory/regulatory objectives in regulating the WLA Market, it is worth highlighting the existing remedies that are in place with respect to Eircom's provision of WPNIA arising from the obligations imposed in the 2010 WPNIA Decision, 2013 NGA Decision and in other relevant decisions.

8.9 These regulatory obligations are primarily set out in 2010 WPNIA Decision (with respect to Current Generation services) and the 2013 NGA Decision (with respect to Next Generation services), and are discussed⁵³¹ briefly below.

Existing WLA Access Remedies

8.10 Eircom is currently subject to a range of access obligations having been designated with SMP in regulated the WPNIA market, under the 2010 WPNIA Decision and the 2013 NGA Decision respectively. These remedies were designed to address various competition problems that were identified at that time. The obligations imposed under the 2010 WPNIA Decision require Eircom to provide the following services and facilities:

⁵²⁹ Pursuant to Regulation (EC) No 1211/2009 of the European Parliament and the Council of 25 November 2009 establishing the Body of European Regulators for Electronic Communications (BEREC) and the Office ERG was replaced with the Body of European Regulators for Electronic Communications (BEREC) in 2010.

⁵³⁰ Revised ERG Common Position on the approach to Appropriate remedies in the ECNS regulatory framework, ERG (06)33, May 2006, available at http://www.erg.eu.int/doc/meeting/erg_06_33_remedies_common_position_june_06.pdf.

⁵³¹ This does not purport to be an exhaustive list of each individual remedy currently imposed upon Eircom. Details of obligations imposed upon Eircom are available at http://www.ComReg.ie/telecoms/table_of_smp_obligations.563.1076.html.

- (a) Unbundled access to the fibre loop;
- (b) Unbundled access to the fibre loop combined with GNP where required;
- (c) Unbundled Local Metallic Path;
- (d) Unbundled Local Metallic Path with Number Portability;
- (e) Shared Access to the Local Loop;
- (f) Sub-Loop Unbundling, combined with GNP where required, and Shared Sub-Loop Unbundling in areas which have been identified as susceptible to form part of a state subsidy scheme;
- (g) Co-location;
- (h) Cabinet Co-location;
- (i) Interconnection;
- (j) Backhaul;
- (k) Migrations;
- (l) Civil Engineering Infrastructure ('CEI') including Duct and Sub-Duct Access;
- (m) Where Civil Engineering Infrastructure is not available, Dark Fibre where reasonably available; and
- (n) Access to building and cabinet space.

8.11 In addition, the 2010 WPNIA Decision also imposed access obligations upon Eircom:

- (a) to negotiate in good faith with undertakings requesting access;
- (b) not to withdraw access to facilities already granted without ComReg's prior approval;
- (c) to grant open access to technical interfaces, protocols or other key technologies that are indispensable for the interoperability of services or virtual network services;
- (d) to provide access to operational support systems or similar software systems necessary to ensure fair competition in the provision of services; and
- (e) to provide access in accordance with product descriptions and conditions specified in the Access Reference Offer ('ARO').⁵³²

8.12 Eircom was required to provide access in a fair, reasonable and timely manner. In that regard, Eircom was required to:

⁵³² The ARO is the latest version of the offer of contract by Eircom to OAOs in relation to wholesale services;

- (a) conclude, maintain or update, as appropriate, legally binding Service Level Agreements which include provision for associated Performance Metrics with Other Authorised Operators ('**OAOs**');
- (b) negotiate in good faith with OAOs in relation to the conclusion of legally binding and fit-for-purpose SLAs;
- (c) ensure that all SLAs include provision for service credits arising from a breach of an SLA, with details of how service credits are calculated; and
- (d) ensure that payment of service credits, where they occur, shall be made in a timely and efficient manner;
- (e) where a request for provision of Access, or a request for provision of information is refused or met only in part, Eircom shall, provide the objective criteria for refusing a request for access or information.

Existing Non-Discrimination Remedies

- 8.13 Eircom is subject to non-discrimination obligations under the 2010 WPNIA Decision and the 2013 NGA Decision, with respect to the provision of WPNIA. These obligations include requirements on Eircom to:
- (a) apply equivalent conditions in equivalent circumstances to other undertakings providing equivalent services; and
 - (b) ensure that all services and information are provided to other undertakings under the same conditions and of the same quality as the services and information that Eircom provides to its own services or those of its subsidiaries or partners.
- 8.14 Eircom is required to supply Current and Next Generation WPNIA products, services and facilities on an Equivalence of Outputs ('**EoO**')⁵³³ basis and to submit a written Statement of Compliance ('**SOC**') to ComReg to demonstrate its compliance with the non-discrimination obligations.
- 8.15 Eircom is required not to launch Next Generation WPNIA services prior to 20 May 2013, (except as otherwise agreed with ComReg following discussion with industry).
- 8.16 Eircom is required to notify ComReg, in writing, in advance of any potential co-investment arrangements in relation to Next Generation ('**NG**') WPNIA products, services and facilities that may take place between Eircom and another party and confirm to ComReg that it is in compliance with its non-discrimination obligations.

⁵³³ EoO means the provision of products, services, facilities, and information by the SMP Undertaking to Access Seekers such that such products, services, facilities, and information are provided to Access Seekers in a manner which achieves the same standards in terms of functionality, price, terms and conditions, service and quality levels as the SMP Undertaking provides to itself, albeit potentially using different systems and processes.

- 8.17 Eircom's Non-Discrimination obligations applied irrespective of whether or not a specific request for products, services or facilities or information has been made by an OAO to Eircom.

Existing Transparency Remedies

- 8.18 The 2010 WPNIA Decision and the 2013 NGA Decision required that Eircom should be transparent in relation to the provision services, with ComReg having the ability to issue directions to Eircom requiring it to publish specified information, such as accounting information, technical specifications, network characteristics, terms and conditions for supply and use and prices.
- 8.19 The 2010 WPNIA and 2013 NGA Decision also subjected Eircom to a range of transparency obligations whereby it is required to make certain information available. These include specific obligations on Eircom to:
- (a) publish an ARO which should contain a minimum specified set of details with respect to the access products defined, including prices; be sufficiently unbundled so that Access Seekers are not required to pay for services that are not requested; and be subject to a transparent change management process, including advance public notification of proposed changes to products and prices;
 - (b) provide, in accordance with specified timeframes, advance notification to Access Seekers and to ComReg of proposed changes to the ARO, prices and the introduction of products, services and facilities;
 - (c) ensure transparency in its billing by making its wholesale invoices sufficiently disaggregated, detailed and clearly presented such that an Access Seeker can reconcile the invoice to Eircom's ARO and ARO prices;
 - (d) publish information in respect of Current and Next Generation products, services, facilities and processes which shall be sufficient to identify and justify any permissible differences between these products, services, facilities and processes and those which Eircom supplies to itself;
 - (e) publish on its publicly available website Key Performance indicators ('KPIs'), and SLAs relating to WLA products, services and facilities;
 - (f) publish in advance on its publicly available website information regarding its NGA roll out plans providing at different timeframes specific information with respect to geographic availability of the service;
 - (g) make available and keep updated on its publicly available wholesale website at least six (6) months in advance of implementation (or such period as may be reasonably agreed with ComReg), information regarding the introduction of, changes to, or technical developments relating to Eircom's network, infrastructures or new technologies
 - (h) provide details to ComReg in respect of the rollout of NGA;

- (i) meet requirements concerning access to confidential and/or commercial information; and
- (j) make available and keep updated on its publicly available website information such as accounting information, technical specifications, network characteristics, terms and conditions for supply and use, and prices as may be specified by ComReg from time to time;

Existing Price Control remedies

- 8.20 Currently, products supplied in the WPNIA Market are subject to a cost orientation price control obligation, as set out in the 2010 WPNIA Decision and further specified in the 2013 NGA Decision and 2016 Access Pricing Decision⁵³⁴. This current cost orientation obligation applies to LLU, SLU, Line Share, CEI (duct and pole access), Dark Fibre, backhaul, unbundled access to the fibre loop, colocation and interconnection as well as ancillary services.
- 8.21 In addition, Eircom is also subject to a margin squeeze obligation such that it should not cause a margin/price squeeze, pursuant to the 2010 WPNIA Market Decision and 2013 NGA Decision.

Existing WLA cost accounting and accounting separation remedies

- 8.22 Eircom is currently subject to a cost accounting and accounting separation obligation under the 2010 WPNIA Decision, 2013 NGA Decision and the 2010 Accounting Separation Decision⁵³⁵. VUA products, which are currently regulated under the 2011 WBA Decision and 2013 NGA Decision are also subject to a margin squeeze obligation.

⁵³⁴ ComReg Document 16/39 “Pricing of Eircom’s Wholesale Fixed Access Services: Response to Consultation Document 15/67 and Final Decision”, dated 18 May 2016 (the ‘**2016 Access Pricing Decision**’).

⁵³⁵ Response to Consultation, and Final Decision: Accounting Separation and Cost Accounting Review of Eircom Limited, ComReg Document 10/67, dated 31 August 2010 (‘**2010 Accounting Separation Decision**’). <http://www.comreg.ie/fileupload/publications/ComReg1067.pdf>.

Assessment of Regulatory Approaches to Imposing Remedies

8.23 In Section 6 ComReg has set out its preliminary view that Eircom has SMP in the WLA Market. Furthermore, in Section 7 ComReg identified a range of potential competition problems that may arise in the WLA Market (and related markets), absent regulation, arising from Eircom's ability and incentives as a vertically integrated SMP undertaking that competes with Access Seekers in a number of other retail and wholesale markets. In this Section, ComReg assesses the regulatory options for addressing the competition problems that have been identified, before then proposing specific regulatory obligations.

Option of 'No Regulation' in the WLA Market

8.24 ComReg has considered whether the option of de-regulation or regulatory forbearance is appropriate in the WLA market.

8.25 Regulation 8(1) of the Access Regulations and Regulation 27(4) of the Framework Regulations require ComReg to impose at least some level of regulation on undertakings designated as having SMP. In Section 6, ComReg set out its view that the WLA Market is not effectively competitive (and is not likely to become effectively competitive within the timeframe covered by this review). In Section 7, ComReg identified a range of competition problems that could occur in the WLA Market and related markets, absent regulation.

8.26 In view of this assessment, it is ComReg's preliminary view that the WLA Market (and related markets including downstream retail and wholesale markets) would be unlikely to function effectively absent regulation. This would not be in the interest of promoting sustainable retail competition. As discussed in Section 7 concerning competition problems, a number of service providers use WLA inputs to compete with Eircom in the provision of WCA, and retail services and, in some cases, for the provision of other wholesale services. ComReg has set out its preliminary view that Eircom has the ability and incentive to exclude or foreclose Access Seekers competing in the provision wholesale and /or of retail services by refusing to supply them with WLA (including constructive refusal), or by setting WLA prices at an excessive level.

8.27 It is ComReg's preliminary view that the option of regulatory forbearance in the WLA Market is not, therefore, appropriate or justified. The relevant issue to be considered, therefore, relates to what form of regulation is appropriate. In particular, which of the remedies identified in paragraph 8.3 above are appropriate having regard to the particular circumstances of the WLA Market, the associated identified competition problems and taking account of the relevant statutory requirements to which ComReg must have regard when imposing remedies. ComReg sets out its preliminary views on these issues below.

Option to impose remedies in the WLA Market

- 8.28 As noted in paragraphs 8.8 to 8.22 above, Eircom has to date been subject to a range of SMP based regulatory obligations as imposed primarily in the 2010 WPNIA Decision and the 2013 NGA Decision, as well as in a number of other decisions that enhanced or amended existing remedies in the intervening period. On that basis, Eircom is already subject to a range of regulatory obligations requiring it to provide WLA to Access Seekers and to do so on non-discriminatory and transparent terms and conditions, including at regulated prices.
- 8.29 In this Consultation, ComReg has proposed to define a national WLA Market. ComReg sets out below its preliminary views on the detail of the proposed imposition of regulatory obligations on Eircom in the WLA Market.

Proposed Remedies in the WLA Markets

- 8.30 In the Sections below ComReg sets out its preliminary views regarding remedies that it proposes to impose upon Eircom in the WLA Market. These include:
- Access obligations (discussed in paragraphs 8.31 to 8.392);
 - Non-discrimination obligations (discussed in paragraphs 8.393 to 8.443);
 - Transparency obligations (discussed in paragraphs 8.444 to 8.586);
 - Price control and cost accounting obligations (discussed in paragraphs 8.587 to 8.680); and
 - Accounting separation obligations (discussed in paragraphs 8.681 to 8.685).

Access Remedies

- 8.31 As identified in Section 5, a number of SPs are, in providing their own retail and/or wholesale services, dependent upon the use of WLA inputs from Eircom. ComReg has already set out its view that Eircom has the ability and incentive to refuse to supply WLA to Access Seekers, either actually or constructively, or to provide these services on discriminatory or unreasonable terms and conditions (including in relation to price or non-price means) and that this would likely hinder the development of sustainable competition in the WLA and related markets. This would ultimately be detrimental to the interests of End Users, and would be contrary to the objectives set out in Section 12 of the Communications Regulation Act 2002 (as amended) and Regulation 16 of the Framework Regulations.

- 8.32 ComReg's preliminary view is that there are likely to continue to be differences in bargaining power between Eircom and Access Seekers, particularly given the absence of widely available alternative sources of supply within the timeframe of this review period⁵³⁶.
- 8.33 Absent the presence of effective access remedies, ComReg would be left to address any such refusal by Eircom to supply WLA either through its general dispute resolution or compliance functions, all of which would occur after the fact, take time to resolve, be specific to the bilateral circumstances between the relevant parties and not, thereby contributing to regulatory certainty amongst market players. As a consequence, this could be damaging to competition and ultimately End Users.
- 8.34 Such case-by-case interventions by ComReg would also be inefficient and ineffective in resolving the broader competition problem of denial/delayed access.
- 8.35 Additionally, ComReg could seek to use its *ex-post* competition law powers. However, such powers could ultimately result in a finding by an Irish court that an undertaking has abused its dominant position, but not necessarily require access to be provided as an outcome to any such finding. Similar to the reasons above, a competition law approach would also take significant time to resolve, be specific to the relevant circumstances of the case and not contribute to regulatory certainty amongst market players.
- 8.36 Overall, therefore, ComReg considers that dispute resolution (which can be of relevance in resolving access and other issues in certain circumstances) and *ex-post* competition law approaches would not be effective in resolving issues concerning denial of access in the WLA Markets.
- 8.37 Regulation 12(1) of the Access Regulations provides that ComReg may, in accordance with Regulation 8 of the Access Regulations, impose on an operator obligations to meet reasonable requests for access to, and use of, specific network elements and associated facilities where ComReg considers that the denial of such access, or the imposition by operators of unreasonable terms and conditions having a similar effect, would:
- hinder the emergence of a sustainable competitive retail market;
 - not be in the interests of End Users; or
 - otherwise hinder the objectives set out in Section 12 of the Communications Regulation Act 2002 (as amended).

⁵³⁶ ComReg notes that while SIRO offers VULA based WLA based services, the expected coverage of the SIRO network during the lifetime is likely to be limited, in particular, relative to that of Eircom.

- 8.38 Obligations must also be proportionate and justified in the light of the objectives laid down in Section 12 of the Communications Regulation Act 2002 (as amended) and Regulation 16 of the Framework Regulations.
- 8.39 Regulation 12(2)(a) to 12(2)(j) and Regulation 12(3) of the Access Regulations provide that ComReg can impose, where appropriate, additional access obligations and may attach conditions covering fairness, reasonableness and timeliness to those access obligations.
- 8.40 As noted above, pursuant to Regulation 12(4) of the Access Regulations, when considering whether to impose obligations referred to in paragraphs (1) and (2) of Regulation 12 and, in particular, when assessing whether such obligations would be proportionate to the objectives set out in Section 12 of the Communications Regulation Act 2002 (as amended), ComReg has to take the following factors into account:
- (a) the technical and economic viability of using or installing competing facilities, in light of the rate of market development, taking into account the nature and type of interconnection and access involved;
 - (b) the feasibility of providing the access proposed, in relation to the capacity available;
 - (c) the initial investment by the facility owner, bearing in mind the risks involved in making the investment;
 - (d) the need to safeguard competition in the long-term;
 - (e) where appropriate, any relevant intellectual property rights; and
 - (f) the provision of pan-European services.
- 8.41 ComReg is required to take utmost account of Recommendations issued by the EC under Article 19(1) of the Framework Directive, including the EC's NGA Recommendation and the 2013 Non-Discrimination Recommendation. ComReg is similarly obliged to take utmost account of opinions and common positions adopted by BEREC, including the Common Position on best practice in remedies in the WPNIA market⁵³⁷.

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http://berec.europa.eu/eng/document_register/subject_matter/berec/regulatory_best_practices/common_approaches_positions/1127-revised-berec-common-position-on-best-practice-in-remedies-on-the-market-for-wholesale-physical-network-infrastructure-access-including-shared-or-fully-unbundled-access-at-a-fixed-location-imposed-as-a-consequence-of-a-position-of-significant-market-power-in-the-relevant-market.

8.42 In general terms ComReg is consistent with the Recommendations and advice of the EC and BEREC. Where we propose to depart from the recommendations, opinions and common practices set out by those bodies, the exceptions and reasoning will be detailed in the relevant section of this consultation.

Proposed Access Remedies

8.43 ComReg considers it necessary to impose a range of access obligations upon Eircom which are ultimately intended to facilitate the development of sustainable competition in downstream markets.

8.44 The majority of the access obligations that ComReg proposes to impose in this Section, effectively results in a continuation of Eircom's offer of the existing WLA products⁵³⁸ in accordance with the product descriptions and terms and conditions of supply or use, as specified in the current version of the Eircom Access Reference Offer ARO, and in addition, in accordance with the proposed obligations discussed elsewhere in this Consultation.

8.45 As noted in Section 7, ComReg does not consider that existing or potential competition would effectively constrain Eircom's market power within the lifetime of this market review (i.e. three years following the effective date of a decision on this analysis). In particular, although there is a transition towards NGA services and the rollout of fibre deeper into Eircom's network, ComReg notes that downstream competition has and, for the period of this review, is likely to continue to be dependent on availability of wholesale access to Eircom's WLA products such as ULMP and Line Share. In this respect, access to such WLA products is necessary to maintain competition and to minimise foreclosure concerns that could arise, absent such regulation.

Requirement to meet Reasonable Requests for Access to WLA and Associated Facilities

8.46 ComReg's preliminary view is that, pursuant to Regulation 12(1) of the Access Regulations that Eircom should be required to meet all reasonable requests from undertakings for the provision of access to WLA and associated facilities.

8.47 ComReg considers it necessary to impose a range of access obligations upon Eircom that are ultimately intended to facilitate the development of sustainable competition in downstream markets.

⁵³⁸ Including Eircom's VUA products, which were previously provided in the WBA Market.

8.48 The significant majority of the access obligations that ComReg proposes to impose here, and elsewhere in this Section, effectively results in a continuation of Eircom's offer of the existing WLA products. The proposed obligations are in accordance with the product descriptions and terms and conditions of supply or use, as specified in the current version of the Eircom's ARO, in accordance with the proposed obligations discussed elsewhere in this Consultation. However, ComReg has also proposed refinements to some such existing obligations, as well as new obligations.

Specific Access Remedies

8.49 In addition to the general obligation to meet reasonable requests for access to WLA products, services and associated facilities, ComReg proposes to impose access requirements upon Eircom to provide a specific range of products, services and facilities. The details of those access remedies are described below.

8.50 In summary ComReg proposes to impose the following specific access obligations upon Eircom in order to address identified competition problems and ultimately to promote the development of downstream competition to the benefit of End Users:

- (a) to provide access to ULMP (and ULMP combined with Geographic Number Portability ('GNP')⁵³⁹ where required), shared access to the local loop; (discussed in paragraphs 8.58 to 8.71);
- (b) access to Sub-Loop Unbundling (combined with GNP where required) and Shared Sub-Loop Unbundling, in areas which have been identified as susceptible to form part of a state subsidy scheme, such as the NBP; (discussed in paragraphs 8.58 to 8.71);
- (c) to provide access to FTTC, FTTH and EVDSL based VUA⁵⁴⁰, combined with Geographic Number Portability where required; (discussed in paragraphs 8.72 to 8.84);

⁵³⁹ GNP means Geographic Number Portability, which is a number portability process that facilitates the transfer of End Users between service providers.

⁵⁴⁰ Virtual Unbundled Access or VUA means the wholesale active access product provided by Eircom. It is an enhanced Layer 2 product which allows the handover or interconnection of aggregate End Users' connections at the Metropolitan Point of Presence ("MPoP"). It allows a level of control to the Access Seeker similar to that afforded to the Access Seeker connecting their own equipment to an unbundled Local Loop.

- (d) to meet all reasonable requests from Undertakings for the provision of unbundled access to the fibre loop; (discussed in paragraphs 8.85 to 8.88);
- (e) to provide access to Co-location and Co-location resource sharing (discussed in paragraphs 8.89 to 8.112);
- (f) to provide Migrations (discussed in paragraphs 8.113 to 8.124);
- (g) to provide access to Interconnection Services⁵⁴¹, namely In-Building Handover⁵⁴², In-Span Handover⁵⁴³, Customer-Sited Handover⁵⁴⁴ and Edge Node Handover⁵⁴⁵ (discussed in paragraphs 8.125 to 8.137);
- (h) to seek Approval from ComReg for any changes to network management plans including the CLFMP⁵⁴⁶ (discussed in paragraphs 8.138 to 8.154);
- (i) to include the Vectoring protocol in the ARO; (discussed in paragraphs 8.155 to 8.171);
- (j) to provide access to Associated Facilities⁵⁴⁷, including Multicast⁵⁴⁸ and Class of Service⁵⁴⁹ (discussed in paragraphs 8.172 to 8.185);

⁵⁴¹ Interconnection Services is the term used to collectively refer to ISH, CSH, IBH and ENH.

⁵⁴² In-building handover or IBH means the connection from the Eircom network to the Access Seeker's equipment within the Exchange, or equivalent facility.

⁵⁴³ In-Span Handover or ISH means the connection between the Exchange and the Access Seeker's nominated Point of Handover.

⁵⁴⁴ Customer Sited Handover or CSH means the connection from the Eircom network to the Access Seeker's equipment in the Access Seeker's premises, which includes the installation of an Eircom NTU at the Access Seeker's premises.

⁵⁴⁵ Edge Node Handover or ENH means the connection from the Eircom network through a dedicated aggregation node interface to the Access Seeker's equipment.

⁵⁴⁶ CLFMP or the 'Copper Loop Frequency Management Plan' is the Eircom document that defines the spectral rules that all Access Seekers' equipment must comply with if such equipment is to be deployed on Eircom's copper access network.

⁵⁴⁷ Associated Facilities shall have the same meaning as under Regulation 2 of the Framework Regulations, as may be amended from time to time.

⁵⁴⁸ Multicast means a service that accepts a single copy of a designated data stream from the Access Seeker and distributes these data streams within the Eircom network to multiple End Users;

⁵⁴⁹ Class of Service or ('CoS') means a network traffic management technique that involves the autonomous treatment of traffic at a single router, switch or equivalent equipment using classes to group and manage traffic that have common forwarding characteristics.

- (k) to provide access to Civil Engineering Infrastructure ('CEI')⁵⁵⁰, (as discussed in paragraphs 8.186 to 8.279), including:
- Ducts⁵⁵¹ and Poles;
 - Sub-Duct Access⁵⁵² and Direct Duct Access⁵⁵³;
 - Chambers⁵⁵⁴;
 - Ingress⁵⁵⁵ and Egress⁵⁵⁶ points;
 - Co-location⁵⁵⁷ for CEI;
 - CEI Tie Connection Service⁵⁵⁸ between the Co-location space/rack and the Ingress and Egress points;

⁵⁵⁰ "CEI" or "Civil Engineering Infrastructure" also known as passive access infrastructure means the physical access path facilities deployed by Eircom to host cables such as copper wires, optical fibre and co-axial cables. It includes but is not limited to, subterranean and/or above ground assets such as Sub-Ducts, Ducts, Chambers and Poles.

⁵⁵¹ 'Duct' means an underground pipe or conduit used to carry cables in order to deliver telecommunications services to End Users. 'Duct Access' means the installation of a Sub-Duct into an Eircom Duct in order to allow Access Seekers to install cables.

⁵⁵² 'Sub-Duct' means the tube inserted in a Duct through which a fibre optic cable may be installed. 'Sub-Duct Access' means access to Eircom's Sub-Duct for the installation of Access Seekers cables.

⁵⁵³ 'Direct Duct Access' means direct access to Eircom's Ducts for the installation of cables without the use of a Sub-Duct.

⁵⁵⁴ 'Chambers' mean any underground construction which is built to facilitate access to cables within Eircom's network for the purposes of splicing, jointing, distribution, fault localisation and repairs.

⁵⁵⁵ Ingress means the point on Eircom's CEI where, in the case of Direct Duct Access, Duct Access and Sub-Duct Access, an Access Seeker's cable enters the Eircom Sub-Duct, duct or chamber, or where an Access Seeker's Sub-Duct physically enters the Eircom duct. In the case of pole access, the ingress point is the first pole used or to be used by the Access Seeker on an Eircom aerial route.

⁵⁵⁶ Egress means the point on Eircom's CEI where, in the case of Direct Duct Access, Duct Access and Sub-Duct Access, an Access Seeker's cable or Sub-Duct exits an Eircom owned duct, sub duct or chamber. In the case of pole access, it is the last Eircom pole used by an Access Seeker on a particular route.

⁵⁵⁷ Co-location shall have the same meaning and description as under Part B "Co-location services" of the Schedule to the Access Regulations (as may be amended from time to time), save that it includes for the purposes of this Decision Instrument, access to the main distribution frame (MDF) and/or to the optical distribution frame (ODF), floor space, Alternating Current (AC) power, Direct Current (DC) power air conditioning, mast access, roof access, cable trays and trunking as applicable, at an Eircom Exchange.

⁵⁵⁸ 'CEI Tie Connection' means the fibre connection, provided by Eircom or the Access Seeker, between an Access Seeker's co-located equipment in their equipment rack or from the Access Seekers co-located Optical Distribution Frame (ODF) to a Chamber or pole on an Eircom CEI route usually in close proximity to the exchange building site.

- where access to CEI is not available, to provide access to Dark Fibre⁵⁵⁹ where reasonably available; and
 - access to Passive Access Records ('**PAR**').⁵⁶⁰
- (l) to negotiate in good faith with undertakings requesting access; (discussed in paragraphs 8.280 to 8.287);
- (m) not to withdraw access to facilities already granted without ComReg's prior approval; (discussed in paragraphs 8.288 to 8.294);
- (n) to grant open access to technical interfaces, protocols or other key technologies that are indispensable for the interoperability of services or virtual network services; (discussed in paragraphs 8.295 to 8.301); and
- (o) to provide access to Operational Support Systems or similar software systems necessary to ensure fair competition in the provision of services; (discussed in paragraphs 8.298 to 8.301);

Conditions attached to the Access Obligations

- 8.51 ComReg also proposes certain conditions should apply to the provision of access namely:
- (a) requirements governing fairness, reasonableness and timeliness of access, including Service Level Agreements (paragraphs 8.302 to 8.353 below); and
 - (b) requirement regarding timeliness of product development (paragraphs 8.354 to 8.374 below).
- 8.52 The consideration of and justification for the above access remedies is discussed below.

⁵⁵⁹ Dark Fibre is optical fibre that is currently installed in the access network but is not in use.

⁵⁶⁰ "Passive Access Records" or ('**PAR**') means all available physical records for passive access, *inter alia* information relating to (i) physical location of Ducts, Sub-ducts, Poles, chambers, cabinets, and distribution points, including their technical and physical characteristics; (ii) the installed fibre and metallic cable capacity in Ducts and in Sub-duct and on Poles, including their used capacity (iii) the reserved Duct, Pole and Chamber capacity (reservation information includes x.y. co-ordinates of start and the end of the route, requested date of reservation, reservation lapse date); and (iv) the reserved capacity by internal or external Undertakings, per route.

Requirement to provide Unbundled Access and Virtual Unbundled Access

- 8.53 The ability of Access Seekers to diversify their product offerings enhances competition and therefore ultimately benefits End Users⁵⁶¹. Regulated wholesale unbundled products and services provided over Eircom's copper network have provided Access Seekers with the degree of control over their downstream product offerings which is necessary in order to provide diverse, and thereby competitive, retail products and services.
- 8.54 A number of Access Seekers have availed of such copper based regulated unbundled products and facilities and have invested in availing of access at a significant number of exchanges to date. These Access Seekers continue to offer copper based services at the wholesale and retail level and some are migrating to VULA services as their business planning includes consideration of FTTx network based products.
- 8.55 ComReg considers that although a market driven transition to FTTx based services, including VULA services, is underway, the provision of copper based services will likely continue in the interim (including in those geographic areas where no FTTx services are available), including during the lifetime of this review. Access Seekers who have invested in building a presence through co-locating in Eircom's exchanges continue to avail of unbundled services within Eircom's regulated LLU product set.
- 8.56 An orderly, market driven transition from copper based services to fibre or hybrid fibre-copper based services which allows LLU Access Seekers to make considered migration plans, avoids stranded assets and allows a continued return on investment is in the best interest of competition, End Users and Access Seekers. It is ComReg's preliminary view, therefore, that the continued availability of LLU based access products and services during the review period is necessary and is to the benefit to End Users and competition.
- 8.57 While carrying out this review ComReg has considered both the requirement for physical unbundling products, services and facilities provided over Eircom's legacy copper network and the requirement for virtual unbundling products, services and facilities. In particular ComReg has considered the market driven transition from services offered over Eircom's copper network to those offered over fibre or hybrid fibre-copper infrastructure and how it impacts on the provision of unbundled services during the lifetime of this review.

⁵⁶¹ End User shall have the same meaning as under Regulation 2 of the Framework Regulations, as may be amended from time to time.

Local Loop Unbundling

- 8.58 Pursuant to Regulation 12(2)(a) of the Access Regulations, ComReg proposes that Eircom should be required to provide Local Loop Unbundled access including access to:
- (a) ULMP;
 - (b) ULMP, combined with GNP where required, i.e. GLUMP;
 - (c) Shared Access to the local loop i.e. Line Share; and
 - (d) Sub-Loop Unbundling, combined with GNP where required, and Shared Sub-Loop Unbundling in areas which have been identified as susceptible to form part of a state subsidy scheme, such as NBP area.
- 8.59 There are currently four LLU based regulated access products namely Unbundled Local Metallic Path ('**ULMP**')⁵⁶², **GLUMP**⁵⁶³, Line Share ('**LS**')⁵⁶⁴ and Sub-Loop Unbundling ('**SLU**') and Shared Sub-Loop Unbundling⁵⁶⁵. ULMP provides exclusive use of the copper access path⁵⁶⁶ between the NTU at the customer's premises and the Main Distribution Frame ('**MDF**')⁵⁶⁷. The GLUMP product is essentially the same as the ULMP product except that it has an additional facility, GNP, which enables the synchronised transfer of the access path and the associated End User's telephone number to a new Access Seeker.
- 8.60 Line Share is a more limited product relative to ULMP because, unlike ULMP, the Access Seeker does not exclusively control the access path's entire frequency spectrum. SLU provides exclusive use of the copper access path between the NTU at the customer's premises and the street cabinet.

⁵⁶² Unbundled Local Metallic Path or ULMP is the implementation of Full Unbundled Access to the Local Loop.

⁵⁶³ GLUMP is the synchronised delivery of ULMP and GNP.

⁵⁶⁴ Line Share or LS means Shared Access to the local loop means the product whereby the high frequency capacity of a line is made available to an Access Seeker.

⁵⁶⁵ As noted above, the obligation to provide Sub-Loop Unbundling and Shared Sub-Loop Unbundling only applies to areas which have been identified as susceptible to form part of a state subsidy scheme, such as NBP.

⁵⁶⁶ Access Path means the connection from the NTU/NTP in the customer's premises to the Point-of-Handover. The Points-of-Handover for physical unbundling are the MDF (for Copper) and the ODF (for fibre) in the exchange/MPoP, and the Point-of-Handover for non-physical unbundling (virtual access) is the Ethernet Interconnection Link at the serving Aggregation Node for the customer.

- 8.61 The competition problems giving rise to the LLU obligations proposed are noted in Section 7. For effective competition, Access Seekers consuming, or planning to consume regulated LLU products and services need access to a range of essential facilities in order to compete effectively in the WLA Market.
- 8.62 Absent regulation, in ComReg's preliminary view, as Eircom is a vertically integrated undertaking with SMP in the WLA Market, it has the ability and incentive to refuse to provide access to LLU products, services and facilities. In this respect, access to LLU products and services and facilities are necessary to ensure the development of sustainable and effective downstream competition and to minimise foreclosure concerns that could arise, absent regulation.
- 8.63 ComReg considers that the proposed LLU based access obligations are justified and proportionate. LLU access is justified, because it promotes competition by providing access to essential facilities. Access to essential facilities is necessary for the emergence of effective competition in the downstream wholesale and retail markets. Without access to the copper access path in order to deliver services to End Users, i.e. access to LLU, forms of infrastructure-based competition would be curtailed, as the level of investment required by a third party to replicate Eircom's access network would be of such a scale as to be a barrier to entry into the WLA market.
- 8.64 In assessing the proportionality of obligations relating to LLU access, ComReg considers that the LLU access obligations of ULMP, GLUMP, LS and SLU should continue to foster more sustainable infrastructure based competition and are proportionate to this aim having regard to Eircom's ability and incentive to refuse to provide such access, to the detriment of competition. If the obligation to provide LLU based access is discontinued, this may result in Eircom withdrawing LLU based products or changing the terms and conditions to the ultimate detriment of End Users.

- 8.65 Vectoring technology has been implemented extensively in cabinets installed by Eircom⁵⁶⁸ as part of their NGA rollout. ComReg notes that there are limitations arising from vectoring technology whereby two Operators cannot independently implement vectoring on copper pairs in the same copper binder. ComReg considers that due to the extent of Eircom's rollout of cabinet based vectored services, and in consideration of these limitations, it would not be reasonable to maintain the obligation on Eircom to meet reasonable requests for SLU. However Eircom's NGA rollout has been limited to certain areas and, in general, Eircom have not rolled out NGA services in less populated and more rural areas. These areas broadly align with the areas targeted for State intervention as part of a State Subsidy Scheme⁵⁶⁹. ComReg is of the preliminary view that a regulated Sub Loop Unbundling service may be required in these areas in order to allow the development of infrastructure based solutions for the delivery of ECS such as high speed broadband services.
- 8.66 The withdrawal of LLU regulatory obligations could be considered on the basis that a fibre or hybrid copper/fibre based VUA service is available in certain geographic areas. However a number of Access Seekers have unbundled exchanges and invested in exchange equipment, such as Digital Subscriber Line Access Multiplexers ('**DSLAM**'s)⁵⁷⁰, power supply equipment and Co-location facilities. Withdrawal of the LLU obligation could result in the forced substitution of copper based LLU services to FTTx based services. Such a forced substitution is likely to have negative consequences for End Users, Access Seekers and would be ultimately detrimental to competition.
- 8.67 Approximately 63,000 End Users are directly dependent on upstream LLU inputs for their retail services. A forced substitution from copper based services to a FTTx based VUA based service would likely result in the stranding of a portion of Access Seekers' LLU investment (to the extent such investments are not already sunk or re-usable). This may discourage future Access Seeker investment and could impact on the service options available to End Users.
- 8.68 Moving from a copper based LLU service to a FTTx based VUA service would also require the End Users' modems and NTUs to be replaced, which would also require a site visit by a technician. In addition the End Users' internal wiring may need to be changed.

⁵⁶⁸ At the NGA forum on 21 Sept 2016, Eircom informed Access Seekers and ComReg that it had rolled out vectoring to 6,290 cabinets.

⁵⁶⁹ For example, the current State Subsidy Scheme is the National Broadband Plan which is being run by the Department of Communications, Climate Action and Environment.

⁵⁷⁰ DSLAM means Digital Subscriber Line Access Multiplexer, is a device that aggregates DSL subscriber connections.

- 8.69 ComReg is of the preliminary view that a market driven transition from LLU based services is likely to occur and it is in the best interests of End Users and competition to this to happen naturally and in an orderly manner.
- 8.70 Eircom has to date provided ULMP, GLUMP, LS and SLU on foot of regulatory obligations imposed under the 2010 WPNIA Decision and the 2013 NGA Decision. Therefore, the continued imposition of these obligations do not raise particular concerns from a technical feasibility and/or economic perspective. Furthermore, Eircom can recover its efficiently incurred costs for such services through wholesale pricing.
- 8.71 In ComReg's preliminary view the continuation of the ULMP, GLUMP, LS and SLU access obligations is justified and proportionate for reasons set out above, and are necessary to safeguard competition in the longer term.

Virtual Unbundled Access

- 8.72 Pursuant to Regulation 12(2)(a) of the Access Regulations, ComReg proposes that Eircom should be required to provide access to VUA and VUA combined with GNP.
- 8.73 The justification for the above proposed requirements is discussed below.

- 8.74 Eircom's VUA product is a wholesale Layer 2⁵⁷¹ access product that enables the handover and interconnection of aggregate End User traffic at the Metropolitan Point of Presence ('**MPoP**')⁵⁷². The VUA product includes two discrete product types, FTTH⁵⁷³ based VUA and a hybrid FTTC based VUA (together '**FTTX based VUA**'), which has a Cabinet and Exchange⁵⁷⁴ based variant ('**CDVDSL**')⁵⁷⁵ and ('**EVDSL**')⁵⁷⁶. VUA products are also available on a Standalone basis⁵⁷⁷.
- 8.75 The two VUA variants have different characteristics, the primary difference being the attainable bit rate⁵⁷⁸ achievable. However, the demarcation points at the End User's premises and at the point of interconnection, the Network Termination Unit ('**NTU**')⁵⁷⁹, and the Wholesale Ethernet Interconnection Link ('**WEIL**')⁵⁸⁰, are the same for both VUA types. Both VUA types are in scope with respect to the considerations below concerning related access obligations.
- 8.76 In addition to standard the VUA product, ComReg considers that it is necessary to have an option to combine VUA with GNP. When GNP is combined with a service such as VUA, the End User's telephone number is transferred from Eircom to the Access Seeker at the same time as the VUA Service is delivered. This facilitates an efficient switching process that is to the benefit competition and ultimately End Users.

⁵⁷¹ Layer 2 Ethernet-only access – As the service is offered at Layer 2 this allows Access Seekers to differentiate their services above Layer 2 of the OSI reference model i.e. at Layer 3, the Internet Protocol Layer, and above.

⁵⁷² Metropolitan Point of Presence or MPoP means the point of inter-connection between the access and core networks of an undertaking.

⁵⁷³ Fibre-to-the-Home or FTTH means an access network architecture consisting of optical fibre lines in both the feeder and the drop segments i.e. the network segments connecting a customer's premises (the home or in multi-dwelling units the apartment) to the Exchange or other similar facility by means of optical fibre.

⁵⁷⁴ "**Exchange launched VUA**" means that the active equipment that is required to provide VUA is housed in an Eircom Exchange building or equivalent.

⁵⁷⁵ ('**CDVDSL**') or Cabinet based VDSL service means that the active VDSL equipment required to provide the broadband service is housed in an Eircom street cabinet.

⁵⁷⁶ ('**EVDSL**') or Exchanged based VDSL service means that the active VDSL equipment required to provide the broadband service is housed in an Eircom exchange building or equivalent.

⁵⁷⁷ Standalone VUA means the supply of a VUA service without a POTS service included.

⁵⁷⁸ Bit rate means the number of bits per second that can be transmitted along a network path.

⁵⁷⁹ Network Termination Unit or ('**NTU**') means the equipment that resides at the demarcation point between the access network and End Users' network or CPE.

⁵⁸⁰ Wholesale Ethernet Interconnection Link or WEIL is the interconnection service provided by Eircom which provides a handover for various wholesale products including its NGA and NGN wholesale products;

- 8.77 ComReg considers the imposition of an obligation to provide access to VUA (including with GNP) is justified and proportionate. Such obligations are justified because they promote competition by providing access to essential facilities which are necessary to allow effective competition to develop. Absent regulation, as noted in Section 7, ComReg's preliminary view is that Eircom, as a vertically integrated undertaking with SMP in the WLA Market, has the ability and incentive to refuse to provide access to VUA products, services and facilities.
- 8.78 Without access to these FTTX based VUA facilities competition would not likely be effective. This is because the level of investment required by a third party to roll out fibre or copper necessary to replicate Eircom's access network would be of such a scale to be a barrier to entry and/or expansion. This would ultimately reduce the effectiveness of competition, to the detriment of End Users.
- 8.79 In this respect, access to VUA products and services is necessary to ensure the development of sustainable and effective downstream competition and to minimise foreclosure concerns that could arise, absent such regulation. ComReg considers VUA access to be proportionate because it is the least burdensome obligation required to promote and foster infrastructure competition, when compared to the other potential access obligation options.
- 8.80 VUA products have already been developed by Eircom and are available and in use by Access Seekers at [redacted] MPOPs in Eircom's network. Considering the uptake of fibre based access services to date⁵⁸¹ and expected trends⁵⁸², it appears that VUA will eventually become one of the mainstay wholesale products supporting the development of sustainable infrastructure competition. ComReg is of the view that the transition to VUA will continue during the lifetime of this review, particularly as End Users opt for higher speed broadband and associated services.

⁵⁸¹ Q2 2016 QKDR.

⁵⁸² CG based services are declining while NG based services are growing. See ComReg QKDR.

- 8.81 As part of the review of the WLA Market, ComReg considered emerging virtual access technologies and developments that could potentially offer virtual forms of fibre based access as alternatives to VUA. One technology that was given particular consideration due to the state of its development is Wavelength Division Multiplexing ('WDM')⁵⁸³⁵⁸⁴ access.
- 8.82 ComReg engaged WIK Consult GmbH⁵⁸⁵ to consider and to report on the feasibility of TWDM-GPON⁵⁸⁶ as a potential access remedy. In June 2016 WIK produced a report for ComReg setting out its findings ('WIK GPON and TWDM-GPON Report')⁵⁸⁷, a copy of which is attached at Appendix: 9 to this Consultation. In summary, TWDM-GPON is a nascent technology that has been recently standardised the deployment of which has been very limited.
- 8.83 Having regard to the WIK GPON and TWDM-GPON Report and considering the timeline for technology adoption and network rollout, in ComReg's preliminary view, TWDM-GPON is unlikely to be a technically or economically feasible access network technology during the lifetime of this market review.
- 8.84 For the reasons outlined above ComReg's preliminary view is that Eircom should be required to provide access to FTTX based VUA products services and associated facilities, including GNP.

Unbundled Fibre Access

- 8.85 Pursuant to Regulation 12(1) of the Access Regulations, Eircom shall meet all reasonable requests from Undertakings for the provision of unbundled access to the fibre loop i.e. ('FLU')⁵⁸⁸
- 8.86 ComReg recognises that VUA is likely to be the predominant means of supply in the WLA market during the lifetime of this review. However, this may change, and therefore Access Seekers may choose to use FLU, thereby requesting access to a fibre path between their equipment in an exchange and the End User.

⁵⁸³ WDM means Wave Division Multiplexing is a technology which multiplexes (combines) more than one optical carrier (wavelength) on to same optical fibre or optical distribution network.

⁵⁸⁴ WDM enables one or more SPs to use the same Access Path to provide services to End Users.

⁵⁸⁵ WIK-Consult is a research and advisory institute for communications services.

⁵⁸⁶ Time Wavelength Division Multiplexing Gigabit Passive Optical Networking ('TWDM GPON'), is a network architecture which can provide 80G of capacity with eight wavelengths of 10G each.

⁵⁸⁷ The WIK GPON and TWDM GPON Report is attached at Appendix: 9.

⁵⁸⁸ FLU or Fibre Loop Unbundling means where an Access Seeker rents access to the Fibre loop and uses it to supply services to its customers either on a wholesale or retail basis. Fibre Loop unbundling includes both physical and also non-physical access, such as but not limited to WDM. The section of Eircom's access network that provides access into the End User premises (whether residential, business or other premises). It runs between the ODF or equivalent and the relevant End User premises.

- 8.87 It is ComReg's preliminary view that Eircom should consider Access Seekers' requests for forms of FLU in the context of its overall obligation to meet reasonable requests for access. ComReg is therefore not proposing to mandate a specific FLU product obligation or other virtual forms of fibre unbundling such as WDM at this time because of the uncertain state of such technical developments. ComReg also notes that this area of technology continues to evolve.
- 8.88 ComReg considers that requiring Eircom to meet reasonable requests for unbundled access to FLU would be supportive of the overall aim of facilitating the development of sustainable competition in a similar manner to that discussed for VUA above. In addition, ComReg would also note that Eircom, in considering any requests for FLU, is also governed by its other obligations, including non-discrimination.

Requirement to provide access to Co-location, Co-location resource sharing and Co-location Rack Interconnection

- 8.89 Pursuant to Regulation 12(2)(f) of the Access Regulations, ComReg proposes that Eircom should be required to provide access to:
- (a) Co-location;
 - (b) Co-location resource sharing; and
 - (c) Co-location rack Interconnection.
- 8.90 The justifications for the above proposed requirements are discussed below.

Co-location

- 8.91 In addition to the core access products, co-location and other associated facilities are necessary to enable and support the provision of WLA and other services.
- 8.92 Co-location is a regulated wholesale product, which is essential in order for Access Seekers to avail of physical and virtual unbundled access products. Co-location services provide serviced space and ancillary services (including both Alternating Current ('AC')⁵⁸⁹ and Direct Current ('DC')⁵⁹⁰ - power, air-conditioning and tie cables) in an Eircom exchange building or similar facility.

⁵⁸⁹ A.C means Alternating Current

⁵⁹⁰ D.C means Direct Current

- 8.93 This serviced space is used to accommodate equipment racks which house Access Seekers' electronic equipment which is required to offer a retail or wholesale product or service offering. The serviced space (i.e. co-located equipment rack) is connected to the MDF and to the ('PoH')⁵⁹¹, with these connections providing the complete path from the NTU/NTP to the Access Seeker's network.
- 8.94 In Eircom's network, the connection to the PoH was traditionally a fibre cable running from the co-located rack to a chamber outside the exchange building (or similar facility) where the interconnection to the Access Seeker's network is facilitated. In some circumstances, it may not be technically and/or economically feasible to provide fixed backhaul services.
- 8.95 In those circumstances, wireless backhaul may be a viable alternative to fixed backhaul. To facilitate wireless backhaul different Co-location facilities are necessary i.e. access to the building roof, access to existing masts, installation of masts, a connection from the co-located rack to the antenna etc. Therefore, ComReg is proposing that the physical Co-location product offering be modified to include the requirements for a wireless PoH option.
- 8.96 A Co-location access obligation is necessary, because it promotes competition by providing access to essential facilities that enable access to VUA and LLU based WLA products. The absence of such access would undermine an Access Seeker's ability to avail of LLU and VUA products.
- 8.97 Absent regulation, ComReg's preliminary view is that Eircom, as a vertically integrated undertaking with SMP in the WLA market, has the ability and incentive to refuse to provide access to Co-location services and facilities. In this respect, access to Co-location products and services is necessary to ensure the development of sustainable and effective downstream competition and to minimise foreclosure concerns that could arise, absent such regulation.
- 8.98 In assessing the proportionality of the Co-location obligation, ComReg considers that Co-location is essential and no cost effective viable alternatives were identified that would more effectively meet the aims of promoting long term sustainable competition to the benefit of End Users.
- 8.99 Eircom has, to date, provided Co-location on foot of regulatory obligations imposed under the 2010 WPNIA Decision and the 2013 NGA Decision. The physical Co-location products currently being provided by Eircom are a mature and stable product set with limited changes anticipated in the lifetime of this review, although some changes are likely to be required to facilitate a wireless backhaul option.

⁵⁹¹ PoH or Point of Handover means the physical point at which two networks are interconnected to allow traffic to pass between these networks.

- 8.100 Eircom self-consumes wireless backhaul facilities at a number of exchanges, therefore the facilities necessary to provide wireless backhaul are technically and economically feasible. Therefore, in ComReg's preliminary view it should not be overly burdensome on Eircom to provide wireless backhaul Co-location facilities to Access Seekers.
- 8.101 For the reasons set out above, in ComReg's preliminary view the proposed Co-location access obligation is justified and proportionate given the aims pursued, namely to promote the development of competition to the ultimate benefit of End Users.

Co-location Resource Sharing

- 8.102 ComReg is proposing that Eircom should be required to allow Access Seekers to share their Co-location resources with other Access Seekers. In Eircom exchanges that are unbundled for LLU based services or for VUA services, Access Seekers typically consume resources such as power, space, air conditioning etc.
- 8.103 When another Access Seeker wants to unbundle or use VUA at an Eircom exchange where an existing Access Seeker(s) has already Co-located in,, the existing Access Seeker should have the opportunity to optimise their return on investment by allowing the other Access Seeker to share their Co-Location resources. This allows the Access Seeker to readily recover their costs of Co-Location, thereby lowering entry and/or expansion costs and allowing them to achieve greater efficiencies and economies of scale. This ultimately enables them to compete more effectively by lowering investment risk and facilitating cost recovery more evenly. It may also facilitate greater optimisation of space within Eircom exchanges as unused Access Seeker Co-location space is minimised. The sharing of Co-location resources helps to promote competition and is ultimately to benefit of End Users.
- 8.104 Absent regulation, ComReg's preliminary view is that Eircom, as a vertically integrated undertaking with SMP in the WLA market, has the ability and incentive to restrict Co-location resource sharing. Restricting Co-location resource sharing could detrimentally impact the development of sustainable and effective downstream competition as it can effectively raise Access Seeker costs above what they could be, including decreasing their economies of scale. This can be particularly the case as they are competing with Eircom which, as noted in Section 6, is likely to face significant sunk costs and greater economies of scale than Access Seekers.
- 8.105 In assessing the proportionality of this proposed obligation, ComReg considers that this proposed obligation is proportionate as the obligation relates to the efficient use of existing Access Seeker resources. As such should not create an undue burden on Eircom.

Co-location Rack Interconnection

- 8.106 ComReg is proposing that Eircom should be required to allow Access Seekers to interconnect their co-located equipment in exchange buildings or similar facilities. This will enable Access Seekers to share services or to offer wholesale services to other Access Seekers. For example this would enable Access Seekers to share backhaul resources efficiently or other services.
- 8.107 Access Seekers' equipment racks are normally adjacent to or in close proximity within the exchange. Access Seekers could route their fibre cables directly between their adjacent equipment racks, or route their fibre cables using cable trays between racks of equipment or by other means, as appropriate.
- 8.108 The connection of fibre cables between racks will in most instances span no more than a few metres, so rack interconnection would not place an undue burden on Eircom. The Access Seekers' accredited staff or accredited sub-contractors could undertake the interconnection of co-located racks once the work is completed to the appropriate technical and operational standards, thereby minimising the burden on Eircom.
- 8.109 As noted in Section 7 concerning competition problems and in the paragraphs above, Co-location has rental costs and associated capital costs. Access Seekers should be able to optimise their Co-location investments and ability to recover their costs by efficiently utilising their co-location space to its maximum extent.
- 8.110 Absent regulation, ComReg's preliminary view is that Eircom as a vertically integrated undertaking with SMP in the WLA market, has the ability and incentive to refuse access to co-located rack Interconnection services and facilities. In this respect, access to shared Co-location is necessary to ensure the development of sustainable and effective downstream competition and to minimise foreclosure concerns that could arise, absent such regulation. The same concerns outlined in paragraphs 8.103 and 8.104 can also be address through this obligation.
- 8.111 In assessing the proportionality of this proposed obligation, ComReg considers that Co-location Rack Interconnection is necessary and no cost effective, viable alternatives were identified that would meet the aim of promoting long term sustainable competition to the benefit of End Users.
- 8.112 In ComReg's preliminary view the proposed obligation is justified and proportionate for the reasons set out above.

Requirement for Migrations

- 8.113 Pursuant to Regulation 12(2) of the Access Regulations, ComReg proposes that Eircom should be required to provide access to Migrations⁵⁹²;
- 8.114 The justification for the above proposed requirement is discussed below.
- 8.115 A migration process provides the ability for an Access Seeker to change wholesale inputs in response to demand-side requirements or for optimization of supply-side inputs with the minimum possible disruption to End Users.
- 8.116 The ability of an Access Seeker to migrate between wholesale inputs is a fundamental requirement for properly functioning downstream markets. If an Access Seeker cannot seamlessly and efficiently switch between wholesale access products, competition in wholesale and/or retail market(s) would be severely hampered, because an Access Seeker would not be able to freely choose between the wholesale access products that best meets their business needs and the needs of their customers.
- 8.117 For example, if an Access Seeker is consuming wholesale Bitstream services and that Access Seeker unbundles an exchange and wishes to self-supply broadband (or other) services using VUA as a wholesale upstream input, then a Migrations service would be required to move the End Users from Bitstream to VUA based services.
- 8.118 ComReg is also proposing that Migrations from SB-WLR and VUA to standalone VUA or to standalone VUA combined with the transfer of a telephone number (i.e. porting) should be treated as a VUA Soft Migration⁵⁹³, if required by the Access Seeker. Soft Migrations eliminates the need to recover 'jumpers' at the time of service provisioning. The rationale for the VUA Soft Migration obligation in WLA Market and the Regional WCA Market are identical, and is set out in paragraphs 13.65 to 13.81.
- 8.119 In addition, ComReg considers that the already existing soft migration capability for Line Share should be similarly available for the VUA products.

⁵⁹² "Migration(s)" in this Section means where the upstream wholesale input used to supply a retail service directly or indirectly is changed whilst maintaining services to the End User, irrespective of whether or not the supplier at the retail level changes. For the avoidance of doubt, Migrations include but are not limited to migrations:-(i) between all Next or Current Generation WLA services in any direction; (ii) between Next or Current Generation WLA and Next or Current Generation WCA in any direction (iii) VUA Soft Migrations and (iv) Bulk Migration.

⁵⁹³ VUA Soft Migrations means the facility whereby an End User can migrate from SB-WLR with VUA to standalone VUA without the need for physical network intervention at the time of provisioning and may include the porting of their telephone number from the current service provider, if required.

- 8.120 If Access Seekers are unable to efficiently change between wholesale inputs, this could artificially raise their costs and inhibit them from evolving their business strategy or restrict sales. Absent regulation, ComReg's preliminary view is that Eircom, as a vertically integrated undertaking with SMP in the WLA Market, has the ability and incentive to refuse access to Migrations.
- 8.121 In this respect, access to Migrations is necessary to ensure the development of sustainable and effective downstream competition and to minimise foreclosure concerns that could arise, absent such regulation.
- 8.122 In assessing the proportionality of the Migrations obligation, ComReg did not identify any viable alternative obligation to remedy the potential competition problems and their effects. The continuation of the Migrations obligation is in the interest of End Users, because a properly functioning Migration process minimises the disruption that could occur when a customer's wholesale inputs are changed. The alternative to the Migrations obligation is a 'cease and provide'⁵⁹⁴ solution, which could cause extended service interruptions for End Users.
- 8.123 Eircom has to date provided Migrations on foot of regulatory obligations imposed under 2010 WPNIA Decision and in the 2013 NGA Decision.
- 8.124 For the reasons set out above, in ComReg's preliminary view, the proposed obligation is justified and proportionate given the aims pursued.

Requirement for Interconnection Services

- 8.125 Pursuant to Regulation 12(2)(a) of the Access Regulations, ComReg proposes that Eircom should be required to provide access to:
- (a) Interconnection Services; and
 - (b) Co-location for Interconnection, Associated Facilities and Services.
- 8.126 The justification for the above proposed requirements are discussed below.
- 8.127 Interconnection services and facilities are the physical and/or logical connectivity between networks to enable the handover of traffic between undertakings' networks at the PoH. Eircom currently provides Interconnection Services in the WLA Market and related markets using the WEIL product set.
- 8.128 Interconnection is needed to connect the Access Seekers' networks with Eircom's network. Without interconnection, competition in the downstream markets would be restricted to resale of services which limits scope for product differentiation by Access Seekers, thereby undermining consumer choice and competition in the market.

⁵⁹⁴ Cease and provide means to cease the current service before providing a new service.

- 8.129 Eircom currently supplies the following range of interconnection services in the WLA Market (together referred to as '**Interconnection Services**')
- In-Span Handover ('**ISH**');
 - Customer-Sited Handover ('**CSH**');
 - In-building Handover ('**IBH**'); and
 - Edge Node Handover ('**ENH**').
- 8.130 Access to Interconnection services supports the purchase of access products e.g. VUA. Interconnection services are essential for Access Seekers to be able to provide Electronic Communications Services ('**ECS**') and Electronic Communications Networks ('**ECN**') services. A range of different types of interconnection services are required to provide flexibility for Access Seekers requiring interconnection.
- 8.131 The imposition of this obligation relating to various types of Interconnection Services recognises the differing degrees of infrastructure deployment employed by Access Seekers when availing of WLA. For example, not all Access Seekers have sufficient infrastructure of their own that is close enough to Eircom's network, in order to be able to economically or commercially avail of Eircom's IBH or ISH services.
- 8.132 If CSH was the only interconnection type available, then larger scale Access Seekers would not be in a position to take advantage of their own infrastructure deployments to lower their costs of interconnection. Access Seekers could end up paying for products, services and facilities which are unnecessary for the services that they require. Therefore, the full suite of interconnection services are required to ensure that there is sufficient flexibility as Access Seekers will have invested in building out network infrastructure to varying degrees.
- 8.133 The availability of interconnection is one of the fundamental concepts that underpins the ladder of investment⁵⁹⁵ and infrastructure based competition. As Access Seekers build-out their own network and climb the ladder of investment then points of handover are required deeper into Eircom's network, thus resulting in increased efficiencies and lower costs for Access Seekers.

⁵⁹⁵ The ladder of investment is the principle that investments by new entrants are gradual while their subscriber base rises and they will require several complimentary services from incumbents until their subscriber bases grows significantly. Regulators aim to encourage investment by both incumbents and new entrants with the overall aim of enhancing competition.

- 8.134 ComReg's preliminary view is that Eircom, as a vertically integrated undertaking with SMP in the WLA market, has the ability and incentive to refuse access to Interconnection Services. In this respect, access to Interconnection Services and the associated Co-location facilities are necessary to ensure the development of sustainable and effective downstream competition and to minimise foreclosure concerns that could arise, absent such regulation.
- 8.135 In assessing the proportionality of this proposed obligation, ComReg considers that Interconnection Services are essential and that no technically feasible alternatives were identified that would effectively meet the aims of promoting long term sustainable competition to the benefit of End Users.
- 8.136 Eircom has to date provided Interconnection Services on foot of regulatory obligations imposed under the 2010 WPNIA Decision and the 2013 NGA Decision. The continuation of this obligation is in interests of End Users to facilitate their choice of service providers and services to the benefit of competition.
- 8.137 In ComReg's preliminary view the proposed obligation is justified and proportionate for the reasons set out above and given the aims pursued, no less intrusive obligation is available.
- 8.138 Requirement for Approval to Change rules or technical standards governing the deployment of Access network equipment. Pursuant to Regulation 12 of the Access Regulations, ComReg proposes that Eircom should be required to seek approval from ComReg in writing for changes to the rules or technical standards for the deployment of telecommunications equipment in the access network when such changes have the potential to impact on services already available and services in use, including changes to the CLFMP.
- 8.139 Eircom as the network operator with SMP has the ability and incentive to implement or to change access network technology or technical standards and thereby restrict access including access already granted.
- 8.140 Eircom defines rules and sets the technical standards which network equipment must comply with in order to ensure that services offered over Eircom's access network operate correctly. These rules and standards also ensure that the introduction of new network equipment does not have adverse effects on equipment already installed or on services already being availed of by End Users.
- 8.141 These rules and standards allow for the efficient running of the access network. Having such rules and standards represents best practice for network operators and is a key component of good network management.

- 8.142 The CLFMP is a document integral to the management of Eircom's copper access network. It is a document managed by Eircom which sets out the spectral rules and technical standards for the deployment of equipment on Eircom's copper access network. By conforming to the CLFMP, equipment in use on Eircom's copper access network, can deliver multiple services to End Users over the same copper access paths without mutual interference.
- 8.143 In order to introduce new services the CLFMP may need to be changed in order to accommodate the frequencies that will need to be injected into the copper access path by the associated network equipment, thus allowing new services to be delivered to End Users.
- 8.144 Eircom's roll out of fibre in the access network required new rules and technical standards for the deployment of optical equipment. The rules and standards for the deployment of network equipment on Eircom's copper and fibre access networks will likely evolve as new developments in access network technology results in the deployment of new equipment.
- 8.145 ComReg considers that it is good practice that rules and technical standards are used in order to ensure that the correct network equipment is deployed. However as all undertakings wishing to deploy network equipment on Eircom's Access Network must adhere to these rules and technical standards they have the potential to affect the conditions of access to WLA products, services and facilities.
- 8.146 Furthermore, changes to the rules and technical standards have the potential to impact on existing services already being provided to End Users. Therefore, ComReg is of the view that changes to the rules and technical standards need to be managed in an orderly manner and that the potential impact on Access Seekers and End Users is such that an approval process for such changes is required.
- 8.147 ComReg is of the view that it is necessary that all operators are aware of the nature of the change(s) proposed, the benefits accruing to Access Seekers and End Users and the interference risks associated with deploying new equipment in the access network. Access Seekers will also need to understand and should be able to input into any test and trial regime that may be required in order to determine the potential impact on existing services and have access to and get an opportunity to review the test and trial results.
- 8.148 This requires a change process that is rigorous and implemented with a high degree of transparency in order for Access Seekers to fully understand the implications of the proposed change to the rules and technical standards.

- 8.149 Eircom as the access network operator is most likely to propose changes to the rules and technical standards, as it is responsible for the operation and management of its network. All Access Seekers should be afforded equal opportunity to propose changes to the rules and technical standards when necessary. Eircom should oversee this change process with the Access Seeker requesting the change inputting into the design and implementation of the testing process with support, as required, from Eircom.
- 8.150 For the reasons explained above, as in the case of the CLFMP, ComReg proposes that ComReg should objectively assess the proposed changes to any rules or technical standards which are required for the deployment of Access network equipment, from the perspective of potential impacts on End Users and Access Seekers and either approve or not approve the proposed change as appropriate.
- 8.151 Once ComReg's approval is granted to the requested change to the rules or technical standards, then the change(s) can be incorporated into the access reference offer(s), as appropriate. In the case where the approval is not granted, then the proposed changes to the rules or technical standard(s) cannot be implemented.
- 8.152 ComReg proposes that Eircom must submit the request for approval with the supporting case, technical documentation and any results from tests and trials, to ComReg for review before the rules and technical standards can be changed.
- 8.153 In this respect, it is ComReg's preliminary view that ComReg's approval is necessary to ensure that the proposed changes to technical standards do not prevent or hamper the development of sustainable and effective downstream competition, absent regulation and in order to protect consumers.
- 8.154 To this end ComReg proposes that changes to the rules or technical standards for the deployment of equipment on the Access Network where such changes have the potential to adversely impact End Users or competition, including changes to the CLFMP, be approved by ComReg prior to the change taking place.

Requirement to include the Vectoring protocol in the ARO

- 8.155 Pursuant to Regulation 12 of the Access Regulations, ComReg proposes that Eircom should include the industry agreed protocol⁵⁹⁶ regarding the installation of vectoring equipment in Eircom exchanges in the ARO.

⁵⁹⁶ Eircom's Access Reference Offer (ARO) Version 7 dated 24 March 2016: ANNEX E Protocol for enabling vectoring on Exchange launched VDSL (EVDSL).

- 8.156 Vectoring technology eliminates cross talk⁵⁹⁷ between access paths (copper pairs) in shared cable binders. Vectoring⁵⁹⁸ works by measuring noise or interference in a cable and then generating a phase shifted signal of the same frequency thereby cancelling out the noise. Eliminating interference between access paths effectively increases the attainable rates (speed) of services that can be offered over a copper access network.
- 8.157 Vectoring technology is integrated in the DSLAM that is connected to cable pairs in a cable binder. A vectoring enabled DSLAM can be deployed either in a cabinet or in an exchange depending on the access network architecture⁵⁹⁹. VDSL technology increases the attainable rate (speed) allowing network operators to meet demands for higher speed services thereby extending the life of copper infrastructure by enabling higher speed service over it.
- 8.158 As the demand for higher bandwidth services continues to grow, vectoring has the potential to allow operators offer a greater range of services to End Users using the copper access network. This is particularly relevant as NGA services are still being rolled out. While it is important to facilitate the availability of higher speed services, long copper loop lengths limit the attainable rate on an access path. In such situations vectoring technology can significantly improve service offerings to the ultimate benefit of competition and End Users.
- 8.159 However, only one implementation of vectoring technology can be used to manage interference on a cable binder at any one time. Therefore, vectoring cannot be implemented by more than one operator using separate vectoring equipment on the copper cables in the same binder. If two operators implement vectoring separately on the same cable binder, then the benefits of vectoring to both operators are diminished such that they are effectively cancelled in this scenario.
- 8.160 This limitation has implications for competition. In ComReg's 2013 NGA consultation the issues arising from vectoring at the cabinet were considered, as Eircom had announced its intention to roll out vectored CVDSL services. Eircom was not, at that stage, considering EVDSL. Subsequently in 2014, Eircom announced its intention to implement EVDSL services. This required a change to the CLFMP in order to allow EVDSL equipment to be deployed.

⁵⁹⁷ Crosstalk in this context arises when a signal transmitted on one copper pair creates interference, resulting in signal degradation, in another copper pair in the same binder.

⁵⁹⁸ Vectoring technology works by detecting an unwanted signal on a copper pair and producing a signal that is exactly like it but with an inverted phase and injecting that signal into the copper pair. Due to their inverted phases relative to each other, the two signals cancel each other out thereby removing the interfering signal.

⁵⁹⁹ If the copper access network is directly fed i.e. the access paths are connected directly from the exchange to the customer's premises then the DSLAM is located in exchange. Alternatively, if the access paths are connected to the customer's premises through cabinets then the DSLAM is located in a roadside cabinet.

- 8.161 Without some mechanism to manage the implementation of vectored EVDSL there is a risk that an operator's decision to implement vectoring technology at an exchange could be rendered ineffective due to similar actions by another operator at the same exchange.
- 8.162 The risk of this happening could result in operators deciding not to invest and the opportunity to make higher speed vectored services available over copper infrastructure could be lost. Therefore the implications of more than one operator operating vectored EVDSL needs to be addressed.
- 8.163 As noted above, vectoring technology as it is currently implemented means that only one operator can deploy vectoring on copper paths within the same cable binder.
- 8.164 A technical solution to this problem is multi-operator vectoring ('**MOV**') technology. MOV allows multiple operators to deploy vectoring with each operator benefiting from the bandwidth gain. MOV is at a relatively early stage of development and currently has the limitation of requiring that both operators use EVDSL equipment from the same supplier.
- 8.165 ComReg will monitor these developments during the lifetime of the review and will consider whether developments merit consideration of additional remedies with respect to vectoring.
- 8.166 In some member states, NRAs have intervened in the market order to provide a regulatory solution to this issue. However in Ireland Access Seekers and Eircom have discussed this issue at industry forums facilitated by ComReg and have agreed a process whereby an Access Seeker who intends to deploy vectoring at an exchange informs other operators in advance.
- 8.167 This allows other operators the opportunity to either amend their plans up to and including potentially withdrawing an EVDSL vectoring service already in place. The agreed industry process⁶⁰⁰ appears to be working effectively and ComReg notes that some Access Seekers have deployed vectoring at Eircom's exchanges. In the case of Eircom's deployments, Access Seekers have the opportunity to avail of higher speed wholesale services as a result.

⁶⁰⁰ This process is documented in Eircom's Access Reference Offer (ARO) Version 7 dated 24 March 2016: ANNEX E Protocol for enabling vectoring on Exchange launched VDSL (EVDSL).

Appendix E Process for enabling vectoring on Exchange Launched VDSL (EVDSL).

- 8.168 Since the changes to the CLFMP to allow EVDSL in March 2015, no issues have been raised by operators regarding the rollout of vectored EVDSL services and to date vectored EVDSL has been deployed in a number of Eircom's exchanges.
- 8.169 Therefore, ComReg considers that since the solution to the issue has been agreed by the industry, is currently included in the Access Reference Offer ('**ARO**')⁶⁰¹ and is a working solution that does not raise concerns for ComReg, that Eircom should have an obligation to include this agreed approach in the ARO.
- 8.170 However, ComReg will continue to monitor the rollout of vectored EVDSL and should issues of concern arise then we will consider whether a further regulatory intervention is necessary
- 8.171 For the reasons outlined above, in ComReg's preliminary view these proposed Access obligations are justified, proportionate and reasonable.

Requirement for Associated Facilities

- 8.172 Pursuant to Regulation 12(2)(f) of the Access Regulations, ComReg proposes that Eircom should be required to provide Associated Facilities including:
- (a) Multicast;
 - (b) Traffic and Circuit based Class of Service;
- 8.173 The justification for the above proposed requirements is discussed below.

Requirement for access to Multicast for VUA

- 8.174 The practice of bundled services has grown significantly in the retail market and represents 74% of subscriptions. TV including IPTV⁶⁰² services appears to be an important and growing component of the bundled service offerings. Multicast is a key technical feature required to support IPTV on VUA services. IPTV services can also be provided using unicast but a unicast IPTV solution is not scalable, because of the burden of supporting data streams for each IPTV session across the network infrastructure.
- 8.175 Access to Multicast features is essential for Access Seekers to technically and economically provide a viable IPTV service. The absence of a VUA Multicast capability would require a significant upscaling of the Access Seeker's network infrastructure, would be inefficient, and would be barrier to entry and/or unduly raise Access Seeker costs.

⁶⁰¹ In general, the ARO is the offer of the contract for wholesale services.

⁶⁰² IPTV means Internet Protocol Television

- 8.176 ComReg’s preliminary view is that Eircom, as a vertically integrated undertaking with SMP in the WLA market, has the ability and incentive to refuse access to Multicast. In this respect, access to Multicast is necessary to ensure the development of sustainable and effective downstream competition and to minimise foreclosure concerns that could arise, absent such regulation.
- 8.177 In assessing the proportionality of this proposed obligation, ComReg considers that Multicast is essential and that no viable alternatives were identified that would meet the aims of promoting long-term sustainable competition to the benefit of End Users.
- 8.178 Eircom has to date provided Multicast on foot of regulatory obligations imposed under the 2013 NGA Decision. The continuation of this obligation is in interests of End Users to facilitate their choice of service to the benefit of competition.
- 8.179 In ComReg’s preliminary view the proposed obligation is justified and proportionate for the reasons set out above and given the aims pursued, no less intrusive obligation is available.

Requirement for Traffic and Circuit based Class of Service

- 8.180 An important prerequisite for providing managed VoIP based telephony services is the availability of CoS parameters. Voice services are delay and time sensitive from the End User’s perspective. In providing VoIP telephony services Access Seekers must ensure a minimum standard for quality of service parameters such as jitter⁶⁰³, latency⁶⁰⁴ and frame loss⁶⁰⁵ are maintained. These service quality parameters are equally important for other types of services, for example Video-on-Demand (**VoD**), that an Access Seeker may wish to offer using regulated wholesale inputs such as VUA based WLA or WCA.

⁶⁰³ “Jitter” means the variation in the time, generally measured in milliseconds (ms), between packets arriving at a destination, which can be caused by network congestion, timing drift, or route changes.

⁶⁰⁴ “Latency” means the time it takes, generally measured in milliseconds (ms), for a source to send a packet of data to a receiver. The key causes of latency tend to be propagation delay, serialisation, data protocols, routing and switching, and queuing and buffering.

⁶⁰⁵ “Frame Loss” –means the failure of one or more transmitted frames to arrive at their destination. This occurs when frames are damaged and discarded, or when the capacity of an intermediate network component is exceeded, which results in frame being discarded.

- 8.181 Therefore, traffic markings (i.e. a method to identify the priority that should be attached to End User traffic when being processed by network components such routers and switches) must be applied at the CPE/NTU and transparently transported in the access network. This enables the Access Seeker to manage application specific traffic appropriately when it is handed over to the Access Seeker's own network⁶⁰⁶. The CoS features (traffic and circuit) are necessary to ensure that Access Seekers can innovate and differentiate their service offerings in both the residential and non-residential End Users.
- 8.182 ComReg's preliminary view is that Eircom, as a vertically integrated undertaking with SMP in the WLA market, has the ability and incentive to refuse access to CoS. In this respect, access to CoS is necessary to ensure the development of sustainable and effective downstream competition and to minimise foreclosure concerns that could arise, absent such regulation.
- 8.183 In assessing the proportionality of this proposed obligation, ComReg considers that CoS is essential and that no viable alternatives were identified that would meet the aims of promoting long-term sustainable competition to the benefit of End Users.
- 8.184 Eircom has to date provided CoS on foot of regulatory obligations imposed under the 2013 NGA Decision. The continuation of this obligation is in interests of End Users to facilitate their choice of service to the benefit of competition.
- 8.185 In ComReg's preliminary view the proposed obligation is justified and proportionate for the reasons set out above and given the aims pursued, no less intrusive obligation is available

Requirement for Access to Civil Engineering Infrastructure

- 8.186 Pursuant to Regulation 12(2)(b) of the Access Regulations, ComReg proposes that Eircom should be required to provide access to:
- Civil Engineering Infrastructure ('CEI') and in particular the following:
 - (a) Duct Access and Pole Access⁶⁰⁷;
 - (b) Ingress and Egress points;
 - (c) Co-location for CEI;
 - (d) CEI Tie Connection Service;
 - (e) Chambers;

⁶⁰⁶ Traffic markings associated with CoS features are appropriate in the context of ensuring delay sensitive traffic, such as voice or VoD related traffic, is managed appropriately. For the avoidance of doubt, ComReg notes that CoS features or traffic management should not be implemented such that concerns are raised with respect to Net Neutrality.

⁶⁰⁷ "Pole Access" means the installation of a cables on to an Eircom pole.

- (f) Direct Duct, and Sub-Duct access;
- (g) Dark Fibre, where Civil Engineering Infrastructure is not available;
and
- (h) Passive Access Records.

- 8.187 The justification for the above proposed requirement is discussed below.
- 8.188 Access to CEI is necessary as it facilitates entry at the highest rung of the ladder of investment i.e. that which allows Access Seekers to build their own network infrastructure. The more access network infrastructure that an Access Seeker can self-supply, the more control that the Access Seeker has over their product and service offerings.
- 8.189 Having greater control over self-supplied access network infrastructure provides Access Seekers with more flexibility in their technology choices and product development, etc. This in turn further facilitates and deepens competition as self-supplied access network infrastructure enables Access Seekers to innovate and to better differentiate their product offerings in the downstream markets.
- 8.190 An Access Seeker requires CEI in order to build network infrastructure, however the level of investment required by a third party to replicate Eircom's CEI in order to build an access network would be such that it would not be economically viable to do so. In this context, therefore, Eircom's passive access network infrastructure is a bottleneck asset without access to which Access Seekers are unlikely to build network infrastructure.
- 8.191 In ComReg's preliminary view, as Eircom is a vertically integrated undertaking with SMP in the WLA market, it has the ability and incentive to refuse to provide access to these essential bottleneck CEI inputs. In this respect, access to Eircom's CEI is necessary to ensure the development of sustainable and effective downstream competition and to minimise foreclosure concerns that could arise, absent regulation.
- 8.192 CEI access is key to promoting sustainable competition through network rollout. Efficient network rollout is achieved by removing unnecessary network build costs⁶⁰⁸. No other access obligation has the ability to reduce access network build costs, thereby creating the conditions necessary to promote sustainable competition.

⁶⁰⁸ Based on the Revised Copper Access Model (see subsequent discussion relating to proposed price control obligations), it is calculated that between [3 < [REDACTED]] percent of the access network build costs can be attributable to civil engineering infrastructure build costs.

- 8.193 ComReg considered whether the provisions of the Civil Infrastructure Directive (CID) to reduce the cost of deploying high-speed electronic networks would be sufficient to overcome potential or actual competition problems. In ComReg's preliminary view, the CID is not aimed at overcoming competition problems, its primary purpose is to reduce broadband network rollout costs. Therefore the CID is missing essential features that are necessary to effectively remedy competition problems.
- 8.194 In particular, there are no specific requirements for equivalence (non-discrimination), or requirements to set and publish prices in advance. Also dispute determination is on an inter-partes basis so may not have a wider general market application. Considering the scope and purpose of the CID, ComReg is of the preliminary view that WLA Market CEI remedies are still necessary, and that the CID is supplementary to SMP remedies.
- 8.195 ComReg also considered whether other less burdensome access obligations, in particular either physical or virtual unbundling, are capable of constraining Eircom's market power. In ComReg's preliminary view, the proposed WLA unbundled access obligations alone are insufficient to constrain Eircom's market power.
- 8.196 When the unbundled products are compared to CEI, CEI access provides more flexibility to the Access Seeker in terms of geographic reach (ubiquity), choice of network architecture and network and Operational Support Systems technology. The availability of CEI can thus enable dynamic competition through innovation and product differentiation, this degree of dynamic competition is, arguably, not currently available with the homogeneous characteristics of virtual unbundled access or the limited attainable data rates of physical unbundling (ULMP).
- 8.197 In ComReg's preliminary view, the proposed CEI obligation is justified and proportionate having regard to the competition problems identified, and the need to foster and to promote competition through efficient and effective network investment, to the ultimate benefit of End Users.

- Revised Copper Access Model means the model, as amended from time to time (subject to approval by ComReg), used by ComReg and Eircom to assess Eircom's compliance with the obligations. The model calculates costs based on both Top Down HCA and BU-LRAIC+ costing methodologies. The operation and details of the Revised Copper Access Model are described in Chapter 5 of ComReg Decision D03/16.

Scope of CEI Obligations

- 8.198 As Access Seekers can interconnect at an Eircom exchange which also serves as an MPoP in order to serve End Users using the VUA product, in ComReg's preliminary view the scope of local access and, therefore, CEI access, extends from the End User's premises up to the Eircom exchange (which also serves as the MPoP at which Access Seekers interconnect in order to avail of VUA services).
- 8.199 In order to get access to the local loop, historically Access Seekers built out their network to the local Eircom Exchange in order to provide services to End Users and then either directly connected to their core network at the Eircom exchange or connected to their core network via backhaul circuit(s) from the Eircom exchange.
- 8.200 Access Seekers may now want to serve their End Users from an Eircom exchange which also serves as an MPoP (Eircom MPoP), or equivalent in the Access Seeker's network, rather than the nearest Eircom exchange. In the case where the Access Seeker wants to serve its End Users from the Eircom MPoP (or equivalent), then the CEI access path between the End User's premises and the Eircom MPoP falls within the scope of the local access network.
- 8.201 For the purpose of this consultation, it is ComReg's preliminary view that the scope of local access extends from the Eircom exchange containing the MPoP to the End User's premises. Therefore, the scope of CEI access, extends and includes all CEI between the End User and the Eircom exchange which serves as an MPoP for each Exchange Area.
- 8.202 By serving End Users from the Eircom exchange, Access Seekers co-located at that exchange can use Eircom's CEI in the same fashion as Eircom and provide access to End Users within the same exchange boundaries and aggregation areas as Eircom.
- 8.203 ComReg notes that Eircom's exchange and aggregation area boundaries are based on Eircom's copper network. Access Seekers that build out their own network, but do not co-locate in an Eircom exchange may want to use Eircom's CEI in ways which do not necessarily align with Eircom's network topology. Access Seekers use of CEI will be based on their requirements and on their access network topology rather than on existing Eircom defined boundaries.
- 8.204 ComReg's preliminary view on the scope of CEI access is further explained in Appendix: 12.

- 8.205 Restricting Access Seekers' use of CEI to within Eircom's defined network boundaries (for example exchange or aggregation areas) could artificially restrict Access Seekers' abilities to build access paths that are necessary to serve End Users using CEI inputs. For example, Access Seekers may wish to build Access paths which cross two or more Eircom defined exchange boundaries in order to provide services to End Users.
- 8.206 This may require the Access Seeker to build additional CEI infrastructure to achieve this in some cases. ComReg is of the view that such flexibility in the use of Eircom's CEI adds no additional burden on Eircom and is potentially more beneficial to competition (in comparison to the scenario where this was not permitted). Limiting the geographic scope of CEI usage would be an undue restriction that could be detrimental to competition and ultimately to End Users as it can artificially raise Access Seekers' costs thereby limiting the ability to compete more effectively.
- 8.207 In ComReg's preliminary view, access to CEI should not, therefore, be subject to undue restrictions. However, some limited restrictions may be valid such as those concerning public safety or health and safety.
- 8.208 For the reasons outlined above, in ComReg's preliminary view Access Seekers' use of Eircom's access network CEI, should not be limited to Eircom defined boundaries within its access network topology (such as exchange or aggregation area boundaries).

Allowable use: Services offered by Access Seekers using CEI Access

- 8.209 The purpose of CEI access is to promote competition through the efficient use of existing physical infrastructure. The efficient use of CEI improves the economies of scope and scale for Access Seekers climbing the ladder of investment. Economies of scope are created by combining existing and/or new services in novel ways leading to innovated product offerings.
- 8.210 Restricting the use of CEI to a subset of ECS and ECN services could distort competition by limiting the portfolio of services and products that an Access Seeker can provide to their customers. Artificial restrictions on the use CEI access could deter downstream market entry and thus weaken competition.
- 8.211 Access Seekers can effectively move up the ladder of investment to build their own network when no limitations are placed on the use of CEI Access infrastructure. When Access Seekers climb the ladder of investment competition is strengthened and made more sustainable. Network rollout by Access Seekers allows them to replace their current wholesale access product inputs with their own self-supplied wholesale inputs potentially allowing them to offer differentiated service in downstream markets.

- 8.212 If the range of services that Access Seekers can offer using CEI inputs is unreasonably restricted, an Access Seeker may be unable to fully utilise its network investment to provide all the ECS and ECN services that their network is technically capable of delivering. Therefore the Access Seekers' network investment case will not be maximized. Artificial and unnecessary restrictions have the effect of discouraging network investment, with subsequent negative consequences for competition and the products and services offered to End Users.
- 8.213 Having considered the potential for vertical leveraging in general and in particular restrictions on access, ComReg is of the preliminary view that there should be no unreasonable restrictions on access to Eircom's CEI for the purposes of provision of services in either downstream and/or retail markets.
- 8.214 ComReg is of the view that reasonable restrictions would include restrictions relating to the technical and/or structural limitations of CEI, health and safety considerations and network integrity issues. Where Eircom refuses an Access Seeker's request to access CEI, it must provide the reasons and justification for such a refusal to the Access Seeker.
- 8.215 For the avoidance of doubt, ComReg notes that the use of Eircom's CEI by an Access shall be limited to the provision by an Access Seeker of a ECS and/or ECN. In particular, Access Seekers should not be restricted from using the CEI for the purposes of providing broadband, broadband enabled services (e.g. IPTV, VOIP), leased lines, backhaul for fixed and mobile services, and for network rollout etc.

Granularity of CEI Access Obligations

- 8.216 When specifying access obligations to address competition problems, ComReg must strike a balance between the generality and specificity of those access obligations. In the case of CEI access, if the CEI obligations are too high level then there is scope for ostensibly meeting the obligation while developing a product that does not meet Access Seekers' requirements.
- 8.217 ComReg is of the view, based on an analysis of the regulated CEI Access products made available by Eircom,⁶⁰⁹ and the views of Access Seekers who wish to use such products to rollout network infrastructure, that the imposition of a high level obligation has not resulted in the development of suitable regulated CEI Access products. It is ComReg's preliminary view that a more granular CEI Access obligation detailing specific aspects of the product and service is necessary.

⁶⁰⁹ Cartesian's report for ComReg titled 'CEI Service Delivery Process Equivalence Options Analysis of alternative service delivery approaches'. This report is published in Appendix: 10.

- 8.218 ComReg proposes therefore to identify particular aspects of the CEI access obligation in more detail and in advance through the consultation process. More specific CEI access obligations should help to speed up the development of a regulated CEI product and in ComReg's preliminary view this should result in the development of a wholesale regulated CEI Access product that will assist the efficient rollout of network infrastructure by Access Seekers.
- 8.219 To ensure that the CEI access obligations were specified at the appropriate level in order to provide the necessary clarity and certainty, ComReg has reviewed and considered documentation relevant to the Eircom's development of CEI access⁶¹⁰. These reviews have identified potential changes to the CEI obligation that in ComReg's preliminary view are necessary to have an effective CEI access obligation to address competition problems.
- 8.220 ComReg's proposed changes to the CEI access obligations are detailed in the following sections. Considering the importance and relative complexity of CEI access in order to enable network build, it is clear that there may be additional product characteristics and additional functionality required. Additional requirements and features are likely to arise during product development or change process.
- 8.221 For the avoidance of doubt ComReg's proposed access obligations do not preclude Eircom developing, or Access Seekers requesting, additional functionality or features. However the product features now proposed as obligations arise from the review and consideration of the available inputs to date.

Requirement for Access to Ingress and Egress points

- 8.222 Pursuant to Regulation 12(2) of the Access Regulations ComReg is proposing that Eircom should be required to provide access to CEI Ingress and Egress points.
- 8.223 Access to CEI Ingress and Egress points means access from any Chamber or pole to any other Chamber or pole on Eircom's CEI for the purposes of providing services to ultimately to End Users (including via downstream wholesale and retail markets).
- 8.224 Access Seekers may need access to the all Ingress and Egress points along an Eircom CEI pole or duct route including the cable chambers or equivalent in an Eircom exchange or a similar facility in order to be able to install network infrastructure for the purposes of offering downstream services.

⁶¹⁰ This included correspondence received by ComReg on CEI access and Eircom's CEI Access product, industry meeting minutes, current Reference offers, Statement of Requirements s etc. ComReg has also reviewed the CEI product offerings from other European countries.

- 8.225 ComReg is not proposing that Eircom should install additional Ingress or Egress points (Chambers or poles), but rather there should be no unreasonable access restrictions to existing Ingress and Egress points for CEI access products. Reasonable access restrictions may arise in exceptional circumstances related to health and safety for example.
- 8.226 The associated competition problems were noted in Section 7 paragraphs 7.24 to 7.34 above. Access to all Ingress and Egress points are needed to provide the flexibility necessary for Access Seekers to effectively compete in downstream retail market(s).
- 8.227 Absent regulation, ComReg's preliminary view is that Eircom, as a vertically integrated undertaking with SMP in the WLA Market, has the ability and incentive to refuse access or to restrict access to Ingress and Egress points. Restrictions on access to Ingress and Egress points could prevent Access Seekers from innovating and differentiating their product offerings based on their own access network topology and deployment.⁶¹¹
- 8.228 In this respect, access to all CEI Ingress and Egress points is necessary to ensure the development of sustainable and effective downstream competition and to minimise foreclosure concerns that could arise, absent such regulation.
- 8.229 In assessing the proportionality of the obligation to provide access to CEI Ingress and Egress points, ComReg did not identify a more effective alternative obligation to remedy the potential competition problems. In ComReg's preliminary view this proposed obligation will not result in a significant additional burden on Eircom. Therefore the proposed obligation is justified and proportionate given the aims pursued and no less intrusive obligation is available.

Requirement for a Tie Connection Service

- 8.230 Pursuant to Regulation 12(2) of the Access Regulations, ComReg is proposing that Eircom should be required to provide access to a Tie Connection between Co-Location and CEI Ingress and Egress points.
- 8.231 A Tie Connection Service is a fibre connection between the Access Seekers' collocated equipment or the Access Seekers' co-located ODF in an Eircom exchange and a chamber or pole outside the exchange.

⁶¹¹ An example of where flexibility is required is where an Access Seeker may only require access to relatively short segment of Eircom's duct infrastructure route to connect the End User to the Access Seekers network. Restricting access to particular Ingress and Egress points may result in the Access Seeker being required to use more duct than is necessary resulting in unnecessary additional costs in terms of CEI access and additional network infrastructure.

- 8.232 Access paths are typically connected from the ONT⁶¹²/NTU at the End Users' premises to an ODF or equivalent in the Eircom exchange and then to active equipment so that the services can be delivered to the End Users.
- 8.233 The Tie Connection service provides the last element of an access path and allows connectivity between the Access Seekers co-located equipment inside the exchange and the Access Seekers fibre which serves the End User. This fibre is terminated in a chamber or on a pole outside of the exchange building or equivalent.
- 8.234 The current CEI product offerings do not explicitly facilitate the connection of duct or pole CEI routes to the Access Seekers' co-location within an Eircom exchange building. Typically CEI routes terminate in close proximity to the exchange building, but not in the exchange building.
- 8.235 If an Access Seeker is unable to connect the fibre in the chosen CEI route to their Co-location facilities in a nearby exchange building or equivalent directly then the Access Seeker is likely to incur significant additional civil engineering construction costs to complete the Access path necessary to replicate the services offered by Eircom. These additional costs could be a barrier to market entry.
- 8.236 The ability of an Access Seeker to connect from the CEI Ingress/Egress points in the immediate proximity of the exchange buildings to their co-located facilities within an Eircom exchange building will encourage competition through efficient network investment that will be ultimately to benefit of End Users.
- 8.237 The relevant competition problems were noted in Section 7 paragraphs 7.24 to 7.34 above. Absent regulation, ComReg's preliminary view is that Eircom, as a vertically integrated undertaking with SMP in the WLA market, has the ability and incentive to refuse the installation of a CEI Tie Connection Service.
- 8.238 In this respect the CEI Tie Connection Service is necessary to ensure the development of sustainable and effective downstream competition and to minimise foreclosure concerns that could arise, absent such regulation.
- 8.239 In ComReg's preliminary view the provision of a Tie Connection Service consisting of an interconnecting fibre cable between the CEI Ingress/Egress points and the ODF and/or Co-located equipment rack in the exchange would not place an undue burden on Eircom.

⁶¹² "ONT" Optical Network Terminal means a device that terminates fibre access paths at the End User's premises.

- 8.240 Eircom already offers a similar type of connection service to facilitate LLU backhaul, where fibre cables are installed between the Access Seekers co-located equipment and, typically, two chambers outside of the exchange building. This proposed new service is essentially a modification and reuse of an existing LLU service feature for CEI access.
- 8.241 In assessing the proportionality of this obligation to provide access to a Tie Connection Service between co-location and CEI Ingress/Egress points, ComReg did not identify a more effective alternative obligation to remedy the potential competition problems.
- 8.242 In ComReg's preliminary view, this proposed obligation is justified and proportionate given the aims pursued and no less intrusive obligation is available.

Requirement for CEI Co-location

- 8.243 Pursuant to Regulation 12(2) of the Access regulations, ComReg is proposing that Eircom should be required to provide access to the Co-location services and facilities necessary to support CEI access CEI Co-Location.
- 8.244 Co-location facilities in exchanges were historically deployed to facilitate unbundling for LLU or Interconnection. In some instances Access Seekers use their existing Co-location service and facilities for VUA and other services. In ComReg's preliminary view Co-location services and facilities can be used to facilitate all access service types including LLU, VUA and Interconnection.
- 8.245 In particular, Access Seekers should be able to reuse their existing Co-location services and facilities (inter alia rack space, racks, backhaul, power, air-conditioning, etc.) in conjunction with their CEI access. Eircom should also provide a physical Co-location variant specifically tailored for CEI access including access to cable chambers in the exchange building or equivalent (i.e. normally located under the MDF or equivalent), and other facilities necessary to connect from the cable chamber in the exchange building to the Access Seekers Co-location footprint in the same exchange or equivalent).
- 8.246 The relevant competition problems were noted in Section 7 paragraphs 7.24 to 7.34 above. Absent regulation, ComReg's preliminary view is that Eircom, as a vertically integrated undertaking with SMP in the WLA market, has the ability and incentive to refuse access to CEI Co-location. In this respect, CEI Co-location is necessary to ensure the development of sustainable and effective downstream competition and to minimise foreclosure concerns that could arise, absent such regulation.
- 8.247 In assessing the proportionality of CEI Co-location, ComReg did not identify a more effective alternative obligation to remedy the potential competition problem. In ComReg's preliminary view, this proposed obligation is justified and proportionate given the aims pursued and no less intrusive obligation is available.

Requirement for Access to Chambers

- 8.248 Pursuant to Regulation 12(2) of the Access regulations, ComReg is proposing that Eircom should be required to provide access Chambers.
- 8.249 ComReg is proposing that Eircom should be required to provide access to Chambers for jointing, splicing and pull through and any other relevant work that may reasonably be required by an Access Seekers on their own cables or in order to work on Sub-Ducts.
- 8.250 In the event of a service outage because of duct damage, an Access Seeker may endeavour to restore services to their customers as soon as possible. For example, to implement a temporary or permanent fibre bridge for repair purposes access may be required to any combination of Chambers on a duct route. In such a scenario, access to Chambers is necessary to avoid unnecessary replacement of full Sub-Duct routes.
- 8.251 It can be argued that the absence of Chamber access undermines the value of Duct access. This in turn undermines potential downstream competition as the Access Seeker may be reluctant to risk potential service outages for high value customers or groups of customers. Without access to duct Chambers maintenance and repair tasks could be cumbersome and time consuming. These delays could have negative consequences for End Users and would be ultimately detrimental to competition.
- 8.252 There are other legitimate reasons why an Access Seeker would need access to Chambers. For example the installation of an optical splitter and/or other passive access network equipment, where physical space is available in the Chamber.
- 8.253 ComReg is of the view that access to a chamber may be refused for reasons such as health and safety and network integrity. In such circumstances the reason for the refusal should be provided to the Access Seeker.
- 8.254 The relevant competition problems were noted in Section 7 paragraphs 7.24 to 7.34 above. Absent regulation, ComReg's preliminary view is that Eircom, as a vertically integrated undertaking with SMP in the WLA market, has the ability and incentive to refuse access to Chambers. In this respect, Chamber access is necessary to ensure the development of sustainable and effective downstream competition and to minimise foreclosure concerns that could arise, absent such regulation.
- 8.255 In assessing the proportionality of Chamber access. ComReg did not identify a viable alternative obligation to remedy the potential competition problems. In ComReg's preliminary view, this proposed obligation is justified and proportionate given the aims pursued and no less intrusive obligation is available.

Hosting of Active Equipment in Chambers or on Poles

- 8.256 ComReg has considered the need to host active equipment on poles or in chambers to facilitate for example the deployment of ('G.Fast')⁶¹³ technology or similar.
- 8.257 ComReg is not proposing to impose a product specific obligation on Eircom to host active equipment on poles or in chambers at present. Nevertheless, in principle, hosting of active equipment on poles or in chambers may be reasonable and should be considered under the obligation upon Eircom to meet reasonable requests.
- 8.258 In addition, ComReg would also note that Eircom is governed, in this respect by its non-discrimination obligations as discussed in paragraphs 8.393 to 8.258.

Requirement for Access to Sub-Duct and Direct Duct access

- 8.259 Pursuant to Regulation 12(2) of the Access Regulations ComReg is proposing that Eircom should be required to provide Sub-Duct Access and Direct Duct Access.
- 8.260 In some circumstances Access Seekers may want Sub-Duct Access, where available, because the installation of an additional Sub-Duct where there is an existing unused or partially used Eircom Sub-Duct may be unnecessary.
- 8.261 Inefficient use of duct network infrastructure, for example installing new Sub-Ducts on a duct route where spare Sub-Duct capacity is available, could result in increased costs for Access Seekers. In ComReg's preliminary view access to Eircom's Sub-Duct where reasonably available to satisfy an access request would be a better use of duct network resources and is ultimately to the benefit of End Users.
- 8.262 In some circumstances, Access Seekers may want to install their fibre cables directly into Ducts without the installation of a Sub-Duct. This may be because of operational reasons or lack of available space on a Duct route or a portion of a Duct route to accommodate a Sub-Duct. Therefore, Duct access should not be unduly restricted.
- 8.263 The competition problems were noted in Section 7 paragraphs 7.24 to 7.34 above. Absent regulation, ComReg's preliminary view is that Eircom, as a vertically integrated undertaking with SMP in the WLA market, has the ability and incentive to refuse direct access to Ducts and indirect access to Ducts using Sub-Ducts.

⁶¹³ G.fast is a DSL protocol standard designed to provide high speeds over for very short loops, usually less than 500m.

- 8.264 Duct and Sub duct access is necessary to ensure the development of sustainable and effective downstream competition and to minimise foreclosure concerns that could arise absent such regulation.
- 8.265 In assessing the proportionality of Duct and Sub-Duct access, ComReg did not identify an equally effective and efficient obligation to remedy the potential competition problems. In ComReg's preliminary view, this proposed obligation is justified and proportionate given the aims pursued and no less intrusive obligation is available.

De-congestion and Optimisation of Ducts

- 8.266 ComReg has considered whether there should be a specific obligation in relation to decongestion and optimisation of CEI resources. After considering the obligations already proposed, such as Sub-Duct access, direct access to ducts, Dark Fibre, and the possibility to use alternative CEI routes to bypass the congested location(s), ComReg is not proposing additional measures at this time relating to network de-congestion/optimisation. Should congestion become an issue ComReg may reconsider this matter.
- 8.267 ComReg expects Eircom to proactively manage its network. In this context, proactive management would mean that Eircom would remove redundant cables from poles and ducts, would remove unused or partially used junction boxes etc. in an efficient manner, to ensure that potential bottlenecks⁶¹⁴ in the network are effectively managed.
- 8.268 Even though ComReg has not specified a specific CEI decongestion/optimisation obligation at this time, should a specific network resource decongestion/optimisation access request be forthcoming, in principle this should be considered under the obligation upon Eircom to meet reasonable requests. ComReg also notes that any refusal of access to CEI, because redundant cables were not removed from ducts or poles may be an unjustifiable refusal of access.

Requirement for Access to Dark Fibre, where Civil Engineering Infrastructure is not available

- 8.269 Pursuant to Regulation 12(2) of the Access Regulations ComReg is proposing that Eircom should be required to provide access to Dark Fibre in situations where access to Civil Engineering Infrastructure is not available.

⁶¹⁴ Examples of bottlenecks requiring pro-active management could include the first pole on an aerial route from exchanges, bridges, and ducts in close proximity to exchange buildings.

- 8.270 Access to a particular duct or pole route may not be available, because a particular portion of a duct or pole route may be full (no usable space), or the duct infrastructure may be damaged. In such cases, providing CEI access may not be technically or economically feasible.
- 8.271 In that event, Eircom should offer Dark Fibre access as an alternative to CEI access where Dark Fibre access is available. In ComReg's preliminary view, access to Dark Fibre is proportionate when two conditions are met: (1) duct, or Sub-Duct space or pole capacity (space for equipment or attachment of a cable) is unavailable and (2) where Dark Fibre capacity is available.
- 8.272 In assessing the proportionality of Dark Fibre access, ComReg did not identify an equally effective and efficient obligation to remedy the potential competition problems. In ComReg's preliminary view, this proposed obligation is justified and proportionate given the aims pursued and no less intrusive obligation is available.

Requirement for Access to Passive Access Records

- 8.273 Pursuant to Regulation 12 (2) of the Access Regulations ComReg proposing that Eircom should provide access to Passive Access Records ('PAR').
- 8.274 Access to PAR is necessary to allow Access Seekers to plan network installation or expansion by using access to CEI. For example, in order for an Access Seeker to be able to assess whether there is sufficient CEI capacity available or unavailable in Eircom's duct or pole network to accommodate their access network rollout needs.
- 8.275 The availability PAR information will enable Access Seekers to be better able to plan their network rollout, and if necessary consider alternative routes or deployment strategies to overcome congestion or pinch-points in the CEI network. Therefore, access to PAR is invaluable from the perspective of network planning and deployment purposes.
- 8.276 Access to Eircom's CEI information (such as the information that is available through Smallworld⁶¹⁵ or equivalent) and access to other passive access inventory systems (such as fibre inventory systems) will enable Access Seekers to more efficiently plan their network deployments. Therefore, Access Seekers will be able to avoid unnecessary costs, which will help to promote competition through the efficient use of resources.
- 8.277 The relevant competition problems were noted in Section 7 paragraphs 7.35 to 7.40 above. Absent regulation, ComReg's preliminary view is that Eircom, as a vertically integrated undertaking with SMP in the WLA Market, has the ability and incentive to refuse Access to PAR or to provide low quality access to PAR information.

⁶¹⁵ Smallword is GIS software product provided by General Electric.

- 8.278 PAR access is necessary to ensure the development of sustainable and effective downstream competition and to minimise foreclosure concerns that could arise absent such regulation.
- 8.279 In assessing the proportionality of PAR, ComReg did not identify an equally effective and efficient obligation to remedy the potential competition problems. In ComReg's preliminary view, this proposed obligation is justified and proportionate for the reasons outlined above.

Requirement to negotiate in good faith

- 8.280 Pursuant to Regulation 12(2)(b) of the Access Regulations ComReg proposes to continue to impose an obligation on Eircom to negotiate in good faith⁶¹⁶ with undertakings requesting access to WLA and associated facilities.
- 8.281 Having regard to the competition problems identified in Section 7, ComReg considers this measure to be proportionate and justified in order to ensure that genuine bona fide negotiations take place between Eircom and Access Seekers in relation to access.
- 8.282 Eircom has the ability and incentive to expressly or constructively refuse to provide access to WLA. The obligation will also somewhat address imbalances between the bargaining powers of the respective parties in the negotiation process by reducing incentives to unnecessarily prolong negotiations and should also facilitate a more efficient and effective consideration of reasonable requests for access and provision of such access.
- 8.283 ComReg also notes that the obligation to negotiate in good faith implies that the responsibility rests with Eircom to demonstrate that its approach to negotiation with undertakings is in good faith and that any unmet access requests can be shown to be unreasonable by reference to objective criteria. In this regard, recital 19 of the Access Directive states with respect to requests to SMP undertakings for access that:
- “...such requests should only be refused on the basis of objective criteria such as technical feasibility or the need to maintain network integrity.”*
- 8.284 ComReg, therefore, proposes that should an access request be refused, or only partially met, then the objective criteria for refusing same should also be provided by Eircom to the requesting Access Seeker at the time of refusal. This will also improve regulatory effectiveness and efficiency should any complaint or dispute be raised with ComReg, as it will provide a useful audit trail for compliance-monitoring purposes.

⁶¹⁶ Amongst the factors that ComReg may have regard to in any assessment of Eircom's compliance with its obligation to negotiate in good faith, ComReg may consider the extent to which Eircom has adequately resourced such negotiations.

8.285 ComReg notes that the obligation to negotiate in good faith encompasses the way in which Eircom conducts the negotiations as well as the positions that it takes in them. In investigating an allegation of a failure to negotiate in good faith, ComReg might draw inferences from Eircom's behaviour and from the adequacy of the processes and controls it has put in place to assure compliance with this obligation. For example, ComReg might draw adverse inferences from the following:

- (i) a failure on the part of Eircom to behave in the way that a willing seller would behave when negotiating with a willing buyer;
- (ii) a failure by Eircom to respond to proposals made by Access Seekers in a timely and constructive manner;
- (iii) a failure by Eircom to deploy participants in the negotiations who had appropriate knowledge and authority, so that negotiations could proceed in a timely manner;
- (iv) the absence of effective controls to assure that decision-making processes within Eircom in relation to the negotiations could not be influenced by concerns about the commercial impact on Eircom's downstream retail business; and
- (v) the presence of incentives for individuals within Eircom who participated in or influenced the negotiations that might lead them to receive greater financial or other benefits if the negotiations were to be delayed, or to result in an outcome other than that which might have been freely negotiated between a willing buyer and a willing seller.

8.286 The precise nature of any investigation and the degree to which inferences might be drawn from behaviour would need to be assessed in the context of the actual circumstances of any particular case.

8.287 In ComReg's view, the continuation of this existing remedy does not impose any significant burden on Eircom beyond that which would normally be expected to occur in circumstances involving fair commercial negotiations between parties.

Requirement not to withdraw access to facilities already granted

8.288 Pursuant to Regulation 12(2)(c) of the Access Regulations, ComReg proposes to impose an obligation on Eircom not, without the prior approval of ComReg, to withdraw access to facilities already granted.

8.289 For the avoidance of doubt, this does not mean there are no objectively justified circumstances for withdrawing access to WLA and associated facilities (such as the unjustified non-payment of wholesale charges), however, this would have to be considered on basis of the facts of the particular circumstances governing the proposed withdrawal of access.

- 8.290 Having regard to the competition problems identified in Section 7, ComReg has identified that Eircom would have the ability and incentive to delay, refuse or withdraw access to WLA and access to associated facilities, either outright or constructively, resulting in restrictions and/or distortions in competition to the detriment of End Users.
- 8.291 As Eircom's network evolves and changes, there is a potential for withdrawal of access. For example, the points of interconnection may change or there may be consolidation of services etc. ComReg considers that the proposed remedy, requiring that Eircom seek ComReg's approval prior to any withdrawal of access, will promote regulatory certainty for all parties without unduly restricting investment incentives.
- 8.292 More specifically, ComReg proposes that Eircom should notify ComReg, in writing, of any proposal to withdraw access to facilities already granted, giving reasons borne out of a detailed analysis of the proposal for service withdrawal, including the impacts that the withdrawal of access is likely to have on existing WLA purchasers and End Users.
- 8.293 Where Eircom proposes to withdraw a service or services, ComReg would retain the right to consult with relevant parties, prior to making a decision on whether to grant or to withhold its approval to any such request.
- 8.294 In ComReg's preliminary view, a five years notification period prior to closure of an MDF, ODF or the relocation of AGG nodes would be appropriate and proportionate. However, ComReg also notes that within the period of this review it is possible that Eircom may seek to put in place a programme to commence the retirement of its copper infrastructure. Any such programme would be considered by ComReg having regard to the principles to be established on foot of ComReg's finalisation of the issues subject to the 2016 Copper Network Transition Consultation⁶¹⁷.

Requirement to grant open access to technical interfaces, protocols and other key technologies

- 8.295 Pursuant to Regulation 12(2)(e), ComReg proposes to impose an obligation on Eircom to grant open access to technical interfaces, protocols and other key technologies that are indispensable for the interoperability of services.
- 8.296 Having regard to the competition problems identified in Section 7, ComReg considers that this remedy is both justified and proportionate in order to ensure that, in the context of the provision of access to WLA and associated facilities (including Interconnection Services), interoperability of networks and services is ensured.

⁶¹⁷ "Transition from Eir's copper network, Proposed principles and notification procedures", [ComReg Document 16/01](#), 16 January 2016 ('**2016 Copper Network Transition Consultation**').

8.297 In so doing, ComReg considers that this obligation will contribute to the development of sustainable downstream competition to the ultimate benefit of End Users.

Requirement to provide access to Eircom's Operational Support Systems (OSS)

8.298 Pursuant to Regulation 12(2)(h), ComReg proposes to maintain an existing obligation on Eircom to provide access to Operational Support Systems ('OSS')⁶¹⁸ or similar systems to ensure fair competition in the provision of services.

8.299 Access to Eircom's OSS plays an important role in Eircom's provisioning of wholesale services to Access Seekers and its downstream arm. This also includes access to OSS for the purpose of fault and in-service management. Access to OSS is, therefore, essential, to the effectiveness and efficiency of the operational aspects of the supply of the wholesale WLA products, services and facilities that are used as inputs to the supply of service(s) to End Users.

8.300 In the absence of Access Seekers being able to gain effective and efficient access to Eircom's OSS, they would likely be at a significant competitive disadvantage relative to Eircom's retail arm in the providing of service(s). Having regard to the competition problems discussed in Section 7, ComReg considers that this obligation is needed to support Eircom's general access obligation because Eircom has the ability and the incentives to impede access to its OSS in order to leverage its market power into downstream and adjacent markets.

8.301 The standards of access equivalence (whether on an Equivalence of Outputs or Equivalence of Inputs basis) that is to be applied by Eircom in providing access to its OSS or similar software systems is discussed in the context of proposed non-discrimination obligation.

Requirements governing fairness, reasonableness and timeliness of access

8.302 As noted in Section 7, ComReg considers that Eircom has the ability and incentive to constructively refuse to supply access (including delay or other behaviours which have the effect of raising rivals' costs) to WLA products, services and facilities.

⁶¹⁸ OSS means Operational Support System, for example the Unified Gateway.

- 8.303 Regulation 12 (3) of the Access Regulations empowers ComReg to attach to relevant access obligations conditions covering fairness, reasonableness and timeliness. In the case of WLA services and facilities ComReg requires Eircom to ensure that the terms and conditions for access are governed by an SLA⁶¹⁹.
- 8.304 The purpose of the above requirement is to ensure that access to wholesale services is provided in a fair, reasonable and timely manner, thereby promoting effective downstream competition, to the ultimate benefit of consumers.
- 8.305 To address such issues ComReg proposes to impose the following requirements upon Eircom :
- (a) to conclude, maintain and update legally binding, fit for purpose SLAs with Access Seekers for WLA products, services and facilities and the Unified Gateway ('UG')⁶²⁰, which shall encourage an efficient level of performance;
 - (b) negotiate in good faith with Undertakings in relation to the conclusion of legally binding and fit-for-purpose SLAs (either in the case of a new SLA or an amendment to an existing SLA);
 - (c) provide Undertakings, at the end of the SLA Negotiation Period⁶²¹, with Eircom's best and final offer ('BAFO') in respect of the relevant SLA which, for the avoidance of doubt, shall be fit for purpose; include all relevant information that is required under this Section 8.305 and accord with the principles set out in this Section 8.305. The SLA Negotiation Period ends with the closing of negotiations and the making of a BAFO by Eircom to Undertakings with respect to the SLA. When Eircom makes its BAFO, the SLA is deemed by ComReg to be concluded;
 - (d) ensure that the SLA Negotiation Period includes a discussion on the process for suspension of an SLA and the associated terms and conditions, as described below;

⁶¹⁹ Service Level Agreements or 'SLAs' are legally binding contracts between Eircom and Access-Seekers in relation to the service levels which Eircom commits to from time to time, as more particularly set out in the ARO.

⁶²⁰ Unified Gateway or 'UG' is an interface into Eircom's OSS used by Access Seekers in order to avail of regulated wholesale services, including WLA products, services and facilities.

⁶²¹ SLA Negotiation Period means the duration of time required by Eircom to close negotiations between it and Undertakings in respect of an amended or new SLA.

- (e) ensure that SLAs specify circumstances which trigger the payment of Service Credits⁶²² such as a failure by Eircom to achieve committed service levels, or the occurrence of specified events (such as incidents of service outage or deterioration), or other appropriate criteria;
- (f) ensure that SLAs specify the methodology for calculating the quantum of Service Credits and include an example calculation of Service Credits;
- (g) ensure that circumstances which trigger the payment of Service Credits and the methodology for calculating the quantum of Service Credits, taken together, are fair and reasonable in that they adequately incentivise Eircom to deliver an efficient level of service quality and allow Undertakings to recoup at a minimum the direct costs and any other loss of value that the Undertakings incur as a result of the circumstances that had triggered the payment of Service Credits;
- (h) ensure that application of Service Credits, where they occur, shall be applied automatically and in a timely and efficient manner;
- (i) ensure that SLAs include, where appropriate, the comprehensive set of terms and conditions governing the circumstances when the SLA can be suspended, and the process to be applied for the suspension of the SLA. Such terms and conditions should be based on objectively defined and measurable parameters;
- (j) In relation to an existing product, service or facility, following a request from an Undertaking (including Eircom) for an amendment to an SLA, Eircom shall, within one (1) month of the receipt of such a request, inform the Undertaking in writing whether the request for an amendment is accepted or rejected and, if accepted, include details of the SLA Negotiation Period and the associated start date. Negotiations in respect of the amended SLA shall close, unless otherwise agreed with ComReg, within six (6) months of the date the Undertaking makes such a request. Within one (1) month of the date the Undertaking makes such a request Eircom may seek an extension to the six (6) month period from ComReg;
- (k) In relation to an amendment to an existing product, service or facility, where Eircom itself initiates the amendment, Eircom shall, within one (1) month of the initiated amendment, inform and seek Undertakings' views as to whether the proposed product amendment should result in an amendment to the relevant SLA;

⁶²² Service Credit(s) means a financial credit which is provided by Eircom to an Access Seeker where Eircom has failed to meet the service levels which Eircom commits to from time-to-time in its SLA.

- (l) Eircom shall ensure that its obligations with respect to SLAs have been complied with prior to notifying ComReg of non-pricing amendments or changes to the ARO resulting from the offer of a new or an amendment to an existing product, service or facility which falls within the scope of the Relevant Market;
- (m) Eircom shall ensure that the new or amended SLA is implemented and is made available to Undertakings by the date on which:
 - (i) any amendment or change to an existing product, service or facility;
 - or
 - (ii) the offer of a new product, service or facility comes into effect;
- (n) Where the amended SLA does not relate to (l)(i) or (l)(ii) above, Eircom shall ensure that the amended SLA is implemented and is made available to Undertakings within three months from the end of the SLA Negotiation Period (unless otherwise agreed with ComReg); and
- (o) Within six months (unless otherwise agreed with ComReg) of the Effective Date of this Decision Instrument Eircom shall update its SLAs to include all relevant information and accord with the principles set out above.

8.306 In terms of justification, SLAs are intended to prevent Eircom from engaging in actual or constructive refusal to supply effective and efficient access to WLA products, services and facilities. Ultimately, the proposed SLA obligations are designed to ensure fair competition in the provision of WLA products, services and facilities by allowing Access Seekers to compete on a level playing field with Eircom (and its wholesale customers) in downstream markets.

8.307 In addition to demanding higher quality and more innovative products and services, End Users expect efficient and timely provision of services, including a high degree of reliability and effective fault management and repair. Therefore, Access Seekers are increasingly reliant on efficient delivery, service quality and after sales support from Eircom in order to be able to compete effectively in downstream markets.

8.308 The expected level of service both at the point of delivery and in-life are key selling points which can influence an End User when coming to a decision to take up a product or service or switch service providers. Therefore, for Access Seekers, the quality of SLAs which support regulated wholesale products are an extremely important component of the wholesale input and, in ComReg's view, are integral to the wholesale offering.

- 8.309 Suitable and well-crafted SLAs which support timely and efficient service provision and fault repair are necessary, both at the point of sale and to ensure that the End User experiences a high standard of after sales service and support. Therefore, the SLAs that support WLA products, services and facilities are very important in ensuring effective downstream competition and are necessary to ensure high quality services are offered, ultimately, to End Users⁶²³.
- 8.310 The nature of a fit for purpose SLA will depend on many factors, including the nature of the wholesale services provided by Eircom and the nature of the downstream retail services to be provided by Access Seekers. A fit for purpose SLA could be based on a commitment to achieve committed service levels, or on the occurrence of particular events such as service outages, or both. In any particular SLA, it is possible that there may also other sorts of circumstances in which it is appropriate that Service Credits be triggered. The precise nature of a particular SLA is best settled in negotiations between Eircom and Access Seekers, with the back-up possibility of ComReg using its dispute resolution powers if Access Seekers are unwilling to accept Eircom's best and final offer.
- 8.311 ComReg notes that there are certain types of SLA which could result in Service Credits being paid even by an efficient operator. An example would be an event-based SLA that provided for service credits whenever an outage occurs because even an efficient operator would expect some degree of outages to occur. Depending on the nature of the fit for purpose SLA, it might therefore be reasonable to include a portion the service credits (if any) that an efficient operator would incur in any calculation of a cost-oriented price for the service in question.
- 8.312 Sub-standard SLAs or delays in finalising SLAs and making them available to Access Seekers have more significant impacts on Access Seekers who are trying to grow market share and win customers from established SPs with significant market shares, such as Eircom. ComReg is of the view that as the incumbent operator with SMP in the WLA Market, Eircom does not have an incentive to provide fit-for-purpose SLAs which support the delivery of effective or high quality downstream services.

⁶²³ ComReg notes that WLA inputs can be used by Access Seekers to deliver a wide range of downstream wholesale services which, ultimately, are directly or indirectly used in the provision of retail services.

- 8.313 It is ComReg's preliminary view that, in order to conclude an SLA, Eircom must discuss and negotiate, as required, the details of a new or amended SLA with Access Seekers. After the discussions finish (including within the prescribed timelines discussed below), Eircom must offer to Access Seekers its BAFO, which should be a fit for purpose SLA and in accordance with its obligations. At this point the SLA is concluded. Should Access Seekers consider that the concluded SLA is not fit for purpose or does not meet their requirements then they can consider options such as raising a dispute with ComReg who would then consider whether Eircom is in compliance with its obligations.
- 8.314 ComReg notes that there have been ongoing problems with significant delays in concluding SLAs resulting in Eircom not introducing or amending SLAs in a timely manner.
- 8.315 Delays in the development and availability of suitable SLAs can have an adverse impact on competition and on End Users, as the absence of suitable SLAs ultimately lowers certainty regarding the timeliness and quality of access being provided. ComReg also notes that Access Seekers have raised concerns with ComReg regarding such delays and regarding the suitability of the SLAs which have been offered by Eircom.
- 8.316 In addition, Access Seekers have expressed concern regarding the suspension of SLAs by Eircom. Such suspensions can have a significant impact on the effectiveness of the SLA. Eircom retain the ability to suspend SLAs, however, it is not always clear as to the process or criteria applied when SLAs are suspended.
- 8.317 ComReg considers, therefore, that there is a need to reconsider the obligations imposed upon Eircom regarding the development of SLAs. In ComReg's preliminary view, there is a need for more granular SLA related obligations, in particular, relating to the timeliness of SLA developments. These proposals are discussed in the following paragraphs.

SLA amendments for existing products

- 8.318 ComReg accepts and expects that discussions between Eircom and Access Seekers need to take place regarding the details of amended SLAs on foot of a request from an Access Seeker or where Eircom itself seeks to introduce an amendment to an SLA, including the introduction of a new SLA. In such circumstances, Eircom proposes SLAs or SLA parameters for discussion with Access Seekers. However, there is currently no specific time by which these discussions must end, and significant delays can, therefore, occur in concluding SLAs.

- 8.319 Prolonged discussions on the details of the SLA or prolonged deliberation by Eircom only serves to delay the availability of SLAs, and this is not in the best interests of Access Seekers, competition or End Users. It can also amount to an effective refusal of access. ComReg notes, however, that while discussions between Access Seekers and Eircom are necessary and expected, the responsibility for the timely development of fit for purpose SLAs for WLA products, services or facilities is a matter, in the first instance, for Eircom.
- 8.320 A request from an Access Seeker for an amended SLA needs to be considered by Eircom in the context of Eircom's obligation to meet reasonable request for access (as well as its other obligations). However, it is important that Eircom considers SLA access requests, and SLA amendments generally, in a fair, reasonable and timely manner. In ComReg's preliminary view, more granular obligations relating to the management of changes to and the introduction of SLAs are required in order to ensure that SLAs are concluded in an effective and timely manner.
- 8.321 ComReg therefore proposes that the period of time required to discuss an amendment to an existing SLA with Access Seekers be proposed by Eircom at the outset, with this referred to as the SLA Negotiation Period. During the SLA Negotiation Period Eircom must discuss and negotiate proposed SLAs in a proactive manner, and in good faith, with Access Seekers.
- 8.322 After this SLA Negotiation Period, it is ComReg's preliminary view that Eircom should make its BAFO to Access Seekers in relation to SLAs. This BAFO should be fit for purpose and should be made by Eircom to Access Seekers within six months of a request from an Access Seeker, or within six months of when Eircom itself seeks to amend an existing SLA (or introduce a new SLA). At the point Eircom makes its BAFO, the SLA has been concluded.
- 8.323 ComReg also proposes that the SLA offer, i.e. Eircom's BAFO, should be implemented and made available to Access Seekers within three months of the SLA offer being made by Eircom, unless otherwise agreed with ComReg. ComReg considers that this requirement is reasonable, as discussions with Access Seekers have ended at that point and Eircom are required to make a BAFO which is fit for purpose (and in accordance with its obligations elsewhere) and, therefore, should be implemented and made available by Eircom.
- 8.324 Eircom shall, therefore, implement a fit for purpose SLA within three (3) months of making its BAFO to Access Seekers, unless otherwise agreed with ComReg. ComReg may, at its sole discretion, grant or refuse any request for an extension to the three month period above.

New product development and changes to existing products

- 8.325 In addition to managing requests from Access Seekers for amended SLAs, it is ComReg's preliminary view that Eircom also must develop new SLAs, or amend existing SLAs where required, when Eircom is planning to introduce new products or changes to existing products. In these circumstances, in order to conclude an SLA, Eircom must initiate the SLA Negotiation Period, at the end of which Eircom must make its BAFO regarding the SLA to Access Seekers, with this also being done prior to notification of the amended product or product change to ComReg in accordance with its transparency obligations (discussed elsewhere).
- 8.326 In ComReg's preliminary view, the development of SLAs tends to occur after the product development process has completed. This can raise issues, as the new or amended wholesale product being introduced to the market may not have an SLA, or may include an SLA which is not fit for purpose.
- 8.327 This would then require the subsequent development and conclusion of a new SLA which would then take place when the product is already available in the market. ComReg is of the preliminary view that such a scenario is not in the best interests of competition, Access Seekers or End Users, given the absence of a fit for purpose SLA can undermine the timely and effective use of the products in question.
- 8.328 Eircom has developed and introduced new regulated products to the market with SLAs⁶²⁴ which require further development. This has resulted in the availability of wholesale products that, in the opinion of Access Seekers, have ineffective SLAs⁶²⁵. Ineffective SLAs undermine the effectiveness of access obligations, and may restrict or distort competition, ultimately to the detriment of End Users.
- 8.329 In ComReg's preliminary view, if Eircom is required to conclude an SLA before new products (including services and facilities) are notified to ComReg, then such problems can be minimised or avoided.

⁶²⁴ The NGA product set was initially developed and launched in May 2013 with an SLA which needed significant development. A new NGA SLA was not concluded for a number of years and was published on 1 February 2016, over two and a half years after the NGA product was launched.

⁶²⁵ On a number of occasions after the launch of NGA services in May 2013 Access Seekers raised concerns with ComReg that the NGA SLA was not fit for purpose and proposed an amended SLA.

- 8.330 In ComReg's preliminary view, amendments to existing WLA products, services and facilities, need to be considered somewhat separately to new product developments, in particular, with respect to the associated SLAs. Not all amendments to products, services or facilities require changes to the associated SLA. However, as Access Seekers consider that SLAs are, in general, an integral part of a WLA product offering, they are likely to have a view as to whether proposed amendments to existing products, services or facilities require an associated SLA amendment.
- 8.331 Examples of such amendments include, inter alia, process changes, the introduction of new order types and the retirement of existing order types. Access Seekers have, for example, raised concerns that when order types are introduced, changed or replaced by Eircom, the associated SLA is not changed at the same time. This results in a delay before the SLA is amended, and therefore in such situations the new or amended order type is in use without being supported by an SLA.
- 8.332 ComReg is therefore of the view that Eircom should inform Access Seekers of the proposed amendment to the product, service or facility and discuss with Access Seekers whether an amendment to an SLA is required. This includes all proposed changes to existing WLA products, services and facilities.
- 8.333 ComReg is of the preliminary view that should an Access Seeker request an amendment to an SLA, on foot of a proposed amendment to an existing WLA product, service or facility, then any associated new or amended SLA should be concluded before any product amendment is notified to ComReg. In addition, the new or amended SLA must be fully developed, implemented and available to Access Seekers before the new or amended product is made available in the market.
- 8.334 Therefore, should an Access Seeker or Access Seekers form the view that a new or amended SLA is required as a result of the proposed new or amended product, then Eircom must treat this access request in accordance with all of its proposed obligations, including those set out above.
- 8.335 ComReg's preliminary view is, therefore, that Eircom shall :
- (a) to conclude, maintain and update legally binding, fit for purpose SLAs with Access Seekers for WLA products, services and facilities and the UG, which shall encourage an efficient level of performance;
 - (b) negotiate in good faith with Undertakings in relation to the conclusion of legally binding and fit-for-purpose SLAs (either in the case of a new SLA or an amendment to an existing SLA).

- (c) provide Undertakings, at the end of the SLA Negotiation Period, with Eircom's BAFO in respect of the relevant SLA which, for the avoidance of doubt, shall be fit for purpose; include all relevant information that is required and accord with the principles set out through this section. The SLA Negotiation Period ends with the closing of negotiations and the making of a BAFO by Eircom to Undertakings with respect to the SLA. When Eircom makes its BAFO, the SLA is deemed by ComReg to be concluded;
- (d) ensure that the SLA Negotiation Period includes a discussion on the process for suspension of an SLA and the associated terms and conditions;
- (e) In relation to an existing product, service or facility, following a request from an Undertaking (including Eircom) for an amendment to an SLA, Eircom shall, within one (1) month of the receipt of such a request, inform the Undertaking in writing whether the request for an amendment is accepted or rejected and, if accepted, include details of the SLA Negotiation Period and the associated start date. Negotiations in respect of the amended SLA shall close, unless otherwise agreed with ComReg, within six (6) months of the date the Undertaking makes such a request. Within one (1) month of the date the Undertaking makes such a request Eircom may seek an extension to the six (6) month period from ComReg.
- (f) In relation to an amendment to an existing product, service or facility, where Eircom itself initiates the amendment, Eircom shall, within one (1) month of the initiated amendment, inform and seek Undertakings' views as to whether the proposed product amendment should result in an amendment to the relevant SLA.
- (g) Eircom shall ensure that its obligations with respect to SLAs have been complied with prior to notifying ComReg of non-pricing amendments or changes to the ARO resulting from the offer of a new or an amendment to an existing product, service or facility which falls within the scope of the Relevant Market.
- (h) Eircom shall ensure that the new or amended SLA is implemented and is made available to Undertakings by the date on which:
 - (i) any amendment or change to an existing product, service or facility;
 - or
 - (ii) the offer of a new product, service or facility.comes into effect in accordance with its transparency obligations (discussed later below).

- (i) Where the amended SLA does not relate to (h)(i) or (h)(ii) above, Eircom shall ensure that the amended SLA is implemented and is made available to Undertakings within three months from the end of the SLA Negotiation Period (unless otherwise agreed with ComReg).

SLA for the Unified Gateway (UG)

- 8.336 For the avoidance of doubt, the provision of SLAs apply to all forms of access, including access to OSS systems and interfaces (for example, the UG). In order to provide access to Eircom's OSS, Eircom has developed a method of access by Access Seekers through its OSS, namely through the UG. The UG is a broker system which interrogates Eircom's backend systems and therefore allows processing of various wholesale service order types such as service provision and service assurance.
- 8.337 Access Seekers have built their own OSS systems to interface with the UG. The operational efficiency of the UG is critical to the proper functioning of downstream markets as it is the mechanism through which wholesale orders are processed which, in turn, ultimately impact the End User's service experience. As it is integral to the provision of access to regulated products and services, ComReg considers that an SLA with respect to the performance of the UG is essential in order to ensure that Access Seekers have the ability to manage their use of WLA products and services with confidence.
- 8.338 It is ComReg's preliminary view, therefore, that Eircom should conclude negotiations with respect to an SLA for the UG. Eircom's other proposed SLA obligations also apply in this regard.

Suspension of an SLA

- 8.339 Eircom can suspend the application of SLAs under certain conditions. It is however not sufficiently clear as to what these conditions are, or the process that is followed when Eircom decide to suspend an SLA. SLA suspensions, particularly where they are prolonged, can have a significant impact on the effectiveness of the underlying levels of access being provided.
- 8.340 ComReg considers that the rules and conditions giving rise to any suspension of an SLA should be a matter for discussion between Access Seekers and Eircom. It is reasonable that Access Seekers can both consider and input into any conditions, rules and the processes associated with any such suspensions. As was the case above, such discussions should occur before the conclusion of negotiations on the SLA.
- 8.341 The decision to suspend an SLA should also be based on Objective Criteria. These criteria should be specified in the SLA, be related to the SLA parameters and be measurable. Access Seekers should have an opportunity to input into the development of these Objective Criteria.

- 8.342 The SLA suspension process and the objective criteria used in order to make a decision relating to any suspension of the SLA should be made available to Access Seekers and clearly set out in the SLA.
- 8.343 Discussions on the conditions that give rise to SLA suspension should be part of the discussions that lead to the conclusion of negotiations regarding the SLA.
- 8.344 ComReg therefore proposes that Eircom is required to:
- (a) ensure that SLAs include, where appropriate, the comprehensive set of terms and conditions governing the circumstances when the SLA can be suspended, and the process to be applied for the suspension of the SLA. Such terms and conditions should be based on objectively defined and measurable parameters.

Failure to meet SLA committed service levels

- 8.345 The committed service levels in the SLA should be such to ensure that the wholesale services are of sufficient quality to allow Access Seekers to have access in a fair, reasonable and timely manner, thereby enabling them to compete effectively in downstream markets. A high standard of service provisioning and reliable, timely and effective fault repair are important characteristics of the provision of downstream service offerings.
- 8.346 During the sales and after-sales process, Access Seekers may make commitments to End Users, regarding the level of service that can be expected. Access Seekers therefore need certainty regarding the quality of the wholesale service provided and this can be provided for with SLAs which include committed service levels which provide certainty regarding service quality and which allow Access Seekers to make competitive retail service offerings available in downstream markets.
- 8.347 ComReg is of the view that SLAs should incentivise Eircom to provide WLA products, services and facilities at to a standard that meets the need of Access Seekers and allows them to provide services of the required quality in downstream markets. ComReg is of the preliminary view that SLAs should include Service Credits such that they adequately incentivise Eircom to deliver an efficient level of service quality and allow Undertakings to recoup at a minimum the direct costs and any other loss of value that the Undertakings incur as a result of the circumstances that had triggered the payment of Service Credits.

- 8.348 SLA Service Credits should be fair and reasonable and it is reasonable that Access Seekers should not have to bear any administrative burden relating to the payment of Service Credits, as such payments arise from Eircom not meeting committed service levels. Therefore, it is ComReg's preliminary view that, when committed service levels are not met by Eircom, Service Credits should be automatically paid by Eircom to Access Seekers in a timely and efficient manner.
- 8.349 In addition, Access Seekers should understand how Service Credits are calculated in order for them to fully understand how Eircom is incentivised to provide WLA products, services and facilities to the required standard. This would also allow Access Seekers to be able to reconcile Service Credit payments with the requirements of the SLA and with respect to the service provided by Eircom over the relevant period.
- 8.350 The level of Service Credits and the calculation of payments should be discussed during the SLA Negotiation Period and it is ComReg's preliminary view that the concluded SLA should explain how Service Credits are calculated and the SLA text should include the provision of an example calculation.
- 8.351 Failure by Eircom to meet SLA committed service levels can result in costs being incurred by Access Seekers resulting from increased churn or payment of compensation to End Users by way of, for example, waiving service charges. ComReg is of the preliminary view that it is reasonable that the Service Credits to be paid by Eircom to Access Seekers in the event that Eircom does not meet the committed service levels in its SLAs should be such that the Access Seekers can recover the costs incurred, arising from such a failure by Eircom.
- 8.352 It is ComReg's preliminary view therefore that Eircom should be required:
- (a) ensure that SLAs specify circumstances which trigger the payment of Service Credits such as a failure by Eircom to achieve specified committed service levels, or the occurrence of specified events (such as incidents of service outage or deterioration), or other appropriate criteria;
 - (b) ensure that SLAs specify the methodology for calculating the quantum of Service Credits and include an example calculation of Service Credits;
 - (c) ensure that circumstances which trigger the payment of Service Credits and the methodology for calculating the quantum of Service Credits, taken together, are fair and reasonable in that they adequately incentivise Eircom to deliver an efficient level of service quality and allow Undertakings to recoup at a minimum the direct costs and any other loss of value that the Undertakings incur as a result of the circumstances that had triggered the payment of Service Credits; and
 - (d) ensure that application of Service Credits, where they occur, shall be applied automatically and in a timely and efficient manner.

8.353 A number of the above SLA related conditions are currently imposed upon Eircom through its existing regulatory obligations. However, there are a number of additional obligations which ComReg considers are justified and proportionate as they primarily require Eircom to improve the planning and timing of the availability of SLAs. These proposed obligations should:

- encourage Eircom to achieve acceptable levels of service performance in the provision of services to Access Seekers and to ensure that a level playing field is created in terms of the access provided by Eircom to Access Seekers and that which Eircom supplies to itself;
- ensure that Eircom engages in genuine bona-fide negotiations with Access Seekers when seeking to agree fit-for-purpose appropriate SLAs;
- provide certainty regarding the timeliness of the engagement by Eircom with Access Seekers during SLA discussions and the conclusion of negotiations;
- provide assurances to Access Seekers surrounding the levels of service to be provided by Eircom so that they are, in turn, able to offer consequential service assurances to their own downstream customers (and prospective customers);
- ensure that Eircom is adequately incentivised to achieve the committed service levels set out in its SLAs by ensuring that any Service Credits to be paid by Eircom to Access Seekers are fair and reasonable;
- establish committed service levels against which the standards of performance achieved by Eircom can be readily measured and compared;
- hold Eircom accountable for its committed service levels by establishing a mechanism for Access Seekers to receive Service Credits where committed service levels are not achieved by Eircom; and
- Ensure that Eircom does not seek to fetter Access Seekers' ability to effectively access WLA inputs in the provision of downstream services in markets where Eircom is or may also be competing.

Requirement regarding Timeliness of Product Development

8.354 Pursuant to Regulation 12(3) of the Access Regulations, ComReg proposes to impose an obligation on Eircom to meet certain timelines with respect to the development of new WLA products, services and facilities or changes to existing WLA products, services and facilities.

- 8.355 A properly functioning product development process⁶²⁶ is particularly important for ensuring the development of effective competition in downstream markets and to allow Access Seekers to plan for and provide innovative services to downstream customers, including End Users. Uncertainty with regard to the content and timing of product updates creates uncertainty in the market and can potentially lead to increased costs across the industry and to concerns regarding the availability of information to Eircom's downstream arm in advance of competing retail operators.
- 8.356 Indeed Access Seekers have continually raised concerns with Eircom regarding the product development process with respect to transparency and timeliness.
- 8.357 ComReg is aware that there are also difficulties with respect to agreeing product specifications in a timely manner. While it is important to have a clear product requirement specification, undue delays in this regard can serve only to prolong the time taken to complete a product development. ComReg has concerns, which have been raised with Eircom, regarding undue delays being experienced by Access Seekers at this point in the product development process.⁶²⁷
- 8.358 ComReg would note that Eircom have a particular responsibility in this regard in that Access Seekers require certain technical expertise and support in order to refine their requests for access and prepare the specification and, in most cases, this can only be provided by Eircom (given its level and knowledge and expertise regarding its own network and systems).
- 8.359 This is self-evident as the product development will be carried out by Eircom using Eircom technical input and development resources and relies on Eircom equipment and infrastructure. ComReg considers that such support must be provided by Eircom in a proactive, fair, reasonable, timely and non-discriminatory manner.
- 8.360 Access Seekers have also expressed concerns about not having an adequate input into the prioritisation of product developments (including relative to those product developments which appear to be related to and emanating from Eircom's downstream arm) and to a lack of clarity with respect to the criteria used by Eircom for such prioritisation.

⁶²⁶ The Eircom Regulated Access Product ('RAP') Product Development Process is a series of steps undertaken to bring a product idea from conception through to launch.

⁶²⁷ One of a number of examples is the concern raised by ComReg with Eircom regarding the time taken for product SLAs to be finalised.

- 8.361 ComReg is of the preliminary view that Eircom's governance of Access, Non-Discrimination and Transparency must be comprehensively applied to both proactive support for the development of product specifications and subsequent prioritisation of product developments.
- 8.362 ComReg has worked to improve the transparency and effectiveness of wholesale product development through ongoing work in product forums⁶²⁸. ComReg notes that attendance at these forums is voluntary and does not replace the need for proactive engagement by Eircom outside this process. ComReg has formed the preliminary view that due to significant concerns regarding the development of wholesale regulated access products generally, the current situation warrants the imposition of specific obligations on Eircom.
- 8.363 In this respect, ComReg proposes that obligations are imposed upon Eircom with respect to product development timelines. Such additional obligations are needed to reinforce the requirement to provide access in a fair, reasonable and timely manner and to ensure efficient and timely product development and the accuracy and availability of information to Access Seekers with respect to the progress of all product developments.⁶²⁹
- 8.364 Increased transparency and certainty with respect to product developments and process changes should enable Access Seekers to more effectively plan for such changes and, where necessary, to implement consequential changes to their own systems and processes. Any resulting improvement in resource allocation across the industry can lead to lower costs and improved speed to market for product innovations thereby ensuring the development of effective competition to the ultimate benefit of End Users.
- 8.365 ComReg notes that the Eircom product development process is complex, needs to accommodate a number of competing priorities and relies on finite resources. As would be expected of a process of such complexity, the Eircom product development process uses a structured approach which contains a number of key decision gates and development stages.
- 8.366 As such, the structure of the process already lends itself to providing greater clarity to Access Seekers with respect to the product development process and the progress of developments through the process.

⁶²⁸ ComReg has for some years hosted a series of meetings with the aim of facilitating discussions by operators on the development of wholesale products.

⁶²⁹ Additionally ComReg is proposing to monitor these obligations through transparency obligations, paragraphs 8.553 to 8.566.

- 8.367 A request for access is considered to be any request received from an Access Seeker, or indeed from Eircom's downstream arm, for a new access product or for a change to an existing access product. A product, in this instance, is taken to mean any regulated wholesale access product, service or facility or associated processes.
- 8.368 There are many sources for such access requests. They can currently emerge as a Statement of Requirements ('**SOR**') which can be submitted either through industry forums or directly to Eircom by one or more Access Seekers. For example they can be verbally requested during discussions at an Industry Forum or between Eircom representatives and Access Seekers.
- 8.369 Access Requests can also emanate owing to a requirement to change an Eircom downstream product which, as a consequence, requires a modification to an upstream WLA product. In other cases an access request may be as a result of operational or network related issues which can be remedied through a product development.
- 8.370 Eircom also may need to change existing process or product features for wholesale products or develop new processes or products in order to ensure compliance with its obligations or indeed arising from the evolution of products and services.
- 8.371 Having regard to the above, pursuant to Regulation 12 of the Access Regulations, ComReg is proposing to impose the following obligations⁶³⁰ on Eircom.⁶³¹
- 8.372 Following a request from an Access Seeker(s) (including Eircom itself⁶³²) for a new product, service or facility or a non-pricing amendment to an existing product, service or facility, Eircom shall, from the date of receipt of such a request (unless otherwise agreed with ComReg):
- (a) within three (3) working days confirm in writing that the request has been received;
 - (b) within ten (10) working days confirm to the Access Seeker whether or not the request is for a new or amended product, service or facility and whether or not the request falls within the scope of Eircom's obligations⁶³³.

⁶³⁰ It should be noted that the obligations proposed relate only to the non-pricing aspects of the product, service or facility requested.

⁶³¹ ComReg is also proposing transparency obligations with respect to product development, as outlined in paragraphs 8.553 to 8.566.

⁶³² References to Access Seekers below also includes Eircom.

⁶³³ Eircom is also required to comply with its obligations regarding the refusal or partial meeting of an access request and the associated requirement to provide the reasons for such.

- (c) within twenty five (25) working days confirm that the requesting Access Seeker has provided it with sufficient information to process the request (unless otherwise agreed between Eircom and the Access Seeker), including the Access Seeker's view on the priority of the request relative to other requests pertaining to the WLA Market that have already been submitted by that Access Seeker. During the twenty five (25) day period Eircom may seek clarification that it may reasonably require from the Access Seeker regarding the request. Eircom or the Access Seeker may, for any particular request, seek agreement from ComReg that the twenty five (25) working day period may be extended.
- (d) within fifty five (55) working days, unless otherwise agreed with ComReg, confirm in writing to the Access Seeker whether it agrees to provide the requested new or amended product, service or facility. Where the request is refused, Eircom shall comply with its obligations to give written reasons for its decision at the time of refusal.⁶³⁴
- (e) within seventy five (75) working days, unless otherwise agreed with ComReg, provide to the Access Seeker a detailed description of the relevant product, service or facility and the associated procedures to be developed between Eircom and the Access Seeker.
- (f) within seventy five (75) working days, unless otherwise agreed with ComReg, Eircom shall also provide to the Access Seeker a forecast date by which it expects to provide the requested products, services or facilities.

8.373 ComReg notes that the proposed obligations are modelled on the timelines for product development as included in the Eircom Wholesale Bitstream Reference Offer ('**WBARO**')⁶³⁵ relating to its WCA products and the Eircom Reference Interconnect Offer ('**RIO**').⁶³⁶ ComReg is, therefore, of the view that these proposed product development obligations should not create an undue burden on Eircom, but should serve to reinforce the practical application and operation of access obligations.

⁶³⁴ Eircom is also required to comply with its obligations regarding the refusal or partial meeting of an access request and the associated requirement to provide the reasons for such.

⁶³⁵ The WBARO is the offer of contract by Eircom to OAOs in relation to Current Generation and Next Generation WCA as may be amended from time to time. For the avoidance of doubt the Reference Interconnect Offer includes the documents which are expressly referred to as being part of the Reference Interconnect Offer. To the extent that there is any conflict between the RO and Eircom's obligations now set out herein, it is the latter which shall prevail;

⁶³⁶ The RIO sets out Eircom's Reference Interconnect Offer with respect to products, services and facilities offered in the wholesale Fixed Access and Call Origination Market.

8.374 The addition of a requirement for the provision of a forecast date for the delivery of an Access Seeker's request is not likely to be unduly burdensome as Eircom, in practice, schedules developments into product roadmaps to coincide with IT release schedules and making this forecast date available at an early stage allows Access Seekers to plan more effectively with regard to their use of the proposed product, service or facility.

Withdrawal of Access Obligations imposed in 2013 NGA Decision

8.375 ComReg is proposing that existing obligations relating to access to cabinet space col-location be withdrawn, because the continuation of these obligations would not, in ComReg's preliminary view, be justified or proportionate. These include the following obligations which are discussed below:

- (a) Access to cabinet space co-location;
- (b) Access to backhaul;
- (c) access to buildings; and
- (d) requirements to notify ComReg in writing in advance of any potential co-investment arrangements.

8.376 ComReg is not aware of any demand or need for a cabinet space co-location obligation. Despite the existence of this obligation since 2013, there has been no demand for such a product. In the event that an Access Seeker has a particular need for cabinet space co-location then, ComReg's preliminary view is that an Access Seeker can make a request for such access, with Eircom having to consider this in light of its obligation to meet all reasonable requests for access.

8.377 ComReg is proposing to withdraw obligation to provide Backhaul as a specific access obligation in the WLA market. This is because this market is a 'local access' market, the boundary of which has been defined as up to the MPOP. The combination of backhaul with a WLA type input is more akin to a WCA Bitstream type product, with the need for backhaul in this context addressed later in the assessment of the WCA Markets.

8.378 ComReg is also proposing to withdraw the access to buildings obligation imposed in the 2013 NGA Decision. In ComReg's preliminary view a specific building access obligation is not necessary, as access to buildings is an implicit associated facility linked to specific access obligations. Therefore denial of access to a building, in effect would be a refusal of access.

8.379 ComReg also proposes to withdraw the existing obligation imposed on Eircom to notify ComReg in writing in advance of any potential co-investment arrangements in relation to Next Generation WPNIA products services and facilities that may take place between Eircom and another party.

8.380 Irrespective of whatever co-investment or other arrangements that an SMP undertaking might seek to engage in, it nonetheless has to comply with its regulatory obligations. ComReg can also seek to obtain information from such an undertaking, using its statutory information gathering powers, should it be necessary. Therefore, the continuation of this obligation is not proportionate as a viable alternative is available.

Consideration of statutory criteria on proposed access obligations

8.381 In paragraphs 8.3 to 8.7 above, ComReg set out a range of statutory criteria that ComReg must consider when imposing access obligations. These criteria are considered below having regard to the proposed access obligations set out above.

8.382 **Technical and economic viability of using or installing competing facilities:** Throughout this Consultation, ComReg has defined the WLA Markets and has set out its preliminary view that existing competition, potential competition and CBP are unlikely to result in effective competition within them. In light of this, and having regard to the apparent presence of barriers to entry⁶³⁷ in the WLA Market (related to control of infrastructure/resources not easily duplicated, economies of scale and scope), using or installing competing facilities to provide WLA is not likely to be economically feasible within the period of this review. This is evidenced by the lack of large scale entry in the WLA Market since the 2010 WPNIA Decision and Eircom's high and persistent market share within the WLA Market. ComReg does not consider it likely to materially alter the competitive position within the WLA Market within the period of this review. Eircom has to date been providing WLA products, services and facilities and it is, therefore, technically viable to do so, including in the context of the amended obligations proposed above

8.383 **Feasibility of providing access in relation to capacity available:** Access to WLA products, services and facilities are currently provided by Eircom, albeit on foot of existing regulatory obligations. On a forward-looking basis, ComReg is not aware that there would be any material capacity constraints that would give rise to Eircom facing difficulties in meeting the proposed access obligations.

⁶³⁷ See Section 6 for the consideration of barriers to entry in the WLA Markets.

- 8.384 **The initial investment of the facility owner:** Having regard to Regulation 12(4)(c) and Regulation 13(2) of the Access Regulations⁶³⁸, ComReg's approach to imposing access remedies is based on principles that, inter alia, allow a reasonable rate of return on adequate capital employed, taking into account the risks involved. When proposing price control remedies ComReg is mindful of facilitating the development of effective and sustainable competition to the benefit of End Users without compromising efficient entry and investment decisions of undertakings over time. ComReg is also mindful of the role of regulatory transparency and consistency in contributing to a more predictable environment conducive to long-run investment decisions being made.
- 8.385 **The need to safeguard competition:** In Section 7 and throughout this Section, ComReg has highlighted the impacts on downstream competition and the impacts on End Users that could arise given Eircom's ability and incentives to potentially to engage in exploitative or exclusionary behaviours in the Relevant WLA Markets (absent regulation). These include, inter alia, actual or constructive denial of access, excessive pricing and other behaviours which could damage the development of sustainable competition in the retail markets. ComReg considers that imposing access (and other obligations) in the WLA Market will ultimately promote the development of sustainable competition in retail markets, to the benefit of End Users.
- 8.386 **Intellectual property rights:** ComReg's preliminary view is that intellectual property rights are not likely to be a significant concern in the context of the provision of access to WLA products, services and facilities.
- 8.387 **Pan European Services:** ComReg's preliminary view that its proposed approach should facilitate the provision of pan-European services since its proposed approach is consistent with the policies of the European Commission and other NRAs. Consistent regulation of WLA across the EU will help to support a seamless provision of pan-European services by allowing SPs in other Member States to provide electronic communications services in Ireland. For example, by using Eircom's WLA products, services and facilities potentially combined with other wholesale services, to compete within Ireland.
- 8.388 In view of the above, ComReg's preliminary view is that the proposed obligations requiring Eircom to provide access to WLA products, services and associated facilities, are proportionate and justified.

⁶³⁸ According to Regulation 13(2) of the Access Regulations "To encourage investments by the operator, including in next generation networks, the Regulator shall, when considering the imposition of obligations under paragraph (1), take into account the investment made by the operator which the Regulator considers relevant and allow the operator a reasonable rate of return on adequate capital employed, taking into account any risks involved specific to a particular new investment network project".

8.389 ComReg has also considered whether access obligations would be sufficient in themselves to resolve the identified competition problems. For the reasons set out in the discussion of the other proposed remedies below, ComReg does not consider this to be the case. For example, the imposition of access obligations alone would not resolve issues such as excessive pricing or margin squeeze, discrimination on price or quality grounds, or ensure transparency of terms and conditions of access.

Summary of Preliminary Conclusions on Access Obligations

8.390 Having regard to the analysis set out in paragraphs 8.31 to 8.389 above, ComReg's preliminary view is that proposed access obligations are proportionate and justified. The proposed specific requirements include:

- (a) to meet reasonable requests for access to WLA products, services and facilities;
- (b) to provide access to ULMP;
- (c) to provide access to GLUMP;
- (d) to provide access shared access to the local loop;
- (e) to provide access to Sub-Loop Unbundling, combined with GNP where required, and Shared Sub-Loop Unbundling in areas which have been identified as susceptible to form part of a state subsidy scheme;
- (f) to provide access to VUA;
- (g) to provide access to VUA, combined with GNP where required;
- (h) Unbundled access to the fibre loop;
- (i) to provide access to Co-location, Co-location Resource Sharing and Co-location Rack Interconnection;
- (j) to provide access to Migrations;
- (k) to provide access to Interconnection Services;
- (l) to include Approval for Change rules or technical standards governing the deployment of Access network equipment;
- (m) to include a Vectoring Protocol in the ARO;
- (n) to provide access to Associated facilities inter alia Multicast, and COS;
- (o) to provide access to Civil Engineering Infrastructure including:
 - Ducts and Poles;
 - Sub-Duct Access and Direct Duct Access;
 - Chambers;

- Ingress and Egress points;
 - Co-location for CEI;
 - CEI Tie Connection Service between the Co-location space/rack and the Ingress and Egress points;
 - where access to CEI is not available, to provide access to Dark Fibre where reasonably available; and
 - access to Passive Access Records ('**PAR**').
- (p) to negotiate in good faith with undertakings, requesting Access;
- (q) not to withdraw Access to service and facilities already granted without the prior approval of ComReg;
- (r) to grant open access to technical interfaces, protocols or other key technologies that are indispensable for the interoperability of products, services or facilities;
- (s) to provide access to OSS or similar software systems necessary to ensure fair competition in the provision of services;
- (t) to provide access in accordance with a range of conditions governing fairness, reasonableness and timeliness including but not limited to SLA, Services Credits, timeline for the agreement of the SLA etc.; and
- (u) Requirement regarding Timeliness of Product Development.

8.391 ComReg has also proposed the withdrawal of the following obligations:

- (a) Cabinet space;
- (b) Backhaul;
- (c) Access to buildings; and
- (d) Notification of co-investment.

8.392 ComReg has also considered whether the access obligations identified above would be sufficient in and of themselves to address the competition problems identified in Section 7 and does not consider this to be the case. For example, excessive pricing, margin squeeze and discriminatory behaviour could still occur in the presence of an access obligation.

Non-Discrimination Remedies

Overview

8.393 The application of ex ante non-discrimination remedies seek to prevent a dominant, vertically-integrated undertaking from engaging in discriminatory (price or non-price) behaviour that could hinder the development of sustainable and effective competition in downstream wholesale and retail markets.

- 8.394 In Section 7, ComReg identified that, absent regulation, Eircom has the ability and incentive to engage in discriminatory behaviours that could adversely impact upon downstream competition and End Users. For example, Eircom could offer discriminatory WLA prices, terms and conditions, and service quality to different Access Seekers or between Access Seekers and its own retail or other internal arms.
- 8.395 As noted in the Access Directive⁶³⁹, the principle of non-discrimination is designed to ensure that undertakings with market power do not distort competition, in particular, where they are vertically integrated undertakings that supply services to undertakings with whom they compete on downstream markets.
- 8.396 Regulation 10 of the Access Regulations provides that ComReg can impose non-discrimination remedies on an undertaking designated with SMP, in particular to ensure it:
- applies equivalent conditions in equivalent circumstances to other undertakings providing equivalent services; and
 - provides services and information to others under the same conditions and of the same quality as it provides for its own services or those of its subsidiaries or partners.
- 8.397 In this respect, non-discrimination obligations can be standalone, but are also designed to support other obligations such as those relating to access, transparency and price control.

Proposed Non-Discrimination Remedies

- 8.398 Pursuant to Regulation 10 of the Access Regulations, ComReg is proposing to continue⁶⁴⁰ to require that Eircom:
- (a) applies equivalent conditions in equivalent circumstances to other Undertakings requesting, or being provided with Access (including access to WLA and associated facilities) or requesting or being provided with information in relation to such access; and

⁶³⁹ Recital 17 of the Access Directive.

⁶⁴⁰ In the WPNIA Decision ComReg imposed SMP obligations for current generation WPNIA services and facilities. ComReg consulted further on the detailed specification and further implementation of obligations for Next Generation WPNIA services and facilities and imposed obligations in the 2013 NGA Decision.

- (b) provides Access (including access to WLA and associated facilities) and information to all other Undertakings under the same conditions and of the same quality as Eircom provides to itself or to its subsidiaries, affiliates or partners.
- 8.399 Pursuant to Regulation 10 of the Access Regulations ComReg is also proposing to continue to require that Eircom provides WLA on, at least, an Equivalence of Outputs ('**EoO**')⁶⁴¹ basis, with the exception of VUA and access to CEI which is to be provided on an Equivalence of Inputs ('**EoI**')⁶⁴² basis.
- 8.400 These obligations are intended to ensure that Eircom does not favour its downstream arm, or unduly favour any particular Access Seeker in the provision of WLA products, services and facilities such that it might otherwise restrict or distort competition in any downstream or adjacent markets, ultimately impacting on the development of sustainable retail and/or wholesale competition.
- 8.401 When considering the application of non-discrimination obligations the standard of the obligations needs to be considered particularly in relation to the processes and systems that underpin the provision and in-life management of WLA products, services and facilities.
- 8.402 The term EoI is generally accepted and understood to mean that the vertically-integrated SMP operator consumes exactly the same upstream inputs as their wholesale customer, e.g. uses the same OSS interfaces, provisioning and service assurance processes, etc. The processes and OSS interfaces used by an Access Seeker during all stages of the product life cycle (i.e. from product development and service provisioning to in-life i.e. service assurance and customer switching) should be exactly the same (subject to minor exceptions) as those used by Eircom's downstream arm.

⁶⁴¹ "Equivalence of Outputs" means the provision of products, services, facilities, and information by the SMP Undertaking to Access Seekers such that such products, services, facilities, and information are provided to Access Seekers in a manner which achieves the same standards in terms of functionality, price, terms and conditions, service and quality levels as the SMP Undertaking provides to itself, albeit potentially using different systems and processes;

⁶⁴² "Equivalence of Inputs" means the provision of products, services, facilities, and information by the SMP Undertaking to Access Seekers such that such products, services, facilities, and information are provided to Access Seekers within the same timescales, at the same price, functionality, service and quality levels and on the same terms and conditions and by means of the same systems and processes as the SMP Undertaking provides to itself. The systems and processes shall operate in the same way and with the same degree of reliability and performance as between Access Seekers and the SMP Undertaking's provision to itself.

- 8.403 The term EoO is used to describe when the vertically integrated SMP operator provides Access Seekers with access to upstream inputs in a manner which achieves the same standards in terms of functionality, price, terms and conditions, service and quality levels as the vertically integrated operator provides to itself, albeit potentially using different systems and processes.
- 8.404 While both the EoI and EoO obligations are imposed with a view to achieving the same objectives, there are significant differences between EoI and EoO obligations in terms of both their effectiveness and the implications of each for the SMP operator.
- 8.405 The European Commission recommendation on consistent non-discrimination obligations and costing methodologies⁶⁴³ (**2013 Non-Discrimination Recommendation**) states:
- “The Commission considers that equivalence of inputs (EoI) is in principle the surest way to achieve effective protection from discrimination as access Seekers will be able to compete with the downstream business of the vertically integrated SMP operator using exactly the same set of regulated wholesale products, at the same prices and using the same transactional processes. In addition, and contrary to an Equivalence of Output (EoO) concept, EoI is better equipped to deliver transparency and address the problem of information asymmetries.”*
- 8.406 ComReg shares the European Commission’s view that EoI is one of the most effective ways to minimise non-discrimination concerns, particularly with respect to operational issues such as pre-provisioning, provisioning and service assurance for RAP⁶⁴⁴. While an obligation of EoI is not suitable in all cases, it can be more effective than an EoO obligation in addressing the risks of non-discrimination, as well as allowing for more effective compliance monitoring.
- 8.407 When considering the imposition of regulatory obligations generally it is of fundamental importance to consider their reasonableness, justification and proportionality. These considerations have particular relevance when considering an EoI obligation as the potential impact of the imposition of an EoI obligation on Eircom can be significant in terms of the required system changes that can arise as a result.

⁶⁴³ 2013/466/EU: Commission Recommendation of 11 September 2013 on consistent non-discrimination obligations and costing methodologies to promote competition and enhance the broadband investment environment (the **2013 Non-Discrimination Recommendation**).

⁶⁴⁴ RAP means Regulated Access Products.

- 8.408 ComReg has considered the appropriateness of applying an EoO standard to WLA products, services and facilities. However, in doing so, issues of reasonableness and proportionality have been considered, in particular, with respect to the provision of CG WLA over a copper network using legacy IT systems.
- 8.409 ComReg is aware from discussions with Eircom, the submission of information to ComReg on Eircom IT developments, and updates by Eircom to Access Seekers, that Eircom's IT systems and architecture are in transition. The status of this transition is one of the key considerations when EoI or EoO is being considered for the products and services in the WLA market.
- 8.410 ComReg considers that, with the exception of VUA and CEI access, both of which will be discussed later in this section, adopting an EoI standard would not be proportionate at this time, in particular, since the OSS and wholesale interfaces that are in place and used for the provision of Eircom's suite of existing legacy WLA products, services and facilities have already been developed.
- 8.411 These OSS and wholesale interfaces are likely to require substantial investment in order to upgrade or replace them in order to achieve an EoI standard of non-discrimination. In ComReg's preliminary view, this may not be justifiable or proportionate with respect to CG WLA products, as this would likely involve costly systems re-development with little the incremental benefits⁶⁴⁵.
- 8.412 This position aligns with the European Commission's 2013 Non-Discrimination Recommendation which states:

*"...requiring the SMP operator to provide legacy copper-based wholesale inputs over existing systems on an EoI basis is less likely to create sufficient net benefits to pass a proportionality test due to the higher costs of redesigning existing provisioning and operational support systems to make them EoI compliant."*⁶⁴⁶

Non Discrimination Obligation for VUA

- 8.413 Eircom has developed its new IT systems and architecture to deliver NGA services on the basis of EoI and the migration of CGA services to EoI is underway. Eircom offers its VUA service on the basis of EoI using its new IT systems and architecture and ComReg therefore considers that the continued imposition of an EoI obligation on Eircom for the provision of VUA products would not represent an undue burden and is considered to be both reasonable and proportionate.

⁶⁴⁵ This is in contrast to obligations imposed for NGA in the WCA Market where Eircom has developed new OSS to deliver these services and adopting an EOI standard is considered proportionate by ComReg in some contexts.

⁶⁴⁶ See paragraph 15 of the 2013 Non-Discrimination Recommendation.

8.414 ComReg considers that it is reasonable that at least an EoO standard should apply to WLA services and facilities with the exception of VUA, which should continue to be provided to the standard of EoI. Therefore, with the exception of VUA, and CEI (which will be discussed later in this section), ComReg considers that WLA products, services and facilities should be provided on the basis of EoO. In addition to the provision of VUA to an EoI standard, ComReg's preliminary view is that particular consideration should be given to the non-discrimination obligation standard that should apply to the provision of access to CEI.

Non Discrimination Obligation for Migrations

8.415 The requirement for Eircom to provide access to migrations is detailed in paragraphs 8.113 to 8.124 of this Consultation.

8.416 In the WLA Market migrations arise in the context of LLU and VUA services. However, the non-discrimination standard to be applied is dependent on the standard of non-discrimination applied to the destination product or service which is being migrated to.

8.417 A migration to VUA, for example, would always be provided on the basis of EoI while a migration from VUA to LLU would be provided on the basis of EoO.

8.418 Therefore, it is reasonable that migration services are provided on the basis of at least EoO.

Non Discrimination Obligation for CEI

8.419 As noted in Section 7, Eircom has the ability and incentive to discriminate between its own retail arm and Access Seekers in the provision of access to CEI. In this section, ComReg considers which standard of non-discrimination obligation should apply.

8.420 As previously noted, ComReg considers that where proportionate and justified an EoI obligation is the most effective way to minimise non-discrimination concerns. While an obligation of EoI is not suitable in all cases, it can be more effective than an EoO obligation in addressing the risks of non-discrimination and also allows more effective compliance monitoring.

8.421 ComReg has considered whether an EoI obligation should be applied to the obligation to provide access to CEI.

8.422 To determine whether imposing an EoI standard is proportionate to address the competition concerns identified in Section 7, ComReg must also assess the benefits of imposing EoI against the costs of implementing CEI to an EoI standard. In doing so, ComReg must take utmost account of Recommendation 7 of the 2013 Non-Discrimination Recommendation which states:

“Where NRAs consider that the imposition of a non-discrimination obligation on SMP operators under Article 10 of Directive 2002/19/EC is appropriate, proportionate and justified pursuant to Article 16(4) of Directive 2002/21/EC and Article 8(4) of Directive 2002/19/EC, they should examine whether it would be proportionate to require SMP operators to provide relevant wholesale inputs on an EoI basis.”⁶⁴⁷

- 8.423 The EC’s 2010 NGA Recommendation must also be considered with respect to CEI. In addition, ComReg must consider the evolution of the WLA Market and related downstream markets.
- 8.424 As a starting point to inform the EOI proportionality assessment, ComReg engaged independent consultants, Cartesian,⁶⁴⁸ to review Eircom’s CEI service delivery processes. This analysis was completed by reviewing Eircom’s published reference offer⁶⁴⁹ and associated documents for CEI access including Eircom’s relevant statements of compliance (**‘SOC’**) (as provided to ComReg) and other information provided by Eircom in response to a SIR⁶⁵⁰.
- 8.425 Cartesian was tasked with reviewing the current CEI service delivery processes from an equivalence perspective⁶⁵¹, to assess whether a higher standard of equivalence is technically and economically feasible, and to provide an associated order of magnitude estimate of effort and costings.
- 8.426 In addition to the general process review, a cross-country analysis of CEI service delivery processes was undertaken. Cartesian’s analysis was subdivided to focus on the three main process stages of pre-ordering, ordering and assurance.
- 8.427 Cartesian produced a report for ComReg⁶⁵² (**‘Cartesian Report’**) which identified a significant number of issues relating to the quality of Eircom’s current wholesale CEI product. The extent of the issues raises concerns regarding the potential quality of the regulated CEI access service being offered by Eircom to Access Seekers. The Cartesian Report also identified a number of areas where Eircom’s CEI Access product could be improved.

⁶⁴⁷ 2013 Non-Discrimination Recommendation section 7 “Ensuring Equivalence of Access.”

⁶⁴⁸ <http://www.cartesian.com/>.

⁶⁴⁹ http://www.openeir.ie/Reference_Offers/?selectedtab=proposals%20-%20wbaro ARO V7 service schedules 107 and 108.

⁶⁵⁰ SI issued on February 4th 2016 and response received on March 3rd 2016.

⁶⁵¹ It should be noted that ComReg is currently considering the Cartesian report with regard to Eircom’s compliance with its existing obligations.

⁶⁵² The Cartesian Report for ComReg entitled “CEI Service Delivery Process Equivalence Options Analysis of alternative service delivery approaches”, dated 29 July 2016 is set out in Appendix: 10.

- 8.428 The improvements proposed in the Cartesian Report reflected the international practice whereby a greater degree of control is afforded to the Access Seeker by the implementation of a self-service delivery model. The Cartesian Report identified that the proposed improvements would require changes to Eircom's processes and systems, but would result in significant improvements to the CEI access products.
- 8.429 In addition to the issues identified with the current CEI access products offered by Eircom, the Cartesian Report details some important differences between the Eircom's self-supplied CEI access service and the CEI access service offered to Access Seekers. These identified differences have the potential to adversely affect Access Seekers' use of CEI, particularly relative to Eircom's downstream arm.
- 8.430 Considering the number of potential issues, and in light of the Cartesian Report's technical and economic feasibility assessment summarised below, it is ComReg's preliminary view that the EoO standard is insufficient to ensure effective equivalence for CEI access.
- 8.431 However, as part of the proportionality assessment, ComReg requested Cartesian to determine an order of magnitude of the costs and effort required to transition from the current EoO based CEI service delivery model to an EoI based CEI service delivery model⁶⁵³.

Technical and Economic Feasibility Study Summary

- 8.432 Cartesian carried out a technical and economic assessment of transitioning to an EoI standard which was based on the TM Forum eTOM and TAM frameworks⁶⁵⁴. Cartesian considered both the Eircom Duct and Pole products and proposed a two-step process. The first step in the transition was the enhancement to the current EoO service delivery model, the indicative costs for which were estimated by Cartesian to be in the region of €365K to €425K, plus licence costs⁶⁵⁵.

⁶⁵³ The Cartesian report states the following (Section 7.5 page 67): "It is important to recognise that these estimates were developed externally to Eircom. Cartesian did not seek input from Eircom in developing the assumptions and our estimates have not been validated by Eircom. As such, the estimates should be viewed as directionally correct rather than absolute."

⁶⁵⁴ As discussed on Page 52 of the Cartesian Report.

⁶⁵⁵ Cartesian Report: Section 7.5.2.

- 8.433 The second step considered by Cartesian was the transition to an EoI delivery model⁶⁵⁶, and Cartesian estimated the costs of this to be €100K to €118K, including an estimate for training (such costs are incremental to the EoO costs). Cartesian estimate that the combined cost of systems and processes for EoI would therefore be in the range of €465,000 to €543,000⁶⁵⁷.
- 8.434 ComReg has considered the findings of the Cartesian Report in conjunction with the concerns raised by Access Seekers regarding Eircom's CEI access products. ComReg considers that the current CEI access products require significant improvement. Eircom's delivery of the CEI product set, based on the application of EoO, may have curtailed the development of effective CEI access products to the detriment of competition and End Users (through effective denial of access).
- 8.435 ComReg is cognisant that the costs proposed by Cartesian for the implementation of EoI based CEI access are estimates based on Cartesian's analysis of the transition from EoO to EoI. However, ComReg is of the view that regulated CEI products delivered on the basis of EoI are optimum from a non-discrimination perspective. ComReg also considers that EoI is likely to be a more efficient solution and potentially better for scale take up, thereby more effectively meeting demand and benefiting competition.
- 8.436 ComReg considers that when the benefits are considered, in particular the benefits to competition, which a CEI product delivered on the basis of EoI could potentially deliver, the cost of development and implementation can be considered both proportionate and justified.
- 8.437 Having considered the Cartesian Report and having regard to the potential technical and economic feasibility of implementing EOI, ComReg's preliminary view is that a non-discrimination standard of EoI for CEI is proportionate. The current issues with the CEI Access product and the potential benefits⁶⁵⁸ of EOI based CEI Access products likely outweigh the costs associated with the implementation of EoI. ComReg is therefore proposing that CEI access be provided on an EOI basis⁶⁵⁹.

⁶⁵⁶ Cartesian Report: Section 7.5.3

⁶⁵⁷ The Cartesian Report also notes the following (page 70): *"If Eircom were to transition to EOI without making the potential improvements identified for the EOO approach, then the system and process costs would be expected to be similar or less than the combined cost range of €465,000 to €543,000."*

⁶⁵⁸ The Cartesian Report Chapters 5 and 6.

- 8.438 ComReg notes that Eircom's recent FTTC and FTTH rollout required access by Eircom to its CEI. The build aspects by Eircom of CEI for the rollout of FTTC and FTTH was largely outsourced to third party contractors, and Sub-Ducts were installed by sub-contractors which had direct access to Eircom's CEI as part of its recent FTTC and FTTH rollout.
- 8.439 ComReg is of the view that that such an outsourced planning (including desktop and field surveys), design and build model, which is similar to the solution considered by Cartesian, could be developed by Eircom for Access Seekers use of its CEI on the basis of an EoI obligation. However, for the avoidance of doubt while ComReg is proposing the imposition of EoI, the solution to be implemented would be a matter for Eircom.
- 8.440 In the EoI scenario outlined above, ComReg has considered the potential risks of allowing Access Seekers direct access to Eircom's CEI, but with appropriate safeguards these risks can be minimised by Eircom.
- 8.441 ComReg has also considered the time required to implement EoI for CEI. ComReg recognises that the implementation of EoI for CEI may require a reasonable period of time and will need to be scheduled by Eircom as part of their ongoing work programme. In coming to a view, ComReg has not engaged with Eircom, but has relied on the estimates in the Cartesian report. ComReg considers that an implementation period of ten (10) months is reasonable.

Summary of Preliminary Conclusions on Non-Discrimination Obligations

- 8.442 Having regard to the analysis set out in paragraphs above, ComReg's preliminary view is that proposed non-discrimination obligations are proportionate and justified. The proposed specific requirements include:
- (a) non-discrimination obligations to ensure equivalent treatment of Access Seekers by Eircom in its provision of services and information to them;
 - (b) non-discrimination obligations to ensure that Eircom provides the same services and information to Access Seekers as Eircom supplies to itself;
 - (c) non-discrimination obligations requiring that migrations are provided to at least a standard of EoO.
 - (d) non-discrimination obligations requiring that WLA products, services and facilities are to be provided to a standard of at least EoO, with the exception of VUA and access to CEI which are to be provided on the basis of EoI.

8.443 ComReg has also considered whether the non-discrimination obligations would be sufficient in and of themselves to address the competition problems identified in Section 7 and does not consider this to be the case. For example, excessive pricing, constructive denial of access problems or poor service quality issues could still occur in the presence of a non-discrimination obligation.

Transparency Remedies

8.444 In Section 7, ComReg identified that Eircom has the ability and incentive to engage in a range of exploitative and exclusionary behaviours which can impact adversely upon competition and End Users. The potential for leveraging of market power into related markets through informational asymmetries was also identified.

8.445 A transparency obligation is considered necessary in order to monitor and ensure the effectiveness of any access, non-discrimination, (and other obligations such as price control) as it allows ComReg, and to a certain extent Access Seekers to monitor the compliance of an SMP with its regulatory obligations.

8.446 Additionally transparency obligations are necessary to ensure that Access Seekers are provided with all relevant and necessary information with respect to wholesale products offered by the SMP operator in the market.

8.447 Regulation 9 of the Access Regulations provides that ComReg may, inter alia, specify obligations to ensure transparency in relation to access or interconnection requiring an SMP undertaking to make public specified information such as accounting information, technical specifications, network characteristics, prices, and terms and conditions for supply and use, including any conditions limiting access to or use of services and applications where such conditions are permitted by law.

8.448 Transparency obligations can be standalone but can also support other obligations being imposed and, as evidenced from the above, usually relate to requirements to make specified information publicly available.

8.449 Apart from the above, as noted in the Access Directive⁶⁶⁰, transparency of terms and conditions for access and interconnection, including prices, also serve to speed-up negotiations between undertakings, avoid disputes and give confidence to market players that a service is not being provided on discriminatory terms.

⁶⁶⁰ Recital 16 of the Access Directive.

- 8.450 Openness and transparency of technical interfaces can also be particularly important in ensuring interoperability. Transparency on prices (and changes to them) is also likely to provide the necessary clarity to Access Seekers in order that they can consider impacts on the structure or level of retail prices.
- 8.451 Transparency also provides the means for Eircom to demonstrate that access to WLA products, services and facilities is being provided in a non-discriminatory manner. ComReg believes that a transparency obligation is justified, necessary and proportionate to ensure that no Access Seeker is disadvantaged in its downstream operations.
- 8.452 The EC, as part of its consultation process for the 2013 Non-Discrimination Consultation, points out that non-price discrimination is particularly difficult to detect and points to the importance of monitoring in this respect.

“One of the main concerns regarding non-price discriminatory behaviour, such as the above mentioned quality discrimination, is the difficulty to detect them. Therefore, in order to ensure the effectiveness of a non-discrimination obligation, it is equally important to ensure that both the national regulator and access Seekers can monitor the SMP operator's performance when supplying wholesale inputs in order to see whether it supplies any such wholesale services to its competitors with the same quality as it provides to itself. Otherwise the desired results in the downstream markets are unlikely to be achieved.”⁶⁶¹

- 8.453 In the 2013 Non-Discrimination Recommendation, the EC went on to state in Recital 12 that:

“One of the main obstacles to the development of a true level playing field for access seekers to electronic communication networks is the preferential treatment of the downstream businesses, for example the retail arm, of a vertically integrated operator with significant market power (SMP operator) through price and non-price discrimination (for example, discrimination regarding quality of service, access to information, delaying tactics, undue requirements and the strategic design of essential product characteristics). In this respect it is particularly difficult to detect and address non-price discriminatory behaviour through the mere application of a general non-discrimination obligation. It is, therefore, important to ensure true equivalence of access by strictly applying non-discrimination obligations and employing effective means to monitor and enforce compliance.”

⁶⁶¹ European Commission: Questionnaire For The Public Consultation On The Application Of A Non-discrimination Obligation Under Article 10 Of The Access Directive (Including Functional Separation Under Article 13a) Published 3 October 2011 page 7 paragraph 3.

- 8.454 The Directive recommended amongst other things that NRAs should impose obligations with respect to KPIs and SLAs.
- 8.455 ComReg considers that the timely availability of information regarding network development and rollout, new products and product upgrades, associated service level agreements and related performance reporting is essential, in order for operators to compete effectively with Eircom.

Current Transparency Remedies

- 8.456 Eircom is currently subject to a range of transparency obligations as described in paragraphs 8.18 and 8.19 above. The sections below outline the proposed transparency remedies.

Proposed Transparency Remedies

- 8.457 In accordance with Regulation 9 of the Access Regulations ComReg considers that Eircom should be required to comply with a range of transparency obligations in order to minimise information asymmetries and facilitate effective access to WLA products, services and facilities, to ultimately promote effective competition in downstream and related markets. These obligations are discussed below and include the following:
- (a) publish an Access Reference Offer ('**ARO**') (discussed in paragraphs 8.462 to 8.478 below) which includes requirements governing ARO change management;
 - (b) provide, in accordance with specified timeframes, advance notification to Access Seekers and to ComReg of proposed changes to the ARO, prices and the introduction of products, services and facilities (discussed in paragraphs 8.479 to 8.486 below);
 - (c) ensure transparency in its billing by making its wholesale invoices sufficiently disaggregated, detailed and clearly presented such that an Access Seeker can reconcile the invoice to Eircom's ARO and ARO prices (discussed in paragraphs 8.487 to 8.488 below);
 - (d) publish on its publicly available website Key Performance Indicators (KPIs), SLAs and associated reports relating to WLA products, services and facilities (discussed in paragraphs 8.490 to 8.508 below);
 - (e) meet requirements concerning network roll out (discussed in paragraphs 8.509 to 8.537 below);
 - (f) meet requirements with respect to planning information regarding physical network build (discussed in paragraphs 8.538 to 8.547 below);
 - (g) meet requirements with respect to CEI Engineering Planning and Design rules (discussed in paragraphs 8.548 to 8.552 below);
 - (h) publish information with respect to the development of products, services and facilities (discussed in paragraphs 8.553 to 8.566 below);

- (i) provide advance notification of proposed product trials (discussed in paragraphs 8.567 to 8.576 below); and
 - (j) meet requirements concerning access to confidential and/or commercial information (discussed in paragraphs 8.577 to 8.584 below).
- 8.458 ComReg also proposes that Eircom should be required, as specified by ComReg in writing from time to time, to make public on its publicly available wholesale website, information that may be reasonably requested by ComReg that is relevant to the provision of WLA services and associated facilities such as accounting information, technical specifications, network characteristics, terms and conditions for supply and use, and prices.
- 8.459 This allows ComReg to proactively intervene in specific cases where it considers that transparency is lacking regarding the provision of information on WLA products, services and associated facilities, notwithstanding the standard transparency measures proposed above being in place.
- 8.460 These and other proposed remedies are discussed in more detail below.
- 8.461 ComReg has also discussed the potential need for KPIs with respect to CEI but is not imposing a specific remedy at this point in time, ComReg may consult in the future with regard to this (discussed in paragraphs 8.506 to 8.508).

Transparency requirements concerning ARO

- 8.462 In accordance with Regulation 9 of the Access Regulations, ComReg proposes that Eircom should make publicly available and keep updated on its publicly available website, an ARO, which should contain a specified minimum list of items as further described below.
- 8.463 Amongst the purposes of the ARO is to provide current or potential Access Seekers with all relevant and necessary information about WLA products, services and facilities that are or are intended to be provided by Eircom. This allows Access Seekers to compete effectively in downstream markets as such information allows them to make business decisions regarding the use of WLA products services or facilities in a timely manner.
- 8.464 More specifically, ComReg considers that the ARO should include at least the following items:
- (a) A description of the offer of contract for access broken down into components according to market needs;
 - (b) A description of any associated contractual or other terms and conditions for supply of access and use, including prices, (the latter being an '**ARO Price List**');)
 - (c) A description of the technical specifications, processes and network characteristics of the access being offered; and
 - (d) At least the elements set out in the Schedule to the Access Regulations.

- 8.465 For the avoidance of doubt, for the purposes of this transparency obligation, the ARO is taken to mean the ARO document itself and any associated or subordinate documents used to describe the items listed in paragraph 8.464 above. This includes but is not limited to the Industry Process Manual ('IPM'), the Product Descriptions and other documents relied upon by Eircom to meet its Access obligations.
- 8.466 Overall, the proposed ARO obligations are largely consistent with those that have been imposed on Eircom in other regulated markets arising from various market analyses over the last number of years and are also largely consistent with obligations imposed upon Eircom under the 2013 NGA Decision.
- 8.467 Apart from the above, ComReg also considers that the ARO should be sufficiently unbundled so as to ensure that Access Seekers are not required to pay for products, services or facilities which are not necessary for the Access requested.
- 8.468 ComReg considers that the format of the ARO itself should be based on the version that is currently published⁶⁶² on Eircom's wholesale website and amended as necessary to meet this obligation.

Transparency Requirement to publish a revised ARO within a Specified Period

- 8.469 As part of this Consultation, ComReg has proposed a number of new obligations and further specified a number of existing obligations. As outlined above ComReg is proposing to impose an obligation on Eircom to publish information relevant to its offering of WLA products, associated facilities and processes.
- 8.470 ComReg is of the preliminary view that the necessary updates to the ARO should be published within six (6) months of the effective date of ComReg's final decision on the WLA market, unless otherwise agreed, with ComReg.
- 8.471 This proposed timeline, however, will not apply in the case of some amendments relating to the provision of CEI and its associated obligations. ComReg is of the view that the necessary changes to the ARO with respect to certain proposed changes to the CEI obligation can be implemented within three (3) months of the effective date of ComReg's final Decision given the nature of the changes required. The changes in scope in this regard are listed below:

⁶⁶² The current version of Eircom's ARO is version 7 and is published at http://www.openeir.ie/Reference_Offers/.

- (a) Removal of all undue restrictions with respect to usage of CEI, specifically restrictions limiting the usage of CEI for “fixed broadband services”.
 - (b) Access to additional Ingress and Egress points.
- 8.472 Given the importance of the ARO to Access Seekers and having regard to the competition problems identified in Section 7, ComReg is of the view that the above requirements are justified and proportionate.
- 8.473 In order to comply with this obligation, Eircom will need to update the existing ARO documentation to reflect any changes required. It is ComReg’s view this will not impose a significant burden on Eircom.

Transparency requirements governing ARO change management

- 8.474 In accordance with Regulation 9 of the Access Regulations ComReg also proposes to impose various transparency requirements governing change management of the ARO and its associated elements/documentation in order to enable Access Seekers to have visibility of any changes made or planned to be made to the ARO and its associated elements/documentation.
- 8.475 For the avoidance of doubt the associated documentation includes the IPM and any other document referred to in the ARO and the changes in scope are those which will have a material effect on the product processes, services or associated facilities.
- 8.476 A material effect is any change to an existing product, service or facility that will impact on the product functionality or technical specifications, the process supporting the product and the pricing and terms and conditions associated with the product. Examples of such material changes are the introduction of new order types, retirement of old order types or changes to process steps.
- 8.477 Text changes and minor updates to existing products, services or facilities which fall outside the definition of material above are not subject to this obligation. This will also support monitoring and enforcement of compliance with SMP obligations.
- 8.478 In this respect, ComReg proposes that Eircom should publish and keep updated on its public website the following:
- (a) a clean (unmarked) and tracked changed (marked) versions of the ARO. The tracked change version of the ARO must also be sufficiently clear to allow Access Seekers to clearly identify all actual and proposed amendments from the preceding version of the ARO.
 - (b) an accompanying ARO change matrix which lists all of the amendments incorporated in or to be incorporated in any amended ARO (the ‘**ARO Change Matrix**’).

- (c) clean (unmarked) and tracked changed (marked) versions of the ARO Price List(s) of regulated products. The tracked change version of the ARO Price must also be sufficiently clear to allow Access Seekers to clearly identify all actual and proposed amendments from the preceding version of its ARO Price List of regulated products.
- (d) an ARO price list change matrix, which lists all of the amendments made to regulated products or to be incorporated in any amended ARO Price List (the '**Price List Change Matrix**').

Advance notification timeframes for ARO and price changes

- 8.479 In accordance with Regulation 9 of the Access Regulations ComReg proposes to impose obligations upon Eircom to provide advance notification of proposed amendments or changes to the ARO and related prices according to specified timeframes.
- 8.480 This is to provide sufficient notification to Access Seekers to allow them to factor in such proposed changes into their commercial decision making activities and to make any necessary adjustments or developments to billing or other systems, as appropriate. These advance notification requirements also provide a mechanism according to which ComReg can monitor compliance by Eircom with its access, non-discrimination, pricing and other obligations proposed in this Consultation.
- 8.481 In this respect, ComReg considers that advance notification timeframes for ARO and ARO Price List changes can reasonably vary depending on whether the proposed changes/amendments relate to pricing or non-pricing matters and whether they relate to existing or new WLA products, services and facilities.
- 8.482 Noting the above, ComReg proposes that Eircom be subject to the following obligations with respect to proposed non-price changes/amendments:
- (a) Eircom shall (unless otherwise agreed by ComReg) provide two (2) months advance notification of proposed material non-price amendments/changes to an existing WLA product, service or facility, with such notification to be published by Eircom on its publicly available wholesale website. Eircom shall also notify ComReg in writing with the information to be published at least one (1) month in advance of any such publication taking place, that is, three (3) months prior to any amendments or changes coming into effect.

- (b) Eircom shall (unless otherwise agreed by ComReg) provide six (6) months advance notification of the proposed non-price amendments associated with the introduction of a new WLA product, service or facility, with such notification to be made available by Eircom on its publicly available wholesale website. Eircom shall also notify ComReg in writing with the information to be published at least one (1) month in advance of any such publication taking place, that is, seven (7) months prior to any amendments or changes coming into effect.

8.483 ComReg proposes that Eircom be subject to the following obligations with respect to proposed price changes/amendments:

- (a) Eircom shall (unless otherwise agreed by ComReg) provide two (2) months advance notification of the proposed prices associated with the introduction of a new WLA product, service or facility, with such notification to be made publicly available by Eircom on its wholesale website. Eircom shall also notify ComReg in writing with the information to be published at least one (1) month in advance of any such publication taking place, that is, three (3) months prior to any amendments or changes coming into effect.
- (b) Eircom shall (unless otherwise agreed by ComReg) provide two (2) months advance notification of proposed price decreases to an existing WLA product, service or facility, with such notification to be made publicly available by Eircom on its wholesale website. Eircom shall also notify ComReg in writing with the information to be published at least one (1) month in advance of any such publication taking place, that is, three (3) months prior to any amendments or changes coming into effect.
- (c) Eircom shall (unless otherwise agreed by ComReg) provide three (3) months advance notification of any proposed amendments resulting from a proposed price increase for an existing WLA product, service or facility, with such notification to be made publicly available by Eircom on its wholesale website. Eircom shall also notify ComReg in writing with the information to be published at least one (1) months in advance of any such publication taking place, that is, four (4) months prior to any amendments or changes coming into effect.

8.484 ComReg would also note that in circumstances where proposed changes to existing products are likely to have a material impact on related markets (including having regard to the timeframes within which an Access Seeker would reasonable require to make any operational and/or technical adjustments in order to avail of such amended products), ComReg reserves the right to extend the timeframes set out above.

8.485 The above transparency requirements require Eircom to notify ComReg in the event of proposed changes to the ARO. However, it should be noted that this notification does not include a ComReg approvals process.

8.486 For the avoidance of doubt, in relation to existing contracts, changes proposed by Eircom are not automatically incorporated into existing Access Seekers contracts, Eircom can negotiate with Access Seekers regarding any such changes.

Transparency Requirements on Wholesale Billing

8.487 In accordance with Regulation 9 of the Access Regulations, ComReg proposes to require Eircom to provide transparency in its billing of WLA charges and to ensure that its wholesale invoices for WLA products, services and facilities are sufficiently disaggregated, detailed and clearly presented so that an Access Seeker can reconcile the invoice to Eircom's ARO and ARO Price Lists.

8.488 This should ensure that Access Seekers have the clear ability to monitor the wholesale charges being levied on them and facilitate an auditable means of detecting any billing anomalies and/or non-compliance with regulatory obligations.

8.489 In this respect, ComReg is now introducing a requirement on Eircom to ensure that any invoices and the associated contracts relate only to products, services or facilities falling within in the market. Any services falling outside the WLA market should be contained in a separate contract and be invoiced separately. This requirement facilitates greater transparency for Access Seekers and also makes it easier to detect and undue cross-subsidisation in the pricing of services.

Transparency requirements regarding KPIs, SLAs and reporting

8.490 ComReg is proposing to impose obligations with respect to the publication of information with respect to KPIs, SLAs and reporting. These are described in more detail below.

KPIs

8.491 Pursuant to Regulation 9 of the Access Regulations ComReg is proposing to continue to oblige Eircom to publish KPIs in accordance with the 2011 KPI Decision⁶⁶³ and believes that the obligation is justified and proportionate. Visibility of performance by Eircom with respect to its service assurance and provision of wholesale regulated products is currently provided through publication of a range of Key Performance Indicators for WPNIA products as described in the 2011 KPI Decision.

⁶⁶³ ComReg Response to Consultation and Decision on the Introduction of Key Performance Indicators for Regulated Markets. Document 11/45 Decision Notice D05\11 ('**2011 KPI Decision**').

- 8.492 Access Seekers purchasing WLA products, services and facilities need to know that the level of service they are receiving is at least equal to the level of service received by other operators and by the SMP operators own downstream arm. KPIs were defined in the 2011 KPI Decision as a means of measuring the aggregate performance by Eircom across a number of key parameters measuring provision of service and service assurance.
- 8.493 Importantly, ComReg required Eircom to publish the performance related to the provision of wholesale inputs to Eircom's downstream arm. ComReg was of the view that the proposed KPIs would be useful for Access Seekers and other stakeholders as they should demonstrate that End User products based on wholesale inputs supplied by Eircom can be of comparable quality, and are delivered in similar timeframes, to Eircom's self-supplied inputs.
- 8.494 Thus stakeholders would have confidence in Eircom's wholesale products and, similarly, in End User products and services reliant on them. The publication of KPIs also allows Access Seekers to compare the level of service they are receiving for connections and fault repair to the aggregate performance across the Industry. The publication of KPIs therefore support non-discrimination and access obligations.
- 8.495 A requirement to publish KPIs is justified as it allows monitoring of Eircom's performance across key service parameters allowing Access Seekers and ComReg to review and compare the relevant metrics.
- 8.496 Absent the publication of KPIs there is a risk that discriminatory behaviour could go undetected for a considerable period of time to the detriment of the market participants (and ultimately End Users). Production of the KPI reports currently takes place on a semi-automated process within Eircom and does not consume large resources. Continuation of this obligation is therefore proportionate.

SLAs and Reporting

- 8.497 ComReg has proposed to impose an obligation for Eircom to conclude negotiations on SLAs with respect to existing WLA products, services and facilities as well as on any new products, services and facilities.
- 8.498 ComReg also propose that the SLAs should be published by Eircom. This requirement is to ensure transparency across industry as to the level of service being offered to all Access Seekers.
- 8.499 Committed service levels form a key part of the SLAs offered by Eircom as they set out the target performance levels that Eircom commits to achieve across a range of process points for the products in question. ComReg also proposes that a specific transparency obligation should be applied to the publication of Eircom's performance with respect to the committed service levels.

- 8.500 ComReg proposes that Eircom be obliged to provide all Access Seekers with sufficient information to allow an Access Seeker to compare the level of service they are receiving from Eircom, with respect to the committed service levels in the relevant SLAs, in comparison to the aggregate performance experienced across the industry.
- 8.501 To this end, ComReg's preliminary view is that Eircom should be obliged to publish on its publicly available website a report showing Eircom's actual performance in respect of Undertakings on an aggregate basis with respect to the committed service levels contained in the relevant SLAs. Eircom should in addition describe in detail the methodology used to calculate the actual performance, describe the data sources used and provide worked examples as to how the source data relates to the reported performance achieved.
- 8.502 The information with respect to the aggregate performance should be provided each quarter showing the monthly performance for the previous three months.
- 8.503 Access Seekers should be provided with individual reports as to how Eircom has performed for them covering the committed service levels in the relevant SLAs.
- 8.504 In paragraphs to 8.490 to 8.502 above, ComReg has proposed the imposition of obligations on Eircom concerning KPIs, SLAs and performance with respect to committed service levels achieved. The justification for such requirements is that it is considered by ComReg to be an effective way of providing transparency regarding the service levels provided by Eircom, having regard to its access, non-discrimination and other obligations.
- 8.505 The proposed obligation is largely a continuation of obligations imposed in the 2010 WPNIA Decision the 2013 NGA Decision and as such will not impose an undue burden on Eircom. The additional burden on Eircom is likely to be minimal given that the relevant data is collected in the process of calculating individual performance data against the committed service levels for each Undertaking for the purposes of calculating service credits.

Transparency requirement for KPIs for CEI

- 8.506 The 2011 KPI Decision identified the importance of KPIs as a means of monitoring performance of the SMP operator with respect to its non-discrimination obligations. ComReg is of the view that it is necessary to develop a set of KPIs with respect to CEI access. ComReg will consider whether to consult separately on the specific CEI KPIs, at the appropriate time.
- 8.507 ComReg invites comment from Access Seekers, Eircom and other interested parties with a view to considering which KPIs are critical with respect to CEI, noting that the set of KPIs may be influenced by negotiations with respect to SLAs and the method chosen by Eircom to achieve EoI.

8.508 ComReg welcomes any views that may be expressed in response to this consultation in relation to appropriate set of CEI KPIs and the frequency of publication.

Transparency requirement with respect to network roll out and network development

8.509 In the 2013 NGA Decision ComReg outlined the need for Eircom to provide information on the roll out of NGA services in particular the rollout of FTTC. Eircom was required to provide detailed and clear information regarding the progress of network rollout and service enablement at the appropriate level of granularity. Eircom is continuing with the rollout of FTTC and information relating to FTTC rollout is very important to Access Seekers and is required to ensure a level playing field between Eircom's downstream arm and Access Seekers. ComReg is proposing to continue with the current obligations with respect to transparency of network rollout in the WLA Market.

8.510 Eircom has commenced rolling out FTTH services. This entails delivery of a fibre path from an Eircom node to the customer's premises using GPON technology. This deployment differs fundamentally from the deployment of FTTC both in scale and scope. It is ComReg's preliminary view that the requirement to provide transparency with respect to network roll out requires some refinement in order to cater for this development. This is discussed further in paragraphs 8.511 to 8.537 below.

Proposed Transparency requirement with respect to network roll out

8.511 Pursuant to Regulation 9 of the Access Regulations ComReg is proposing to impose an obligation on Eircom requiring it to make public information with respect to the planned roll out of WLA networks.

8.512 While Eircom is providing information currently with respect to the roll out of FTTC, ComReg is of the view that Access Seekers will also need to be informed with respect to the planned roll out of FTTH.

8.513 For the purposes of rollout of FTTC, information on cabinet locations was required to be provided to Access Seekers in order that they could determine the location and extent of the addressable market and the nature of the services which could be launched from a cabinet.

8.514 This information was and continues to be key to the planning, execution and timing of interconnection and to business planning. To ensure competition, this information needs to be made available to Access Seekers in a timely, efficient, transparent and non-discriminatory manner.

8.515 ComReg is proposing to continue with the existing transparency obligations for FTTC based services and further proposes additional transparency obligations with respect to FTTH.

- 8.516 Eircom has in the past year announced plans to accelerate the rollout of FTTH, specifically citing a rollout to 300,000 premises in rural areas ⁶⁶⁴. This represents a significant volume of potential customers and is especially important in areas where End Users cannot avail of FTTC or other high speed broadband services. Eircom has also launched FTTH services in a number of towns and has expressed the intention to roll out in other urban areas.
- 8.517 Eircom is currently modifying the information it provides Access Seekers on the rollout of FTTH. ⁶⁶⁵ In urban areas, where Eircom has already deployed FTTC services, they will have installed fibre from a serving exchange to a cabinet. In order to deploy FTTH in an area already supplied by FTTC Eircom can, for example, connect a fibre spur to an existing fibre serving a cabinet and take that spur onward to serve premises with FTTH.
- 8.518 To advise Access Seekers of the roll out of FTTH, Eircom is marking, on its NGA deployment plans, the cabinets which will also have FTTH services in the vicinity. Such Cabinets are marked on the NGA Deployment plan as being “Dual FTTC/FTTH” cabinets⁶⁶⁶.
- 8.519 Eircom is also currently providing an indication of the number of premises that may be served by FTTH from each “Dual FTTC/FTTH” cabinet. The information is provided six (6) months in advance of the Ready for Order date (‘RFO’)⁶⁶⁷ date of a cabinet and it also identifies the MPOP through which the cabinet can be reached (this being a Point of Interconnection for Access Seekers).
- 8.520 ComReg considers that providing this level of information within a six (6) month notice period is appropriate for planning of interconnect and or backhaul capacity.
- 8.521 However, ComReg is of the view that, for the purposes of marketing and selling of FTTH services, more granular and accurate location information is required in sufficient time to allow Access Seekers to compete effectively in the downstream market for FTTH customers.

⁶⁶⁴ On June 4 2015 Eircom announced the roll out of FTTH in a number of locations across Ireland <http://fibrerollout.ie/nga-rollout-extended-1-9m-premises/>.

⁶⁶⁵ The Eircom NGA Deployment Plan is circulated to Access Seekers on a monthly basis.

⁶⁶⁶ This phrase does not mean that the cabinets have dual functionality, simply that FTTH service will be rolled out within the geographic area covered by the cabinet.

⁶⁶⁷ A Ready for Order (RFO) date is the date at which a particular service is available for order.

- 8.522 Currently for FTTC services once the coordinates of the cabinet are known to an Access Seeker, it can, with a fair degree of accuracy, predict the coverage area and volume of premises served by that cabinet. However with regard to rolling out FTTH and providing information to Access Seekers marking a cabinet as “Dual FTTH/FTTC” does not in ComReg’s view give sufficient detail as to the location of the premises to be served by FTTH.
- 8.523 FTTH customers are served by fibre cables either coming from the cabinet or coming from the exchange. Fibre cables are not distributed throughout the entire duct network and do not necessarily serve all the houses in the range of a street cabinet. Therefore indicating that FTTH is available in the vicinity of a cabinet does not give sufficient detail to an Access Seeker for the purposes of marketing or selling as the volumes of potential FTTH customers served from each cabinet is relatively low and the exact location of potential customers will not be known.
- 8.524 As mentioned above Eircom is planning to roll out FTTH in rural areas. Much of this roll out will be in areas where FTTC services are not available and such areas would not therefore be served by cabinets. With lower density premises and ribbon housing development in many rural areas, FTTH fibre routes are likely to be linear in nature and the volumes of potential customers served from any particular MPoP may vary considerably from area to area.
- 8.525 Given the nature of the FTTH topology both in urban and rural areas and the gradual rollout of the network, it is critical that Access Seekers have sufficient and timely clarity as to the proposed roll out areas in question and the numbers of potential customers in each area, in order to be able to plan and execute operational and sales activities.
- 8.526 Accordingly ComReg considers that an amendment to the existing transparency obligation is required to ensure that Access Seekers in addition to having sufficient information with respect to FTTC will have sufficient clarity with respect to the planned roll out of FTTH, the areas where it will be deployed and the corresponding number of potential premises served.
- 8.527 In proposing these additional transparency requirements ComReg has taken into account recent developments implemented by Eircom with regard to the adoption of Eircodes⁶⁶⁸ in the planning and roll out of FTTH.

⁶⁶⁸ Eircodes are seven characters Alphas and Numeric codes used to uniquely identify individual addresses used in the Eircode National Postcode System.

- 8.528 In this respect Eircom has recently advised ComReg and Access Seekers that they intend to use Eircodes to identify premises that will be capable of being connected to its FTTH network⁶⁶⁹. In surveying fibre routes Eircom will use the x,y coordinates of premises to identify the Eircode for each premises.
- 8.529 The Eircode for every premises potentially capable of receiving FTTH will be recorded on Eircom's address database⁶⁷⁰ for use in ordering and other processes. Each premises will have a unique Eircode as per the Eircode system. In parallel to the planning for FTTH roll out, Eircom is coding the Eircom address database with Eircodes for those addresses which are unique and identifiable.
- 8.530 It should be noted that Eircom also plan to continue to use the current system of ordering and the existing address coding references known as ARD keys⁶⁷¹.
- 8.531 For the reasons outlined in paragraphs 8.521 to 8.525 above ComReg is proposing, to require Eircom to provide, at a minimum, the following information at different stages during the roll out of FTTC and FTTH services in advance of the proposed RFO date.
- 8.532 At a time not later than six (6) months prior to the RFO Date, for each Exchange areas included in Eircom's NGA rollout plan, the following details should be made available on Eircom's publicly available wholesale website:
- (a) A list of cabinets with their associated geographic coordinates;
 - (b) The location and name of the exchange which houses the MPOP for each cabinet and for each proposed FTTH network;
 - (c) The expected Ready for Order date for each cabinet or fibre based FTTH; and
 - (d) For each Exchange are the number of premises that eircom forecasts will be passed by FTTH.
- 8.533 At a time not later than three (3) months prior to the RFO Date, provide, for each exchange area listed at the six month stage, sufficient information to enable Access Seekers to identify the addresses which will be passed by FTTH. This could take the form of a detailed map or cross references to Eircom's address database which would allow Access Seekers to readily identify such premises.

⁶⁶⁹ There may be some exceptions, whereby a house in a particular street is being passed by fibre but for one reason or another cannot be connected. For example in cases involving a blocked duct along a long entrance avenue to premises.

⁶⁷⁰ Eircom maintain a list/database of all known addresses connected to their network.

⁶⁷¹ An ARD key is a unique numeric reference generated by Eircom to identify address. An ARD key is used in pre order, order and delivery processes for various services.

- 8.534 At a time no later than Twenty Eight calendar (28) days prior to the RFO Date provide a data file which should include the following information:
- (a) a list of the premises, as uniquely identified, that are capable of receiving FTTC and the associated Pre-Qualification Value for each such line/premise; and
 - (b) a list of all addresses passed by FTTH categorised by the exchange area above and showing the MPoP for each address.
- 8.535 Provide any other information as may reasonably be required by ComReg for the purposes of ensuring transparency.
- 8.536 The proposed obligations described above are an amendment to the existing transparency obligations imposed as part of the 2010 WPNIA Decision (and 2011 WBA Decision) The timelines and information now being required are largely similar to that currently being provided. An additional provision of information is now required for FTTH services.
- 8.537 Given the nature of the likely roll out of FTTH as described above, ComReg is of the view that the additional information is required to avoid first mover advantage by Eircom in the WLA Market and related markets. The proposed remedy is reasonable and proportionate given that Eircom is already adopting the use of Eircodes in their processes for FTTH deployment and will have the ability to provide unique address identifiers, as it is a fundamental part of its network planning and roll out process for FTTH. Therefore providing the information to Access Seekers does not create an unreasonable burden on Eircom.

Proposed Transparency requirement with respect to Physical Network Planning Information

- 8.538 Pursuant to Regulation 9 of the Access Regulation ComReg is proposing to impose an obligation on Eircom requiring it to provide information to Access Seekers with respect to the planning for WLA networks to Access Seekers.
- 8.539 ComReg is of the view with respect to Eircom's planning for new deployment of CEI that it should be carried out on a non-discriminatory basis, such that information relating to new duct or pole routes is made available to Access Seekers at the same time and with the same content as is made available to Eircom's downstream arm.
- 8.540 In order for an Access Seeker to be able to avail of new CEI routes in a timely manner it must have the ability to plan in advance and carry out its own network design with respect to the infrastructure it wishes to deploy. Advance information with respect to the new physical routes Eircom is planning to roll out will enable an Access Seeker to efficiently deploy their own infrastructure.

- 8.541 However while Eircom may engage in planning network roll out on an ongoing basis it may not always commit to building planned infrastructure or the actual roll out may be deferred until budget to complete the roll out becomes available. Therefore making information available before the decision to build may create expectations with Access Seekers which subsequently cannot be fulfilled by Eircom.
- 8.542 ComReg is of the view that the timing of the release of information with respect to new infrastructure build by Eircom should correspond to the earliest decision to deploy the infrastructure (for example, the issue of work order for deployment of infrastructure might be an appropriate trigger point, as typically works orders are used to provide detail instructions to build the infrastructure and are only issued when approval for the project has been granted) and should include planned and actual Ready for Order dates. This will provide a high degree of certainty to Access Seekers and should lead to improved co-operation and planning of infrastructure build and utilisation.
- 8.543 The revised CEI build plan should be updated every 28 calendar days and published on Eircom's publicly available website.
- 8.544 ComReg is of the preliminary view that the information to be provided at a minimum contains the following items:
- (a) a map showing the proposed CEI routes which includes in the case of poles, the x,y co-ordinates of the poles and, in the case of ducts, the location of the proposed ducts.
 - (b) with respect to ducts, Eircom should identify the proposed number and size of ducts on each proposed route.
 - (c) the planned and actual Ready for Order dates for the infrastructure.
- 8.545 Currently Eircom use information systems to manage its inventory of physical network inventory. These systems can provide the information described in paragraph 8.544 above and the provision of this information to other entities is currently possible.
- 8.546 For the reasons outlined above ComReg is of the view that a requirement for Eircom to provide information with respect to new physical network planning and deployment is warranted.
- 8.547 ComReg is also of the view that the proposal is proportionate for the reasons outlined below.

Transparency with Respect to CEI Engineering Planning and Design Rules

- 8.548 ComReg is of the preliminary view that Eircom should have an obligation of transparency with respect to the provision of Engineering Planning and Design Rules or the equivalent for CEI i.e. the engineering and design rules⁶⁷² with respect to the management of duct and chamber space and pole space should be provided to Access Seekers that have signed a CEI agreement with Eircom for CEI access.
- 8.549 ComReg considers that this obligation is justified in the light of our consideration of the issues. In order to minimise the risk of discrimination with respect to access to CEI, it is important that Access Seekers are aware of and kept informed of the Engineering Planning and Design Rules that are currently used by Eircom when making decisions with respect to the installation of CEI.
- 8.550 For example rules such as the minimum allowable free space in a duct dictates whether or not a Sub-Duct or cable (fibre or metallic) could be installed on a particular duct or aerial route. Access Seekers knowing engineering rules will enable them to utilise the CEI access product with a greater degree of certainty.
- 8.551 Given that Eircom already has and is using such rules internally, the proposed obligation is proportionate in that the cost of providing such information to Access Seekers is outweighed by the benefits to competition and ultimately to End Users.
- 8.552 In paragraphs 8.419 to 8.440. ComReg has proposed the application of EOI as the appropriate non-discrimination standard to apply to CEI and has left it open to Eircom on how best to achieve this standard. Notwithstanding the solution to be developed by Eircom to meet this EOI obligation, the provision of the above information to Access Seekers should be incorporated in the revised processes.

Proposed Transparency requirement with respect to Product Development

- 8.553 Pursuant to Regulation 9 of the Access Regulations ComReg is proposing to oblige Eircom to provide additional information to Access Seekers with respect to the development of regulated products, services or facilities.

⁶⁷² Engineering, Planning and Design Rules means the engineering and design rules that relate to the management of duct, chambers and pole space.

- 8.554 ComReg is of the view that there are many reasons for and benefits to imposing transparency remedies on Access Seekers found to have SMP in particular markets. The current suite of transparency obligations provide a reasonable degree of visibility to Access Seekers with respect to network characteristics and technical standards, interconnect facilities and products, services and facilities.
- 8.555 However, Eircom's wholesale regulated products and services continue to develop and evolve, and ComReg considers that transparency in relation to these developments is particularly important for the promotion of competition.
- 8.556 Currently, Eircom, on its own initiative or on receipt of requests from Access Seekers or its downstream arm for a new product or an enhancement to an existing product, may undertake product or process development. The content, timing, speed and communications regarding such developments is of critical importance to Access Seekers.
- 8.557 Access Seekers need to be able to clearly understand, in a timely manner, the changes or new developments proposed and be able to input into the decisions regarding prioritisation of particular developments. Prioritisation of product development resources by Eircom is a key concern for Access Seekers, particularly in situations where demand for Eircom development resources is greater than that which is available. Access Seekers need to be able to input in the decision making process with respect to how developments are prioritized by Eircom.
- 8.558 Access Seekers should be given an opportunity, at an early stage of a proposed development, to provide their views as to the priority of the development. Access Seekers must have their priorities fully taken into account by Eircom when decisions with respect to product development resourcing are being made.
- 8.559 ComReg is also of the view that Eircom should publish the process and criteria used by Eircom in deciding on the prioritisation of product developments.
- 8.560 Access Seekers also need to be able to plan for the introduction of new products, services or facilities and therefore need information, with a reasonable degree of certainty, regarding the characteristics, timing and the availability of developed products, services or facilities.
- 8.561 ComReg has proposed, as described in paragraphs 8.354 to 8.374, timelines which Eircom must meet throughout its product development process. In addition, ComReg is of the preliminary view that a greater degree of transparency is required with respect to the product development process currently followed by Eircom.
- 8.562 ComReg is, therefore, proposing additional transparency obligations which are designed, as far as possible, to ensure that Access Seekers:

- have sufficient knowledge relating to the contents of proposed product developments
- have the ability to input into the prioritisation of developments and to understand the criteria and process used by Eircom for prioritizing developments,
- are made aware of the proposed launch dates of any new products or changes to existing products.

8.563 In accordance with Regulation 9 of the Access Regulations ComReg is proposing the following obligations.

8.564 Eircom shall publish and keep updated, on its publicly available website, a description of its product development process, including a description of all process steps and activities, identifying all key milestones and decision points, starting from the receipt of a request from an Access Seeker, through to the launch of a new or changed wholesale product, service or facility.

8.565 For each proposed development, Eircom shall, at the earliest possible time but in any event not later than ten (10) working days after the receipt of an access request for the development of a product, service or facility in a regulated market, provide and keep updated on its publicly available website a Product Development Roadmap⁶⁷³ listing all of the accepted access requests⁶⁷⁴ with the following details for each proposed development:

- (a) a unique identifier for each access request,
- (b) a description of each access request including a copy of or links to all documents relevant to each request;
- (c) the last date by which proposed amendments from Access Seekers relating to a development project can be accepted by Eircom as being included in that development;
- (d) the milestones and associated target dates to develop and launch each proposed product, process or service;
- (e) a method for tracking the progress of developments against those dates;
- (f) Eircom must identify the proposed date, and communicate it to Access Seekers, by which Access Seekers can notify Eircom of the degree of priority to be given to each particular development;

⁶⁷³ A Product Development Roadmap is a list of all proposed future developments for a particular product family.

⁶⁷⁴ An accepted access request is a request deemed by Eircom to be related to a product service or facility in the WLA market. An Access Request can be made by an Access Seeker or by Eircom.

- (g) The priority given by Eircom to the development of each request relative to other requests pertaining to the Relevant Market. Eircom shall include the prioritisation process and the criteria used by it in this regard.

8.566 In addition, Eircom shall publish the following information (the publication deadlines proposed here correspond to those set out in the proposed access obligation on product development described in paragraphs 8.354 to 8.374):

- (a) For each access request received by Eircom and accepted by Eircom as being in a regulated market Eircom shall, at the earliest possible time, but not later than ten (10) working days after the receipt of the access request, advise all Access Seekers that the request has been received and provide them with information regarding the request;
- (b) The information provided to Access Seekers should include a unique reference number which will allow tracking of the request and all known details relevant to the request including but not limited to a copy of the request, where a written request has been made, and in all cases a description of the key features and functionality requested;
- (c) Not later than twenty five (25) working days, unless otherwise agreed with ComReg, after receipt of the access request, Eircom shall agree with the Access Seeker an accurate description of the requirement(s) and shall publish a description of the requested product or service on its publicly available website;
- (d) Within fifty five (55) working days, unless otherwise agreed with ComReg, confirm in writing to the Access Seeker whether it agrees to provide the requested new or amended product, service or facility. Where the request is refused, Eircom shall comply with its obligations to give written reasons for its decision at the time of refusal. In addition Eircom to advise all other Access Seekers that the request has been refused;
- (e) For any access request accepted by Eircom as being in a regulated market and agreed by Eircom to be developed, Eircom must, at the earliest possible stage in the product development process, but not later than seventy five (75) working days after receipt of the access request, provide to Access Seekers a detailed description and specification for the new or changed wholesale product or process. Eircom must in addition, identify the degree of priority that they propose to assign to each proposed development. Eircom shall also provide a forecast date by which it expects to provide the requested product, service or facility;
- (f) In addition, Eircom will for each such development provide Access Seekers with all other relevant documentation including but not necessarily limited to any revised industry process manual, price lists or technical manuals;

- (g) At all stages of the wholesale product development process Eircom shall make publicly available and keep updated on its website, all relevant documentation describing the product or service which will be delivered by each development in sufficient detail such that an operator could reasonably be aware of the key features and functionality proposed, the proposed geographic reach of the product and any relevant limitations of the product.
- (h) Eircom must publish the process and criteria used by Eircom in reaching decisions with respect to the prioritization of product developments with respect to each other; and
- (i) Provide any other information as may reasonably be required by ComReg for the purposes of ensuring transparency.

Transparency Requirement regarding trials

- 8.567 As part of the development process for regulated products Eircom may wish to conduct operational readiness testing by means of trials, or in certain circumstances, conduct End User trials.
- 8.568 ComReg is of the preliminary view that such trials should not be of a nature that the product or process being trialled is effectively being launched. Trialling a fully operational system for a prolonged period may have the effect of bypassing the normal notification process for product changes and could therefore potentially give rise to compliance issues. It may also confer an unfair first mover advantage on Eircom.
- 8.569 Additionally, it is important that all Access Seekers have the opportunity to participate in trials and, to that end, Access Seekers should receive sufficient information with respect to any proposed trials in a timely manner such that Access Seekers can make an informed decision as to their participation or otherwise in the trial.
- 8.570 Accordingly ComReg is of the preliminary view that the process for establishing trials follows a standard process and should meet specific criteria before a trial can commence. The criteria that ComReg considers to be relevant are set out below.
- (a) All SPs and/or Access Seekers should be invited to participate in the trial.
 - (b) The objectives of the trial and the requirements for participation in the trial must be clearly stated and provided to all Access Seekers in sufficient time to allow participation.
 - (c) The trial must be for a reasonable period sufficient only to achieve the objectives of the trial.

- 8.571 ComReg is not, at this time, proposing these criteria as an obligation as the nature of trials can vary significantly and in many cases trials can benefit all of industry in assessing the proposed changes to products or processes. ComReg would, however, welcome feedback from respondents on this.
- 8.572 ComReg would point out that non-discrimination obligations are already, and will continue to be, in force and by their nature apply to trials.

Proposed Obligations regarding notification of trials

- 8.573 ComReg, however, is of the preliminary view that certain timelines should apply to trials which involve the participation of Access Seekers, and is proposing the following obligations with respect to trials.
- (a) The trial must be notified to ComReg one month in advance of its commencement.
 - (b) The trial must be notified to all Access Seekers in sufficient time to allow Access Seekers to participate. At a minimum, ComReg is of the view that a three month advanced notice period is appropriate, or unless otherwise agreed with ComReg⁶⁷⁵.
 - (c) The trial must terminate at least one month before notification of the product to ComReg, unless otherwise agreed with ComReg.
- 8.574 ComReg is of the preliminary view that the obligation to notify proposed trials sufficiently in advance is necessary to ensure that all Access Seekers have the opportunity to participate in such trials and transparency with respect to trials reduces the risk of non-discrimination.
- 8.575 The obligation to terminate a trial one month in advance of notification is required to ensure that trials, especially End User trials, do not effectively become a launch of the proposed product.
- 8.576 ComReg does not consider this to be an over-burdensome obligation, the proposed remedy is proportionate given the issues identified above.

Transparency requirement to facilitate the legitimate sharing of confidential and/or commercial information through a non-disclosure agreement

- 8.577 The above requirement is designed to keep Access Seekers informed in a timely manner of all proposed developments of RAP related products. ComReg is proposing this obligation to specify more clearly the type and timing of the information which should be provided.

⁶⁷⁵ Trials which would require an Access Seeker to modify their OSS for the purposes of participating in the trial may require a longer notification period to allow Access Seekers to participate in such trials.

- 8.578 ComReg also considers that Eircom, as the proposed SMP operator, should be required to provide information regarding technical developments, network rollout and wholesale services, insofar as it affects the provision of WLA products, services and facilities (subject to the proposed obligations set out in this Consultation) and to do so with sufficient visibility to ensure that Access Seekers are in a position to prepare business or operational plans.
- 8.579 In this respect, ComReg would note that in some cases circumstances may arise where Eircom considers that certain information to be provided by it pursuant to its non-discrimination obligations is of a confidential and/or commercially sensitive nature. To cater for such circumstances, ComReg proposes to require Eircom to meet the following requirements, which largely mirror those which have been recently imposed in other markets (such as the 2013 NGA Decision⁶⁷⁶) within which Eircom has SMP.
- 8.580 Eircom shall, without delay, provide ComReg with complete details of such information along with objective reasons justifying why it considers it is confidential and/or commercially sensitive. ComReg will consider the information in accordance with its Confidentiality Guidelines⁶⁷⁷ as relevant or otherwise. If ComReg considers that the information is not confidential and/or commercially sensitive, it shall be published by Eircom in accordance with its obligations proposed in paragraph 8.577 (including the subsections).
- 8.581 If ComReg concludes that the information in 8.579 above is confidential and/or commercially sensitive, Eircom shall publish general details which are not considered confidential as to the nature of such information and shall make it available to an Access Seeker that has signed a Non-Disclosure Agreement (“NDA”) the terms and conditions of which shall be fair, reasonable and non-discriminatory.
- 8.582 The NDA shall also be published on Eircom’s publicly available website. Any confidential and/or commercially sensitive information shall not be made available by Eircom to its downstream operations until such time as it is made available to an Access Seeker, or as otherwise agreed with ComReg.
- 8.583 If and when the commercially sensitive and/or confidential information is no longer considered by Eircom to be commercially sensitivity and/or confidential, it shall be made available by Eircom on its publicly available wholesale website without undue delay and without the need for an NDA to be signed.

⁶⁷⁶ See “Next Generation Access (NGA): Remedies for Next Generation Access Markets, Response to Consultation and Decision, ComReg Document 13/11, Decision D03/13, January 2013” (the ‘**2013 NGA Remedies Decision**’), in particular, paragraph 9.12 set out in Annex 2.

⁶⁷⁷ See “Guidelines on the treatment of confidential information” ComReg Document 05/24, March 2005.

8.584 This obligation is considered necessary to ensure that Eircom cannot circumvent compliance with its access, non-discrimination and transparency obligations on the grounds that it considers that certain information is commercially sensitive and/or confidential.

Summary of Preliminary Conclusions on Transparency Obligations

8.585 Having regard to the analysis set out in paragraphs 8.444 to 8.584 above, ComReg's preliminary view is that proposed transparency obligations are proportionate and justified. The proposed specific requirements include:

- (a) maintenance and publication of an ARO which is to contain a minimum list of items;
- (b) associated ARO change management process;
- (c) provision of an updated ARO within a specified time period following the final decision notice;
- (d) advance notification timeframes for ARO and price changes;
- (e) provide transparency in the billing of WLA wholesale charges;
- (f) publication of KPIs, SLAs and reporting;
- (g) publication of KPIs for CEI;
- (h) publication of geographic detail for planned network roll out;
- (i) provide information with respect to the Planning and Development of Physical Network Infrastructure (CEI build plan);
- (j) provide information with respect to the Engineering planning and Design rules for CEI;
- (k) publication of details with respect to requests for the development of regulated products, services or facilities;
- (l) publication of an up to date Product Development Roadmap listing all developments and indicating relevant milestone and target dates;
- (m) provide notification with respect to proposed trials; and
- (n) provisions to cater for the issue of commercially sensitive or confidential information.

8.586 ComReg has considered whether transparency obligations would be sufficient in themselves to resolve the competition problems identified in Section 7, and does not consider this to be the case. In particular, ComReg considers that problems associated excessive pricing, discriminatory behaviour (on price or non-price grounds) or denial of access would not be adequately addressed through transparency obligations alone.

Price Control and Cost Accounting Remedies

- 8.587 Having identified, on a preliminary basis, that Eircom has SMP in the WLA Market, ComReg is required to consider whether a price control obligation is appropriate. Where a price control is considered appropriate, ComReg must consider what type of price control would best meet ComReg's regulatory objectives. As set out in Section 6 ComReg is of the preliminary view that the WLA Market is not effectively competitive and Eircom has SMP in the WLA Market. As set out in Section 7, ComReg has identified that Eircom has the ability and incentive to engage in a range of anti-competitive pricing behaviours to the ultimate detriment of competition and End Users.
- 8.588 Absent regulation in the WLA Market, ComReg considers that Eircom has the ability and incentive to exploit wholesale customers and ultimately End Users by setting excessive wholesale charges. This could raise the input costs for those SPs that purchase Eircom's wholesale services. Given that such above cost wholesale prices may then be passed on by such SPs to their retail (and/or wholesale) customers via higher prices, it could ultimately have the potential to harm the development of effective competition in downstream and related markets, potentially through the actual or effective exclusion of downstream competitors.
- 8.589 In addition, as discussed in Section 7, ComReg considers that, absent regulation, Eircom has the ability and incentive to leverage its market power into adjacent vertically or horizontally related markets through price and non-price means with the effect of foreclosing or excluding competitors in downstream retail and/or wholesale markets. Eircom, as a vertically-integrated SP with proposed SMP, has the incentive to use its market power in the WLA Market to affect the competitive conditions in downstream wholesale and/or retail markets, in particular, through its ability to control the key inputs used by wholesale customers — which compete against Eircom in such markets. This could result in a distortion of or restriction in competition in these downstream markets, ultimately resulting in harm to End Users, potentially in the form of higher prices, lower output/sales, reduced quality or reduced End User choice.
- 8.590 On the basis of the competition problems discussed at Section 7, ComReg considers that a price control obligation is therefore justified and proportionate.
- 8.591 Regulation 13(1) of the Access Regulations provides that ComReg may:
- “impose on an operator obligations relating to cost recovery and price controls including obligations for cost orientation of prices and obligations concerning cost accounting systems, for the provision of specific types of access or interconnection in situations where a market analysis indicates that a lack of effective competition means that the operator concerned may sustain prices at an excessively high level or may apply a price squeeze to the detriment of End Users.”*

8.592 Regulation 13(3) also provides that:

“The Regulator shall ensure that any cost recovery mechanism or pricing methodology that it imposes under this Regulation serves to promote efficiency and sustainable competition and maximise consumer benefits. In this regard, the Regulator may also take account of prices available in comparable competitive markets.”

8.593 In line with Regulation 13 of the Access Regulations, the general purpose of price control and cost accounting obligations is to ensure that prices charged are not excessive (or do not cause a margin squeeze) and that the measures put in place promote efficiency and ultimately sustainable downstream competition, while maximising End User benefits.

8.594 In the proceeding sections, ComReg sets out its preliminary views on the proposed price control measures that it considers should be imposed upon Eircom in the WLA Market.

Price Control obligation

8.595 There are a number of options available to ComReg in the form of a price control for the wholesale services mandated in the WLA Market. The relevance and appropriateness of each option is explained and discussed below under the following headings:

- (a) Regulatory forbearance (discussed in paragraphs 8.596 to 8.597 below);
- (b) Benchmarking (discussed in paragraphs 8.598 to 8.601);
- (c) Retail minus (discussed in paragraphs 8.602 to 8.606);
- (d) Cost orientation obligations (discussed in paragraphs 8.607 to 8.630 below); and
- (e) Margin squeeze obligations (discussed in paragraphs 8.635 to 8.673 below).

Regulatory forbearance

8.596 This option would mean ‘No price control’ would be imposed, and where Eircom would have freedom to set the monthly rental (and other) prices for its WLA products, services and facilities. In this situation, ComReg would have no influence over such charges.

8.597 However, ComReg is of the preliminary view that this option is not appropriate, given the preliminary view set out in Section 6 that Eircom has SMP in the WLA Market, and the fact that it would not address the competition problems identified in Section 7.

Benchmarking

8.598 Benchmarking is an approach where the wholesale price is set with reference to the price of comparable services in other countries.

- 8.599 As noted above, Regulation 13(3) of the Access Regulations provides for benchmarking.
- 8.600 Benchmarking is a price control option that can be adopted when there is an absence of sufficient cost data to allow a NRA arrive at a suitably informed cost based price. However, the costs of access services such as WLA have proven to be particularly sensitive to the structural factors that can apply in a specific region or country and may not be appropriately employed in setting prices in the relevant market under consideration. The majority of the underlying costs of access services relate to labour and civil engineering costs. Labour costs are known to differ significantly from country to country and civil engineering costs will be affected by factors such as the different network topologies, geographic terrains and population patterns (both densities and dispersions) evident in each country.⁶⁷⁸ ComReg has already modelled a significant volume of cost and network data in relation to the Eircom access network in Ireland and, as a result, has developed an understanding of the relevant costs. This is detailed in the Revised Copper Access Model (the 'Revised CAM') set out in the 2016 Access Pricing Decision, in particular at Chapter 5.
- 8.601 Therefore, given that ComReg already has a detailed understanding of the underlying costs of access services, ComReg considers that benchmarking is not an appropriate basis upon which to base Eircom's regulated WLA prices.

Retail minus

- 8.602 A 'retail-minus' price control sets a price which is determined by the margin between the wholesale charge and the related downstream retail prices by considering what proportion of retail and other downstream costs would need to be deducted from the retail price in order to be left with the appropriate wholesale price at which competitors, reliant on the upstream (wholesale) input, can effectively replicate the retail offer of the upstream arm of the SMP SP.
- 8.603 An advantage of a retail minus price control is that it is comparatively easy to implement as there is no need to develop a detailed cost model. Setting the retail margin with reference to the SMP operator's retail costs requires significantly less data i.e., wholesale costing data, than constructing a network cost model.

⁶⁷⁸ Please see ComReg Document 10/10 (Decision D01/10), Appendix C, which illustrates that the average cost of access lines in Ireland is higher due to the lower population density and the higher proportion of one-off housing in rural areas.

- 8.604 As already noted at paragraph 8.600, given the existence of the Revised CAM⁶⁷⁹ for the access network which allows ComReg to assess the relevant costs of the services provided by Eircom, a retail minus price control is not relevant in the WLA based access services.
- 8.605 A retail minus price control may result in an access price that is too high if the retail price is too high.⁶⁸⁰ ComReg considers that if the wholesale price is set too high, efficient investment decisions may be impaired due to the wholesale price misrepresenting the build-or-buy signal. In addition, there is less price certainty with a retail minus approach as the wholesale price may change depending on changes by Eircom to its retail prices.
- 8.606 ComReg is therefore of the preliminary view that a retail minus price control is generally, not appropriate in the context of the WLA based wholesale access services. However, the particular case in which such a price control is appropriate for nascent FTTH services which may be an exception to the above, is considered separately below in paragraphs 8.646 to 8.651 below.

Cost orientation

Current generation services

- 8.607 Having regard to the provisions of Regulation 13(2) of the Access Regulations⁶⁸¹, a cost orientation obligation should allow the SMP operator to ensure that its wholesale access prices recover no more than its actual incurred costs adjusted for efficiencies plus a reasonable rate of return. This approach also takes into account the investment risks involved, as well as ensuring that any cost recovery mechanism or pricing methodology that is imposed serves to promote efficiency and sustainable competition and maximise End User benefits.
- 8.608 Setting wholesale access prices by way of cost orientation breaks the link between the SMP operator's control of the retail price and the wholesale price faced by its competitors. ComReg considers that cost orientation better ensures greater predictability of wholesale price levels for SPs as cost oriented prices can be determined for the entire period of the price control thereby allowing them to make more informed investment decisions and develop business plans with a greater degree of confidence.

⁶⁷⁹ Please see Chapter 5 of the 2016 Access Pricing Decision.

⁶⁸⁰ High retail prices are more likely to arise in rural areas due to the absence of competition from alternative infrastructure providers. However, in urban areas where sufficient competition exists at the retail level the retail minus approach may be adequate.

⁶⁸¹ Regulation 13(2) provides that ComReg should: "...take into account the investment made by the operator which the Regulator considers relevant and allow the operator a reasonable rate of return on adequate capital employed, taking into account any risks involved specific to a particular new investment network project."

- 8.609 A potential drawback of the cost orientation price control is that the development of a cost model can be a time consuming and resource intensive process. The Revised CAM developed in the 2016 Access Pricing Decision allows ComReg to analyse the access network costs at the required level of granularity to inform pricing decisions. Furthermore, Eircom's cost accounting systems contain significant detail on its access costs allowing such a model to be created.
- 8.610 Eircom's wholesale access rental prices for LLU, SLU and Line Share are currently based on cost orientation as determined under the 2010 WPNIA Decision, 2013 NGA Decision and the 2016 Access Pricing Decision. To date, Eircom VUA products have been subject to a margin squeeze obligation (as per the 2011 WBA Decision and the 2013 NGA Decision).
- 8.611 The local loop remains a bottle neck in terms of developing effective competition and full LLU, SLU and Line Share are important inputs for SPs as they try to compete with Eircom. ComReg considers that for this reason it is important that SPs and investors have certainty with regard to the prices of these services. When a regulator sets prices it is important to ensure that these prices send the 'correct' signals to market participants – in other words, that the prices set can incentivise efficient behaviour.
- 8.612 Given that products supplied in the WLA Market have a high capital cost component that requires a significant level of investment which is recovered over a prolonged period of time, it is important that wholesale prices transmit the correct build-or-buy signals to inform investment decisions. This is particularly relevant where there is a possibility of efficient network deployment by alternative operators. Consequently, cost orientation can ensure that the wholesale price correctly informs the investment decisions of both incumbents and competitors.
- 8.613 In the case of assets that are not likely to be replicated at any material level by an alternative SP, e.g., ducts, trenches, chambers and poles, the cost orientation approach can be designed to ensure that the SMP operator is only capable of recovering its efficiently incurred costs, including an appropriate return on past and future investments. This reflects the objectives of the European Commission's 2013 Recommendation⁶⁸² on non-discrimination and costing methodologies (the '2013 Non-Discrimination Recommendation'). The 2013 Non-Discrimination Recommendation, among other things, looks at the way copper and NGA wholesale access prices should be set and where cost orientation is appropriate.

⁶⁸² Commission Recommendation dated 11 September 2013 on 'Consistent non-discrimination obligations and costing methodologies to promote competition and enhance the broadband investment environment' ('**2013 Non-Discrimination Recommendation**').

- 8.614 A cost orientation price control should ensure that Eircom is prevented from charging excessive prices for wholesale inputs, given the competition concerns set out in Section 7, and, at the same time, should promote efficient infrastructure investment and encourage SPs to climb the ladder of investment. It should also ensure that Eircom can recover the efficiently incurred costs which are relevant to the provision of WLA products, services and facilities. This should, in turn lead to efficient price and investment signals being provided to all market participants.
- 8.615 In the 2016 Access Pricing Decision ComReg formed the view that cost orientation remained the appropriate price control measure for LLU, SLU, Line Share, CEI (duct and pole access) and Dark Fibre. Please see Chapter 4 of the 2016 Access Pricing Decision for the reasons for continuing with cost orientation for current generation WLA services.
- 8.616 In addition, in the 2016 Access Pricing Decision ComReg updated the existing copper access model ('CAM'), which was used previously in 2010⁶⁸³ to determine the prices for LLU and SLU, to include additional services and costs associated with CEI and Dark Fibre (now referred to as the Revised CAM arising from the 2016 Access pricing Decision). ComReg also incorporated the proposals from the 2013 Non-Discrimination Recommendation such that Eircom's top down costing data was incorporated for reusable network assets (e.g. poles and ducts) and the bottom –up long run average incremental plus ('BU-LRAIC+') methodology⁶⁸⁴ for non-reusable network assets (e.g. cables). We propose to re-impose the cost modelling approach reflected in the Revised CAM for the reasons set out in Chapter 5 of the 2016 Access Pricing Decision.
- 8.617 In the 2016 Access Pricing Decision ComReg also further specified the pricing methodology used to determine the prices for the various current generation WLA services, as set out in paragraphs 8.618 to 8.623 below. On the basis that the reasoning and justification used to establish the pricing approach for LLU, SLU, Line Share, CEI and Dark Fibre remains appropriate, ComReg considers that no changes are required to the pricing approach for these services in the context of the current WLA review. Therefore, ComReg proposes to re-impose the pricing obligations for LLU, SLU, Line Share, CEI, Dark Fibre and Ancillary Services, based on the analysis set in the 2016 Access Pricing Decision, except for the change as noted at paragraph 8.621 below.

⁶⁸³ ComReg Document No 10/10 (Decision D01/10), "Response to Consultation Documents No. 09/39 and 09/62 Local Loop Unbundling ("LLU") and Sub Loop Unbundling ("SLU") Maximum Monthly Rental Charges", dated 9 February 2010.

⁶⁸⁴ This is the methodology used to estimate the "LRAIC plus" of an efficient operator which is derived from an economic and / or engineering model of an efficient network. The LRAIC plus costs are the average efficiently incurred directly attributable variable and fixed costs, including an apportionment of joint and common costs.

- 8.618 For LLU ComReg further specified (at Chapter 6 of the 2016 Access Pricing Decision) that Eircom should charge the lower of:
- (a) A price equal to the average costs incurred by an efficient operator providing LLU in the Modified LEA which shall be calculated using the Revised CAM. Such costs shall be based on a combination of a BU-LRAIC+ costing methodology and Top-Down HCA costing methodology;
 - or
 - (b) The LLU monthly rental charge as amended based on changes made by Eircom to the main parameter(s) of the Revised CAM as set out in ComReg Decision D03/16 (2016 Access Pricing Decision). Any such amendment or changes would be subject to prior approval by ComReg.
- 8.619 For SLU ComReg further specified (at Chapter 6 of the 2016 Access Pricing Decision) that Eircom should charge the lowest of:
- (a) a price equal to the average costs incurred by an efficient operator providing SLU nationally which shall be calculated using the Revised CAM. Such costs shall be based on a combination of a BU-LRAIC+ costing methodology and Top-Down HCA costing methodology; or
 - (b) the SLU monthly rental charge as amended based on changes made by Eircom to the main parameter(s) of the Revised CAM as set out in ComReg Decision D03/16. Any such amendment or changes to be subject to prior approval by ComReg; or
 - (c) the revised charge derived by the application of the margin squeeze test between the VUA monthly charge and the SLU monthly charge based on the NGA Margin Squeeze Model (which is more particularly described in Section 11.14 of the Decision Instrument at Annex 2 to ComReg Decision D03/13) in relation to Wholesale Broadband Access. Any such amendment or change to be subject to prior approval by ComReg.
- 8.620 ComReg also specified that any reduction to the SLU monthly rental charge, in accordance with part(c) above, should be consistently applied to the LLU monthly rental charge, where applicable, using the Revised CAM.

- 8.621 While ComReg proposes to continue with the pricing approach for LLU and SLU as determined in Chapter 6 of the 2016 Access Pricing Decision, the margin squeeze test at paragraph 8.619, part(c) will no longer be appropriate given ComReg's proposal below at paragraphs 8.624 to 8.627 to set the price for FTTC based VUA based on cost orientation. To date, there has been a link between Eircom's VUA (FTTC) and its SLU (copper) cost. The link between copper and fibre has been established where the SLU cost-oriented price is the key input to the cost stack for VUA FTTC, given that it reflects the costs from the End User's premises to the cabinet. The current test ensures that VUA FTTC is not priced so low that it would dis-incentivise investment by alternative infrastructure operators during the transition to fibre based services. However, given ComReg's proposal that FTTC based VUA should be cost oriented and given that the current SLU rental price is already cost oriented⁶⁸⁵, the margin squeeze test between SLU and VUA⁶⁸⁶ is no longer necessary as both services should reflect efficient costs. Therefore, ComReg proposes to withdraw the existing margin squeeze test obligation between VUA and SLU, which is currently specified in the 2013 NGA Decision and in the 2016 Access Pricing Decision.
- 8.622 For CEI and Dark Fibre, ComReg further specified (at Chapter 8 of the 2016 Access Pricing Decision) that Eircom should charge no more than a price equal to the costs incurred by an efficient operator providing CEI and/or Dark Fibre, which shall be calculated using the Revised CAM, based on a combination of a BU-LRAIC+ costing methodology and a Top-Down HCA costing methodology. We propose to re-impose the pricing approach specified for CEI and Dark Fibre in the 2016 Access Pricing Decision for the reasons set out in Chapter 8 of the 2016 Access Pricing Decision.
- 8.623 For Line Share ComReg further specified (at Chapter 9 of the 2016 Access Pricing Decision) that Eircom should charge no more than the incremental costs associated with the provision of Line Share, which should be calculated using the Revised CAM. We propose to re-impose the pricing approach specified for Line Share in the 2016 Access Pricing Decision for the reasons set out in Chapter 9 of the 2016 Access Pricing Decision.

FTTC based NGA services

- 8.624 For FTTC based VUA, ComReg considers a stricter form of regulation may be more appropriate than the current margin squeeze approach. In paragraphs 8.646 to 8.651 ComReg discusses the proposal to maintain a margin squeeze approach for FTTH based VUA given uncertainty regarding the precise estimation of costs and the penetration levels for FTTH services.

⁶⁸⁵ Section 4.1 of Annex 1 of the 2016 Access Pricing Decision.

⁶⁸⁶ Section 4.3(c) and Section 5.3(c) of Annex 1 of the 2016 Access Pricing Decision.

- 8.625 In the 2013 NGA Decision ComReg considered that a cost orientation obligation was not appropriate given the level of uncertainty associated with the rollout of FTTC, both in terms of costs and penetration levels. In addition, ComReg considered that there were sufficient retail pricing constraints from cable and prospectively from LLU based retail and wholesale services (if the right regulatory protections were in place) to warrant a more flexible pricing approach. ComReg considered that this could have been achieved by allowing the SMP undertaking flexibility on wholesale NGA pricing in the WBA Market, subject to a margin squeeze test against retail prices, while ensuring no foreclosure of LLU based retail or wholesale services. Therefore, a margin squeeze regime was then implemented for Eircom's VUA services as a means of also encouraging investment in fibre networks.
- 8.626 However, in the context of this market review, ComReg now considers that a cost orientation price control is proportionate and justified for FTTC based VUA for a number of reasons:
- (a) Demand for FTTC based VUA services is now easier to forecast given the historic penetration data that is available since Eircom began deploying its fibre network in 2013. Therefore, it would be easier to determine forecasted costs and volumes associated with the provision of FTTC based VUA.

- (b) Recent price changes indicate that pricing constraints in relation to Eircom's retail and/or wholesale broadband prices are of limited effectiveness and that existing price controls need to be updated to reflect new circumstances. In particular, the constraint posed by copper based broadband is likely to have diminished as evidenced by the reduction in LLU volumes and the switch from copper to fibre based services in the NGA footprint. This view is supported by the available evidence available. Eircom has increased its NGA wholesale prices twice since the launch of NGA services in 2013. In July 2015 Eircom increased the VUA monthly rental price by €2, from €17.50 to €19.50.⁶⁸⁷ From 1 September 2016, Eircom increased the rental price for FTTC based VUA by €3.50, from €19.50 to €23, and the monthly rental price for FTTH based VUA by €3.⁶⁸⁸ Similarly, at a retail level Eircom increased its retail broadband prices for standalone NGA products by circa €5 (incl. VAT).⁶⁸⁹ These pricing developments demonstrate that Eircom's prices do not appear to be effectively constrained at a retail or wholesale level, in the presence of the existing form of price regulation.
- (c) A cost orientation obligation for FTTC based VUA would ensure a consistent regulatory approach with the pricing of current generation SLU and LLU, which is cost oriented pursuant to the 2010 WPNIA Decision and further specified in the 2016 Access Pricing Decision. Since NGA networks are in competition with copper networks, the consistency of pricing approaches between FTTC based wholesale products and current generation wholesale products helps operators to make an efficient choice as to the most optimal wholesale product.
- (d) A cost orientation obligation for FTTC based VUA should also provide the appropriate investment signals to market participants (i.e. that the prices set will incentivise efficient firm behaviour). Efficient behaviour should result in the economy getting the greatest value from its resources and would benefit End Users.

⁶⁸⁷ Please see Eircom's Bitstream price list at http://www.openeir.ie/Reference_Offers/?selectedtab=wbaro.

⁶⁸⁸ Please see Eircom's Bitstream price list at http://www.openeir.ie/Reference_Offers/?selectedtab=wbaro.

⁶⁸⁹ Please see second table at page 3 of <https://www.eir.ie/opencms/export/sites/default/.content/pdf/pricing/Part3.1.pdf>.

- (e) A cost orientation obligation should provide greater price certainty for market participants. Setting a cost oriented price for FTTC based VUA upfront provides certainty to the SMP operator as to what it has to do in order to ensure compliance with its obligations and also for the SPs that use the regulated products as to what the price will be for the service it is buying. This compares with less price certainty for SPs by way of the margin squeeze approach as Eircom has flexibility during the price control period to make changes to the wholesale price depending on changes by Eircom to the retail price. Please see Chapter 10 of the 2013 NGA Decision for further details on the margin squeeze approach.
- (f) With regard to cost recovery, the cost orientation obligation takes into account the efficient investments made by the SMP operator and allows a reasonable rate of return on adequate capital employed, in line with Regulation 13 of the Access Regulations.

8.627 Therefore, ComReg is of the preliminary view that imposing a cost orientation price control for FTTC based VUA is appropriate, proportionate and justified for the reasons set out in paragraph 8.626. ComReg proposes a different approach FTTH based VUA which is explained in paragraphs 8.646 to 8.651 below.

8.628 Separately, it is ComReg's intention to further specify the detail of the proposed cost orientation with regard to FTTC based VUA services in the WLA Market, in a separate pricing consultation (known throughout this section as 'Separate Pricing Consultation'). The Separate Pricing Consultation will assess amongst other things, the appropriate costing methodologies, modelling inputs and assumptions and associated prices.

Ancillary services

8.629 For ancillary services⁶⁹⁰ associated with current generation and next generation services in the WLA Market, ComReg is of the preliminary view that the cost orientation obligation should ensure that these essential ancillary services/facilities are not priced in an excessive and/or discriminatory manner⁶⁹¹ and that there is a level playing field for all operators to compete. The obligation also ensures that Eircom will recover the cost of provision of the service plus a reasonable rate of return.

⁶⁹⁰ These are associated facilities that include migrations, fault repair and connections.

⁶⁹¹ Either between current generation copper and next generation fibre based services and / or between different operators.

- 8.630 The obligation of cost orientation for current generation and next generation ancillary services is further specified in the 2016 Access Pricing Decision⁶⁹² such that Eircom should recover no more than its actual incurred costs (adjusted for efficiencies) plus a reasonable rate of return associated with the provision of ancillary services for current and next generation WLA products, services or facilities. Eircom is responsible for ensuring that it remains in compliance with this obligation⁶⁹³. ComReg proposes to continue with the cost orientation obligation as further specified in Chapter 11 (subsection 11.2) of the 2016 Access Pricing Decision for current generation and next generation WLA ancillary services.
- 8.631 Interconnection services (including WEILs) should also be subject to the obligation of cost orientation. The cost orientation obligation should ensure that these essential services are not priced in an excessive and/or discriminatory manner and that they are based on a level playing field for all operators to compete.
- 8.632 For fault repair charges associated with current generation and next generation WLA services, ComReg specified in the 2016 Access Pricing Decision that Eircom shall include the option of either:
- A monthly fault repair charge of not more than €0.96 cent per End-User line;
or
 - A one-off per event fault repair charge of no more than €110 (excluding line test) or €117 (including line test).
- 8.633 In the event that the fault is on the Undertaking's network then Eircom shall charge the Undertaking a one-off fault charge of no more than €100.
- 8.634 ComReg proposes to continue with the cost orientation obligation for fault repair as further specified in the 2016 Access Pricing Decision for current generation and next generation WLA services.

Margin Squeeze Obligations

- 8.635 This section addresses the question as to whether there should be an obligation not to cause a margin squeeze in the WLA Market.

⁶⁹² Please see Chapter 11, subsection 11.2 of the 2016 Access Pricing Decision and Section 4.9 of the Decision Instrument at Annex 1 of the 2016 Access Pricing Decision.

⁶⁹³ Please refer to Chapter 11 (subsection 11.2) of the 2016 Access Pricing Decision for further details.

- 8.636 A margin squeeze can occur where Eircom (as the SMP operator) sets wholesale prices such that, given the prevailing retail prices, it does not allow an SP to cover the cost of provision of services in downstream markets (e.g., sales, marketing etc.). Similarly, Eircom could set its downstream prices such that it may not be possible to cover the downstream costs incurred by the SP after acquiring the essential upstream wholesale inputs from Eircom. In the medium-to-long-term, if SPs cannot profitably replicate Eircom's retail or other downstream offers they may exit the WLA and/or downstream markets. Alternatively, potential entrants may be deterred from entering the WLA and/or downstream markets (or indeed from using WLA services). Both of these would be to the detriment of End Users, as it restricts choice and could ultimately lead to higher prices.
- 8.637 A retail margin squeeze test compares the retail revenues with the retail and wholesale input costs to see if the available margin is positive or negative. If there is a negative margin the wholesale price and/or the retail price would have to change. Similarly, a margin squeeze test between different vertically or horizontally related wholesale product(s) ensures economic replicability at each layer of the value chain, with adequate economic space between each layer. Therefore, deeply interconnected operators can reap the benefits of network investment, providing an important source of constraint along the value chain, in both the wholesale and retail markets.
- 8.638 A margin squeeze test can be used as a price control obligation to set wholesale prices (e.g., as is the case currently for NGA services under the 2013 NGA Decision) or as a complementary test in conjunction with other regulatory tools (e.g., cost orientation).⁶⁹⁴
- 8.639 Eircom already has a regulatory obligation in the WPNIA Market, pursuant to the 2010 WPNIA Decision, not to cause a margin / price squeeze against downstream wholesale services.

⁶⁹⁴ Please see BEREC Guidance on the regulatory accounting approach to the economic replicability test as set out in BoR 14/190 at http://berec.europa.eu/eng/document_register/subject_matter/berec/regulatory_best_practices/guidelines/4782-berec-guidance-on-the-regulatory-accounting-approach-to-the-economic-replicability-test-ie-ex-ante-sector-specific-margin-squeeze-tests

- 8.640 Given Eircom's proposed SMP designation in the WLA Market there are concerns that it could leverage its market power into adjacent vertically or horizontally related markets through price and non-price means with the effect of foreclosing or excluding competitors in downstream retail and/or related wholesale markets. Eircom, as a vertically-integrated operator with SMP in the WLA Market, has the ability and incentive to use its market power in the WLA Market to affect the competitive conditions in downstream wholesale and/or retail markets, in particular, through its ability to control the key inputs used by wholesale customers of Eircom — which then compete against Eircom in such markets. This could result in a distortion of or restriction in competition in these downstream markets, ultimately resulting in harm to End Users, potentially in the form of higher prices, lower output/sales, reduced quality or End User choice.
- 8.641 In the WLA Market Eircom provides access to its local access network, and related facilities such as ducts and poles, to other operators on a rental basis. This is an important contributory factor in developing competition as it encourages operators to provide services, which they may not otherwise do, by maximising the use of their own network inputs and equipment where viable, thereby intensifying competition.
- 8.642 ComReg considers that from a regulatory perspective, it is important that the appropriate 'build or buy' incentives are maintained to encourage SPs to 'climb the ladder of investment'. In order for these incentives to exist, SPs must have sufficient margins or 'economic space' between different wholesale products or 'rungs' on the ladder of investment. This should, in turn, promote the development of effective retail and downstream competition.
- 8.643 ComReg is of the preliminary view that in the absence of an appropriate price control on Eircom obliging it to maintain such an economic space between its wholesale products (and between retail and wholesale products), by virtue of its control of the underlying access infrastructure and its presence at both wholesale and retail levels, Eircom would have the ability and incentives to price its wholesale access inputs in such a way as to dampen the competitive constraints it faces at the retail and downstream wholesale levels from SPs that use Eircom's wholesale products. This ultimately could allow Eircom to extract supra-normal profits through either higher retail prices for End Users or through maintaining a dominant share of the market.
- 8.644 ComReg is of the preliminary view that the imposition of an obligation not to cause a margin squeeze between wholesale services continues to be appropriate, proportionate and justified. We are also of the view that a retail margin squeeze test is required in certain urban areas. These issues are discussed below.

8.645 This Consultation is imposing the high level pricing obligations relevant to the WLA and WCA Markets and with the detail / further specification of these pricing obligations set out in the Separate Pricing Consultations. It is intended that there will be a period of overlap during the consultation process for this Consultation and the Separate Pricing Consultations.

FTTH based VUA margin squeeze obligation

8.646 For FTTH based VUA, ComReg recognises the uncertainty regarding the precise estimation of costs and the penetration levels for FTTH based VUA services.

8.647 FTTH based VUA penetration levels are still very low and it is difficult to forecast the future penetration rate. Given these uncertainties the FTTH price is likely to be very sensitive to the penetration rate such that an incorrect forecast could distort future market development — if the price is too high, it may deter alternative operators from investing and if the price is too low, Eircom may reduce its investments in FTTH.

8.648 As a vertically-integrated operator with proposed SMP, as discussed in Section 7, Eircom has the ability and incentive to use its market power in the WLA Market to affect the competitive conditions in downstream wholesale and/or retail markets, in particular, through its ability to control the key inputs used by wholesale customers — which compete against Eircom in such markets. This could result in a distortion of or restriction in competition in the WLA Market and downstream markets, ultimately resulting in harm to End Users, potentially in the form of higher prices, lower output/sales, reduced quality or reduced End User choice.

8.649 Therefore, ComReg is of the preliminary view that FTTH based VUA should be subject to a margin squeeze obligations as a control to prevent excessive pricing. Two types of obligation will be necessary; one against FTTH based services in WCA markets; and a second against FTTH based retail services. These tests are discussed further in paragraphs 8.652 to 8.668.

8.650 Notwithstanding the above ComReg has residual concerns that Eircom may have the ability and incentive to price excessively even in the presence of this price control. ComReg notes that in the areas where FTTH is currently planned to be rolled out there is little or no competing infrastructure which could exercise a sufficiently meaningful constraint on Eircom's pricing. ComReg proposes to keep this matter under review and, if we proceed in the final decision with a margin squeeze based price control, ComReg may re-consult on the issue during the period of the review as to whether more stringent price control obligations are required. ComReg will continue to monitor the relevant price trends in this regard.

8.651 As part of the Separate Price Control Consultations, ComReg plans to consult on a further specification of the margin squeeze test in the context of FTTH based VUA, including the appropriate margin squeeze principles that should apply.

Minimum price floor obligation

8.652 Eircom may have an incentive to price below cost in certain circumstances where that would prevent the emergence of competing infrastructure competition that would otherwise be viable. Accordingly, ComReg will consider in the forthcoming Separate Pricing Consultation whether Eircom's WLA service should be subject to a price floor – or the alternative, a form of approval mechanism, to ensure that pricing below regulatory maxima does not cause competitive distortions.

Economic space between WLA and WCA Market

8.653 To achieve ComReg's regulatory objectives of promoting efficient investment and protecting the interests of End Users, it is important to ensure that there are appropriate protections and incentives in place for SPs who choose to 'climb the ladder of investment', as opposed to relying on less infrastructure intensive options.

8.654 The higher up the 'ladder' that a competitor ascends the more investment they must make. It is important that when such investment decisions are taken by competitors that they have a predictable regulatory framework they can rely on to ensure investments are not undermined by anti-competitive behaviour. In this Consultation ComReg sets out its preliminary views on the WLA Market and the obligations to be imposed on Eircom to ensure that the appropriate protection and incentives are in place to enable SPs to climb this investment 'ladder' — in particular, by ensuring that Eircom cannot squeeze competitors between the relative prices of its different wholesale products across and within regulated markets. For example, Eircom's price for WCA services (often combined with Single Billing Wholesale Line Rental ('SB-WLR')) should always be greater than its price for analogous services in the WLA market. That is to say services that require the least investment by an SP e.g., SB-WLR and WCA combined or standalone WCA, should be priced higher than those that require more significant investment (e.g., LLU/VUA), in order to provide appropriate investment signals to SPs.

- 8.655 ComReg considers that infrastructure-based competition, where economically viable, from SPs using LLU or VUA will ensure more sustainable competition in the provision of broadband (and other services) to the ultimate benefit of End Users. In general, operators using LLU or VUA are better enabled to offer differentiated retail products and to set prices independently of Eircom in comparison to SPs using solely Bitstream and SB-WLR which are more tied to Eircom. Consequently, Eircom may be incentivised to set WCA (Bitstream) prices lower than WLA (LLU / VUA) prices to discourage investment in LLU or VUA even where alternative investment is viable. Therefore, it is important that regulation ensures that LLU / VUA based WLA competition is encouraged where it is viable.
- 8.656 ComReg considers that End Users are best served in terms of product pricing and innovation where competition is based on deeper investment in infrastructure by competing operators. This is because SPs can offer greater differentiation in services and products which are based on their own infrastructure, and where their reliance on the SMP operator's wholesale infrastructure is reduced. ComReg considers that pricing WCA services too low could dis-incentivise efficient investment by SPs and therefore would not be in the long-term interests of End Users — as the market for LLU / VUA investment would be foreclosed and End Users would lose the potential benefit of dynamic efficiency and innovation associated with such investments. Therefore, in order to ensure that appropriate incentives are maintained to encourage investment in LLU/ / VUA, ComReg proposes that a sufficient economic space should be maintained between the prices for WLA services and WCA services.
- 8.657 In this regard ComReg proposes that the margin squeeze test currently specified in ComReg Decision D04/13⁶⁹⁵ (referred to throughout this section as the '2013 Bundles Decision') should continue. Given our concerns regarding a potential margin squeeze between WLA and WCA services particularly in those areas falling within the Urban WCA Market (proposed to be deregulated), ComReg proposes that the price at which Eircom sells or offers a Downstream Regulated Wholesale Service⁶⁹⁶ must be greater than the sum of: (i) ULMP costs and (ii) the unavoidable costs of a reasonably efficient operator that must be incurred in order to provide a service equivalent to the relevant Downstream Wholesale Service.

⁶⁹⁵ ComReg Document No. 13/14: Price Regulation of Bundled Offers: Further specification of certain price control obligations in Market 1 and Market 4 dated 8 February 2013 ('**2013 Bundles Decision**').

⁶⁹⁶ A Downstream Wholesale Service means a wholesale service which is on offer or on sale by Eircom to Access Seekers downstream from the WPNIA Market (now the WLA Market) and contains a Full Unbundling component (examples of such downstream wholesale services include, for example, SB-WLR and naked DSL (standalone broadband)).

- 8.658 In addition, ComReg proposes that the same principles should apply to NG WLA services generally (including for example any new forms of unbundling that may emerge during the lifetime of the review), and specifically, FTTC and FTTH based VUA to ensure the correct incentives and economic space is available to other operators currently in the market or to potential new entrants. This should ensure that the promotion of efficient investment is maximised and competition at the highest level of the 'ladder' is promoted to the benefit of End Users.
- 8.659 Therefore, the margin squeeze test should ensure that neither the pricing of SB-WLR (especially sold in combination with WCA services) nor standalone WCA services⁶⁹⁷ (i.e., WCA sold on its own without SB-WLR) will be priced at an excessively low level such that LLU/VUA operators could be foreclosed. ComReg will assess and further specify the relevant VUA costs in the upcoming Separate Pricing Consultation. In the case of FTTH based services (where no cost orientation obligation is proposed) it will also prevent foreclosure by setting FTTH services in the WLA market excessively high.
- 8.660 ComReg notes that a margin squeeze test between WLA and WCA services is particularly pertinent in those areas falling within the Urban WCA Market, as subsequently set out in Section 10 of this Consultation. As set out in Section 11 of this Consultation, ComReg is of the preliminary view that no operator has SMP in the Urban WCA Market, and thus WCA services in the Urban WCA Market will not be regulated. ComReg propose to impose a cost orientation obligation in the Regional WCA Market (as defined in Section 10 of this Consultation). In the final Decision arising from this Consultation, should ComReg seek to implement its proposal for cost orientation for WCA services in the Regional WCA Market, ComReg will consider further the details of the wholesale margin squeeze obligation between the WLA Market and the Urban WCA Market and the Regional WCA Market. In any event ComReg is of the preliminary view that the competition problems identified will require a regulatory remedy either in the WLA Market or the WCA Market or both.
- 8.661 ComReg will assess, amongst other things as part of the Separate Pricing Consultation, the appropriate margin squeeze principles relating to the wholesale margin squeeze test between WLA and WCA services.

Retail margin squeeze obligation

- 8.662 As set out in Section 5, the proposed WLA Market is national in scope.

⁶⁹⁷ As set out in Section 10 of this Consultation.

- 8.663 At this stage ComReg's preliminary view is that current and expected conditions of competition within the WLA Market are not sufficiently heterogeneous to merit defining a separate sub-national geographic market. However, we consider that it is important to recognise the prospective changes in market conditions within these areas such that the long term competitive dynamics of the market are not distorted and all operators relying on Eircom's network, including Eircom itself, are not unduly hindered in their efforts either by Eircom's dominant position, or in Eircom's case, by regulation.
- 8.664 As noted previously by the European Commission in its response to ComReg's Article 7 of the Framework Directive⁶⁹⁸ notification⁶⁹⁹ with regard to bundles in the 2013 Bundles Decision:
- "The geographic differentiation of remedies may be appropriate in those situations where, for example, the boundary between areas where there are different competitive pressures is variable and likely to change over time, or where significant differences in competitive conditions are observed but the evidence may not be such as to justify the definition of sub-national markets".*⁷⁰⁰
- 8.665 Therefore, ComReg proposes to geographically differentiate the pricing remedies in the WLA Market such that a retail margin squeeze obligation would apply to Eircom in those exchanges proposed to be deregulated on foot of the review of the Urban WCA Market. ComReg notes that its proposal to deregulate the Urban WCA Market, as set out in Section 11 and 14 of this Consultation is predicated, inter alia, on the fully effective upstream regulation in the WLA Market.
- 8.666 ComReg is concerned that Eircom could price its retail broadband services in those areas corresponding to the Urban WCA Market in such a way that it could foreclose other operators using WLA wholesale inputs in similar geographic areas by way of a margin squeeze.
- 8.667 In the case of FTTH services, this is also necessary as a control against excessive pricing as no cost orientation obligation is proposed for these services. A test solely against WCA services would be insufficient because FTTH based services in the Urban WCA market are proposed to be deregulated. In this circumstance, it would be possible to pass a margin squeeze test between WLA and WCA services and yet still create a margin squeeze against retail services thereby foreclosing competition in the WLA market.

⁶⁹⁸ Directive 2002/21/EC on a common regulatory framework for electronic communications networks and services (Framework Directive), as amended by Directive 2009/140/EC.

⁶⁹⁹ Registered by the European Commission as Case IE/2012/1381.

⁷⁰⁰ https://circabc.europa.eu/d/d/workspace/SpacesStore/e15c4f43-d146-49cb-84f8-2402ee55b493/IE-2012-1381-1382%20adopted_EN.pdf

8.668 ComReg is therefore of the preliminary view that Eircom should be subject, in the WLA Market, to a retail margin squeeze obligation in those urban exchanges corresponding to the Urban WCA Market such that there is a sufficient margin between prices for Eircom's standalone and bundled retail broadband services and the relevant WLA inputs (in the Urban WCA Market). This obligation would apply to all WLA services including copper and FTTx based services.

Margin squeeze obligation in the context of Bundles

8.669 The consideration described above in paragraphs 8.663 to 8.668, in respect of a margin squeeze between retail prices and WLA services provided in areas corresponding to the Urban WCA Market apply equally to bundles. These problems may occur whether retail services are sold on a standalone or on a bundled basis.

8.670 A bundle is a package of retail products/services sold or offered by Eircom consisting of more than one service.

8.671 On a standalone basis, absent regulation, SPs could face a margin squeeze at the retail level by Eircom lowering its retail price, such that SPs retail margins are not sufficient to cover their input costs. This could also occur through increases in Eircom wholesale charges.

8.672 Similarly, where Eircom includes services (e.g. mobile) in a bundle it could increase its market share in those service markets. While bundling in itself is generally beneficial to End Users, ComReg is concerned that if a type of bundle cannot be replicated by SPs then Eircom could strategically be protecting its market position in the upstream market and/or foreclose downstream rivals in that service market — to the long-term detriment of End Users.

8.673 Given the close links between retail and wholesale markets described above, one way to avoid foreclosure is to impose an appropriate margin squeeze test in relevant wholesale markets (FACO, WLA and WCA) instead of the current net revenue test⁷⁰¹ ('NRT') in the retail fixed voice market. The specific details of this Bundles margin squeeze test will be addressed in the Separate Pricing Consultation.

⁷⁰¹ See Section 4.3 of the Decision Instrument of Annex 3 of the 2013 Bundles Decision.

Cost accounting obligation

- 8.674 ComReg identified that Eircom has the ability and incentive to potentially engage in a range of anti-competitive pricing behaviours to the ultimate detriment to competition and consumers. These included the risk that Eircom could charge excessive prices for WLA products, services and facilities, or that Eircom might impose a margin squeeze in order to leverage its SMP position from the WLA Market into adjacent or downstream markets. In view of this, ComReg considers that the imposition of cost accounting on Eircom is justified.
- 8.675 In general, if price control obligations are to be meaningful, it is necessary to have a clear and comprehensive understanding of the costs associated with the SMP operators' provision of WLA services. Obligations to maintain appropriate cost accounting systems generally support obligations of price control (and accounting separation), and can also assist ComReg in monitoring the obligation of non-discrimination.
- 8.676 Having regard to the need to support the effectiveness of the proposed price control obligations set out above, ComReg is of the preliminary view that the imposition of cost accounting obligations on Eircom in the WLA Market is justified. In this respect, ComReg proposes that Eircom should ensure that it maintains appropriate cost accounting systems to justify its prices/costs of WLA products, services and facilities. The detailed nature of these cost accounting obligations are those currently imposed upon Eircom, as specified in the 2010 Accounting Separation Decision. The accounting separation obligations are discussed below at paragraphs 8.681 to 8.685.
- 8.677 ComReg is of the preliminary view that the burden of proof should ultimately rest on Eircom to show that its prices/charges for WLA products, services and facilities are derived from costs, having regard to the nature of the proposed price control obligations. Furthermore, for the purpose of calculating the cost of efficient provision of WLA products, services and facilities, in accordance with Regulation 13(4) of the Access Regulations, ComReg notes that:
- “Where an operator has an obligation under this Regulation regarding the cost orientation of its prices, the burden of proof that charges are derived from costs, including a reasonable rate of return on investment lie with the operator concerned. In this regard, the Regulator can issue directions requiring an operator to provide full justification for its prices and may, where appropriate, require prices to be adjusted.”*
- 8.678 ComReg is of the preliminary view that a cost accounting obligation is justified with regard to the WLA Market for the reasons set out in paragraphs 8.674 to 8.677.

Summary of Proposed Price Control and Cost Accounting Remedies

8.679 Having regard to the analysis set out in paragraphs 8.596 to 8.678 above, ComReg is of the preliminary view that price control and cost accounting obligations are both proportionate and justified. In summary, ComReg is proposing that Eircom be subject to the follow obligations:

- Eircom shall be subject to an obligation of cost orientation in the WLA Market including but not limited to prices for LLU, SLU, Line Share, CEI, Dark Fibre, FTTC based VUA and other ancillary services in the WLA Market;
- ComReg proposes that for LLU, SLU, Line Share, CEI, Dark Fibre and ancillary services in the WLA Market, the cost orientation obligation as further specified in the 2016 Access Pricing Decision should be re-imposed;
- For FTTC based VUA, ComReg will further specify the cost orientation obligation in the Separate Pricing Consultation, which will follow this Consultation;
- Eircom shall not cause a wholesale margin squeeze between WLA services in the WLA Market and WCA services in the WCA Markets;
- For FTTH based VUA, Eircom shall not cause a wholesale margin squeeze between FTTH based VUA in the WLA Market and FTTH based NGA Bitstream in the WCA Markets;
- In the WLA Market in areas corresponding to the Urban WCA Market (as set out in Section 10 of this Consultation), Eircom shall not cause a retail margin squeeze between retail broadband services (both on a standalone basis and in a bundle) and the relevant WLA services;
- Eircom shall ensure that the price at which it sells or offers a Downstream Regulated Wholesale Service⁷⁰² must be greater than the sum of: (i) ULMP costs and (ii) the unavoidable costs of a reasonably efficient operator that must be incurred in order to provide a service equivalent to the relevant Downstream Wholesale Service; and
- Eircom shall be subject to a cost accounting obligation in the WLA Market.

⁷⁰² A Downstream Wholesale Service means a wholesale service which is on offer or on sale by Eircom to Access Seekers downstream from the WPNIA Market (now the WLA Market) and contains a Full Unbundling component (examples of such downstream wholesale services include, for example, SB-WLR and naked DSL (standalone broadband)).

8.680 ComReg proposes to further specify the above remedies in the Separate Pricing Consultation which follows this Consultation.

Accounting Separation Remedies

8.681 In general, the objective of accounting separation obligations is to provide a higher level of detail of information than that which can be derived from the statutory financial statements of undertakings designated with SMP, with the objective of reflecting, as closely as possible, the performance of those parts of the undertaking's business were it to operate on a standalone basis. In the case of vertically integrated undertakings, it can support non-discrimination obligations and prevent unfair cross-subsidies to other services. It can also assist ComReg in monitoring compliance with these obligations.

8.682 In accordance with Regulation 11 of the Access Regulations, ComReg can, inter alia, require an operator which is vertically integrated to make transparent its wholesale prices and its internal transfer prices, among other things, to ensure compliance with any non-discrimination obligation imposed or, where necessary, to prevent unfair cross-subsidy.

8.683 Allocating costs to the appropriate and relevant products and services of an SMP undertaking is an important factor to consider when regulating multiple products and services carried over the same network. This is particularly true in the case where Eircom's fixed access network is a common infrastructure that is used to provide a range of retail and wholesale services. Therefore, when setting price controls for WLA products, services and facilities (and in ensuring compliance with pricing and other obligations) ComReg considers that information is required about the costs associated with Eircom's provision of WLA, with such costs being distinct from the costs associated with other services provided over Eircom's network.

8.684 Having regard to Eircom's integrated position across several upstream and downstream markets (in particular noting its SMP designations in a number of these markets), the scope for Eircom to leverage its market power, as identified in Section 7, and the associated need to ensure sufficient visibility of how costs are allocated across WLA products, services and facilities and other horizontally and vertically-related input services, ComReg proposes that the obligation of cost accounting and accounting separation is justified.

8.685 Eircom is currently required to provide separated accounts and maintain detailed cost accounting systems that are sufficiently granular to allow an assessment of cost allocations under the 2010 Accounting Separation Decision. ComReg proposes to maintain the obligations set out under the 2010 Accounting Separation Decision.

Requirement for a Statement of Compliance

- 8.686 In the 2013 NGA Decision and 2015 FACO Decision ComReg imposed a Statement of Compliance ('SoC') obligation on Eircom with respect to its compliance with its non-discrimination obligations.
- 8.687 ComReg is of the preliminary view that in the WLA Market Eircom should be required to submit to ComReg a written SoC demonstrating its compliance with all of its regulatory obligations, i.e. not just its non-discrimination obligations, in the WLA Market. While ComReg predominantly discusses the SoC obligations in this section on non-discrimination obligations, it would equally apply to other obligations. This is considered proportionate and justified having regard to the need to ensure effective monitoring and enforcement of all regulatory obligations, given the potential for any non-compliance to impact ultimately on competition in downstream or adjacent markets.
- 8.688 ComReg's preliminary view is that, subject to confidentiality, the SoC should be published on Eircom's publicly available website, in accordance with its transparency obligations which are discussed in paragraphs 8.444 to 8.585.586 above.

Proposed Obligation

- 8.689 Pursuant to Regulations 9, 10, 11, 12 and 13 of the Access Regulations ComReg is proposing to require that Eircom submit to ComReg a written SoC adequately demonstrating its compliance with its regulatory obligations in the WLA Market, to include the following:
- (a) A full and true written statement, signed by a person of appropriate expertise and authority within Eircom, acknowledging that Eircom is responsible for securing compliance with its obligations and confirming to the best of its knowledge that Eircom is in compliance with its regulatory obligations;
 - (b) The information relied upon, and the process followed, by the signatory in order to be satisfied that to the best of its knowledge that Eircom is in compliance with its regulatory obligations.
 - (c) A description and explanation of the governance measures implemented by Eircom in order to ensure that it is and remains in compliance with its regulatory obligations, in particular:
 - i. A description and explanation of the relevant reporting structures and reporting processes implemented by Eircom.
 - ii. The information relied upon and the process followed by Eircom managers to assess the operation and effectiveness of the processes used to identify and mitigate risks of non-compliance in their areas of responsibility.

- (d) A description of the risks identified and the controls developed to mitigate potential risks of non-compliance with Eircom's regulatory obligations, as they relate to the categories of activities in (e) below and shall include the following in particular:
- i. A description of the purpose of each process which was analysed for risks of non-compliance.
 - ii. A detailed description of the risk analysis process, to include the following:
 1. A description of the expertise employed by Eircom.
 2. A list of all material including all relevant documentation.
 3. A description of how the material and expertise was used.
 - iii. A detailed description of the control development process to include the following:
 1. A description of the expertise employed by Eircom.
 2. A list of all material including all relevant documentation used.
 3. A description of how the material and expertise was used.
 4. A description of the process used to assess the effectiveness of the controls.
- (e) The obligations set out in (a) and (d) above, shall apply, but for the avoidance of doubt, are not limited to, the following categories of activities:
- i. Pre-provisioning, Provisioning and Service Assurance for WLA products services and facilities.
 - ii. Product development including product enhancements, and pre product development screening of Access requests.
 - iii. Product prioritisation and investment decisions.
 - iv. Access to shared resources including IT and Product Development resources.
 - v. The management of information, both structured and unstructured⁷⁰³ in conformance with regulatory requirements

⁷⁰³ Structured information is information which is documented and managed through an established business process in a formal manner and includes Memos, Email messages, Letters, Order forms, Invoices, agendas and reports etc. Unstructured information is managed in a less formal manner and includes information which is passed between individuals or business units through informal communications.

vi. Other categories as reasonably required by ComReg.

- 8.690 The documentation referred to in the SoC obligations shall be of sufficient clarity and detail to enable ComReg, or a third party as determined by ComReg, to review the SoC for completeness and accuracy. Such documentation and information shall also enable ComReg, or a third party as determined by ComReg, to assess whether Eircom has taken all reasonable steps to ensure that the risk assessment and control and governance measures referred to in paragraph 8.689(d) above provide reasonable assurance to ComReg that Eircom is compliant with its regulatory obligations.
- 8.691 Eircom shall clearly identify, explain, document and demonstrate the following in particular:
- (a) In respect of the standard of EoI, any and all differences as between systems and processes used to supply Access Seekers and Eircom's downstream arm setting out why it believes that any such differences are very minor and insignificant and can be objectively justified; and
 - (b) In respect of the standard of EoO, any and all differences as between systems and processes used to supply Access Seekers and Eircom's downstream arm. The explanation shall include a description as to how and what controls are in place to ensure an Equivalence of Outputs standard notwithstanding the differences in systems and processes used.
- 8.692 Statements of Compliance will be kept updated by Eircom as required to reflect material changes to the documentation and information detailed in paragraphs 8.689 to 8.691. These updates will be provided to ComReg within one month of the update being required.
- 8.693 Updates or changes to any SoC provided to ComReg will be presented such that the changes are highlighted and the SoC documents include a Version Control⁷⁰⁴ and Revision History⁷⁰⁵.
- 8.694 Eircom shall publish the SoC, and updates to the SoC, on its publicly available website within one month of providing it to ComReg, unless otherwise agreed with ComReg.

⁷⁰⁴ Version Control in this context refers to a standardised regime for the management of changes to documents. Versions should be identified by a number or letter code, associated with a date and timestamp and include the identity and role of the person making the change. Revision History is included as part of the Version control regime.

⁷⁰⁵ Revision History is a documented list of changes from the previous draft which is maintained and printed in a dedicated and indexed section of each Statement of Compliance. The list will be cumulative and identify the changes from the preceding versions of the SoC.

- 8.695 Eircom shall provide a SoC, as referred to in paragraphs 8.689 to 8.691, to ComReg within 6 months of the effective date of this Decision or:
- (a) in the case of any offer of a new WLA product, service or facility, seven (7) months in advance of its being made available;
 - (b) in the case of any change to an existing WLA product, service or facility, three (3) months in advance of it being made available;
 - (c) as otherwise may be required by ComReg.
- 8.696 The function of the SoC is to require Eircom to demonstrate to ComReg how Eircom has ensured compliance with its regulatory obligations in the WLA Market. The SoC obligation requires Eircom to identify and explain the regulatory governance measures in place in order to identify and manage the risk of non-compliance with WLA obligations, thereby providing reasonable assurances to ComReg that Eircom effectively manages any risks of non-compliance.
- 8.697 The SoC is required to be signed by a person of appropriate expertise and authority within Eircom. It is reasonable that ComReg should understand the review and verification process followed by the signatory in order for them to reasonably satisfy themselves that they can confirm that Eircom is in compliance with its regulatory obligations.
- 8.698 In addition ComReg is aware from SoC previously received⁷⁰⁶ from Eircom that there are various certification processes in place as part of the governance model which they have implemented in order to govern compliance with their regulatory obligations generally. ComReg understands that these include self-certification processes by Eircom managers certifying, for example the operation of the governance processes in their areas of responsibility
- 8.699 ComReg proposes that information be included in the SoC detailing the processes followed and the information relied upon by the signatory to the SoC and the managers who are required to certify the correct operation of the governance process. As some form of verification process must currently be carried out by the SoC signatory, and staff who provide certification, ComReg considers that providing this information would not be an additional burden and is reasonable and proportionate.
- 8.700 ComReg has identified categories of activities, particularly relevant to the delivery of regulated wholesale services where effective regulatory governance will assist Eircom to remain in compliance with its regulatory obligations resulting in benefits to competition and ultimately End Users.

⁷⁰⁶ For example Eircom's NGA WBA Statement of Compliance September 2013.

- 8.701 These categories have been the subject of discussions at industry fora, in engagement between Eircom and ComReg and in the application of Eircom's Regulatory Governance Model ('**RGM**') which is discussed later in this section.
- 8.702 For the avoidance of doubt, ComReg is not proposing that these are the only categories or areas where regulatory governance by Eircom is required. However, in this Consultation we are proposing that these categories should be included in the SoC. ComReg may require Eircom to provide a SoC relating to other areas of Eircom's governance of its regulatory obligations in the WLA Market from time to time.
- 8.703 Proper governance of the process for prioritising WLA developments during the product development process, is for example important to ensure that all access requests are treated in an equivalent manner. Eircom's decisions with respect to the prioritisation of product development would require consideration of Eircom's regulatory obligations as they apply to the WLA Market.
- 8.704 Eircom's investment decisions can affect its ability to develop and make available regulated wholesale services and to maintain the quality and availability of regulated wholesale services generally. It is ComReg's preliminary view that the processes employed and the information relied upon by Eircom in order to make investment decisions should be subject to a risk analysis in the context of Eircom's compliance with its regulatory obligations in the WLA Market and the subsequent development of controls to manage any risks identified.
- 8.705 Another category is the governance applied to the management and distribution of information. This includes, for example, including the identification and the control of the risk of inappropriate flow of information between business units or appointment holders, including but not limited to the appropriate management of wholesale customer confidential information. This includes governance of both Structured Information and Unstructured Information.
- 8.706 Proper governance of the quality and availability of information to Access Seekers and Eircom's downstream arm on technical changes, network upgrades, new developments etc. also falls into this category. Eircom has obligations with respect to the management of such information. It is reasonable to expect that appropriate and effective governance and oversight of the management of information, as required by Eircom's regulatory obligations in the WLA market will apply throughout the Eircom organisation.
- 8.707 ComReg proposes that the scope and nature of the SoC should require Eircom to demonstrate that it has put in place appropriate risk identification, control and governance processes such that it can reasonably demonstrate that, on an ongoing basis, it is ensuring compliance with its regulatory obligations.

- 8.708 The required categories are particularly relevant to the availability of regulated wholesale services and as they have the potential to impact on Eircom's compliance with its regulatory obligations, likely to be subject to Eircom's RGM, as discussed in the following section. Therefore it should not be unduly burdensome on Eircom to provide the required SoC. In addition, there is a requirement to detail the governance measures applied to ensure that risks of non-compliance are identified by Eircom and controls are developed where required.
- 8.709 The proposed SoC obligation includes additional information which is required to be provided to ComReg. In order to determine how Eircom has assessed the risk of non-compliance, ComReg proposes to require Eircom to provide information and material regarding its risk analysis process. This information concerns the material used by Eircom to assess any risks of non-compliance. This includes how the risk analysis was carried out and how the material was assessed during that process.
- 8.710 In all cases SoC and associated updates should include Version Control information including a Revision History in order to allow the reader of the SoC to easily identify changes and when they were made.

Eircom's Regulatory Governance Model

- 8.711 ComReg notes that since December 2010 Eircom has planned and implemented a RGM for the governance and oversight of its compliance with its regulatory obligations. The RGM relies on Eircom's expertise and knowledge of its processes, systems and procedures to identify, manage and control the risks of non-compliance with its regulatory obligations. ComReg is currently undertaking a review⁷⁰⁷ to determine the effectiveness of Eircom's RGM.
- 8.712 Eircom has used the RGM to develop and provide SoC to ComReg where it has an obligation to do so. Eircom has also provided SoCs voluntarily to ComReg in a number of other regulated markets. Eircom's RGM is being developed further such that it allows governance and oversight of Eircom's other obligations in addition to its non-discrimination obligations, in particular, in relation to its transparency and pricing obligations.
- 8.713 A key element of the RGM is the analysis, development, management and documentation of the risk and control framework. This includes the production of data and information some of which could be readily used when preparing a SoC. A significant portion of the information required for the SoC generated as part of the risk assessment processes executed as part of the implementation of Eircom's RGM.

⁷⁰⁷ ComReg Information Notice, 26 May 2016, "Review of Eir's Regulatory Governance Model" ComReg document 16/42.

- 8.714 Therefore, ComReg also considers that it is justifiable and proportionate, and not unduly burdensome for Eircom to provide a SoC to ComReg with respect to its compliance with all of its regulatory obligations imposed on it in the WLA Market. For example, Eircom analyse risk as part of its RGM process. ComReg does not consider that providing this additional information relating to the risk analysis process is likely unduly burdensome.
- 8.715 ComReg proposes that Eircom provide SoCs for the WLA Market within 6 months from the effective date of the Decision (to be published on foot of this Consultation). ComReg considers that some difference is required in the approach to the timeframe within which a SoC should be provided to ComReg with respect to changes to existing products on the one hand, and new products on the other. ComReg considers that the following timeframes are appropriate for the provision of the SoC by Eircom:
- (a) in the case of any offer of a new WLA product, service or facility, seven (7) months in advance of it being made available to industry;
 - (b) in the case of any change to an existing WLA product, service or facility, three (3) months in advance of it being made available to industry;
 - (c) as otherwise may be required by ComReg.
- 8.716 ComReg would note that the timeframes specified above are aligned to the proposed transparency obligations discussed later in this Consultation, in particular, with respect to advance notification timeframes for proposed changes/amendments by Eircom to its ARO and prices.
- 8.717 ComReg has considered whether the SoC should be provided to Access Seekers and is of the preliminary view that the SoC should be. The SoC is primarily concerned with the degree of governance Eircom applies to meeting its regulatory obligations in the WLA Market.
- 8.718 ComReg is of the preliminary view that the provision of the SoC to Access Seekers gives greater visibility to Access Seekers of the processes Eircom has put in place to ensure it complies with its regulatory obligations in the WLA Market. This has the potential to improve Access Seekers confidence that they are receiving the same wholesale product or service that Eircom is supplying to its downstream arm, for example, and this is beneficial to regulatory certainty, competition and ultimately to End Users.

- 8.719 ComReg notes that information similar to the material now being required to be provided by Eircom in the proposed SoC has already been provided to Access Seekers through Eircom's publication of the industry update on Eircom's implementation of its RGM⁷⁰⁸.
- 8.720 However, ComReg recognises that some information to be provided to Access Seekers as part of the proposed SoC may be considered confidential by Eircom. For example, information that relates to investment decisions. In these circumstances, where a request is made by Eircom to ComReg, not to publish aspects of the SoC to Access Seekers, then ComReg will apply its rules relating to the publication of confidential information⁷⁰⁹ when assessing any such request.
- 8.721 ComReg's preliminary view is that Eircom should provide the SoC to Access Seekers by making it available on its publicly available website one month after provision of the SoC to ComReg, unless otherwise agreed by ComReg.
- 8.722 ComReg does not consider the SoC obligation to be over burdensome on Eircom, as it has, to date, implemented a RGM in order to comply with its regulatory obligations, including its obligations as they apply to the WLA Market. It is reasonable to assume, and would be expected, that consideration would be given by Eircom to all processes when developing a RGM in order to comply with regulatory obligations. Therefore, ComReg considers that such an obligation, including the associated timelines with respect to providing the SoC to ComReg, is justified and proportionate.
- 8.723 ComReg notes that additional information is also requested in the proposed SoC relating to the development of controls to manage the risks identified by Eircom. ComReg considers that this is not unduly burdensome and is justified and proportionate as Eircom develops controls using its RGM process and has previously included them in SoC be provided to ComReg. Therefore the information requested relating to the development of controls is available to Eircom.
- 8.724 ComReg also does not consider that the additional step of providing the SoC to Access Seekers to be unduly burdensome as the SoC is required to be provided to ComReg and providing it to Access Seekers is not considered to be an additional burden.

⁷⁰⁸ Eircom publish a document on the Eircom website entitled *Industry Update on eir's Regulatory Governance Model*. Versions of this document have been published in August 2015 and May 2016. The first report was published in May 2016. Eircom state that the purpose of this Report is to inform OAOs on how the Regulatory Governance Model is being implemented and to highlight key trends and issues.

⁷⁰⁹ Guidelines on the treatment of confidential information Document No: 05/24s Date: 30th March 2005.

8.725 Having regard to the analysis set out above, ComReg's preliminary view is that Eircom should be obliged to provide a SoC to ComReg with respect to all of its regulatory obligations as imposed in the WLA Market.

Summary of Proposed Remedies in the WLA Market

8.726 In paragraphs 8.30 to 8.685 above, ComReg has outlined the proposed remedies to be imposed on Eircom as the SMP operator in the WLA market. The proposed obligations fall under five headings as set out in Regulations 9 to 13 and aim to promote effective competition in the market:

- (a) Access (paragraphs 8.31 to 8.392);
- (b) Non-Discrimination (paragraphs 8.393 to 8.443);
- (c) Transparency (paragraphs 8.444 to 8.586);
- (d) Price Control and Cost Accounting (paragraphs 8.587 to 8.680); and
- (e) Accounting Separation (paragraphs 8.681 to 8.685).

8.727 ComReg is also requiring Eircom to provide a SoC to ComReg with respect to all of its regulatory obligations as imposed in the WLA Market.

Question 7: Do you agree with ComReg's proposed remedies in the WLA Market? Please explain the reasons for your answer, clearly indicating the relevant paragraph numbers to which your comments refer, along with all relevant factual evidence supporting your views.

9 Assessment of the Retail Broadband Market in the presence of WLA Regulation

Overview

- 9.1 In this section, having set out the preliminary view that Eircom has SMP in the WLA Market and having proposed to impose obligations on Eircom in that market, ComReg now examines the retail broadband market, in the presence of regulation in the WLA Market. Henceforth, this market is referred to as the Modified Retail Market (the '**Modified Retail Market**').
- 9.2 For the avoidance of doubt, ComReg is not required to conclude on a precise definition of Modified Retail Market in this market review. Rather, the purpose of this section is to inform ComReg's subsequent assessment of the definition of and competition assessment for the WCA Market(s) as defined in Section 8 of this Consultation, including with respect to the strength of any indirect constraints from related markets. Given that the wholesale demand for WCA is largely driven by retail demand for broadband (and other) services, it is necessary to consider the dynamics of the Modified Retail Market and whether these dynamics materially impact at a wholesale level⁷¹⁰.

⁷¹⁰ While the retail assessment predominantly focuses on broadband services, ComReg notes that the upstream WCA market inputs can be used to deliver or support a variety of retail services, including (but not limited to) broadband, telephony and television services.

9.3 As set out in Section 4⁷¹¹, the Explanatory Note to the 2014 Recommendation⁷¹² explains that any analysis of a relevant market should be preceded by an assessment of the competitive conditions in the related retail markets, absent regulation in the relevant market under consideration (i.e. the Modified Greenfield Approach⁷¹³). In this context, the assessment of the Modified Retail Market set out in this section is therefore carried out to the extent that it informs the subsequent definition and analysis of the WCA Markets. ComReg must however take account of upstream regulation proposed in the WLA Market, as previously identified in Section 6 this Consultation.

Product Market

9.4 ComReg considered the retail product market in Section 4 of this Consultation⁷¹⁴. ComReg's preliminary conclusions on the retail market in Section 4 can be summarised as follows:

- All broadband products provided over copper, FTTC, FTTH and CATV networks have sufficiently similar product characteristics, pricing and intended use. The analysis of product speeds and other characteristics outlined above suggests that these products are positioned as alternative methods of accessing similar retail services.
- There is likely to be a chain of substitution between broadband products provided over copper, FTTC, FTTH and CATV networks (see Appendix: 3). However, the availability of FTTC, FTTH and CATV broadband products may limit the ability of customers to switch between platforms in response to a hypothetical price increase.
- Retail broadband products provided over 3G/4G networks, satellite networks, FWA networks and via Leased Lines are not considered to be effective substitutes for retail broadband access provided over copper, FTTC, FTTH and CATV networks. As set out in Section 4⁷¹⁵, this is primarily due to the functional differences, customer usage and difference in pricing as well as the likely lack of effective substitution to such platforms.

⁷¹¹ As set out in paragraph 4.3

⁷¹² See section 2.6 of the Explanatory Note to the 2014 Recommendation

⁷¹³ See pg. 8 of the Explanatory Note to the 2014 Recommendation. The Modified Greenfield Approach begins by looking at the retail market before working up the value chain to the wholesale market. The analysis of the competitive nature of these markets assumes that no SMP derived regulations are in place to avoid circularity in the analysis.

⁷¹⁴ The retail product market is discussed in paragraphs 4.12 to 4.273 of this Consultation.

⁷¹⁵ Discussed in paragraphs 4.55 to 4.249 of this Consultation.

9.5 ComReg considers that the Modified Retail Market has the same product market as the retail market set out in Section 4. In the presence of WLA regulation, Eircom's supply of its WLA inputs allows Digiweb, Magnet, Sky, Vodafone and some smaller SPs to provide retail broadband services.

Geographic scope of the Modified Retail Market

9.6 The purpose of this section is to define the geographic scope of the Modified Retail Market. This assessment takes place in the presence of upstream regulation in the WLA Market, i.e. SPs present in the retail market by virtue of using upstream WLA products are considered in this assessment. ComReg's approach follows the approach adopted by the European Commission in the 2014 Recommendation.

9.7 In assessing the geographic scope of the Modified Market, ComReg assesses whether or not the conditions of competition across the State are likely to be sufficiently homogenous. If this is the case it could suggest a national market. However, where there are significant and stable differences in the competitive conditions across different geographic areas of the State it may warrant defining separate sub-national geographic markets.

9.8 Below, ComReg assesses the geographic features of the retail market in the presence of upstream WLA regulation, having regard to the following issues:

- (a) geographic variation in entry conditions;
- (b) the evolution of operators market shares; and
- (c) geographic variances in products and pricing.

9.9 It should be noted that this initial geographic market assessment is not intended as an SMP assessment, which is addressed later in this Consultation⁷¹⁶ in the context of the WCA Market, but as an overview of the geographic features of the retail market, which may require further assessment when defining geographic market boundaries at the wholesale level.

Geographic variation in entry conditions and the availability of services

9.10 In considering the geographic scope of the retail market, ComReg assesses the extent to which different competitive conditions may evolve in particular areas over the lifetime of this review. In doing so, ComReg assesses the coverage and market share evolution of alternative networks over time as a means of identifying any existing or potential variances in entry and competitive conditions across geographic different areas.

⁷¹⁶ The SMP assessment for the WCA Markets is contained in Section 11 of this Consultation.

- 9.11 ComReg's preliminary assessment of the scope of the retail product market suggested that broadband offered over copper, CATV, FTTC and FTTH networks may be viewed as sufficiently close substitutes by the consumers in terms of their key characteristics, pricing and intended use, where they are available. In the paragraphs below, ComReg provides its preliminary assessment of the network coverage and market share distributions of these alternative platforms.
- 9.12 ComReg has observed differences in the coverage of each of these platforms and the availability of services over them. ComReg's preliminary view is that geography plays a role in the availability of broadband access via different platforms⁷¹⁷. The broadband options available to a given retail customer will depend on the location of the customer. In general, the availability of alternative platforms is correlated with the population density of a given area (i.e. customers in urban areas are more likely to have network alternatives than customers in rural areas).
- 9.13 Eircom's copper network is ubiquitous, and ADSL and ADSL2+ services (i.e. Current Generation broadband services) are available from approximately 80% of the Eircom exchanges. These exchanges cover 96% of the premises (both residential and business premises) in Ireland.
- 9.14 On the basis of wholesale supply of WLA based LLU products, BT Ireland can also supply broadband services over Eircom's copper network in areas where it has made investments in unbundling local exchanges. To date, BT Ireland has unbundled [X] exchanges, which cover [X] premises. BT Ireland supplies broadband services via its network to its own retail customers (predominantly larger business customers) and also provides WCA based services to Sky Ireland and Vodafone. BT Ireland currently serves [X] customers (retail and wholesale) using these LLU inputs from the upstream WLA Market.
- 9.15 A number of other SPs (3PlayPlus, Colt, Magnet and Digiweb) have also unbundled a number of Eircom exchanges enabling them to provide retail services to their own broadband subscribers.
- 9.16 Table 16 below presents figures for the number of exchanges unbundled by each of the above SPs and the number of retail subscribers served.

⁷¹⁷ For example, fibre based broadband services are typically available in denser (urban) areas and less likely to be available in rural, sparsely populated areas.

Table 16: No of Exchanges Unbundled by Service Providers and Retail Subscribers Served⁷¹⁸

Service Provider	Number of Exchanges Unbundled ⁷¹⁹	Retail Subscribers (as of end Q1 2016)
3PlayPlus	[redacted]	[redacted]
BT Ireland	[redacted]	[redacted]
Colt	[redacted]	[redacted]
Magnet	[redacted]	[redacted]
TOTAL	N/A	[redacted] ⁷²⁰

- 9.17 As noted previously, Eircom also operates an FTTC and FTTH network, with broadband services available at [redacted] exchanges⁷²¹. Eircom's FTTC and FTTH rollout has advanced from urban centres to smaller towns and rural areas over time. Eircom currently serves [redacted] retail broadband customers via its FTTC and FTTH networks.
- 9.18 By virtue of its purchase of Eircom's VUA products in the WLA Market, BT Ireland is also in a position to (and does) provide WLA based WCA services over an FTTC network. BT Ireland can only avail of Eircom's VUA products in areas where it has made investments in local handover (backhaul and associated facilities, such as WEILs) and where Eircom has rolled out its FTTC or FTTH networks. BT Ireland supplies Sky with WLA based WCA services using its VUA based WLA inputs, which Sky Ireland in turn uses to supply retail broadband (and other) services. To date, BT Ireland can avail of Eircom's VUA products in [redacted] Eircom exchanges⁷²² and serves [redacted] retail and wholesale customers via its VUA inputs.

⁷¹⁸ These SPs use these inputs to serve their own retail customers and wholesale customers. For example, BT Ireland may use its LLU services to provide services downstream to Sky and/or Vodafone.

⁷¹⁹ These exchanges are not unique. Several SPs may unbundle the same exchange, for example, in a dense urban area.

⁷²⁰ The total number of LLU and Line Share subscribers served is less than 70,000.

⁷²¹ Q1 2016 QKDR.

⁷²² These exchanges cover [redacted] premises, although FTTC/FTTH based services may not be available in all of the premises in each exchange area.

- 9.19 Vodafone has been investing in backhaul and associated facilities to avail of Eircom's VUA products and will continue to do so over 2017. Vodafone's use of Eircom's VUA products will depend on the number of Eircom Exchanges it co-locates at, and on the extent of Eircom's FTTC and FTTH network rollout. Vodafone has indicated to ComReg that it plans to co-locate for Eircom VUA services at [redacted] exchanges⁷²³. Vodafone will be able to serve [redacted] of its NGA Bitstream based customers (as of end Q1 2016) using its VUA based service, when complete⁷²⁴.
- 9.20 As noted in Sections 4 and 5, Virgin Media's DOCSIS 3 cable network currently reaches 784,400 homes and businesses, with 368,491 customers served at the end of Q1 2016. This network is largely available in urban areas, where the density of population and buildings has facilitated the rollout.
- 9.21 In 2014, SIRO announced a rollout of a FTTH network to 50 large towns. Retail services (via Vodafone) were made available on the SIRO network in January 2016, however, to date, the rollout has a relatively small footprint⁷²⁵. More recently, Digiweb has also partnered with SIRO to offer retail services in certain geographic areas.⁷²⁶

Geographic differences in operator market shares

- 9.22 As discussed in Section 4⁷²⁷, ComReg's preliminary view is that there is likely to be a degree of variation in operator market shares in different geographic areas, driven by the differing availability of platforms in such areas.

⁷²³ This collocation also allows Vodafone to avail of VUA products from Eircom at a further 281 exchanges, using Remote VUA. These exchanges cover [redacted] premises, although FTTC/FTTH based services may not be available in all of the premises in each exchange area.

⁷²⁴ As part of its rollout of VUA at various exchanges, Vodafone will be in a position to migrate its NGA Bitstream based customers over to its VUA based service. Vodafone began migrating customers to Eircom's VUA product set in August 2016.

⁷²⁵ Details of the SIRO network are contained in paragraphs 5.50 to 5.54 of this Consultation.

⁷²⁶ See <http://siro.ie/home/siro-broadband-partners/>.

⁷²⁷ As discussed in paragraphs 4.279 to 4.288 of this Consultation.

- 9.23 Table 17 below, provides a breakdown of the number of Eircom Exchanges by the number of SPs capable of providing services within each Exchange Area, absent regulation in the WCA Market, but in the presence of WLA regulation⁷²⁸. From Table 17, it is clear that a number of SPs have invested in providing retail (and/or wholesale) broadband services either using their own networks or through access to upstream WLA services at a number of Exchanges. This information indicates that there are a number of Exchanges where Eircom faces a degree of competition in the provision of retail broadband services (and related services).
- 9.24 ComReg further assesses the geographic differences in market shares in its assessment of the WCA Market in Section 10 of this Consultation⁷²⁹.

⁷²⁸ The information was collected in the February 2015 SIR and February 2016 SIR.

⁷²⁹ As discussed in paragraphs 10.137 to 10.174 of this Consultation.

Table 17: Number of SPs (including Eircom) capable of providing broadband services using own network inputs and/or WLA inputs by the Number of Exchanges, Premises Covered and SP Market Share

Number of Service Providers capable of providing broadband services based on own network and/or purchase of WLA Market inputs	No. of Eircom Exchange areas	Premises Covered	Total Broadband Subscribers	Eircom Market Share ⁷³⁰	Virgin Media Market Share ⁷³¹	BT (Sky etc.) Market Share ⁷³²	Vodafone Market Share ⁷³³	SIRO Market Share ⁷³⁴
No Service Provider	221	68,949	0	[<■%]	[<■%]	[<■%]	[<■%]	[<■%]
1 Service Provider	410	385,303	180,358	[<■%]	[<■%]	[<■%]	[<■%]	[<■%]
2 Service Providers	277	389,103	223,215	[<■%]	[<■%]	[<■%]	[<■%]	[<■%]
3 Service Providers	244	621,299	434,470	[<■%]	[<■%]	[<■%]	[<■%]	[<■%]
4 Service Providers	65	547,450	411,865	[<■%]	[<■%]	[<■%]	[<■%]	[<■%]
Overall	1,217	2,012,105	1,249,911	[<■%]	[<■%]	[<■%]	[<■%]	[<■%]

Note: Eircom's market share includes its self-supply of retail broadband services and its supply of wholesale Bitstream services to SPs who do not have own network or WLA inputs available in the Exchange Area.

⁷³⁰ Eircom's Market Share varies from between 100% where one SP is capable of providing broadband services, to between 25-40% where 4 SPs are capable of providing broadband services. Overall, Eircom's share of the market is between 50-60%.

⁷³¹ Virgin Media's Market Share varies between 0% where one SP is capable of providing broadband services, to between 40-50% where 4 SPs are capable of providing broadband services. Overall, Virgin Media's share of the market is between 25-35%.

⁷³² BT Ireland's (Sky etc.) Market Share varies between 0% where one SP is capable of providing broadband services, to between 7.5-15% where 4 SPs are capable of providing broadband services. Overall, BT Ireland's share of the market (which includes its supply to Sky and others) is between 5-10%.

⁷³³ Vodafone's Market Share varies between 0% where one SP is capable of providing broadband services, to between 7.5-15% where 4 SPs are capable of providing broadband services. Overall, Vodafone's share of the market is between 5-10%.

⁷³⁴ SIRO's Market Share is less than 5%, regardless of the number of operators capable of providing broadband services in an Exchange Area.

Geographic variances in products and pricing

- 9.25 Despite some geographic variation in network coverage, ComReg has not observed differing competitive conditions in retail broadband pricing. As part of its data gathering process⁷³⁵, ComReg asked operators specific questions about any geographic variations in the pricing of their retail broadband offerings. All SPs indicated in their responses that they did not differentiate the prices of their retail broadband services on a geographic basis, this despite some operators using multiple platforms in offering such services.
- 9.26 A further indicator of potential regional/local variations in competitive conditions, set out in the Explanatory Note to the EC's 2014 Recommendation, is differences in the functionalities or types of products offered by both the incumbent and alternative SPs or in the marketing strategies pursued.
- 9.27 With regard to product functionality, no SPs have indicated to ComReg in their responses to ComReg's non-statutory information requirements that they offer retail products with different functionalities or types of products in different geographic areas. ComReg is of the preliminary view that any differences in functionality stem from technical constraints (for example, availability of fibre in the local access network, network capacity, whether the local exchange has been unbundled or not) rather than a direct response to differences in consumer demand/localised competitive pressures.

Preliminary conclusion on geographic market

- 9.28 Having considered the above, it is ComReg's preliminary view that some factors are suggestive that there may be separate Modified Retail Broadband Product Markets from a geographic perspective (such as competing number of SPs and market share differences between different geographic areas. However, other evidence such a uniformity of retail pricing and product functionalities is not suggestive of sub-geographic markets.
- 9.29 Overall, ComReg preliminary view is that there may be separate geographic markets, however, we make no firm conclusions in this regard and leave this question open. Such areas may be differentiated as follows:
- Areas where there may be a significant presence of competing SPs, including those using WLA inputs and independent network SPs, with further evidence of competitive conditions potentially differing having regard to factors such a market share differences between different geographic areas.

⁷³⁵ Specifically, the February 2015 SIR sought information from SPs on issues relating to any geographically differentiated pricing.

- Areas where there may be little or no presence by alternative networks, such that consumer choice is effectively limited to very few SPs. This area also includes parts of the country where it is not yet commercially viable to invest in retail broadband services.

9.30 The issue of sub-geographic markets is considered in further detail in the assessment of WCA market(s) in Section 10 of this Consultation, including the associated in Appendix: 5. In conducting this assessment ComReg takes fully into account the retail dynamics referred to above.

Overall Preliminary Conclusion on Modified Retail Broadband Market Assessment

9.31 As noted earlier, ComReg is not required to conclude on the precise scope of the retail market, but has carried out this analysis in order to inform the analysis of the WCA market(s). Having examined the product and geographic market definitions, it is ComReg's preliminary view that the 'Modified Retail Broadband Market' (i.e. the product and geographic market in the presence of WLA regulation) is as follows:

- (a) Asymmetric retail broadband products of any speed provided over copper, FTTC, FTTH and CATV networks, including broadband products provided using upstream WLA inputs ('**Modified Retail Broadband Product Market**'); and
- (b) ComReg recognises the possibility of sub-geographic markets existing; however, we leave this question open.

Question 8: Do you agree with ComReg's preliminary conclusions on the assessment of the Modified Retail Broadband Market to the extent that it informs the analysis of the WCA Market? Please explain the reasons for your answer, clearly indicating the relevant paragraph numbers to which your comments refer, along with all relevant factual/empirical evidence supporting your views.

10 Assessment of the WCA Market

Overview

- 10.1 Having examined the WLA Market in Sections 5 to 8, and considered the Modified Retail Broadband Market in Section 9, ComReg now proceeds with an assessment of the Wholesale Central Access ('WCA') market.
- 10.2 As noted in paragraph 4.3, the EC has established that the WCA Market is susceptible to *ex ante* regulation and, in doing so, refers to the WCA Market as follows:
- "Wholesale central access provided at a fixed location"*⁷³⁶
- 10.3 As noted in paragraphs 3.4 and 3.6, WCA is a wholesale input encompassing:
- "...access products enabling Access Seekers a less direct and more standardized control over the access line."*⁷³⁷
- 10.4 Services provided in the WCA market are commonly referred to as 'Bitstream' type services, which provide access to broadband capacity over a SP's network, the use of broadband equipment and some element of backhaul and handover, but excludes Access Seeker direct access to the local copper and/or fibre loop.
- 10.5 The EC's guidance suggests that wholesale access products that offer "...a best-effort quality of service, no availability guarantees, a higher contention ratio, no symmetrical speeds and resilience" should fall into the WCA market.
- 10.6 In the context of the vertical relationship between upstream-downstream markets for the provision of broadband (and other) services, in general, the WCA market sits between the WLA Market⁷³⁸ (the most upstream market) and the retail broadband market (downstream from the WCA market). Compared to the WLA Market, in purchasing WCA, Access Seekers are likely to have less control over the service because less investment is required of Access Seekers in obtaining obtain the connectivity.⁷³⁹ The Access Seeker puts in place its own marketing and advertising, sales and billing arrangements while the SP providing the WCA service dimensions, repairs and maintains the service from the End Users' premises up to the handover point at a central point of presence ('PoP').

⁷³⁶ Explanatory Note to the 2014 Recommendation, page, 46.

⁷³⁷ Explanatory Note to the 2014 Recommendation page 42.

⁷³⁸ For the avoidance of doubt, ComReg notes that services offered in the WLA Market can be used as inputs to provide a range of downstream retail (and wholesale) services, including broadband services.

⁷³⁹ Explanatory Note to the 2014 Recommendation, pg. 46.

- 10.7 The regulation of the WLA Market can potentially influence competition in the downstream WCA market given that WCA can be offered using inputs purchased in the upstream WLA Market. For example, an Access Seekers' purchase of VULA (whether from Eircom or SIRO) in the WLA Market can be used to provide a variety of downstream wholesale and retail services, including the provision of Bitstream services in the WCA market.
- 10.8 In a similar manner to the analysis in Section 5⁷⁴⁰ dealing with the definition of the WLA Market, ComReg applies the same market definition framework. In the context of the definition of the WCA market, the objective is to examine if there are any wholesale products or services that an Access Seeker would consider to be an effective substitute to the focal product, taking account of demand-side and supply-side factors. This results in the identification of the product and geographic market boundaries within which WCA SPs are subject to direct and indirect constraints. In conducting this analysis, ComReg takes utmost account of the EC Notice on Market Definition.
- 10.9 The remainder of this section addresses the product and geographic dimensions of the WCA Market. The following issues are considered:
- (a) Identifying the focal product, being the initial product from which potential wholesale substitute products will then be considered (discussed in paragraphs 10.11 to 10.17);
 - (b) Whether any alternative products should be included in the WCA market having regard to the effectiveness of any direct constraints from demand-side substitutes and/or supply-side substitutes (including self-supplied inputs) (discussed in paragraphs 10.18 to 10.74);
 - (c) Whether any retail products should be included in the WCA market having regard to the effectiveness of any indirect constraints from the retail market (discussed in paragraphs 10.75 to 10.130); and
 - (d) The geographic scope of the WCA market (discussed in paragraphs 10.137 to 10.173).

Relevant Product Market Assessment

- 10.10 As outlined in Section 5⁷⁴¹, ComReg undertakes the analysis of the WCA market in the context of the Modified Greenfield Approach, whereby the analysis is undertaken on the assumption that regulation is not present in the market under consideration, i.e. the WCA market. However, regulation in any upstream markets (including the WLA Market) and other related markets, or through other aspects of the regulatory framework, is assumed to be present.

⁷⁴⁰ Paragraphs 5.8 to 5.15.

⁷⁴¹ See paragraph 5.5.

Identifying the Focal Product

10.11 The first step in defining the WCA market involves identifying the relevant Focal Product. As the analysis is forward looking, it is not bound by existing products and technologies. ComReg considers that Eircom's copper network based WCA product, referred to as Bitstream ('**Bitstream**'), represents a suitable starting point for the product market definition exercise.

Copper network based WCA products

10.12 As noted in Section 3⁷⁴², Eircom is the largest supplier of WLA and WCA products to third parties via its copper network. Eircom provides Bitstream services to its own retail division (self-supply) and to third party SPs.

10.13 At present, Eircom supplies a number of Access Seekers with Bitstream products, including BT Ireland and Vodafone, with a number of other smaller SPs also purchasing products.

10.14 In addition, BT Ireland also supplies copper network based WCA products by virtue of its use of LLU and Line Share in the WLA Market. BT Ireland supplies WCA products, based on its LLU and footprint, to Sky Ireland, Vodafone and a number of other smaller SPs.

10.15 As outlined in Section 5⁷⁴³, the EC's Explanatory Note to the 2014 Recommendation highlights the need to take account of the incumbent firm's self-supply in the market definition.⁷⁴⁴ Figure 22 below shows the breakdown of Bitstream products provided by Eircom and BT Ireland over Eircom's copper network in the years between Q1 2013 and Q1 2016.⁷⁴⁵ In addition to the [redacted] customers served by Eircom's retail broadband products (i.e. self-supply of copper network based Bitstream services), Eircom supplied 210,996 wholesale copper network based Bitstream lines in Q1 2016, a decrease of 7% over Q1 2015. The number of Bitstream lines on Eircom's copper network has fallen substantially in the last few years as customers (retail and wholesale) have been switching from copper network based products to products provided on its FTTx network.

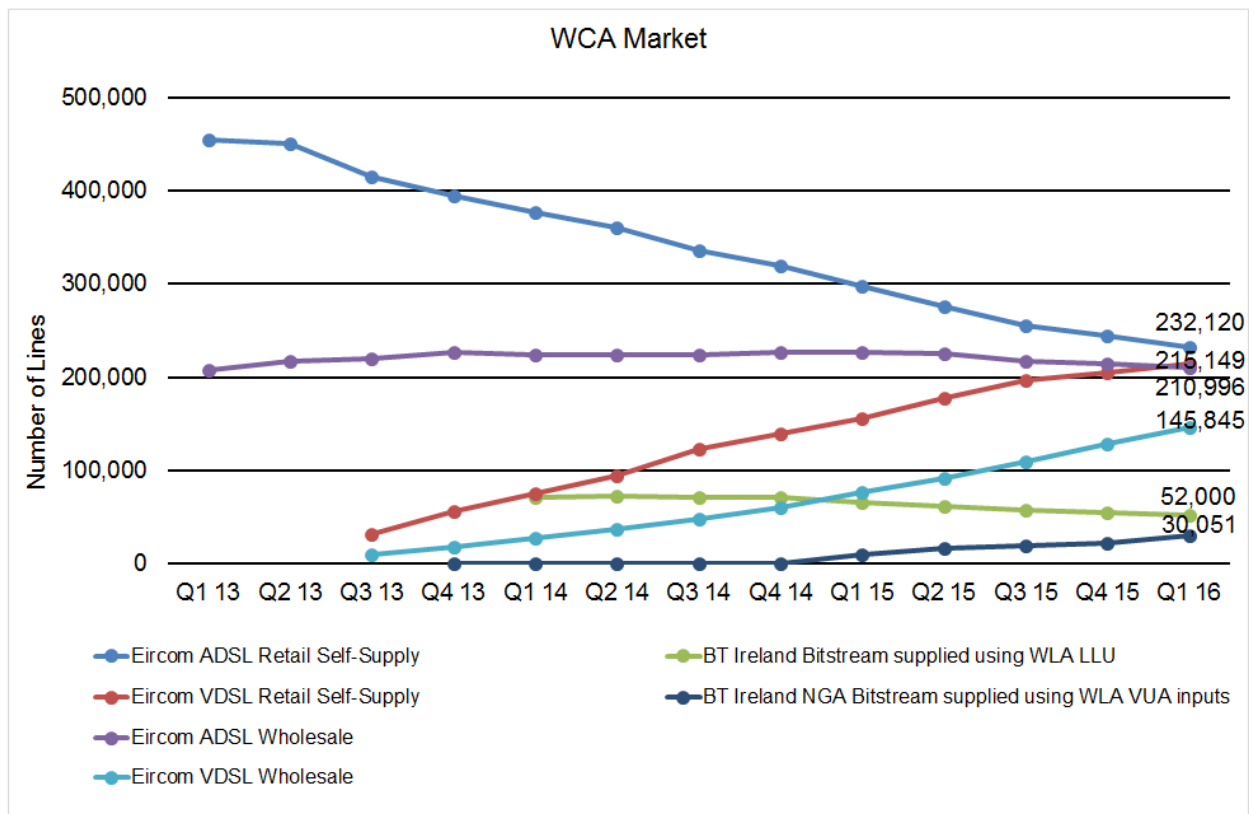
⁷⁴² See paragraph 3.18.

⁷⁴³ See paragraph 5.9.

⁷⁴⁴ As noted on pg. 18 of the Explanatory Note to the 2014 Recommendation: "*In many cases the incumbent is the only undertaking that is in a position to provide a potential wholesale service. It is likely that there is no merchant market as this is often not in the interest of the incumbent operator. Where there is no merchant market and where there is consumer harm at retail level, it is justifiable to construct a notional market when potential demand exists. Here the implicit self-supply of this input by the incumbent to itself should be taken into account.*"

⁷⁴⁵ Sourced from various ComReg QKDRs.

Figure 22: Provision of Wholesale Bitstream Access 2013-2015



Source: ComReg Quarterly Key Data Report

10.16 The wholesale price of copper network based Bitstream, as provided by Eircom (and currently regulated by ComReg⁷⁴⁶), is published in Eircom’s Wholesale Bitstream Access Reference Offer (‘**WBARO**’).⁷⁴⁷ Standalone⁷⁴⁸ copper network based Bitstream is currently priced⁷⁴⁹ at €17.95 per month (up to 8Mbps) and €18.95 (up to 24Mbps).⁷⁵⁰

⁷⁴⁶ Eircom’s copper network based Bitstream products are subject to a Cost Orientation price control, as per the 2011 WBA Decision.

⁷⁴⁷ The WBARO (“Open Eir Bitstream price list v.7 34”) is available at: http://www.openeir.ie/Reference_Offers/?selectedtab=wbaro.

⁷⁴⁸ Standalone Bitstream allows a retail broadband service to be delivered over a 2-wire copper pair without a PSTN voice telephony service.

⁷⁴⁹ It is important to note that these are not the only costs associated with providing a retail broadband service. An Access Seeker will may also incur backhaul, CPE and marketing costs.

⁷⁵⁰ Open Eir Bitstream price list v.7 34 – pg. 15.

Overall Preliminary View on the WCA Focal Product

10.17 Notwithstanding the decline in retail subscriber and Access Seeker use of copper network based WCA Bitstream products, they remain the most widely used and most widely available products⁷⁵¹ in the WCA market. ComReg therefore is of the preliminary view that copper network based WCA Bitstream products, form the focal product for the starting point in assessing the WCA product market.

Assessment of Direct Constraints

10.18 Below ComReg considers the strength of any direct constraints present in the WCA Market with a view to considering whether the WCA market should be broadened to include other effective substitute products. In particular, ComReg considers potential:

- (a) Demand-side substitution (paragraphs 10.20 to 10.39); and
- (b) Supply-side substitution, including the self-supply of vertically integrated Service Providers (see paragraphs 10.40 to 10.69).

10.19 ComReg's overall preliminary conclusions on the assessment of direct constraints are set out in paragraphs 10.72 to 10.73.

Demand-Side Substitution

10.20 As outlined in Section 5⁷⁵², analysis of customer behaviour in response to price increases is a useful framework by which to define the relevant product market. As noted in Section 4⁷⁵³, the economic analytical framework for defining a relevant product from a demand-side perspective is an examination of customer behaviour in response to price increases, known as the hypothetical monopolist test ('HMT'). ComReg applies the HMT in assessing potential substitute products which, by their characteristics, prices and intended use, may constitute an effective substitute to the focal Bitstream product.

10.21 In the case of the WCA market, if a sufficient number of Access Seekers were to switch to an alternative WCA product in response to a SSNIP in the price of the Focal Product (i.e. Bitstream provided over a copper network), rendering that price increase unprofitable, then the alternative WCA product should be included in the WCA product market.

10.22 The identified potential direct and indirect substitutes to copper based Bitstream include Bitstream services provided over FTTx networks, and retail broadband over CATV network.

⁷⁵¹ As discussed in paragraphs 9.10 to 9.14, copper network based broadband services are available to 96% of premises in Ireland.

⁷⁵² Discussed in paragraph 5.18 of this Consultation.

⁷⁵³ See paragraph 4.14.

10.23 We do not consider indirect constraints arising from FWA, mobile and satellite networks given ComReg's preliminary conclusion in Section 9 that such products do not likely fall within the Modified Retail Broadband Market.

Do Bitstream products provided over a Fibre network fall within the WCA product market?

10.24 In addition to providing a Bitstream service over its copper network, Eircom also provides Bitstream services over its NGA FTTx network. These products include 'Bitstream Plus' and 'Bitstream Plus VEA' (together referred to as '**Bitstream Plus**' products).⁷⁵⁴ By virtue of its purchase of Eircom's VUA based WLA products, BT Ireland is also in a position of offer a wholesale FTTx based Bitstream service, in areas where it has made the necessary investments in backhaul and associated facilities to avail of services provided by Eircom in the WLA Market. In addition, as noted in paragraph 6.120, Vodafone has announced plans to use Eircom's VUA product to self-supply retail broadband services⁷⁵⁵. Vodafone has not indicated to ComReg that it has any plans to use Eircom's VUA products to supply WCA based wholesale services. Vodafone also purchases VULA services from SIRO to provide retail broadband services to its own customers⁷⁵⁶.

10.25 ComReg notes that the analysis in this section assumes that all of the remedies that ComReg proposes to impose in the WLA Market (as set out in Section 8) are in place – thereby safeguarding the promotion of competition in downstream markets that rely on such WLA inputs.

10.26 WCA based Bitstream provided over a FTTx is likely to be attractive to potential entrants or existing competitors in the retail market because of the inherent advanced capabilities of fibre products and the quality of service vis-à-vis Bitstream provided over a copper network – with this likely manifesting itself in retail demand by consumers for higher speed broadband products. It is important to note that there is a geographic element to provision of WCA based Bitstream over a FTTx network as coverage is not complete across the country.

⁷⁵⁴ VEA means VDSL Ethernet Access.

⁷⁵⁵ Vodafone began migrating customers to Eircom's VUA product set in August 2016.

⁷⁵⁶ As of September 2016, Digiweb and Vodafone purchase WLA services from SIRO. In addition, as noted in paragraphs 5.50 to 5.54 of this Consultation, the SIRO network has a limited footprint but this is expected to reach [redacted] premises by the end of 2017.

- 10.27 As of June 2016, Eircom has rolled out its FTTC and FTTH broadband network to pass 1.6 million premises in the country.⁷⁵⁷ In addition, Access Seekers purchasing Eircom WLA based inputs can only use Eircom's FTTx network to provide its own Fibre based Bitstream services in the WCA Market (and/or retail services) in areas where the SP is co-located at the Eircom Aggregation Node (the point of interconnection for the purposes of purchasing Eircom's VUA products).
- 10.28 SIRO does not offer WCA products over its FTTH network, although as discussed below, ComReg considers that, in the context of supply-side substitution, it could do so within a relatively short timeframe. [X [REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]]

Product Characteristics

- 10.29 Bitstream provided over a FTTx Network allows for higher download and upload speeds in comparison to Bitstream provided over a copper network. As outlined in Table 2 in Section 4, broadband products provided over a copper network allow for a maximum download speed of 24Mb compared with an FTTC broadband connection, which allows for download speeds of up to 100Mb, and an FTTH broadband connection, which allows for download speeds up to 1Gbps.
- 10.30 Given the download speeds provided by FTTx based Bitstream services, it is possible to provide other services over them (such as IPTV and telephony). At present, at the retail level both Eircom and Vodafone provide IPTV over Eircom's FTTx based Bitstream services.
- 10.31 As noted in Sections 4 and 8, owing to a chain of substitution at the retail level, ComReg's preliminary view is that relevant broadband products of all speeds are included in the Retail Broadband Market and the Modified Retail Broadband Market.

Pricing

- 10.32 The wholesale price of Bitstream provided over Eircom's FTTx network, as currently regulated by ComReg, is currently published in Eircom's WBARO.⁷⁵⁸

⁷⁵⁷ <http://fibrerollout.ie/where-and-when/>.

⁷⁵⁸ http://www.openeir.ie/Reference_Offers/?selectedtab=wbaro.

- 10.33 Currently, Eircom is obliged to comply with the pricing obligations set out in the 2013 NGA Decision. In line with the 2013 NGA Decision, Eircom is subject to a price control obligation based on a number of margin squeeze tests. Eircom can make price changes to FTTC and FTTH based services so long as they comply with the regulatory obligations set out in the 2013 NGA Decision, including the specified margin squeeze tests. Separately, where NGA services are sold with retail line rental (or PSTN voice), Eircom is obliged to comply with the net revenue test ('NRT') set out in the 2013 Bundles Decision⁷⁵⁹.
- 10.34 FTTC based Bitstream is currently priced⁷⁶⁰ at €23.00⁷⁶¹ per month while FTTH based Bitstream is currently priced higher at €23.50 per month (at 100Mb and rising to €28.50 for 300Mb and €38.50 for 1000Mb).⁷⁶² These prices reflect price increases recently announced by Eircom and having taken effect on 1 September 2016.
- 10.35 There is a differential in prices charged for Eircom Bitstream services provided over a copper network⁷⁶³ and those Bitstream services provided over a FTTx based network, with the latter allowing for a more enhanced product offering by an Access Seeker. While noting the price differential, given demand for Bitstream is derived from retail demand, and in view of this, such price discrepancies (while contributing to higher Access Seeker costs) are not likely to undermine the case for substitution between Bitstream services provided over a copper network and those provided over Fibre networks. In addition, ComReg notes the declining use of Bitstream provided over a copper network. At the retail level, ComReg notes that Broadband products provided over a copper network and FTTC network are priced at the same level, with similar promotions and introductory offers. This is further detailed in Appendix: 3 of this Consultation. This is likely driven by operators' desire to encourage customers to migrate to a Fibre based broadband service (and potentially sell the additional services that Fibre based networks can provide).

⁷⁵⁹ ComReg Document No. 13/14, ComReg Decision D04/13, "Price Regulation of Bundled Offers: Further specification of certain price control obligations in Market 1 and Market 4", dated 8 February 2013 (the '2013 Bundles Decision').

⁷⁶⁰ It is important to note that these are not the only costs associated with providing a retail broadband service. An Access Seeker will may also incur backhaul, CPE and marketing costs.

⁷⁶¹ Open Eir Bitstream price list v.7 34 – pg. 26: <http://www.openeir.ie/Reference Offers/?selectedtab=wbaro>.

⁷⁶² Open Eir Bitstream price list v.7 34 – pg. 26: <http://www.openeir.ie/Reference Offers/?selectedtab=wbaro>.

⁷⁶³ As discussed in paragraph 10.16 of this Consultation. Copper network based Bitstream services are subject to a Cost Orientation price control, as per the 2011 WBA Decision, while FTTC and FTTH based Bitstream services are subject to a Retail-Minus price control. Therefore, the wholesale prices for FTTC and FTTH based Bitstream services may not reflect the cost of providing this service.

Intended Use

10.36 At the wholesale level, the demand for Bitstream provided over a FTTx network derives from an Access Seeker's demand for inputs to the provision of retail broadband services. As noted in Section 4 paragraphs 4.82 and 4.83 of this Consultation, the intended use of broadband provided over a FTTx network at the retail level is broadly similar to that of a broadband service provided over a copper network, although ComReg notes that some differences do exist, including the ability to offer IPTV.

Substitution

10.37 As noted in paragraph 4.93 regarding FTTC broadband at the retail level, ComReg considers that substitution between copper network and FTTx based Bitstream is likely to be one-way due to the higher download speeds available from NGA networks. As a consequence, an Access Seeker using an FTTx based Bitstream service may not find a lower download/upload speed offered by a copper network based Bitstream service to be a good substitute (given the derived retail demand-side considerations), but a wholesale Access Seeker of the copper network based Bitstream service is likely to find a FTTx based Bitstream service to be an effective substitute.

10.38 ComReg is of the preliminary view that FTTx based Bitstream services are likely to be an effective substitute for copper network based Bitstream services in areas where a FTTx network has been rolled out. As noted in paragraph 4.71, the rollout of the Eircom FTTx network is advancing, with Eircom's FTTC network passing 1.6 million premises⁷⁶⁴.

⁷⁶⁴ At the end of August 2016.

(f) Substitution over Leased Lines (paragraph 10.71).

10.42 ComReg has considered SPs' responses to a number of SIRs in particular, views and evidence provided by SPs regarding any direct constraints arising from supply-side substitution (including from vertically integrated SPs).

Supply-side substitution (including self-supply) over the CATV platform

10.43 ComReg has considered the potential for supply-side substitution by a vertically integrated CATV network provider. As discussed in Section 3, Virgin Media is a CATV operator that offers retail bundles that include fixed telephony, mobile telephony, broadband, and Pay TV. Virgin Media does not currently offer WLA or WCA products.

10.44 Virgin Media has not expressed any interest in providing wholesale products (WLA or WCA) in public or in response to SIRs. Furthermore, as discussed in paragraph 5.61, the WIK CATV Report⁷⁶⁸ concludes that it is not likely that WCA products will be offered by CATV networks because CATV network operators have already sold a significant portion of network capacity to their retail customers. However, as the WIK CATV Report notes, it is technically possible to provide such a wholesale service over a CATV network. ComReg considers Virgin Media has no incentive to offer such a product over its network given a significant portion of their network capacity is already consumed by their retail customers.

10.45 Wholesale products are unlikely to be offered over a CATV network within a sufficiently short timeframe, such that they could constrain the pricing behaviour of a HM supplier of WCA over a copper and FTTx network. ComReg would also note that even if the provision of WCA products over a CATV network were likely, such entry into the WCA market would likely take a significant length of time (to prepare OSS and BSS systems, for example) and involve considerable costs (for example, to acquire and prepare OSS and BSS systems). This would reduce the impact of any such entry on a HM's ability to sustain a profitable SSNIP in WCA products.

10.46 In addition, as noted in paragraph 5.62, from an Access Seeker's perspective, it is likely that significant costs could be incurred in switching WCA to a hypothetical WCA product provided over a CATV network. These costs could include the Access Seeker's provision of new CPE (as CPE on a CATV network differs to that on a copper/FTTx network), customer site visit costs and the provision of new backhaul to Virgin Media's point(s) of interconnect/handover. Such costs would also arise in circumstances where Access Seekers have and continue to incur similar costs in availing of existing WCA services from current SPs (with the network coverage of such SPs largely overlapping that of Virgin Media).

⁷⁶⁸ As discussed on Page 26 of the WIK CATV Report.

- 10.47 The above factors are likely to discourage Access Seekers from switching in sufficient numbers to any WCA based CATV Bitstream service provided over a CATV network. Furthermore, even if Access Seekers did switch to a Bitstream service provided over a CATV network, the transition process could be lengthy, thus undermining the immediacy of any impact on the WCA Market.
- 10.48 As noted in 5.67, Virgin Media's network coverage extends to approximately 45% of households in the State, predominately in urban areas. This may not provide the level of coverage demanded by Access Seekers, who require a national presence to serve their retail customers. In this respect, even in circumstances where a SP were to purchase hypothetical CATV based WCA products, it would continue to require access to WCA services provided by suppliers of copper and FTTx WCA based services.
- 10.49 For the above outlined reasons, it is ComReg's preliminary view that supply-side substitution by a SP providing a WCA services on a CATV network may not result in sufficient substitution such that a SSNIP by a HM supplier of copper and FTTx based WCA would be unprofitable. However, ComReg recognises that retail CATV services in Ireland (provided by Virgin Media) are likely to place a degree of constraint on the HM supplier of WCA services in areas where the CATV network has been rolled out. ComReg returns to the question of whether the self-supply of retail CATV broadband should be included in the WCA market in the discussion below (paragraphs 10.100 to 10.108) regarding indirect constraints and in the context of the assessment of the geographic scope of the WCA market (paragraphs 10.166 to 10.167).

Supply-side substitution (including self-supply) over FWA networks

- 10.50 As was the case with the analysis surrounding the WLA Market, ComReg does not consider supply-side substitution into the WCA Market by vertically integrated FWA SPs as being likely or credible.⁷⁶⁹ It is important to note that WCA products are not currently provided over FWA. No FWA SP has expressed any interest in providing WCA products⁷⁷⁰.
- 10.51 It is ComReg's preliminary view that FWA networks are unlikely to be substitutable from a supply-side perspective and thereby constrain a hypothetical price increase in WCA products for the following reasons:

⁷⁶⁹ Many of the same arguments regarding supply-side substitution into the WLA Market (paragraphs 5.73 to 5.79) are reiterated here as they apply similarly to the WCA Market.

⁷⁷⁰ ComReg sought such views from such SPs in the SIRs.

- (a) ComReg's preliminary view that retail broadband products provided over FWA networks do not fall within the Modified Retail Broadband Market, as set out in Section 9. Wholesale demand is derived from retail demand. In the context of potentially constraining a HM supplier of a copper and FTTx WCA services through supply-side substitution, ComReg does not consider that there would be sufficient demand for a hypothetical FWA based WCA product, given retail dynamics.
- (b) There is uncertainty surrounding the technical feasibility of providing WCA over a FWA network;
- (c) WCA over a FWA network may not provide the quality of service demanded by an Access Seeker and their retail and/or wholesale customers;
- (d) Demand for broadband over FWA networks appears to be in decline: based on the trend analysis presented in Section 3⁷⁷¹, demand for broadband and other services provided over FWA networks has fallen significantly and as at Q1 2016 stood at 42,083 subscribers, having declined by 11% since Q1 2015⁷⁷²;
- (e) FWA provision is somewhat fragmented in that coverage is not ubiquitous (via a single provider) compared to Eircom's national coverage of WCA products; and
- (f) Access seekers would be likely to incur significant costs when switching to an alternative FWA based WCA provider. Such costs would likely involve building backhaul, replacement of CPE and retail marketing.

10.52 Regarding the self-supply of central access by FWA SPs, it is ComReg's preliminary view that such self-supply should not be included in the WCA Market for the reasons set out in paragraph 5.76.

Supply-side substitution (including self-supply) over alternative FTTH networks

10.53 ComReg has considered the potential for supply-side over alternative FTTH networks. As noted in Section 4, Eircom, SIRO⁷⁷³ and Magnet currently operate FTTH networks. Eircom and SIRO both offer FTTH local access products in the WLA Market.

⁷⁷¹ Discussed in paragraph 3.15 of this Consultation.

⁷⁷² Q1 2016 QKDR.

⁷⁷³ ComReg has considered SIRO's FTTH network in paragraph 10.39 of the Consultation.

- 10.54 In the WLA Market analysis set out in Section 5⁷⁷⁴, ComReg's preliminary conclusion is that, on a forward looking basis, SIRO's VULA products fell within the WLA Market notwithstanding some concerns (including the limited geographic footprint). It is technically feasible for SIRO to offer WCA based products on its network, although this would involve having points of interconnect at an aggregation point higher in its network. It is ComReg's preliminary view that SIRO could, in response to a SSNIP by a HM supplier of copper and FTTx based WCA products, commence the supply of WCA services within a relatively short timeframe. In this respect ComReg notes that SIRO already has the necessary wholesale billing and order management systems in place for its WLA services and that these could be used in the context of WCA supply (albeit with some incremental development potentially required). Given the current and expected coverage of the SIRO network, it is somewhat questionable whether there would be sufficient substitution to SIRO's hypothetical WCA based products to constrain a SSNIP by a HM supplier of services with near national coverage. However, within their overlapping coverage areas such constraints would be likely to more effective. On this basis, ComReg's preliminary view is that hypothetical WCA products offered by SIRO should be included in the WCA product market (we return later to the question of the impact of such constraints in the context of the definition of the geographic scope of the WCA market).
- 10.55 As noted in paragraph 4.99, Magnet is a vertically integrated SP providing retail fixed telephony and broadband services over its very localised FTTH network. ComReg notes that Magnet has not expressed an interest in or an intention to provide WLA or WCA products in its responses to ComReg's SIRs⁷⁷⁵. Magnet also purchases WLA and WCA products from Eircom to provide its retail services nationally.
- 10.56 The total coverage of alternative FTTH networks in the State is currently limited, as is the take up of FTTH products at the retail level.⁷⁷⁶
- 10.57 The NBP, discussed in paragraph 3.46, aims to deliver a high-speed broadband connection to every home in the State. Depending on which SP(s) is awarded the NBP contract, this may have implications for the availability of WCA over alternative networks, including potentially FTTH networks. However, there remains uncertainty at this time regarding the eventual contract award and successful tenderers to draw any firm conclusions at this stage.

⁷⁷⁴ Discussed in paragraphs 5.50 to 5.54 of this Consultation.

⁷⁷⁵ ComReg sought views from Magnet in the February 2015 13D SIR.

⁷⁷⁶ There are currently 4,564 subscribers with a FTTH connection, representing 0.3% of total subscriptions. Q1 2016 QKDR.

- 10.58 Given the above, ComReg considers that the scope for supply-side substitution into the WCA Market via FTTH networks (other than Eircom and SIRO) is currently limited. As with supply-side substitution by FWA networks discussed above, it is likely that the limited coverage of alternative networks would not meet the expectations of Access Seekers and significant costs from switching could be incurred by Access Seekers.
- 10.59 In relation to the self-supply of WCA by alternative FTTH networks, ComReg is of the view that self-supply by alternative networks should not fall within the market for similar reasons to those set out in paragraph 5.85 for the WLA Market.

Supply-side substitution over Mobile 3G/4G Networks

- 10.60 The scope for supply-side substitution from 3G/4G mobile networks into the WLA Market was considered in paragraphs 5.89 to 5.92. It was concluded that 3G/4G networks would not represent an effective supply-side substitute for WLA. It was also noted in Section 4⁷⁷⁷ and Section 8⁷⁷⁸, that mobile broadband is not an effective substitute to retail fixed broadband and is therefore not considered to fall within the same retail market as fixed broadband.
- 10.61 It was also noted that none of the MSPs expressed an interest in providing a WCA products in their responses to ComReg's SIRs and in bilateral meetings with ComReg.
- 10.62 ComReg notes that the MSP Three did provide a WCA type product over its mobile network for the then National Broadband Scheme (the forerunner to the NBP) and it would therefore appear to be technically feasible to offer such a product. However ComReg understands there was negligible demand for such a product, even in circumstances where it was serving retail demand in geographic areas where there are very limited (if not non-existent) alternative sources of retail broadband supply.
- 10.63 As with the analysis surrounding the WLA Market, it is ComReg's preliminary view that the provision of WCA over a 3G/4G networks would not represent an effective supply-side substitute for WCA. In addition, the self-supply of services over a 3G/4G network is also unlikely to exercise an effective direct competitive constraint in the WCA market.

⁷⁷⁷ As discussed in paragraphs 4.179 to 4.180 of this Consultation.

⁷⁷⁸ As discussed in paragraph 9.4.

Supply-side substitution via inputs purchased in the upstream WLA Market

- 10.64 It is necessary to take account of the potential scope for supply-side substitution stemming from an upstream purchaser of WLA products not currently supplying WCA on a merchant market basis, who could switch to supplying WCA to third parties in response to a SSNIP of a HM's WCA product. For example, if a WLA purchaser can provide WCA products within a short time frame and without incurring significant additional costs or risks, they may be incentivised to do so in response to a hypothetical price increase in WCA prices.
- 10.65 ComReg notes that BT Ireland is the only SP currently providing WCA products to third parties based on purchases of upstream WLA products from Eircom. It supplies Bitstream services based on its upstream purchases of WLA, to Sky Ireland and Vodafone, as well as a number of smaller SPs. As noted in paragraph 6.117 (see
- 10.66 Table 15) BT Ireland currently is the largest third party purchaser of WLA from Eircom, purchasing [X<] of the overall WLA supplied (including Eircom's Self-Supply). However, as noted previously in paragraph 9.14, BT Ireland's ability to use its WLA inputs to provide WCA services is limited to those geographic areas where it has made the necessary investments to avail of Eircom's WLA products (LLU and/or VUA). ComReg sought information from BT Ireland⁷⁷⁹ regarding any plans it may have to increase its take-up of WLA products in areas where it does not have the necessary infrastructure in place. BT Ireland indicated to ComReg that [□it had no plans for a wider rollout beyond its existing WLA footprint].
- 10.67 ComReg also notes that Vodafone could potentially offer Bitstream products in the WCA market by virtue of its planned purchase of VULA products from Eircom and SIRO in the WLA Market⁷⁸⁰. However, Vodafone has not indicated any plans to offer such WCA products over its network within the lifetime of this review. ComReg notes that Vodafone may not have the necessary wholesale billing and order management systems in place that might facilitate its entry into the WCA market.

⁷⁷⁹ Responses to February 2015 and February 2016 SIRs.

⁷⁸⁰ As discussed in paragraph 10.24 of this Consultation.

- 10.68 On the basis of bilateral meetings with SPs⁷⁸¹ as well as SPs' responses to SIRs, it is ComReg's preliminary view that supply-side substitution by WLA purchasers not currently active in the WCA market is unlikely to take place over the period of this review. WLA purchasers (with the exception of BT Ireland and potentially Vodafone) are unlikely to have the coverage that would meet the expectations of WCA purchasers and sufficiently constrain a SSNIP by an HM with a ubiquitous network. As shown in Figure 22⁷⁸² that the number of LLU and VULA lines constitute only a small proportion of the total provision of DSL and VDSL wholesale local access although these are expected to grow during the period of this market review.
- 10.69 Furthermore, a WLA purchaser intending to enter the WCA market would also need to develop a wholesale product and associated interfaces, the costs of which may not be justified if the potential customer base is small due to a limited WLA footprint. Similarly, a WCA purchaser could incur costs in switching its customers to an alternative WCA supplier.
- 10.70 While proposing to exclude supply-side substitution by WLA purchasers (not active in the WCA market), ComReg nonetheless recognises that Eircom does face a degree of constraint in the WCA and downstream markets from vertically integrated SPs such as Vodafone who compete on the basis of WLA inputs.

Supply-side substitution over Leased Lines

- 10.71 As with the analysis of supply side substitution with WLA products in Section 5, paragraph 5.93 to 5.96, ComReg's preliminary view is that supply side substitution in the WCA market via leased line SPs is unlikely to be sufficiently effective.

Summary of Overall Preliminary Conclusions on Direct Constraints

- 10.72 In paragraphs 10.18 to 10.71 above, ComReg has examined the potential for demand-side and supply-side constraints from alternative platforms including CATV, FWA, alternative FTTH networks, mobile 3G/4G networks, as well as supply-side substitution via SPs purchasing WLA inputs, and whether these alternative potential products warrant inclusion in the WCA product market.
- 10.73 ComReg notes that apart from hypothetical WCA products offered over SIRO's network, none of the above identified potential supply-side substitutes are likely to provide a sufficiently immediate and effective competitive constraint on a HM's provision of copper and FTTx based WCA such that it would warrant their inclusion in the WCA Market.

⁷⁸¹ ComReg met with a number of Service Providers (BT Ireland, Digiweb, Eircom, Imagine, Magnet, SIRO, Sky Ireland, Three, Virgin Media and Vodafone) in April-July 2014 and/or June-September 2015.

⁷⁸² Presented on Page 415 of this Consultation.

10.74 Having regard to the above, on the basis of direct constraints, the following are considered to fall within the WCA product market:

- WCA based Bitstream products provided over a copper network; and
- WCA based Bitstream products provided over an FTTx network, including hypothetical products offered by SIRO.

Assessment of Indirect Constraints

10.75 Having examined direct constraints above, ComReg now assesses any potential indirect constraints on a HM supplier of WCA products. For example, a vertically integrated SP's self-supply of WCA (not active in the merchant market) could fall within the WCA market if it can be shown that its presence in the retail market exerts a sufficiently strong and immediate indirect pricing constraint on a HM's wholesale supply. Similarly, demand-side substitution by customers at the retail level could indirectly impact the ability of the HM supplier of WCA to profitably sustain an increase in WCA prices above the competitive level.

10.76 As noted in paragraph 5.103, the European Commission guidance⁷⁸³ on the assessment of indirect retail substitution effects arising from a SSNIP by a HM at wholesale level suggests that three factors are considered relevant in assessing indirect constraints:

- (a) Whether and to what extent Access Seekers would be forced to pass a hypothetical wholesale price increase on to their consumers at the retail level based on the wholesale/retail price ratio ('**Criteria A**', discussed in paragraphs 10.78 to 10.90);
- (b) Whether there would be sufficient demand substitution at the retail level in response to the pass-through of the SSNIP in WCA into retail prices such as to render the wholesale price increase unprofitable ('**Criteria B**', discussed in paragraphs 10.91 to 10.118); and
- (c) Whether the retail customers of the Access Seekers purchasing the WCA products would switch to a significant extent to the retail arm of the integrated HM, in particular if the HM does not raise its own retail prices when it raises its wholesale prices ('**Criteria C**', discussed in paragraphs 10.119 to 10.124).

⁷⁸³ See cases UK/2007/0733, ES/2008/805, PT/2008/851.

10.77 Similar to the indirect constraints analysis for the WLA Market, ComReg assesses the strength of any indirect constraints at both the market definition and SMP analysis stages to ensure that any immediate constraints, as well as any more medium-to-longer term effects, if they arise, are accurately captured and considered.⁷⁸⁴

How is a SSNIP of WCA likely to impact on downstream markets - Criteria A?

- 10.78 As outlined in paragraph 5.106 of the analysis of the WLA Market, the assessment of indirect constraints is ultimately about determining the likely impact of a 5% to 10% SSNIP of WCA prices on the relevant retail price and assessing likely retail customer substitution. This is largely a function of the relationship between wholesale and retail prices and the extent of competition in the affected retail markets. If competition in the retail market is intense, then an Access Seeker may not be able to pass on the WCA price increase to retail prices. If the Access Seeker absorbs the WCA price increase, then the strength of an indirect constraint may be less potent than a direct constraint might be.
- 10.79 Furthermore, as noted in paragraph 5.110, even where the purchaser of WCA is intending to pass through some or all of the wholesale price increase into the retail prices, any wholesale price increase will nonetheless be diluted once it is translated into a retail price increase. This is because the wholesale service costs are just one input to the overall retail price. In this respect, an increase of 10% in the price of WCA would not likely directly translate into an equivalent increase at the retail level. In the context of assessing indirect constraints, establishing this ratio between the WCA price and downstream prices is central to the application of the *second criteria* and *third criteria* set out above for assessing indirect constraint.
- 10.80 In a similar fashion to the analysis of the WLA Market, ComReg establishes the Price-Cost Ratio⁷⁸⁵ between retail prices for broadband packages using Bitstream inputs and the wholesale price (cost) of purchasing Bitstream.

⁷⁸⁴ As noted in BEREC “Report on self-supply”, BoR 10(09), March 2010, a majority of NRAs address self-supply at both the market definition and SMP analysis stages of their market reviews.

⁷⁸⁵ See paragraphs 5.111 to 5.114 of this Consultation.

10.81 As outlined in paragraph 10.34, the monthly wholesale rental prices of Bitstream⁷⁸⁶, published on Eircom's wholesale website under their WBARO,⁷⁸⁷ are as follows:

- Bitstream provided over Eircom's copper network (8Mb) €4.90⁷⁸⁸;
- Bitstream provided over Eircom's copper network (24Mb) €5.90⁷⁸⁹;
- Bitstream on a FTTC network €23.00⁷⁹⁰;
- Bitstream on a FTTH network €23.50 (100Mb), €28.50 (300Mb) and €38.50 (1000Mb).⁷⁹¹

10.82 ComReg would note that Eircom's current prices for Bitstream are subject to various price control obligations.⁷⁹² ComReg uses the regulated prices for these services as a proxy for cost in a competitive market outcome. However, ComReg notes that the FTTx based Bitstream products are not subject to a cost orientation obligation at present and, such prices may not necessarily be reflective of those that would pertain in a competitive market outcome. Nonetheless, in the absence of cost estimates they are used and ComReg may, in the final Decision on the WLA and WCA Markets to follow this consultation, revisit this should costing information become available.

⁷⁸⁶ ComReg notes that these monthly charges are not the only costs an SP would incur in providing a retail broadband service based on copper, FTTC or FTTH based networks.

⁷⁸⁷ http://www.openeir.ie/Reference_Offers/?selectedtab=wbaro.

⁷⁸⁸ Open Eir Bitstream price list v.7 34 – pg. 14:
http://www.openeir.ie/Reference_Offers/?selectedtab=wbaro.

⁷⁸⁹ Open Eir Bitstream price list v.7 34 – pg. 14:
http://www.openeir.ie/Reference_Offers/?selectedtab=wbaro.

⁷⁹⁰ Open Eir Bitstream price list v.7 34 – pg. 26:
http://www.openeir.ie/Reference_Offers/?selectedtab=wbaro.

⁷⁹¹ Open Eir Bitstream price list v.7 34 – pg. 26:
http://www.openeir.ie/Reference_Offers/?selectedtab=wbaro.

⁷⁹² See discussion in Section 11 regarding existing price control obligations for WCA products. Copper network Bitstream prices are currently subject to a Cost Orientation price control, as per the 2011 WBA Decision. FTTC and FTTH network based Bitstream services are currently subject to a Retail Minus price control.

Residential Retail Prices

10.83 To estimate average residential retail prices, ComReg looks at retail bundles that include broadband and fixed telephony for copper network based current generation ('CG') Bitstream based products, and at bundles that include broadband, fixed telephony and TV for NGA Bitstream based products. Retail bundles are examined here, because, as noted in Section 3, the vast majority of retail subscribers purchase broadband in a bundle⁷⁹³. The retail SPs included are Eircom, Sky, Digiweb, Vodafone and Imagine. Table 18 below outlines the estimation of the residential prices (excluding VAT) and a full outline of the derivation of these prices is given in Appendix: 4. These prices are consistent with the findings from the 2014 WLA/WCA Market Research among residential customers.⁷⁹⁴

Table 18: Estimation of residential retail prices for products based on CGA and NGA Bitstream inputs – excluding VAT

		Standalone broadband	Broadband and Fixed Telephony	Broadband Fixed Telephony and TV	Combined Average Price
Copper Network based Bitstream	Min	€26.95	€26.95	N/A	€26.95
	Average	€30.79	€37.56	N/A	€34.17
	Max	€34.65	€46.16	N/A	€40.41
Fibre Network based Bitstream	Min	€30.80	€26.91	€55.44	€37.72
	Average	€42.97	€44.98	€65.10	€51.02
	Max	€69.30	€66.99	€84.70	€73.66

10.84 Having regard to the above analysis, ComReg estimates the ratio of the copper network based Bitstream price relative to the retail bundle product to be approximately 16%, set out in Table 19 below.⁷⁹⁵ ComReg estimates the ratio of the fibre network based Bitstream price relative to the retail bundle price to be approximately 45%. As noted above (and in Section 13), the current price control obligations on Eircom for Bitstream provided over its FTTC/FTTH network are not cost-orientated, and may therefore be higher than any cost-orientated charge.

⁷⁹³ Discussed in paragraph 3.38 of this Consultation.

⁷⁹⁴ Outlined in Appendix: 2, Figure 38, page 644 of this Consultation.

⁷⁹⁵ Computed as €5.40/€34.17.

10.85 These price-cost ratios effectively reflect the proportion of the total bill for a package or bundle containing retail services that would likely be affected by a SSNIP in WCA. These can be used to derive the 'dilution effect', being the percentage increase in retail prices that would occur in response to the pass-through of a SSNIP in WCA.

10.86 The approximate dilution effects are set out in Table 19 below. ComReg estimates that:

- a SSNIP in copper network based Bitstream would translate into approximate retail price increases of 0.8% and 1.6% for a SSNIP of 5% and 10% SSNIP respectively; and
- a SSNIP in FTTx based Bitstream would translate into approximate retail price increases of 2.3% and 4.5% for a SSNIP of 5% and 10% respectively.

Table 19: Dilution Ratios - % increase in residential retail prices from SSNIP in WCA – excluding VAT

WCA Product	Wholesale Price € (excl. VAT)	SSNIP Level %	Wholesale Price Increase €	Price-Cost Ratio	Pre-SSNIP Average Retail Price €(excl. VAT) ⁷⁹⁶	Effective Retail Price Increase €	% Retail Price Increase from SSNIP pass-through
Copper network Bitstream	€5.40 ⁷⁹⁷	5%	€0.27	16%	€34.17	€34.44	0.8%
		10%	€0.54			€34.71	1.6%
Fibre network Bitstream	€23.00 ⁷⁹⁸	5%	€1.15	45%	€51.02	€52.17	2.3%
		10%	€2.30			€53.32	4.5%

Business Retail Prices

10.87 ComReg undertook a similar analysis for business customers. The estimation of business retail prices is outlined in Table 20. Business bundles tend to include broadband and fixed telephone lines as well as other business peripherals but tend not to include TV services.

⁷⁹⁶ These average prices are estimated in Table 18 above.

⁷⁹⁷ Average of CGA Bitstream prices: €4.90 (8Mb) and €5.90 (24Mb) - Open Eir Bitstream price list v.7 34 – pg. 14: http://www.openeir.ie/Reference_Offers/?selectedtab=wbaro.

⁷⁹⁸ This is the price of FTTC Bitstream. Higher prices are charged for FTTH:€23.50 (FTTH 100 Mb), €28.50 (FTTH 300 Mb), €38.50 (FTTH 1000Mb) - Open Eir Bitstream price list v.7 34 – pg. 26: http://www.openeir.ie/Reference_Offers/?selectedtab=wbaro.

Table 20: Estimation of business retail prices for products based on LLU and VUA inputs – excluding VAT

		Standalone broadband	Broadband and Fixed Telephony	Combined Average Price
CGA Bitstream	Min	€17.80	€29.00	€23.40
	Average	€50.69	€39.67	€45.18
	Max	€133.53	€45.00	€89.27
NGA Bitstream	Min	€44.36	€40.00	€42.18
	Average	€54.65	€50.00	€52.32
	Max	€64.79	€55.00	€59.90

10.88 The approximate dilution effects for CG Bitstream and next generation ('NG') FTTx based Bitstream are set out in Table 21 below and are similar to those for residential retail prices. The WCA prices are symmetric across business and residential customers. ComReg estimates that:

- a SSNIP in CG Bitstream would translate into approximate retail price increases of 0.6% and 1.2% for a SSNIP of 5% and 10% SSNIP respectively; and
- a SSNIP in NG Bitstream would translate into approximate retail price increases of 2.2% and 4.4% for a SSNIP of 5% and 10% respectively.

Table 21: Dilution Ratios - % increase in business retail prices from SSNIP in WLA – excluding VAT

WCA Product	Wholesale Price € (excl. VAT)	SSNIP Level %	Wholesale Price Increase €	Price-Cost Ratio	Pre-SSNIP Average Retail Price €(excl. VAT) ⁷⁹⁹	Effective Retail Price Increase €	% Retail Price Increase from SSNIP pass-through
copper network CG Bitstream	€5.40	5%	€0.27	12%	€45.18	€45.45	0.6%
		10%	€0.54			€45.72	1.2%
FTTx network NG Bitstream	€23.00	5%	€1.15	44%	€52.32	€53.47	2.2%
		10%	€2.30			€54.62	4.4%

⁷⁹⁹ The estimation of these prices is outlined in Table 20 above.

- 10.89 As noted in paragraphs 10.78 to 10.80 above, a SP purchasing WCA inputs may not necessarily choose to pass through all, or indeed any, of the SSNIP in WCA, but may instead choose to absorb the wholesale price increase. This would further limit the likely extent to which retail substitution by End Users might undermine the profitability of the SSNIP. While it is uncertain whether the entire WCA price increase will be passed through to the price of retail services or other associated prices (or indeed if it is passed through at all), ComReg makes the assumption that it is passed through in full for the purpose of market definition, since this will prevent any underestimation of any indirect retail constraints on the WLA Market arising from the pass-through of a WLA price increase into retail prices.
- 10.90 The next question to be answered is whether retail price increases (arising from the pass-through of a wholesale SSNIP of between 0.6% to 4.4% would induce sufficient retail switching (or reduced demand) to services provided on other platforms (i.e. platforms other than that operated by the HM) such that it would make the wholesale price increase unprofitable.

What response in retail demand would be likely to be required to make a SSNIP unprofitable - Criteria B?

- 10.91 In line with the analysis of the WLA Market, ComReg examines the threshold at which changes in retail demand may undermine the profitability of a SSNIP using the Critical Loss Test ('CLT').
- 10.92 As noted in paragraphs 5.128 and 5.129, the CLT seeks to support a SSNIP analysis by providing an estimate of the percentage of customers that would have to divert away from the Focal Product in response to a SSNIP (in this case the pass-through of a wholesale SSNIP) to make the increase in price of the focal product unprofitable.
- 10.93 The full derivation of the CLT is outlined in Appendix: 7. The CLT, for the purposes of this Consultation, is by no means conclusive, and is considered by ComReg alongside other information referred to throughout the document.
- 10.94 ComReg has estimated critical loss values associated with a 5% and 10% SSNIP for Eircom's WCA products as follows (detailed calculation outlined in Appendix: 7):

- (a) For a 5% SSNIP in the price of WCA, the critical loss value is likely to be approximately 8.0%⁸⁰⁰ for residential retail subscriptions;⁸⁰¹ and
 - (b) For a 10% SSNIP of the price of WCA, the critical loss value is likely to be approximately 14.8% for residential retail subscriptions.⁸⁰²
- 10.95 For business customers, ComReg estimates the critical loss values as follows:
- (a) For a 5% SSNIP of the price of WCA, the critical loss value is likely to be approximately 7.2% for business retail subscriptions;⁸⁰³ and
 - (b) For a 10% SSNIP of the price of WCA, the critical loss value is likely to be approximately 13.5% for business retail subscriptions.⁸⁰⁴
- 10.96 The analysis implicitly assumes that all of the wholesale price increase would be passed through by the Access Seeker into prices at the retail level (which may not be the case).
- 10.97 As described in Section 5⁸⁰⁵, these estimates represent the proportion of retail customers (i.e. those who are currently purchasing retail services for which Eircom's WCA products are a wholesale input) that would have to switch to a retail product provided on an alternative platform in order for that alternative product to be potentially included in the WCA product market on the basis of a sufficient indirect constraint. The critical loss percentages are not dissimilar from those reported for the WLA Market.
- 10.98 If a sufficient number of retail customers were to switch to alternative platforms in response to the SSNIP of WCA by the HM, then the WCA market may potentially be broadened to include the alternative retail products within the WCA market. However, as outlined in Section 5⁸⁰⁶, there are multitude of factors that End Users may take into account when deciding whether to switch suppliers including factors not related to price.

⁸⁰⁰ In this case, in response to a 5% SSNIP in the price of WCA, the HM would need to lose more than 8% of its residential retail subscriptions for the SSNIP to be unprofitable.

⁸⁰¹ Table 94 in Appendix: 7.

⁸⁰² Table 95 in Appendix: 7.

⁸⁰³ Table 96 in Appendix: 7.

⁸⁰⁴ Table 97 in Appendix: 7.

⁸⁰⁵ As discussed in paragraph 5.136 of this Consultation.

⁸⁰⁶ As discussed in paragraph 5.137 of this Consultation.

10.99 Below, ComReg considers whether retail services provided over an alternative CATV platform, could pose a sufficient and immediate indirect competitive constraint on the provision of copper and FTTx based WCA services such that it warrants inclusion in the WCA market.

Retail services provided over CATV

10.100 The strength of the competitive constraint depends largely on the response of retail customers to the pass-through of a hypothetical SSNIP in copper and FTTx based WCA into retail prices.

10.101 In Section 4⁸⁰⁷ and Section 8⁸⁰⁸, ComReg identified that retail broadband services provided over a CATV network to a fixed location as falling within the Retail Broadband Market and the Modified Retail Broadband Market.

10.102 ComReg now considers whether retail services provided over a CATV network should be included within the upstream WCA product market on the basis of indirect constraints. For example, if a 5% SSNIP in WCA was passed on by Access Seekers into their retail prices and whether, in response to the price increase, a sufficient number of such retail customers could switch to a CATV service, thereby rendering the SSNIP in WCA unprofitable.

10.103 As set out in paragraph 5.145, the pass on of a SSNIP in wholesale prices to retail prices will be diluted somewhat, leading to a more muted effect on retail prices than a pure retail price increase of 5 or 10%.

10.104 As outlined in Section 4⁸⁰⁹, the WLA/WCA Market Research suggests that 20% of residential customers (on 'fixed phone line' broadband) that purchase broadband as a standalone product would switch to a CATV connection in response to a €2 SSNIP of their current broadband⁸¹⁰. For those customers who purchase broadband as part of a bundle, the corresponding percentage is 14%⁸¹¹.

⁸⁰⁷ As discussed in paragraphs 4.118 to 4.144 of this Consultation.

⁸⁰⁸ As discussed in paragraph 9.4 of this Consultation.

⁸⁰⁹ As discussed in paragraph 4.23 of this Consultation.

⁸¹⁰ See Appendix: 2, Figure 56: Broadband Type Likely Switch To (Slide 130).

⁸¹¹ See Appendix: 2, Figure 52: Broadband Type Likely Switch To (Slide 117).

- 10.105 A number of factors may limit the potential of an effective indirect constraint from CATV on WCA prices. Firstly, as noted in paragraph 3.21, Virgin Media's CATV network is only available in certain geographic areas, extending to approximately 45% of households in the State. This indicates that a significant number of retail customers affected by a SSNIP in WCA will not be in a position to switch to a CATV based retail product. It is likely therefore that any indirect constraint is limited to areas where Virgin Media has rolled out its CATV network.
- 10.106 Secondly, Virgin Media's network coverage is primarily targeted towards households, with minimal provision of retail services to businesses.⁸¹² This suggests that business customers affected by a SSNIP in WCA prices may not be able to switch to Virgin Media for retail broadband services.
- 10.107 ComReg's preliminary view that it is finely balanced as to whether retail services provided over a CATV network could exert a sufficiently immediate and effective indirect constraint in the WCA market such that they warrant inclusion in the WCA market. However, having regard to the considerations in the geographic market assessment below⁸¹³, as the Virgin Media network does have a significant regional presence and sizeable retail market share in urban areas, ComReg proposes to include the self-supply of Virgin Media CATV based broadband services within the Urban WCA market given its likely potential to exert a sufficient degree of indirect constraint on Eircom (and BT Ireland) in the WCA market, including in circumstances where Eircom also faces a degree of constraint from BT Ireland directly in the WCA market and also from Vodafone at the retail level through its use of WLA to supply retail services.
- 10.108 ComReg further considers the effectiveness of indirect constraints from Virgin Media's network in the geographic market assessment in paragraphs 10.137 to 10.174 below, and in the SMP assessment, contained in Section 10.

Retail services provided by purchasers of WLA services

- 10.109 In paragraphs 10.64 to 10.69, ComReg considered that supply-side substitution into the WCA market via SPs purchasing WLA inputs was unlikely due to the costs involved in entering the WCA market and potential costs involved for any WCA purchaser in switching their wholesale purchases to a new WCA supplier.

⁸¹² This is discussed in paragraph 3.25, Figure 9, where it is noted that Virgin Media's business customers comprise just 2.2% of its total subscriber base.

⁸¹³ Paragraphs 10.137 to 10.174.

- 10.110 Whether there would be sufficient demand substitution at the retail level towards vertically integrated retail SPs operating in the retail market on the basis of WLA inputs in response to the pass-through of a SSNIP in WCA to retail prices (such that it would render the wholesale price increase unprofitable), depends on the size and scale of the network rollout by the WLA purchaser. As noted in paragraph (b), a number of SPs currently avail of (or are planning to avail of) WLA services from Eircom and SIRO for the purposes of supplying their own downstream retail customers. These WLA based SPs services are largely similar to those offered by Eircom given they have access to the same underlying WLA inputs.
- 10.111 ComReg notes that the analysis in this section assumes that all of the remedies that ComReg proposes to impose in the WLA Market (as set out in Section 6) are in place – thereby safeguarding the promotion of competition in downstream markets that rely on such WLA inputs.
- 10.112 Digiweb and Magnet both use LLU and Line Share to provide retail broadband services to their own customers, but do not operate in the WCA Market. However, these SPs have a limited national geographic presence, having made the necessary investments to avail of WLA in a limited number of Eircom’s exchanges.
- 10.113 Vodafone has informed ComReg of its plans to avail of Eircom’s VUA products at a large number of exchanges, enabling it to provide retail broadband (and other) services over Eircom’s FTTC network, independent of regulation of the WCA Market. Vodafone also purchases VULA services from SIRO to provide retail broadband services over SIRO’s FTTH network. However, as noted in paragraph 5.51, the SIRO network rollout has a limited geographic footprint, to date although its coverage is expected to grow somewhat over the coming years. Given Vodafone’s current and expected network and service presence in the Modified Retail Broadband Market, it is likely that a number of End Users would switch to its WLA based retail services in response to a SSNIP in WCA prices (as Vodafone’s WLA based services would remain unaffected by such a SSNIP on WCA), however this result is likely limited to geographic areas where Vodafone has made the necessary investments in availing of Eircom’s WLA inputs (and SIRO services).
- 10.114 As was the case with CATV, vertically integrated SPs operating in the retail market on the basis of WLA inputs will exert a degree of indirect constraint on Eircom in the WCA market, but also a direct constraint in the Modified Retail Broadband Market, including in circumstances where Eircom also faces a degree of constraint from BT Ireland directly in the WCA market and also from Virgin Media at the retail level.
- 10.115 Having regard to Vodafone’s current and expected network coverage and the above, ComReg therefore proposes to include the self-supply of Vodafone’s WLA based broadband services within the WCA market.

10.116 ComReg further considers the constraints imposed by vertically integrated WLA purchasers, such as Vodafone, in the geographic market assessment in paragraphs 10.137 to 10.174 below, and in the SMP assessment, contained in Section 10.

Retail services provided over FWA networks

10.117 In Section 4⁸¹⁴ and Section 8⁸¹⁵, ComReg identified that retail broadband services provided over FWA networks to a fixed location as not being likely to be an effective substitute for broadband services provided over a copper network or FTTx network.

10.118 For the same reasons, it is unlikely to be the case that FWA should be included in the WCA Market on the basis of indirect constraint as insufficient retail demand-side substitution is likely to occur.

Whether the strength of indirect constraints would be weakened by retail customers switching to Eircom's own retail arm? Criteria C

10.119 ComReg now considers the EC's *third criterion* (as identified in paragraph 10.76), which asks whether the retail customers of the Access Seekers purchasing WCA would, following the pass-through of a SSNIP of WCA, switch to the retail arm of the vertically integrated hypothetical monopolist (HM) if the latter does not raise its own retail prices following the SSNIP in WLA.

10.120 In the context of Eircom's supply of WCA, if retail customers switched to Eircom in response to the pass-through of a SSNIP of WCA, Eircom's increased retail revenue may act to offset any lost wholesale revenue from a reduction in wholesale demand for WCA products. In addition, a vertically integrated supplier such as Eircom is more likely to be able to absorb any losses in revenue from their wholesale arm compared to an Access Seeker, who may, in the long run, have no option but to increase retail prices to recover the increase in wholesale costs. If sufficient retail customers thus switched to Eircom in response, this could also potentially lead to the Access Seeker exiting the market.

10.121 Absent regulation, it is likely that a HM vertically-integrated supplier would hold its retail prices constant in the face of a SSNIP of WCA, so as to attract many retail customers as possible away from other SPs that purchase WCA inputs (i.e. Bitstream).

⁸¹⁴ As discussed in paragraphs 4.207 to 4.234 of this Consultation.

⁸¹⁵ As discussed in paragraph 9.4 of this Consultation.

- 10.122 As noted in Section 5⁸¹⁶, the HM supplier's retail service is likely to be considered a viable substitute by retail customers affected by the SSNIP in WLA given the similarity of product characteristics and the low switching costs.
- 10.123 However, it was noted above that alternative platforms (other than those relying on WCA inputs), in particular, CATV and SPs offering retail services on the basis of WLA inputs, are likely to provide an effective indirect constraint on a SSNIP of WCA where available.
- 10.124 On this basis, ComReg's preliminary conclusion is that that retail customers affected by the pass-through of a SSNIP in WCA (i.e. retail customers of Access Seekers who purchase WCA from the vertically-integrated supplier) are also likely to switch to retail products offered by Eircom's retail arm. This effect further diminishes the potential for alternative platforms to act as an effective indirect constraint on a vertically integrated HM supplier of WCA (given that the HM's suppliers profitability would benefit from the associated revenue from such customers).

Summary of Indirect Constraint Assessment

- 10.125 In paragraphs 10.75 to 10.124 above, ComReg has assessed the potential for indirect constraints from downstream retail services over alternative networks on a HM's imposition of a SSNIP of WCA.
- 10.126 ComReg's preliminary view is that the self-supply of retail broadband products offered by SPs using WLA upstream inputs (e.g. Vodafone using inputs from Eircom and SIRO), are sufficiently strong, in the areas where the networks utilised are present, to warrant inclusion in the WCA Market.
- 10.127 In addition, ComReg considers the indirect constraints from Virgin Media's retail CATV network in urban areas (based on its retail self-supply) are sufficiently strong, in the areas where the Virgin Media network is present, to warrant inclusion in the WCA Market.
- 10.128 ComReg further considers constraints from CATV networks and WLA purchasers not operating in the WCA market in the geographic market assessment in paragraphs 10.137 to 10.174 below, and in the SMP assessment, contained in Section 11.
- 10.129 ComReg's preliminary view is that the indirect constraints from FWA, mobile broadband and leased line SPs are unlikely to be sufficiently strong to render a SSNIP of WCA by the HM unprofitable. On this basis, these retail broadband services over alternative networks should not be included in the WCA Market.

⁸¹⁶ As discussed in paragraph 5.165 of this Consultation.

10.130 However, ComReg will continue to monitor both the retail and wholesale markets over the period of this review and examine the development of constraints from downstream retail services provided over alternative networks.

10.131 Overall Preliminary Conclusions on Relevant Product Market

10.132 In paragraphs 10.10 to 10.130 above, ComReg has considered the definition of the WCA market from a product perspective, taking account of demand-side, supply-side and indirect constraints.

10.133 In ComReg's preliminary view, the WCA product market ('**WCA Product Market**') is comprised of:

- (a) Wholesale Bitstream WCA based products provided over copper and FTTx networks, including wholesale Bitstream products provided using upstream WLA inputs.
- (b) Self-supply of WCA based Bitstream by Eircom and BT Ireland.
- (c) Hypothetical WCA based Bitstream products that may be offered by SIRO.
- (d) Self-supply of CATV retail broadband products offered by Virgin Media in areas where its network is present; and
- (e) Self-supply of retail broadband products offered by SPs using WLA upstream inputs and having a wide spread coverage (such as Vodafone)⁸¹⁷.

10.134 Hypothetical Bitstream based WCA products provided over alternative small scale FTTH networks are excluded from the WCA market. There are no effective WCA products currently being supplied over these networks which could serve as an effective substitute for the WCA offering of a HM supplier; and it would be unlikely that an equivalent product could be developed and offered within a relatively short period (e.g. 12 months) and at negligible cost and risk.

⁸¹⁷ We refer to the requirement to have widespread coverage as there are some SPs that use WLA inputs to self-supply retail services within a very small geographic coverage areas and, it is ComReg's preliminary view that such products would not impose an effective indirect constraint upon a HM supplier of WCA services.

10.135 In terms of other indirect constraints stemming from the retail market in particular from FWA, mobile and leased line SPs, ComReg's preliminary view is that any such retail constraints would be limited by the dilution of the wholesale SSNIP when passed on to the retail level, the availability/coverage of such alternative broadband networks to which customers could switch, and the potential for customers to switch to the retail arm of the HM supplier. Thus, it is concluded that indirect constraints from retail broadband offered by alternative FWA, mobile and leased lines SPs are thus not strong enough to justify their inclusion in the WCA Market over the period of this review.

10.136 In the context of the assessment of the geographic scope of the WCA market, we further consider the question as to whether, on the basis of indirect constraints, retail supply of broadband via CATV and vertically integrated SPs using upstream WLA inputs should be included in the WCA market.

Geographic Assessment of WCA Market

10.137 As set out in Section 4⁸¹⁸, the EC's Notice on Market Definition states that the relevant geographic market relates to an area in which the undertakings are involved in the demand and supply of the relevant products or services, and in which the conditions of competition are similar or sufficiently homogeneous.

10.138 Having regard to the above, ComReg assesses the geographic scope of the WCA Market according to the following criteria:

- (a) Geographic differences in entry conditions over time;
- (b) Variation in the number and size of potential competitors;
- (c) Distribution of market shares;
- (d) Evidence of differentiated pricing strategies or marketing; and
- (e) Geographical differences in demand characteristics.

10.139 ComReg's full analysis of the WCA Product Market from a geographic perspective is presented in Appendix: 5 and is referred to throughout this section. In the paragraphs that follow, ComReg highlight the key preliminary findings from this analysis and the implications for the definition of the WCA market.

⁸¹⁸ As discussed in paragraph 4.274 of this Consultation.

Context to Geographical Assessment

- 10.140 ComReg applies the Modified Greenfield Approach in assessing the geographic market. This means that the assessment is carried out under a hypothetical scenario in which there is no *ex ante* SMP regulation in either the WCA Market or the downstream retail (and related) markets. However, regulation in the upstream WLA Market is considered where it might impact the WCA Geographic Assessment. For example, entry by SPs into the WCA Market on the basis of their use of upstream WLA inputs.
- 10.141 As noted in Section 8⁸¹⁹, Eircom operates a near ubiquitous copper network over which it provides retail broadband based on ADSL and ADSL2+ technologies. In 2010, Eircom began to roll out its FTTC and FTTH network based on VDSL and GPON technologies. These networks were first made available in urban areas and currently pass 1.6 million premises in Ireland.⁸²⁰
- 10.142 Eircom offers WCA products over its network, while BT Ireland, a purchaser of WLA products from Eircom, also offers WCA products using these WLA inputs. BT Ireland has unbundled a number of Eircom's larger exchanges, allowing it to provide WCA at these exchanges in combination with its own network infrastructure. In this regard, BT Ireland uses its purchase of LLU and VUA from Eircom in the WLA Market to provide downstream WCA services. While BT Ireland does not provide retail broadband access to residential customers, it provides retail broadband to certain larger business customers and wholesale services, including WCA products, to a number of other SPS, including Sky Ireland and Vodafone. Absent regulation in the WCA Market, BT Ireland would only be in a position to provide retail broadband and WCA to its retail business customers and wholesale customers at exchanges where it has made the necessary investments to avail of WLA products.
- 10.143 As set out in Section 9⁸²¹, Vodafone has announced its intention to invest in backhaul and WEILs at the number of Eircom exchange/node locations around Ireland in order to avail of Eircom WLA products, including its VUA products. Vodafone has not indicated any plans to offer wholesale services in the WCA market.
- 10.144 As noted previously, Virgin Media's CATV network covers 45% of households in the State, mainly in urban areas. The extent of any indirect constraint is therefore limited to urban areas where Virgin Media has network presence.

⁸¹⁹ Discussed in paragraph 9.13 of this Consultation.

⁸²⁰ <http://fibrerollout.ie/where-and-when/>.

⁸²¹ Discussed in paragraph 9.19 of this Consultation.

- 10.145 Additionally, SIRO, plans to offer an FTTH network across 50 locations in Ireland. These locations are mostly outside the footprint of the Virgin Media network, but within areas where Eircom has commenced the rollout of its FTTx network. SIRO does not provide retail broadband access on its network, however, it provides a wholesale VULA service to other SPs to enable them to provide retail services. At present, Vodafone and Digiweb provide retail services using SIRO network inputs.
- 10.146 Having regard to the above, in urban areas, at both the retail and wholesale level Eircom faces more competitors than in non-urban areas, including from BT Ireland (who uses WLA inputs to supply WCA services to Sky and Vodafone), Virgin Media (on its own CATV network) and Vodafone (based on its use of WLA inputs purchased from Eircom and SIRO).
- 10.147 ComReg notes that, absent regulation⁸²², the availability of BT Ireland's WCA services appears to be an important factor in enabling SPs to enter the retail market at the lowest rung on the so-called 'ladder of investment'. This can somewhat lower barriers for SPs in availing of upstream deeper network infrastructure based WLA products. For example, having access to WCA products that have lower investment requirements allows SPs to first build a customer base and achieve increased economies of scale/scope before potentially moving up the value chain to avail of WLA products.
- 10.148 As set out in Section 9⁸²³, it is not ComReg's intention in this Consultation to conclude on the geographic scope of the Modified Retail Broadband Market. Rather, the analysis in Section 9 serves to inform the geographic assessment of the WCA market below.
- 10.149 While a number of SPs have invested in network assets, largely in more urban areas, to provide broadband access, broadband subscribers in rural areas have a more limited number of SPs available to them. As noted in Section 3⁸²⁴, the National Broadband Plan is expected to be awarded in 2017 and aims to provide a broadband connection of at least 30Mbps to every home in the State that is not currently served by high speed broadband.

⁸²² The assumption is that Eircom would not supply WCA absent regulation.

⁸²³ As discussed in paragraph 9.30 of this Consultation.

⁸²⁴ As discussed in paragraph 3.46 of this Consultation.

Relevant geographic unit for the geographic market assessment

- 10.150 As set out in Appendix: 5⁸²⁵, ComReg considers that the relevant geographic unit for the geographic market assessment is the Eircom Exchange area topology. The Explanatory Note to the 2014 Recommendation⁸²⁶ indicates that when NRAs are examining the geographic scope of a market that they should ensure that geographic units:
- (a) Are of an appropriate size;
 - (b) Reflect the network structure of relevant Service Providers; and
 - (c) Have clear and stable boundaries over time.
- 10.151 ComReg is of the preliminary view that using Eircom's Exchange boundaries as the geographic unit in its geographic market assessment in the WCA market is appropriate. Eircom's Exchange boundaries are an appropriate size to allow detailed analysis, yet avoid a burdensome micro-analysis which may not add analytical value. Both Eircom and BT Ireland (the two current suppliers of WCA) use the Eircom Exchange boundaries in their supply of retail and wholesale services. Furthermore, Eircom's Exchange boundaries are relatively stable over time and are well understood by all SPs who purchase services based on the Eircom copper and FTTx network.
- 10.152 Given that Virgin Media and SIRO's networks are not ubiquitous, ComReg's analysis overlays the Virgin Media and SIRO network footprints onto the Eircom Exchange boundaries/areas. This allows ComReg to consider market shares, network presence and coverage of the various SPs within an Eircom Exchange area, regardless of whether they use Eircom inputs in their network.

⁸²⁵ As discussed in Appendix: 5, paragraphs A 5.33 to A 5.54 of this Consultation.

⁸²⁶ See page 14 of the Explanatory Note to the 2014 Recommendation.

- 10.153 In carrying out the assessment of the geographic scope of the WCA market, ComReg intends to only include those SPs that have significant presence in the retail broadband market (whether directly or indirectly), absent regulation in the WCA market. ComReg is of the preliminary view that only those SP having a reasonably sized market share are capable of potentially exerting an effective competitive constraint on other competitors. This assessment is also forward looking in that ComReg has also taken into consideration the planned network presence and rollout plans of various SPs. As such, ComReg proposes to limit its assessment of competitive conditions⁸²⁷ in Exchange Areas to only those '**Primary Operators**' who can operate in the WCA market and the retail market (directly or indirectly) absent regulation in the WCA market, and that have a sizable national (or regional) presence⁸²⁸.
- 10.154 Subject to meeting the above criteria, the following SPs will, for the purposes of the geographic market analysis, be considered as a Primary Operator. ComReg's preliminary view is that the following operators are Primary Operators:
- (a) Eircom;
 - (b) BT Ireland;
 - (c) SIRO;
 - (d) Vodafone; and
 - (e) Virgin Media.
- 10.155 Each of these Primary Operators manages or can access a network, absent regulation in the WCA market, which is capable (or which ComReg considers is prospectively capable within a reasonable timeframe and without incurring significant sunk costs) of providing WCA and/or retail broadband (and other) services using its own network inputs or inputs procured via the WLA market.

Criteria for assessing the WCA geographic market

- 10.156 Appendix: 5⁸²⁹ outlines the proposed criteria for assessing the WCA geographic market and ascertaining whether the conditions of competition in Exchange Areas are sufficiently homogeneous to warrant the definition of a single national market or whether the conditions of competition are sufficiently different between certain Exchange areas such that separate geographic markets can be distinguished. Having regard to the above, ComReg proposes to set out a range of cumulative criteria (each of which is explained below), based around the following conditions:

⁸²⁷ Note that this is not intended as an SMP assessment, but rather an examination as to whether competitive conditions may differ across different geographic areas.

⁸²⁸ ComReg defines Primary Operators in Appendix: 5, paragraphs A 5.59 to A 5.64.

⁸²⁹ Discussed in paragraphs A 5.55 to A 5.80 of this Consultation.

- (a) A minimum number of SPs;
- (b) Network presence;
- (c) SPs' market shares;
- (d) Network coverage of alternative networks; and
- (e) Reasonable additions.

10.157 The analysis of these conditions leads to a set of cumulative criteria that an Exchange Area must meet for consideration as to whether or not there are differences in competitive conditions compared to other geographic areas. As set out in paragraph A 5.58, the proposed criteria are:

- i. **Criteria 1:** An Exchange Area in which at least three Primary Operators would be capable, within a sufficiently short period, of providing either broadband services at the retail level to End Users, WCA or WLA in the Exchange Area, absent regulation in the WCA Market; and
- ii. **Criteria 2:** An Exchange Area in which Eircom would provide broadband services at the retail level to less than 50% of End Users⁸³⁰ within that particular Exchange Area, absent regulation in the WCA Market; and
- iii. **Criteria 3:** An Exchange Area where one or all of the Primary Operators providing retail broadband services to End Users using inputs from the WLA Market provide a total greater than 10% of End Users within that particular Exchange Area, absent regulation in the WCA market; and
- iv. **Criteria 4A:** An Exchange Area in which each Alternative Network Operator⁸³¹ has the network coverage to, within a sufficiently short period, provide retail broadband services to End Users to more than 30% of the premises in that particular Exchange Area (or currently provides greater than 30% of End Users with retail broadband services), absent regulation in the WCA market; and
- v. **Criteria 4B:** An Exchange Area in which each Alternative Network Operator providing retail telecommunication services to End Users provides greater than 10% of End Users within that particular Exchange Area, absent regulation in the WCA Market.

⁸³⁰ Absent regulation in the WCA Market assumes that customers currently served by an Access Seeker using WCA inputs revert back to Eircom (which, absent regulation is not required to provide WCA products).

⁸³¹ At present, Virgin Media and SIRO are the only two SPs classed as alternative network operators being those SPs that have a network that exists independent of WLA and WCA regulation.

- vi. **Criteria 5:** Exceptionally, on a case-by-case basis, where an Exchange Area:
- i. (a) fails no more than one of criteria set out from (2) to (4) above and fails the criterion by a small margin (i.e. less than 10% percent of the percentage specified)⁸³²; OR
 - ii. fails no more than one of criteria set out from (2) to (4) above and where an Alternative Network Operator provides telecommunication services either at the wholesale level or at the retail level which equates to more than 60% of End Users within that particular Exchange Area; that Exchange Area will be deemed to have satisfied the relevant criterion.

Geographic Differences in Entry Conditions

10.158 As discussed above in paragraph 10.141, Eircom's copper network offers near ubiquitous coverage. As a result, Eircom can offer broadband services where its network allows. Access Seekers using WLA inputs to provide WCA (or retail) services over Eircom's copper network can only do so in Exchange Areas where investments have been made to avail of the WLA inputs. Given the cost of the investments and likely return, these investments are likely to be limited to larger Exchange Areas or areas with a higher population/premises density.

10.159 As noted in paragraph 10.141, Eircom's FTTx network is currently being rolled out and, at present, passes 1.6 million premises. This FTTx network allows Eircom to provide faster broadband (and other) services than could otherwise be provided over its copper network. Eircom's FTTx footprint is limited to areas where it considers it is commercially viable to roll out the network. Access Seekers wishing to use Eircom's WLA inputs to provide WCA (or downstream retail) services over Eircom's FTTx network must invest in backhaul and associated facilities to avail of the WLA input. The cost of rolling out a backhaul network and associated facilities at Eircom's Aggregation Nodes means that an Access Seeker's ability to provide WCA services, absent regulation in the WCA Market, is likely to be limited to its potential WLA customer base in urban areas.

⁸³² For example, the requirement for Eircom's market share to be less than 50% (Criteria 2) could be altered to 55% under Criteria 5 (i.e. 110% of the requirement set out in Criteria 2).

- 10.160 Similarly, the rollout of alternative networks, such as the SIRO and Virgin Media networks, depends heavily on premises density and the potential return on investment. As noted in Section 8⁸³³, the Virgin Media network is (largely) limited to urban areas with higher population/premises densities. In addition, the SIRO network is at an early stage of being rolled out, but even on a prospective basis it will largely avoid areas where Virgin Media has rolled out its network. There is, therefore, little overlap of such networks.
- 10.161 Appendix: 5⁸³⁴, provides a breakdown of the number of Exchanges according to the number of Primary Operators providing services within each Exchange Area. On average there are 2 Primary Operators in each Exchange Area. From Table 83 in Appendix: 5, it is clear that a number of SPs have somewhat overcome the barriers to entry to provide services in the WCA market and the retail market at a number of Exchange locations. This information⁸³⁵ indicates that there are a number of Exchanges where Eircom faces greater competition, either directly in the WCA market and/or directly in the retail market for broadband access (and related services).

Variation in the number and size of potential competitors

- 10.162 As noted in paragraph 10.146, Eircom faces a number of competitors in urban areas, where either SPs purchase WLA inputs to provide WCA services (or retail services), or where SPs have built independent (of Eircom) alternative networks (e.g. Virgin Media and SIRO). In rural areas, the intensity of competition is somewhat different due to fewer SPs supplying broadband services in these less densely populated areas. As noted above, the low premises density in these areas often means that it is not economically viable or profitable either to offer broadband services either via WLA inputs or via an alternative network infrastructure.

⁸³³ As discussed in paragraph 9.20 of this Consultation.

⁸³⁴ This information is set out in Table 83 of Appendix: 5.

⁸³⁵ This information was sourced from the relevant operators in the February 2016 Statutory Information Requirement.

10.163 In Appendix: 5⁸³⁶, ComReg also presents an analysis of Eircom's Market Share in the provision of retail broadband services (absent regulation in the WCA market) as well as for the number of identified Primary Operators providing services at the Exchange (on a forward-looking basis). Eircom is the only operator present at all Exchanges where it is possible to receive a broadband service and has a market share of 100% in Exchange Areas where other SPs have either not unbundled the exchange or built an alternative network. As noted in the discussion that follows, Eircom's market share within an exchange area falls as the number of competitors present in an Exchange Area (absent regulation in the WCA Market) increases.

10.164 As noted in paragraph 10.105, the extent of any indirect constraint from Virgin Media is limited to the Exchange Areas where Virgin Media has network presence. Virgin Media's network coverage stands at 45% of households, mostly in urban areas.

Distribution of market shares⁸³⁷

Overview

10.165 Table 22 below present market shares for the two SPs providing services in the WCA market, namely Eircom and BT Ireland. Eircom's market share (a combination of its self-supply to its retail arm, and its wholesale supply) is above 90% nationally.

⁸³⁶ The information is set out in Figure 99 of Appendix: 5.

⁸³⁷ ComReg does not consider the evolution of operator market shares over time in this Consultation. In the final Decision, ComReg will present an analysis of how the market shares presented in this Consultation have changed over time.

Table 22: Market Shares – WCA market – wholesale only

	National Market Share, absent regulation in the WCA market ⁸³⁸	Premises Coverage as % of Total National Premises ⁸³⁹ (as of Q1 2016) ⁸⁴⁰	Eircom Exchange Areas where Service Provider is Present (as of March 2016) ⁸⁴¹
BT Ireland	[< 10%]	[< 10%]	[< 10]
Eircom (Retail)	[< 10%]	[< 10%]	[< 10]
Eircom (Wholesale)	[< 10%]	[< 10%]	[< 10]

Note: Market Share data is based on SP subscription figures, absent regulation in the WCA market.

10.166 Table 23 below outlines the national market shares for the provision of retail broadband services, absent regulation in the WCA market, for SPs that directly supply WCA services, or may impose an indirect constraint on the WCA market (i.e. each of the Primary Operators identified in paragraph 10.154 above). Eircom is found to have the highest national market share which is below 60%, followed by Virgin Media having a market share below 30% and Vodafone which is below 10%.

10.167 In comparison to the market shares set out in Table 22, Table 23 shows that Eircom's market share is lowered having regard to the presence of Primary Operators, although it nonetheless remains high overall.

⁸³⁸ BT Ireland's Market Share is between 7.5% and 15%, Eircom (Retail) Share is between 45-55%, Eircom (Wholesale) Share is between 35% and 45%.

⁸³⁹ Measured as a percentage of premises passed by the relevant network.

⁸⁴⁰ BT Ireland's premises coverage is 60-70%. Eircom (Retail and Wholesale) coverage is greater than 95%.

⁸⁴¹ BT Ireland has an Exchange presence at between 400 and 500 Exchanges Areas. Eircom (Retail and Wholesale) has an Exchange presence at between 950 and 1000 Exchange Areas.

Table 23: Primary Operator Market Shares

	National Market Share, absent regulation in the WCA Market ⁸⁴²	Premises Coverage as % of Total National Premises ⁸⁴³ (as of Q1 2016) ⁸⁴⁴	Eircom Exchange Areas where Service Provider is Present is Planning presence (as of March 2016) ⁸⁴⁵
BT Ireland	3< [] ⁸⁴⁶	3< [] ⁸⁴⁷	3< []
Eircom	3< [] ⁸⁴⁸	3< [] ⁸⁴⁹	3< []
SIRO	3< [] ⁸⁵⁰	3< [] ⁸⁵¹	3< []
Virgin Media	3< [] ⁸⁵²	3< [] ⁸⁵³	3< []
Vodafone	3< [] ⁸⁵⁴	3< [] ⁸⁵⁵	3< []

Note: Market Share data is based on SP subscription figures, absent regulation in the WCA market. This assumes that only those SPs with an independent network (i.e. self-supply) or SPs using upstream inputs from the WLA market can provide services. These figures assume that subscribers of Eircom's wholesale purchasers revert to being Eircom customers, absent regulation in the WCA Market. This assumes Eircom will withdraw its wholesale supply of WCA.

10.168 Table 24 below outlines the market shares among the Primary Operators in the absence of regulation in the WCA market, broken down into the Exchange Areas that meet Criteria 1-5 and those that do not meet the Criteria. This is to assess whether competitive conditions may differ across different geographic areas.

⁸⁴² BT Ireland's Market Share is 5-10%, Eircom Share is 50-60%, SIRO share is less than 1%, Virgin Media share is 25-30%, Vodafone share is 5-10%.

⁸⁴³ Measured as a percentage of premises passed by the relevant network.

⁸⁴⁴ BT Ireland's premises coverage is 60-70%, Eircom coverage is greater than 95%, SIRO coverage is less than 1%, Virgin Media coverage is 35-45%, Vodafone planned coverage is 40-50%.

⁸⁴⁵ BT Ireland has an Exchange presence at 400-500 Exchange Areas. Eircom has an Exchange presence at 950-1000 Exchange Areas, SIRO has a presence in less than 10 Exchange Areas, Virgin Media has a presence in 100-150 Exchange Areas, Vodafone plan to have a presence in 300-400 Exchange Areas.

⁸⁴⁶ BT less than 10%.

⁸⁴⁷ BT less than 70%.

⁸⁴⁸ Eircom greater than 55%.

⁸⁴⁹ Eircom greater than 95%.

⁸⁵⁰ SIRO less than 1%.

⁸⁵¹ SIRO less than 1%.

⁸⁵² Virgin Media less than 35%.

⁸⁵³ Virgin Media greater than 35%

⁸⁵⁴ Vodafone less than 10%.

⁸⁵⁵ Vodafone greater than 45%.

Table 24: Retail Market Shares (Absent regulation in the WCA Market) for Primary Operators (Q1 2016)

	Eircom	Virgin Media	BT Ireland	Vodafone	SIRO	Total Active Subscriptions	% of Total Active Subscriptions
Market Shares - National ⁸⁵⁶	[<■%]	[<■%]	[<■%]	[<■%]	[<■%]	1,250,911	100%
Market Shares of Exchanges meeting Criteria 1-5 ⁸⁵⁷ (88 Exchange Areas) ⁸⁵⁸	[<■%]	[<■%] 859	[<■%]	[<■%]	[<■%]	592,735	47%
Market Shares of Exchanges not meeting Criteria 1-5 ⁸⁶⁰ (1,129 Exchange Areas) ⁸⁶¹	[<■%]	[<■%]	[<■%]	[<■%]	[<■%]	658,177	53%

10.169 Relative to the market share figures presented in Table 22 and Table 23, Table 24 is suggestive that there may be differing competitive conditions across two separate geographic areas – those that meet the criteria 1-5 and those that do not meet the criteria 1-5. Further evidence is considered below.

10.170 ComReg considers that Virgin Media is unlikely to pose an indirect constraint on the WCA Market in those Exchange Areas where it has limited network coverage and market share (i.e. those 1,129 Exchange Areas that do not meet Criteria 1-5). Nevertheless, ComReg considers the extent of any indirect constraint from Virgin Media in the Assessment of SMP in the WCA Markets in Section 11, below.

⁸⁵⁶ Market Shares: Eircom (55-65%), Virgin Media (25-35%), BT Ireland (5-10%), Vodafone (5-10%), SIRO (less than 1%)

⁸⁵⁷ See Appendix: 6, paragraph A 6.1.

⁸⁵⁸ Market Shares: Eircom (25-35%), Virgin Media (45-55%), BT Ireland (5-10%), Vodafone (5-10%), SIRO (less than 1%)

⁸⁵⁹ ComReg notes that based on information gathered to inform the geographic assessment of the WCA Markets in Q1 2016, Virgin Media had a large number of retail subscribers in a number of Exchange Areas where it operates its retail CATV network in the Urban WCA Market area. On a forward-looking basis, and having regard to operator rollout plans (including the rollout of FTTC and FTTH networks), ComReg is of the preliminary view that this market share will likely fall as other Primary Operators grow their network rollout. ComReg will continue to monitor the market shares of Primary Operators in Exchange Areas and will present further analysis in the final Decision on the WLA and WCA Markets.

⁸⁶⁰ See Appendix: 6, paragraph A 6.2.

⁸⁶¹ Market Shares: Eircom (80-90%), Virgin Media (5-10%), BT Ireland (less than 5%), Vodafone (5-10%), SIRO (less than 1%).

Evidence of differentiated pricing or marketing strategies

10.171 ComReg has considered whether there is evidence of differentiated pricing or marketing that might indicate the presence of different regional or local competitive conditions, and in particular, geographically de-averaged or differentiated pricing.

10.172 ComReg sought views from SPs in the SIRs regarding differentiated pricing for retail broadband services. No operator indicated that they vary retail broadband prices within Ireland. ComReg does however note that SPs often vary retail prices, bundling and marketing schemes depending on the network technology available in an area. For example, Eircom has different retail prices for Broadband services provided over its copper network, FTTC network and FTTH network. In addition, retail broadband services are marketed nationally by most SPs, with local marketing campaigns following the rollout of new services (e.g. rollout of FTTx or CATV networks). In addition, ComReg notes that at the wholesale level, neither Eircom nor BT Ireland vary their wholesale prices for WCA services.

Preliminary Conclusion on Geographic Definition of WCA Markets

10.173 Having considered the analysis presented above (including in Appendix: 5) ComReg is of the preliminary view that there are two separate, distinct geographic markets in the provision of WCA services. Based on the criteria set out in paragraph 10.157 and the associated analysis, the two geographic markets are:

- The '**Urban WCA Geographic Market**' being those 88 Exchange Areas where Criteria 1 to 5 have been met;⁸⁶² and
- The '**Regional WCA Geographic Market**' being those 1,129 Exchange Areas where Criteria 1 to 5 have not been met.⁸⁶³

10.174 Table 25 below presents the outcome of applying the criteria for assessing competitive conditions by geographic area (outlined in paragraph 10.157).

⁸⁶² See Appendix: 6, paragraph A 6.1.

⁸⁶³ See Appendix: 6, paragraph A 6.2.

Table 25: Application of Criteria for Assessing Competitive Conditions by Geographic Area

	No. of Exchange Areas	Number of Premises within Exchanges
Urban WCA Market: Exchange Areas meeting Criteria 1-5	88	772,254
Rural WCA Market: Exchange Areas <i>not</i> meeting Criteria 1-5	1,129	1,308,798

Overall Preliminary Conclusions on Definition of the WCA Markets

10.175 In paragraphs 10.10 to 10.136, ComReg analysed the WCA Product Market and set out its preliminary view that it is comprised of

- (a) wholesale Bitstream WCA based products provided over copper and FTTx networks, including wholesale Bitstream products provided using upstream WLA inputs.
- (b) the self-supply of WCA based Bitstream by Eircom and BT Ireland.
- (c) hypothetical WCA based Bitstream products that may be offered by SIRO.
- (d) Self-supply of CATV retail broadband products offered by Virgin Media in areas where the Virgin Media network is present; and
- (e) Self-supply of retail broadband products offered by SPs using WLA upstream inputs and having a wide spread coverage (such as Vodafone)⁸⁶⁴.

⁸⁶⁴ We refer to the requirement to have widespread coverage as there are some SPs that use WLA inputs to self-supply retail services within a very small geographic coverage areas and, it is ComReg's preliminary view that such products would not impose an effective indirect constraint upon a HM supplier of WCA services.

10.176 In paragraphs 10.137 to 10.174, ComReg analysed the WCA Product Market from a geographic perspective and set out its preliminary view that there are two distinctive geographic WCA geographic markets, based on the analysis of the criteria laid out in paragraph 10.157. These are:

- (a) The '**Urban WCA Geographic Market**' being those 88 Exchange Areas where Criteria 1 to 5 have been met;⁸⁶⁵ and
- (b) The '**Regional WCA Geographic Market**' being those 1,129 Exchange Areas where Criteria 1 to 5 have not been met.⁸⁶⁶

10.177 On the basis of the above, ComReg proposes to define two markets:

- (a) The '**Urban WCA Market**' comprising the following products:
 - wholesale Bitstream WCA based products provided over copper and FTTx networks, including wholesale Bitstream products provided using upstream WLA inputs;
 - the self-supply of WCA based Bitstream by Eircom and BT Ireland;
 - hypothetical WCA based Bitstream products that may be offered by SIRO;
 - Self-supply of CATV retail broadband products offered by Virgin Media; and
 - Self-supply of retail broadband products offered by SPs using WLA upstream inputs and having a wide spread coverage (such as Vodafone)⁸⁶⁷.

In those 88 Exchange Areas where Criteria 1 to 5 have been met. The Exchange Areas included in the Urban WCA Market are detailed in Appendix: 6.

and

- (b) The '**Regional WCA Market**' comprising the following products⁸⁶⁸:

⁸⁶⁵ See Appendix: 6, paragraph A 6.1.

⁸⁶⁶ See Appendix: 6, paragraph A 6.2.

⁸⁶⁷ We refer to the requirement to have widespread coverage as there are some SPs that use WLA inputs to self-supply retail services within a very small geographic coverage areas and, it is ComReg's preliminary view that such products would not impose an effective indirect constraint upon a HM supplier of WCA services.

⁸⁶⁸ ComReg is of the view that any indirect constraint from Virgin Media's CATV network is limited to urban areas, covered within the Urban WCA Market. ComReg therefore proposes to exclude the indirect constraint from CATV networks in the definition of the Regional WCA Market. Nevertheless, ComReg considers the extent of any indirect constraint from Virgin Media in the Assessment of SMP in the WCA Markets in Section 11 below.

- wholesale Bitstream WCA based products provided over copper and FTTx networks, including wholesale Bitstream products provided using upstream WLA inputs;
- the self-supply of WCA based Bitstream by Eircom and BT Ireland;
- hypothetical WCA based Bitstream products that may be offered by SIRO; and
- Self-supply of retail broadband products offered by SPs using WLA upstream inputs and having a wide spread coverage (such as Vodafone).

In those 1,129 Exchange Areas where Criteria 1 to 5 have not been met. The Exchange Areas included in the Regional WCA Market are detailed in Appendix: 6.

10.178 Together, ComReg refers to the Urban WCA Market and Regional WCA Market as the '**WCA Markets**'.

Question 9: Do you agree with ComReg's preliminary conclusions on the product assessment for the WCA Markets? Please explain the reasons for your answer, clearly indicating the relevant paragraph numbers to which your comments refer, along with all relevant factual evidence supporting your views.

Question 10: Do you agree with ComReg's preliminary conclusions on the geographic market assessment for the WCA Markets? Please explain the reasons for your answer, clearly indicating the relevant paragraph numbers to which your comments refer, along with all relevant factual evidence supporting your views.

11 Competition Analysis and Assessment of SMP in the WCA Markets

Framework for Assessing SMP

- 11.1 As set out in Section 8 of this Consultation, ComReg has defined two separate markets for the provision of WCA – the Regional WCA Market and the Urban WCA Market (together referred to as the WCA Markets). In this section, ComReg seeks to assess competition within each of these markets and whether or not any SP(s) have SMP within them.
- 11.2 As noted in the SMP analysis of the WLA Market⁸⁶⁹, the concept of SMP is identified in the SMP Guidelines⁸⁷⁰, as a position of economic strength enabling the holder to act independently of its competitors, customers and consumers.
- 11.3 Based on established case law, very large market shares (in excess of 50%) can be considered as evidence of dominance. Thus, market shares in excess of 50% give rise to a strong presumption of SMP. However, the SMP guidelines⁸⁷¹ state that the existence of a high market share alone is not sufficient in itself to establish the existence of SMP and so NRAs should also look at economic characteristics of the relevant market before coming to a conclusion as to the existence of significant market power, including:
- Overall size of the undertaking;
 - Control of infrastructure not easily duplicated;
 - Technological advantages or superiority;
 - Absence of or low countervailing buyer power;
 - Easy or privileged access to capital markets/financial resources;
 - Product/services diversification (e.g. bundled products or services);
 - Economies of scale;
 - Economies of scope;
 - Vertical integration;

⁸⁶⁹ See paragraphs 6.2 to 6.8.

⁸⁷⁰ See paragraph 70 of SMP Guidelines.

⁸⁷¹ See paragraph 78 of SMP Guidelines.

- A highly developed distribution and sales network;
- Absence of potential competition; and
- Barriers to expansion.

11.4 Many of the above factors may be interrelated and all available evidence is considered by ComReg as a whole before a determination regarding SMP is made.

Approach to Assessing SMP in the WCA Markets

11.5 ComReg's approach to assessing SMP in the WCA Markets involves carrying out a forward looking analysis on the basis of existing and likely future market conditions and to consider the range of factors identified above that are of most relevance to these markets.

11.6 ComReg notes that the analysis in this section assumes that all of the remedies that ComReg proposes to impose in the WLA Market (as set out in Section 6) are in place – thereby safeguarding the promotion of competition in downstream markets that rely on such WLA inputs.

Relevant SMP Criteria

11.7 For the purposes of the analysis of the WCA Markets, ComReg considers that the following criteria are of most relevance to the assessment of SMP in each market:

- Overall size of the undertaking;
- Control of infrastructure not easily duplicated;
- Technological advantages or superiority;
- Absence of or low countervailing buyer power;
- Product/services diversification (e.g. bundled products or services);
- Economies of scale and scope;
- Vertical integration;
- A highly developed distribution and sales network;
- Absence of potential competition;
- Barriers to expansion.

11.8 ComReg is also of the view that factors such as historical and likely future pricing behaviour are relevant considerations.

11.9 Other factors identified in paragraph 11.3 above which could be used to assess the existence of market power of an undertaking have been considered but for the reasons set out in Appendix: 11 are considered of less or no relevance for the purposes of the SMP assessment in the WCA Market.

Assessment of SMP

11.10 Each of the relevant factors identified in paragraph 11.7 above are considered in detail below. As with the analysis of the WLA Market, there is an inherent degree of overlap, and ComReg thus proposes to combine its assessment of these factors under the following three broad headings:

- **Existing competition in the WCA Markets:** an assessment of vertical integration, market shares, relative strength of existing competitors, barriers to expansion, economies of scale and scope, indirect constraints, and pricing behaviour (discussed in paragraphs 11.11 to 11.43);
- **Potential competition in the WCA Markets:** overall size of the undertaking, an assessment of control of infrastructure not easily duplicated, barriers to entry in the WCA Markets, as well as considering the overall strength of potential competitors (discussed in paragraphs 11.44 to 11.97); and
- **Strength of any countervailing buyer power (CBP):** an assessment of the impact posed by any strong buyers of WCA on the competitive behaviour of the WCA providers (discussed in paragraphs 11.98 to 11.126).

Existing Competition in the WCA Markets

Eircom and BT Ireland

11.11 As noted in Section 8⁸⁷², Eircom and BT Ireland are the current sole merchant market providers of WCA. At present, Eircom is required to provide Bitstream services over its copper and FTTx network as a result of its existing SMP position, as set out in the 2011 WBA Decision and 2013 NGA Decision. BT Ireland provides WCA based services over Eircom's network using the WLA inputs it purchases from Eircom upstream (LLU and VUA products). BT Ireland supplies WCA services to, amongst others, Sky Ireland and Vodafone⁸⁷³.

⁸⁷² As discussed in paragraphs 10.12 to 10.15 of this Consultation.

⁸⁷³ BT Ireland supplies only CG Bitstream services to Vodafone. Vodafone also purchases CG and NG services from Eircom.

- 11.12 ComReg considers that access to WCA based services is a key enabler for the development of downstream competition in that it facilitates entry to retail broadband markets and the WCA Markets. For example, having access to WCA products enables Access Seekers to achieve economies of scale and scope without having to incur significant sunk costs and thereby enables them to potentially to invest in deeper network infrastructure build and avail of upstream WLA inputs (i.e. to move up the 'ladder of investment').
- 11.13 ComReg considers that the presence of BT Ireland in the WCA Markets provides potential Access Seekers with an existing alternative to Eircom's WCA services. BT does not operate in the residential section of the retail broadband market and as such does not have an incentive to foreclose the retail broadband market from its Access Seekers. BT Ireland has an expansive presence in both the Urban WCA Market and Regional WCA Market by virtue of its LLU and VUA footprints. Outside of its network footprint, BT Ireland also re-sells aspects of Eircom's WCA inputs alongside its own network inputs, providing its wholesale customers with the ability to provide a nationally available retail broadband service. The important role of BT Ireland in the WCA Markets is further highlighted by its supply of WCA services⁸⁷⁴ to Sky Ireland and, to a lesser extent Vodafone, who both have a significant presence in the retail broadband market⁸⁷⁵ by virtue of BT Ireland's supply.
- 11.14 Absent regulation in the WCA Markets and in the hypothetical scenario where BT Ireland was also not present, it is questionable whether SPs would seek to rely, in the first instance, on WLA products to enter the retail market (and/or WCA Markets) given the costs involved in doing so and the impact that this has in achieving economies of scale and scope.
- 11.15 BT Ireland therefore, plays an important part in facilitating entry to retail markets and in providing a degree of competitive constraint upon Eircom in the WCA Markets.
- 11.16 As noted in paragraph 10.133 it is ComReg's preliminary view that SIRO, while not currently present in the WCA Markets has the ability to enter and provide WCA services in those geographic areas where it has a network presence (including its expected network presence). SIRO provides WLA based services to Digiweb and Vodafone, who are both present in the downstream retail broadband market. We return to the impact of SIRO on competition in the WCA Markets in the consideration of potential competition below.⁸⁷⁶

⁸⁷⁴ ComReg notes that BT Ireland uses its WLA inputs (LLU/Line Share and VUA) and WCA inputs (resold WCA from Eircom) to supply both Sky Ireland and Vodafone. Vodafone also purchases services from Eircom and SIRO.

⁸⁷⁵ As set out Figure 7, Section 3 of this Consultation.

⁸⁷⁶ See paragraphs 6.83 to 6.87 of this Consultation.

Market Shares

Introduction

- 11.17 ComReg has considered hypothetical market shares (absent regulation in the WCA Markets) in the Regional WCA Market and Urban WCA Market in Section 10. As part of that analysis ComReg considered likely indirect constraints from those SPs using WLA inputs to self-supply retail broadband services. In light of this it was considered that Virgin Media's self-supply of CATV based broadband and Vodafone's self-supply of retail broadband using upstream WLA inputs fell for consideration in the Urban WCA Market.
- 11.18 However, given Virgin Media lower network presence in the Regional WCA Market ComReg's preliminary view is that it is not likely to pose a sufficient indirect constraint to be included in the Regional WCA Market. Nevertheless, for completeness, in the assessment of market shares below ComReg considers the hypothetical scenario were it to be included.
- 11.19 In the section below, ComReg considers the likely market shares of the main relevant SPs, capable of providing broadband services (both retail and wholesale), absent regulation in the WCA Markets.

Regional WCA Market

- 11.20 Within the Regional WCA Market, Eircom has a high market share. While BT Ireland also provides WCA products using its WLA inputs, it has a limited presence in this geographic area. Insofar as existing competition based on indirect retail constraints is concerned, Virgin Media's network does not have a significant presence in the Regional WCA Market and, as noted in Section 10, ComReg's preliminary view is that CATV based broadband products are not likely to impose a sufficiently effective indirect constraint in this market.
- 11.21 Vodafone's market share in the Regional WCA Market, based on its planned use of VUA from Eircom in the WLA Market⁸⁷⁷, is unlikely to change Eircom's significant presence and market share in the Regional WCA Market. Table 26 below presents the likely market shares for the main network operators capable of providing services in the Regional WCA Market, absent regulation.
- 11.22 ComReg is of the preliminary view that such indirect constraints are unlikely to be sufficiently effective or immediate to prevent Eircom from exercising a profitable SSNIP of WCA in the Regional WCA Market. ComReg does not consider it likely that the strength of these constraints will change sufficiently over the lifetime of this review such that it would prevent Eircom from behaving to an appreciable extent independently of its competitors, customers or consumers.

⁸⁷⁷ Vodafone has indicated to ComReg that it intends to migrate its NGA Bitstream customers to VUA based services during the period of this market review.

Table 26: Market Shares, Regional WCA Market⁸⁷⁸ as at March 2016

	Eircom	Virgin Media	BT Ireland	Vodafone	SIRO⁸⁷⁹
Regional WCA Market	≥ [REDACTED] ⁸⁸⁰	≥ [REDACTED] ⁸⁸¹	≥ [REDACTED] ⁸⁸²	≥ [REDACTED] ⁸⁸³	≥ [REDACTED] ⁸⁸⁴

11.23 ComReg will, in the Decision on the WLA and WCA Markets, present further detail on market shares over time, in the Regional WCA Market.

11.24 ComReg's preliminary view, therefore, is that Eircom's market share in the Regional WCA Market is suggestive (but not determinative in itself) of the ability to behave, to an appreciable extent, independently of competitors, customers and consumers.

Urban WCA Market

11.25 Absent regulation in the WCA Market, in the Urban WCA Market Eircom always faces at least two alternative SPs in each Exchange Area, capable of providing retail and/or broadband services. As a result of the presence of two or more alternative SPs in the Urban WCA Market, Eircom's market share is significantly lower than is the case in the Regional WCA Market. Eircom faces a number of competing networks and an indirect constraint from Virgin Media and Vodafone in the Urban WCA Market (with neither of the latter two SPs providing WCA services).

11.26 For the avoidance of doubt, the market shares presented in Table 27 are the likely market shares for the main network SPs capable of providing services in the Urban WCA Market, absent regulation, as of Q1 2016.

⁸⁷⁸ The Market Share figures presented are based on the hypothetical scenario where Virgin Media's CATV and SIRO's FTTH networks are included in the Regional WCA Market.

⁸⁷⁹ The SIRO figure presented here represents SIRO's supply of WLA to Digiweb and Vodafone.

⁸⁸⁰ Eircom's Market Share is above 80%.

⁸⁸¹ Virgin Media's Market Share is less than 10%.

⁸⁸² BT Ireland's Market Share is less than 10%.

⁸⁸³ Vodafone's Market Share is less than 10%.

⁸⁸⁴ SIRO's Market Share is less than 1%.

Table 27: Market Shares, Urban WCA Market⁸⁸⁵ as at March 2016

	Eircom	Virgin Media⁸⁸⁶	BT Ireland	Vodafone	SIRO⁸⁸⁷
Urban WCA Market	≈< [REDACTED] ⁸⁸⁸	≈< [REDACTED] ⁸⁸⁹	≈< [REDACTED] ⁸⁹⁰	≈< [REDACTED] ⁸⁹¹	≈< [REDACTED] ⁸⁹²

11.27 As evidenced in Table 27 Eircom's market share in the Urban WCA Market is substantially different to that in the Regional WCA Market. On the basis of the market share figures presented above, ComReg's preliminary view, therefore, is that Eircom's market share in the Urban WCA Market is suggestive (but not determinative in itself) that it faces constraints in the Urban WCA Market which may limit its ability to behave, to an appreciable extent, independently of competitors, customers and consumers.

Preliminary Conclusion on Market Shares

11.28 As set out in paragraphs 11.17 to 11.27 above, ComReg is of the preliminary view that based on the market share evidence Eircom likely faces greater constraints in the provision of WCA services in the Urban WCA Market where it competes with alternative network SPs. However, in the Regional WCA Market, where it faces less network based competition, Eircom's market share is significantly higher which is suggestive of a lack of effective competitive constraint.

⁸⁸⁵ The Market Share figures presented are based on the hypothetical scenario where Virgin Media's CATV and SIRO's FTTH networks are included in the Regional WCA Market.

⁸⁸⁶ ComReg notes that based on information gathered to inform the geographic assessment of the WCA Markets in Q1 2016, Virgin Media had a large number of retail subscribers in a number of Exchange Areas where it operates its retail CATV network in the Urban WCA Market area. On a forward-looking basis, and having regard to operator rollout plans (including the rollout of FTTC and FTTH networks), ComReg is of the preliminary view that this market share will likely fall as other Primary Operators grow their network rollout. ComReg will continue to monitor the market shares of Primary Operators in Exchange Areas and will present further analysis in the final Decision on the WLA and WCA Markets.

⁸⁸⁷ The SIRO figure presented here represents SIRO's supply of WLA to Digiweb and Vodafone.

⁸⁸⁸ Eircom's Market Share is between 25% and 35%.

⁸⁸⁹ Virgin Media's Market Share is between 45 and 55%.

⁸⁹⁰ BT Ireland's Market Share is between 5% and 10%.

⁸⁹¹ Vodafone's Market Share is between 5% and 10%.

⁸⁹² SIRO's Market Share is less than 1%.

Indirect Constraints

Introduction

- 11.29 As discussed in paragraphs 10.75 to 10.77, even in the absence of existing competition, a vertically-integrated SP's self-supply could pose a competitive constraint in the WCA Market if it is shown that its presence in the retail market exercises a sufficiently strong constraint on Eircom's supply of WCA.
- 11.30 In Section 10, ComReg's preliminary view is that over the period covered by this market review, certain vertically integrated retail SPs, in particular Virgin Media and Vodafone are likely to provide a sufficient indirect on Eircom's (and BT Ireland's) supply of WCA within those geographic areas where they have a network presence.

Regional WCA Market

- 11.31 As set out in paragraph 10.135, ComReg is of the view that any indirect constraint arising from Eircom's competitors in the retail market would be mitigated due to:
- (a) The dilution of the wholesale SSNIP when passed on to the retail level;
 - (b) The difficulty of switching consumers to an alternative network and the limited availability of alternative networks offering WCA (Bitstream) products; and
 - (c) The ability of customers to simply switch to the retail arm of the HM supplier, given that the HM supplier would be likely to sustain its retail prices while applying a SSNIP on the price of WCA.
- 11.32 ComReg is of the view that these factors prevail when assessing the effectiveness of any constraints arising from existing competition in the Regional WCA Market. For the reasons set out above, and in greater detail in Section 10, ComReg's preliminary view is that over the period covered by this market review, vertically integrated retail SPs are unlikely to provide a sufficient indirect competitive constraint in the Regional WCA Market such that it would prevent a HM of WCA from behaving, to an appreciable extent, independently of competitors, customers or consumers. In particular, ComReg notes that Virgin Media have a limited network presence in the coverage area of the Regional WCA Market and as evidenced in Table 27 above, this is reflected in their lower market shares in this area relative to the Urban WCA Market.

Urban WCA Market

- 11.33 The Urban WCA Market, by its construct, is an area where Eircom faces constraints (whether direct or indirect) in the provision of WCA services. Eircom's market share is lower than 50% in each Exchange Area and there must be at least two other Primary Operators, with a minimum market share criteria to ensure that each operator has a sizable presence in an area.

11.34 Eircom faces an indirect constraint in the provision of WCA from Virgin Media in the Urban WCA Market. The Virgin Media network has a significant network coverage in the Urban WCA Market and a sizeable retail market share suggesting that customers can and do switch to such services. The same can be said of Vodafone on a forward looking basis.

Preliminary Conclusion on Indirect Constraints

11.35 ComReg is of the preliminary view that Eircom faces an indirect constraint in the provision of WCA services in the Urban WCA Market and that this is likely (alongside other constraints) to limit Eircom's ability to act independently of competitors, customers and consumers. However, it does not face a similar constraint in the Regional WCA Market, due to, for example, the lack of substantive alternative network rollout, to date – meaning that customers could not switch to such a network.

Pricing Behaviour

Introduction

11.36 The pricing of WCA products and services over time can provide important insights into the development and extent of competition in the market. In an SMP assessment, the ability of a SP prices of WCA independently of the pricing behaviour of its competitors may be suggestive (but not determinative) of SMP when considered in conjunction with other factors.

11.37 Eircom's wholesale prices for CGA and NGA Bitstream are regulated by ComReg under the 2011 WBA Decision and the 2013 NGA Decision. In line with the 2013 NGA Decision, Eircom is subject to a price control obligation based on a number of margin squeeze tests. Eircom can make price changes to standalone NG Bitstream services so long as they comply with the regulatory obligations set out in the 2013 NGA Decision, including the specified margin squeeze tests. Separately, where NGA services are sold with retail line rental (or PSTN voice), Eircom is obliged to comply with the net revenue test ('NRT') set out in the 2013 Bundles Decision. ComReg notes that the pricing obligations arising through these decisions are not necessarily a good proxy for prices that would occur in a competitive market outcome as they are not necessarily reflective of cost based pricing.

11.38 ComReg notes that neither Eircom nor BT Ireland vary their wholesale WCA prices by geographic area, instead the prevailing price depends on the underlying network technology that is available to deliver the retail broadband service. In addition, ComReg sought information on retail pricing from operators in the February 2015 SIR. No operator indicated to ComReg that they vary retail broadband prices by geographic area, instead choosing to vary prices depending on the availability of the underlying network technology used to deliver the broadband service.

Regional WCA Market

11.39 Absent regulation in the Regional WCA Market, it is ComReg's preliminary view that the resultant lack of effective competition, as noted in the sections above relating to market shares and indirect constraints, would give Eircom the ability and incentive to increase prices (above the competitive level) charged to Access Seekers for WCA.

Urban WCA Market

11.40 In the Urban WCA Market, it is ComReg's preliminary view that because Eircom faces greater competition from alternative network operators (including in the presence of upstream regulation of the WLA Market), that it would not likely be in a position to profitably raise prices above the competitive level, thereby limiting its ability to behave to an appreciable extent, independently of competitors, customers or consumers. For example, Eircom faces direct competition in the Urban WCA Market from BT Ireland (and could from SIRO). It also faces indirect constraints from both Virgin Media and Vodafone.

Preliminary Conclusion on Existing Competition

11.41 Based on the assessment in paragraphs 11.11 to 11.40 above, ComReg's preliminary view is that absent regulation in the Regional WCA Market, it is unlikely that Eircom would be sufficiently constrained by existing competition such that it would prevent Eircom from behaving to an appreciable extent independently of its competitors, customers and consumers. Eircom's persistently high market shares, the lack of an effective pricing constraint and the absence of clear evidence of competition constraining Eircom's pricing behaviour is suggestive of Eircom enjoying a position of SMP in the Regional WCA Market.

11.42 In the Urban WCA Market, Eircom faces significant constraints from existing competition and indirect constraints which can prevent Eircom from behaving independently of its competitors, customers and consumers. On the basis of the above analysis it is suggestive that no SP has a position of SMP in the Urban WCA Market.

11.43 Furthermore, ComReg is of the preliminary view that if future developments in the WCA Markets were to lead to the conditions of competition changing within either the Urban WCA Market or Regional WCA Market (or both), ComReg would likely be required to undertake a new analysis of the WCA Markets. Such market developments, which may alter the conditions of competition in the WCA Markets, include, but are not limited to, a change in market structure (market entry or exit) or changes to demand and/or supply side substitution.

Potential Competition

- 11.44 Noting the absence of an effective competitive constraint posed by existing competition in the Regional WCA Market and the likely effective competitive constraints imposed in the Urban WCA Market, ComReg now assesses the likely effectiveness of any constraints which may stem from potential competition in both the Urban WCA Market and Regional WCA Market.
- 11.45 As noted in paragraph 6.44 in relation to the WLA Market, this assesses whether entry and expansion in the WCA Markets could take place in a timely manner so as to effectively constrain Eircom's ability to act independently of its competitors, customers and consumers over the medium term.⁸⁹³
- 11.46 To this end, ComReg looks at barriers to entry and expansion and the strength of any potential competition having regard to any identified barriers to entry and expansion.

Barriers to Entry and Expansion

- 11.47 Barriers to entry were previously defined in paragraphs 6.47 to 6.49 and ComReg assesses barriers to entry to the WCA Markets under four main headings:
- Overall size of the undertaking and control of infrastructure that is not easily replicated;
 - Sunk costs;
 - Economies of scale, economies of scope and economies of density; and
 - Vertical integration.

Overall size of the undertaking and control of infrastructure that is not easily replicated

- 11.48 As noted in paragraph 6.50, the SMP Guidelines cite control of infrastructure not easily duplicated as one key criterion for assessing whether SMP exists in a market.

⁸⁹³ See paragraph 74 of the European Commission's SMP Guidelines.

- 11.49 As set out in paragraph 3.18 and 3.19, Eircom is the largest supplier of WCA products, and is also the largest provider of retail broadband services in Ireland. Eircom controls a ubiquitous access network that cannot be easily replicated by its retail competitors⁸⁹⁴, maintains a substantial subscriber base and offers a wide product portfolio, which combined, allow Eircom to exploit greater economies of scale and scope in the provision of WCA than could be replicated by a potential entrant.
- 11.50 Potential entry by a SP to the WCA Markets would entail one or more of the following actions:
- (a) Building an independent network to offer WCA, including the use of upstream WLA inputs to do so;
 - (b) Adapting existing network to provide WCA.
- 11.51 Undertaking either of the above would involve a number of entry barriers and the effectiveness of either approach would have a varying impact in constraining Eircom's behaviour in the WCA Markets.

Regional WCA Market

- 11.52 ComReg is of the preliminary view that in the Regional WCA Market, a market entrant is unlikely to rollout a network across a large geographic area. While BT Ireland has made investments in the WLA Market to allow it provide WCA services at some exchanges in the Regional WCA Market, these investments are largely confined to larger exchanges in the Urban WCA Market. In addition, BT Ireland has indicated it does not [REDACTED] [REDACTED] [REDACTED].
- 11.53 It is likely that in the Regional WCA Market many Exchange Areas are either too remote or do not serve a sufficiently sized customer base to warrant the necessary investments to be made in providing WCA (or retail) services, independent of Eircom. i.e., it may only be economic for one SP to be in a position to operate commercially in such areas.

⁸⁹⁴ However, as noted in footnote 482, it is not strictly necessary to replicate Eircom's network in order to pose a potential competitive constraint in the WCA Market.

- 11.54 In Section 10, ComReg's preliminary view was that hypothetical WCA products provided by SIRO would be included in the WCA Markets on the basis of supply-side substitution. However, we also noted that this was confined to SIRO's current and expected geographic network footprint. As noted in Section 5⁸⁹⁵ the SIRO network rollout currently has a limited geographic footprint, although its coverage is expected to grow somewhat over the coming years. However, only some of this future network development will result in some additional network footprint within the Regional WCA Market. However, given that SIRO's rollout is largely confined to urban centres and regional towns, it is likely that most of the network rollout will occur within the Urban WCA Market area.
- 11.55 In addition, ComReg notes that in certain areas of Ireland, largely contained within the Regional WCA Market, that broadband access, if at all available, typically has low download speeds. In these areas, Eircom may provide a WCA service over its copper network, but is unlikely to face any competing network operators. As noted previously, the timing of the NBP and uncertainty around contract award is such that it is ComReg's preliminary view that it is not likely to have a sufficiently material impact within the lifetime of this review to impact on competition within the Regional WCA Market. However, ComReg will closely monitor developments in this regard.

Urban WCA Market

- 11.56 In urban areas, Eircom faces competition from a number of SPs who own independent networks or use WLA inputs to provide retail broadband and/or WCA services.
- 11.57 Virgin Media has rolled out its own DOCSIS 3 network in residential areas across almost all of the Exchange Areas contained within the Urban WCA Market. In addition, SIRO has announced the rollout of an FTTH network to 50 towns, the majority of which are contained within the Urban WCA Market. Although SIRO has no concrete plans to provide WCA products, as set out in Section 10, on the basis of supply-side substitution such hypothetical products are included in the WCA Product Markets. Vodafone, apart from buying WLA services from Eircom, also purchases VULA based WLA services from SIRO to enable its self-supply of retail broadband (and other services). In Section 10, ComReg also proposed to include Vodafone's self-supply of retail broadband services through the use of upstream WLA inputs (purchased from both Eircom and SIRO) within the WCA Markets having regard to the strength of indirect constraints.⁸⁹⁶

⁸⁹⁵ See paragraph 5.51 and 5.52.

⁸⁹⁶ This also is on the assumption that the remedies not proposed for the WLA Market are in place.

11.58 ComReg is of the preliminary view that in the Urban WCA Market area, several firms (Vodafone, BT Ireland (and the purchasers of its WCA services, including Sky), and Virgin Media) have to a reasonable degree overcome barriers to entry in the Urban WCA Market and, on a forward looking basis, this should enable them to compete with Eircom and each other (absent regulation in the Urban WCA Market). In addition, as outlined in paragraph 10.168, Eircom's market share in the Urban WCA Market is suggestive that it has and will likely faces competition from a number of independent network SPs.

Sunk costs

11.59 The concept of sunk costs was defined and discussed previously in paragraph 6.58.

11.60 Eircom operates a ubiquitous copper/FTTx access network that supports the provision of WCA on a near national basis. A significant portion of the sunk costs incurred in the initial construction of the copper network (including the associated duct, pole and other assets) are likely to be amortised at this point in time. In rolling out its FTTx network upgrade, Eircom is also likely to incur some additional sunk costs. Any new entrant would nonetheless face higher sunk costs than those faced by Eircom given its existing network, including the recent FTTx upgrades.

11.61 The extent of sunk costs associated with entry into the WCA Markets would depend on the entry approach and the extent to which the potential entrant already has infrastructure in place (whether its own or through access to another SPs infrastructure). The following paragraphs give an overview of the sunk costs associated with the entry options identified in paragraph 11.50.

11.62 As described in paragraphs 6.62 to 6.64 in relation to the WLA Market, building an independent network would require significant financial investment and time. And while a potential entrant may not need to replicate Eircom's entire network, the extent of geographic coverage is likely, in ComReg's view, to be an important factor for Access Seekers. Thus, there is a trade-off between a smaller network rollout which would likely involve lower sunk costs and a potentially lower base of potential Access Seekers, and a larger network rollout which would likely involve higher sunk costs but a potentially higher base of potential Access Seekers. A more extensive network would, all other things being equal, also potentially have a greater impact on competition in the WCA Markets.

- 11.63 The sunk costs involved in entering the WCA Markets may be somewhat reduced if the potential entrant has an existing network in place. For example, Virgin Media, by virtue of having a CATV network in place, may be able to avoid some of the sunk costs involved in entering the WCA Market. Virgin Media's network is predominately based in urban areas contained within the Urban WCA Market. However, as noted in paragraph 10.44, Virgin Media has not expressed an interest in providing WCA services and at this time it may, although, as noted in the WIK CATV Report for ComReg it may be technically feasible to offer such a product.
- 11.64 Similarly, SIRO could potentially invest in backhaul infrastructure to complement its VULA products, thus enabling it to provide WCA and enter the market. In addition, SIRO also avails of ESB Network's assets (e.g. ducts and poles) as part of its network rollout, thereby lowering its rollout costs. The SIRO rollout to 50 town centres is predominately located within the Urban WCA Market. However, as noted in paragraph 5.51, to date, the geographic footprint of the SIRO network is currently limited.
- 11.65 A purchaser of WLA products that does not currently supply WCA (e.g. Vodafone) could also enter the WCA Market by investing in OSS and BSSS systems. As set out in Section 10, ComReg's preliminary view is that such entry to the WCA Markets was not likely or credible. Nevertheless ComReg considered that Vodafone's self-supply could, over the lifetime of this review, exercise a sufficient indirect constraint on Eircom in those parts of the WCA Markets where Vodafone had coverage (whether their WLA products purchased from SIRO or Eircom). As set out in Section 10, ComReg is of the preliminary view that most of the potential competitive constraint imposed by Vodafone would likely fall within the Urban WCA Market.
- 11.66 However, as noted in paragraph 6.67, an entrant using an existing network would still be likely to incur other sunk costs associated with developing and marketing a wholesale product and putting in place the necessary order handling, product management and billing systems. There may also be other sunk costs also associated with reconfiguration of the network and points of interconnection with wholesale customers to accommodate merchant market entry (as opposed to just self-supply to a downstream retail arm) in the Urban WCA Market.
- 11.67 Overall, ComReg's preliminary view is that sunk costs are more likely to be relevant factor which would undermine entry and/or expansion in the Regional WCA Market. With respect to the Urban WCA Market, evidence on SP's own network build or current and expected use of upstream WLA inputs (which effectively lowers sunk costs and associated risks) by SPs is suggestive that sunk costs do not seem to be a sufficient factor to undermine entry and/or expansion in the Urban WCA Market.

Economies of scale, economies of scope and economies of density

- 11.68 Economies of scale, scope and density were described previously in paragraphs 6.70 and 6.77. In relation to the WCA Markets, economies of scale, scope and density may stem from the retail market, where the cost of supply per customer falls as the number of customers rises.
- 11.69 It is ComReg's preliminary view that the WCA Markets exhibits economies of scale, scope and density. This is because a large proportion of the costs involved in building and maintaining a network are likely to be and thus as the number of customers served rises, the average cost per customer falls. This leads to economies of scale and density when a SP can serve as many subscribers as possible from its investment in a given part of the network, e.g. an exchange or equivalent.
- 11.70 Economies of density are evident from the uneven deployment of competing networks, as outlined in paragraphs 5.50 and 5.67 and also in paragraphs 5.186 to 5.189 of this Consultation.
- 11.71 In the Urban WCA Market, a number of SPs have made network investments (whether own network or through the use of WLA products) to take advantage of the higher density of potential customers within an Exchange Area. The denser urban areas potentially make network rollout easier and more cost effective, as cable (whether copper, fibre or CATV) lengths are shorter between premises to be served and the risks of non-recovery of costs are lower.
- 11.72 In the Regional WCA Market, Eircom has a substantial retail customer base comprised of its retail customers and Access Seekers purchasing WCA services. The economies of density are likely to be much more challenging in the Regional WCA Market, given the semi-urban and rural nature of Exchange Areas (and equivalents) included in the market. This lower density increases the average cost of network roll out, evidenced by the lack of alternative network operators providing services in the Regional WCA Market area and the planned National Broadband Plan.
- 11.73 Overall, the evidence of economics of scale, scope and density and within the Urban WCA Market and Regional WCA Market is suggestive of Eircom having SMP in the Regional WCA Market.

Vertical Integration

- 11.74 The issues around vertical integration in were outlined previously in paragraph 6.29 to 6.35.

Regional WCA Market

- 11.75 In the Regional WCA Market, Eircom, through its supply of WCA and retail services, has, absent regulation incentivises to raise the price of WCA, thereby raising rivals' costs and potentially foreclosing competition at the retail level. By making its rivals less competitive, Eircom could amass a significant portion of their customers at the retail level without the need to rely on wholesale revenue. Furthermore, as noted previously in 10.120, Eircom may be able to absorb the increase in WCA costs passed on to its retail arm if it can offset these higher costs by increasing its retail customer base. It was also noted in paragraph 10.124 that retail customers of an Access Seeker could easily switch to Eircom's retail arm given the similarities in underlying WCA infrastructure.
- 11.76 Eircom's vertically integrated structure could enhance Eircom's suggested SMP position in the Regional WCA Market by allowing it to behave, to an appreciable extent, independently of its competitors, customers and consumers. Further, Eircom's vertically integrated structure serves to potentially increase barriers to entry by, for example, requiring a potential entrant to enter multiple vertically-related markets concurrently.

Urban WCA Market

- 11.77 Eircom's structure is the same in the Urban WCA Market, as it is in the Regional WCA Market. However, in the Urban WCA Market it may, in the presence of WLA regulation and competition from independent networks and SPs using WLA inputs, face lower incentives to behave, to an appreciable extent, independently of its competitors, customers and consumers, namely because it competes with a number of SPs. Insofar as indirect constraints are concerned, rather than losing one of its own retail customers to another independent network (and the entire loss of profitability from that customer), it may face some incentive to provide wholesale services to SPs (as at least in this scenario it retains the profit from the wholesale sales). This may be particularly the case where it also faces a strong competitor in the wholesale merchant market.
- 11.78 ComReg notes that SIRO is a wholesale only network and does not provide retail service within the market. It is also structurally separated from its downstream retail partners, including Vodafone (although ComReg notes that Vodafone is a 50% partner in the JV). In view of this ComReg considers that SIRO likely faces incentives to sell hypothetical WCA services to interested parties.

Strength of Potential Competitors

Introduction

- 11.79 Having discussed the impact of barriers to entry and expansion above, ComReg now examines the likelihood, extent and timeliness of potential entry occurring into the WCA Markets over the lifetime of the review and whether this is likely to alleviate Eircom's suggested SMP position.
- 11.80 In paragraph 11.50 above, ComReg identified that potential entry by a SP to the WCA Markets would entail one or more of the following actions:
- (a) Building an independent network to offer WCA, including the use of upstream WLA inputs to do so;
 - (b) Adapting existing network to provide WCA.
- 11.81 In the paragraphs that follow, ComReg considers the competitive constraints arising from each of these potential entry approaches.

Building an Independent Network to Provide WCA

- 11.82 In paragraphs 6.83 to 6.87 above, ComReg outlined the issues around building an independent ('Greenfield') network to compete with Eircom.
- 11.83 As noted, there are a number of factors which could act as a barrier to this type of entry occurring in the WCA Market:
- (a) The incumbent WCA supplier controls infrastructure that may be difficult for a new entrant to replicate and would involve significant sunk costs (paragraphs 11.59 to 11.67);
 - (b) The incumbent WLA supplier has a large customer base and diversified product range, and therefore benefits from significant economies of scale, scope and density (paragraphs 11.68 to 11.73); and
 - (c) The incumbent WLA supplier benefits from being vertically integrated (paragraphs 11.74 to 11.78).
- 11.84 Eircom's strong position in retail market(s) is also likely to exacerbate the barriers to entry for potential entrants that do not have an existing foothold in related markets (such as fixed telephony, fixed broadband or Pay TV markets).
- 11.85 ComReg notes that Eircom already faces greater network competition in the Urban WCA Market from Virgin Media, BT Ireland, Vodafone and, prospectively by SIRO whose network rollout is also likely to fall more within the Urban WCA Market.

- 11.86 Within the Regional WCA Market, ComReg notes that within the lifetime of this review the NBP contract is expected to be awarded. However, as noted earlier, ComReg's preliminary view is that given the timing and uncertainty regarding which SP(s) will be awarded the NBP contracts, such entry is not likely to act as a sufficient competitive constraint on Eircom in the Regional WCA Market. However, ComReg will keep this under review.
- 11.87 Overall, it is ComReg's preliminary view that potential competition stemming from entry through the construction of an independent network (even in the presence of WLA regulation) is unlikely to sufficiently occur within the Regional WCA Market over the period of this market review such that it would act as an effective competitive constraint. ComReg notes that some independent network operators have a presence in the Regional WCA Market, however their presence, market share and geographic coverage is very limited, and unlikely to change significantly over the lifetime of this market review.

Adapting an Existing Network to Provide WCA

- 11.88 ComReg has also given consideration as to whether there is potential for entry into the WCA Markets by way of adapting an existing network. As noted in paragraph 11.63, the barriers to entry (and in particular the sunk costs) could be reduced if a potential entrant has an existing network that could be leveraged to provide WCA products. In addition, an existing SP also has an existing customer base over which it may, through cross-selling, more easily recover entry costs, and may be better placed to achieve economies of scale, scope, and density relative to a 'new build' Greenfield entrant.

Urban WCA Market

- 11.89 As noted previously in paragraph 10.43, Virgin Media, despite having an independent network and a significant subscriber base within the Urban WCA Market does not offer WCA products. ComReg has, however, included Virgin Media's self-supply within the Urban WCA Market on the basis of the sufficiency of indirect constraints, with this having been considered under existing competition above. However, for similar reasons to those outlined in the analysis of the WLA Markets (paragraphs 6.91 to 6.96), ComReg considers it unlikely that Virgin Media would enter the merchant WCA Markets on any significant scale, if at all, over the period of this market review.
- 11.90 In Section 10 and in the context of existing competition above, ComReg noted that Vodafone avails of Eircom's and SIRO's VUA products to compete in the retail market. Vodafone is not active in the merchant WCA Markets. However, for similar reasons to those outlined in the analysis of the WLA Markets, ComReg considers it unlikely that Vodafone would enter the merchant WCA Market on any significant scale, if at all, over the period of this market review.

- 11.91 As noted above, ComReg is of the preliminary view that hypothetical WCA products provided by SIRO are to be included in the WCA Markets on the basis of supply-side substitution. However, we also noted that this was confined to SIRO's current and expected geographic network footprint which is largely confined to the Urban WCA Market. While it is uncertain whether SIRO would likely offer WCA services, ComReg considers that it has the ability and incentive to do so in circumstances where Eircom were to seek to increase its WCA prices above the competitive level.
- 11.92 Having regard to the above, ComReg is of the preliminary view that, other than SIRO, adapting an existing network to compete in the WCA Markets is unlikely over the time period of the market review, and therefore is unlikely to constrain Eircom's position within the Urban WCA Market.

Regional WCA Market

- 11.93 Within the Regional WCA Market there is a limited presence of alternative network operators that are not already providing WCA services. In light of this, ComReg is of the preliminary view that Eircom is not likely to be constrained by potential competition in the Regional WCA Market.

Preliminary Conclusion on Potential Competition in the WCA Markets

- 11.94 In paragraphs 11.44 to 11.93 above, ComReg has considered the extent to which potential competition would, over the period of this market review, be likely to effectively constrain Eircom's behaviour in the WCA Markets and alleviate Eircom's suggested SMP position in the Regional WCA Market.
- 11.95 Overall, ComReg's preliminary view is that absent regulation in the Regional WCA Market, it is unlikely that Eircom would be sufficiently constrained by potential competition such that it would prevent Eircom from behaving, to an appreciable extent, independently of competitors, customers and consumers.
- 11.96 ComReg's provisional view is that, having regard to the barriers to entry summarised in paragraph 11.47 and considered elsewhere, alternative independent network operators, are unlikely to have extensive network coverage over the period of this review such that it would constrain Eircom's suggested market power in the Regional WCA Market.
- 11.97 Furthermore, it is ComReg's preliminary view that absent regulation in the Urban WCA Market, potential competition from SIRO would, in combination with existing competition, be likely to further constrain Eircom's ability to behave, to an appreciable extent, independently of competitors, customers and consumers.

Countervailing Buyer Power

11.98 In addition to the preceding analysis of barriers to entry and potential competition, it is appropriate to look also at countervailing buyer power ('**CBP**') and whether bargaining power on the buyer side of the WCA Markets could impose a sufficient competitive constraint on Eircom.⁸⁹⁷ Such a constraint could limit Eircom's ability to sustain WCA prices above the competitive level.

Overview of Framework for CBP Assessment

Necessary Conditions for Effective CBP

11.99 The framework for assessing CBP was laid out previously in paragraphs 6.105 to 6.114 in the analysis of the WLA Market.

11.100 Based on guidance contained in the European Commission's 2009 enforcement priorities⁸⁹⁸ (Article 102 of the TFEU) and in the Horizontal Merger Guidelines⁸⁹⁹, effective CBP stems from buyers (customers) that:

- Account for a significant proportion of the supplier's total output;
- Are well-informed about credible alternative sources of supply; and
- Are able to switch to other suppliers at little cost to themselves, or to self-supply the relevant product relatively quickly and without incurring substantial sunk costs.

11.101 It is also of note that effective CBP is that which has a broader market impact and not that which only results in a limited segment of customers benefiting from better terms and conditions.

Impact of Regulation on CBP Assessment

11.102 In undertaking an assessment of CBP, it is necessary to consider the impact of existing or future potential regulation.

⁸⁹⁷ As noted in footnote 507, any CBP must be sufficiently strong to prevent WCA prices rising above a level that would pertain in a competitive market outcome.

⁸⁹⁸ Communication from the Commission — Guidance on the Commission's enforcement priorities in applying Article 82 of the EC Treaty to abusive exclusionary conduct by dominant undertakings (2009/C 45/02). Available at <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:C:2009:045:0007:0020:EN:PDF>.

⁸⁹⁹ European Commissions "Guidelines on the assessment of horizontal mergers under the Council Regulation on the control of concentrations between undertakings", [Official Journal C 31, 05.02.2004](#), para 64, (the '**Horizontal Mergers Guidelines**').

Existing SMP Regulation

11.103 Throughout the present analysis, ComReg has taken the Modified Greenfield Approach⁹⁰⁰ to the analysis, as recommended by the European Commission.

11.104 In the context of the assessment of the existence of any effective CBP, ComReg considers the potential bargaining outcomes in the absence of Eircom having been designated with SMP in the WCA Markets (or being potentially designated with SMP) and absent SMP obligations being imposed on it. However, regulation in the upstream WLA Market is factored in⁹⁰¹. This is to avoid drawing conclusions regarding the competitive structure of a particular market which may be influenced by, or indeed premised on, existing or potential regulation on that market. Considering how the WCA Markets may function absent regulation helps to ensure that regulation is only applied (or withdrawn) in those circumstances where it is truly justified and proportionate. To do otherwise could result in a circularity of argument whereby, for example, the WCA Markets are found to be effectively competitive (or not) only by virtue of constraints arising from existing or potential SMP obligations. Once found then to be effectively competitive, SMP obligations would be withdrawn in the respective market, thereby undermining the original finding of effective competition within that market.

SMP Regulation in markets other than the WCA Markets

11.105 The bargaining position of an undertaking with SMP obligations in markets other than the WCA Markets is likely to be somewhat weakened in any negotiations regarding WCA. In this respect, Eircom is designated as having SMP in a number of regulated markets⁹⁰² and has SMP obligations imposed upon it. As a consequence, this somewhat weakens its bargaining position insofar as it limits the credibility of, for example, threats of increased wholesale prices in those markets – but not the credibility of threats of price increases in the WCA Markets.

⁹⁰⁰ See paragraph 5.5.

⁹⁰¹ ComReg notes that the analysis in this section assumes that all of the remedies that ComReg proposes to impose in the WLA Market (as set out in Section 6) are in place – thereby safeguarding the promotion of competition in downstream markets that rely on such WLA inputs.

⁹⁰² This includes the FVCT, FACO, MVCT (through Meteor) and the Wholesale Leased Lines markets. While Eircom is also designated with SMP in the Wholesale Broadband Access ('WBA') Market, for the purposes of the CBP assessment, we discount this given the requirements of the Modified Greenfield Approach (outlined in paragraph 5.5 and footnote 354).

11.106 As was noted in paragraph 6.113 regarding the WLA Market, a number of Eircom's largest wholesale customers⁹⁰³ are also subject to SMP regulation in other markets which also somewhat constrains their bargaining positions with respect to WCA purchases – as they cannot retaliate in such markets.

11.107 In light of the above, it is ComReg's preliminary view that Eircom's WCA customers' positions in these markets is not likely to strengthen their bargaining power in their negotiations with Eircom, in particular, given their SMP positions in such markets undermines the credibility of any threat to retaliate by, for example, imposing price increases or denying access to wholesale services provided in these markets.

CBP Assessment

11.108 As outlined in paragraph 11.100, effective CBP may arise where buyers (customers):

- (a) account for a significant proportion of the supplier's total output;
- (b) are well-informed about credible alternative sources of supply; and
- (c) are able to switch to other suppliers at little cost to themselves, or to self-supply the relevant product relatively quickly and without incurring substantial sunk costs.

11.109 The above factors are considered below (note that ((b) and ((c) are considered together), along with any evidence of effective CBP being exercised in negotiations between Eircom and Access Seekers. ComReg first assesses CBP the Urban WCA Market before considering the Regional WCA Market.

Size of the Buyer and its Relative Importance to the Seller

11.110 The strength of any CBP can be measured by looking at the volume of purchases by a buyer (Access Seeker) from the incumbent WCA supplier (the largest supplier) relative to the total sales of the incumbent WCA supplier. High shares of WCA purchases concentrated among one or more buyers may also be relevant.

⁹⁰³ In particular, BT Ireland, Vodafone, Magnet and Digiweb (through its purchase of Smart Telecom) are subject to SMP obligations in the FVCT Market pursuant to the 2007 FVCT Decision and 2012 Termination Rates Decision.

Urban WCA Market

11.111 Table 28 below shows the relative size of each SP's wholesale purchases (including Eircom's self-supply) of WCA from Eircom, as of end of Q1 2016 within the Urban WCA Market. It illustrates that Eircom's retail business with a [redacted]⁹⁰⁴ share of overall WCA purchases in the Urban WCA Market is the largest purchaser. Vodafone, with a [redacted]⁹⁰⁵ share of overall WCA purchases, is the largest third-party merchant market purchaser of WCA in the Urban WCA Market. The remaining shares of WCA purchases are split amongst a number of smaller Access Seekers (in terms of purchases). Furthermore, it is important to note that BT Ireland, Digiweb and Magnet also purchase WLA services from Eircom in the Urban WCA Market, with Vodafone planning to move its FTTx based Bitstream customers to VUA based services during the lifetime of this market review.

Table 28: Share of WCA Purchases from Eircom in the Urban WCA Market Q1 2016

Purchaser	Copper network WCA	FTTx WCA	Total
Eircom - Self Supply	[redacted]	[redacted]	[redacted] ⁹⁰⁶
Total Wholesale Merchant Market External Supply – of which:	[redacted]	[redacted]	[redacted] ⁹⁰⁷
Wholesale Supply – Vodafone	[redacted]	[redacted]	[redacted]
Wholesale Supply – BT Ireland	[redacted]	[redacted]	[redacted]
Wholesale Supply – Three	[redacted]	[redacted]	[redacted]
Wholesale Supply – Digiweb	[redacted]	[redacted]	[redacted]
Wholesale Supply – Imagine	[redacted]	[redacted]	[redacted]
Wholesale Supply – Magnet	[redacted]	[redacted]	[redacted]
Wholesale Supply – Pure	[redacted]	[redacted]	[redacted]
Wholesale Supply – IFA	[redacted]	[redacted]	[redacted]
Wholesale Supply – Strencom	[redacted]	[redacted]	[redacted]
Wholesale Supply - Others	[redacted]	[redacted]	[redacted]

⁹⁰⁴ Eircom's share is greater than 60%

⁹⁰⁵ Vodafone's share is less than 20%

⁹⁰⁶ Eircom's Self Supply of WCA is between 140,000 and 150,000.

⁹⁰⁷ Total Wholesale (Merchant Market) Supply is between 75,000 and 85,000.

Regional WCA Market

11.112 Table 29 below shows the relative size of each SP's wholesale purchases (including Eircom's self-supply) of WCA from Eircom, as of end of Q1 2016 from Eircom within the Regional WCA Market. It illustrates that Eircom's retail business with a [redacted]⁹⁰⁸ share of overall WCA purchases in the Regional WCA Market is, by a significant margin, the largest purchaser. Vodafone has a [redacted]⁹⁰⁹ share of overall WCA purchases is by far the largest third-party purchaser of WCA in the Regional WCA Market. In addition, ComReg notes plans by Vodafone to migrate its Fibre network based customers from Eircom's WCA products to Eircom's VUA products. BT Ireland is also a large purchaser of WCA from Eircom in the Regional WCA Market, with a [redacted]⁹¹⁰ share of the WCA purchases. BT Ireland also purchases WLA services from Eircom in parts of the Regional WCA Market. The remaining shares of WCA purchases are split amongst a number of smaller Access Seekers (in terms of purchases).

Table 29: Share of WCA Purchases from Eircom in the Regional WCA Market Q1 2016

	Copper network WCA	FTTx WCA	Total
Eircom - Self Supply	≈ [redacted]	≈ [redacted]	≈ [redacted] ⁹¹¹
Total Merchant Market External Wholesale Supply, of which:	≈ [redacted]	≈ [redacted]	≈ [redacted] ⁹¹²
Wholesale Supply – Vodafone	≈ [redacted]	≈ [redacted]	≈ [redacted]
Wholesale Supply – BT Ireland	≈ [redacted]	≈ [redacted]	≈ [redacted]
Wholesale Supply – Three	≈ [redacted]	≈ [redacted]	≈ [redacted]
Wholesale Supply – Pure	≈ [redacted]	≈ [redacted]	≈ [redacted]
Wholesale Supply – IFA	≈ [redacted]	≈ [redacted]	≈ [redacted]
Wholesale Supply – Digiweb	≈ [redacted]	≈ [redacted]	≈ [redacted]
Wholesale Supply – Imagine	≈ [redacted]	≈ [redacted]	≈ [redacted]
Wholesale Supply – Magnet	≈ [redacted]	≈ [redacted]	≈ [redacted]
Wholesale Supply – Strencom	≈ [redacted]	≈ [redacted]	≈ [redacted]
Wholesale Supply - Others	≈ [redacted]	≈ [redacted]	≈ [redacted]

⁹⁰⁸ Eircom's share is less than 55%

⁹⁰⁹ Vodafone's share is between 25% and 35%

⁹¹⁰ BT Ireland's share is between 10% and 20%

⁹¹¹ Eircom's Self Supply of WCA is between 300,000 and 320,000.

⁹¹² Total Wholesale (Merchant Market) Supply is between 270,000 and 290,000.

Conclusion

11.113 The analysis above, for the WCA Markets, shows that while one Access Seeker accounts for a sizeable proportion of Eircom's WCA sales, the largest purchaser of WCA is Eircom's own retail arm. As set out in paragraph 6.119 of the analysis of the WLA Market, Eircom earns most of its revenue from its retail arm and, absent regulation, ComReg considers that a sizeable portion of retail subscribers of a WCA Access Seeker would be likely to purchase retail services from Eircom. Although in the Urban WCA Market this is likely to be less pronounced given the greater availability of retail broadband services from alternative suppliers.⁹¹³

11.114 Having regard to the above, ComReg's preliminary view is that while Access Seekers are a significant source of revenue for Eircom in the WCA Markets, their relative size is not suggestive that they would have a sufficiently strengthened bargaining position regarding price or other terms of supply.

Credible Alternative Sources of Supply

Urban WCA Market

11.115 It is ComReg's preliminary view, that by the nature of its construct, the Urban WCA Market is an area where Eircom faces greater competition, either from alternative WCA suppliers such as BT Ireland, alternative networks capable of supplying WCA services such as SIRO, but also indirectly from Virgin Media and Vodafone.

11.116 In this regard, ComReg notes that of the 88 Exchange Areas in the Urban WCA Market, the following operators are present:

- **Eircom** – present at [redacted] Exchange Areas;
- **BT Ireland** – capable of providing copper network based Bitstream services at [redacted] Exchanges Areas and FTTx based Bitstream services at [redacted] Exchange Areas;
- **Virgin Media** – capable of providing services at [redacted] of the [redacted] Exchange Areas;
- **Vodafone** – capable of providing FTTx based services at [redacted] Exchanges Areas when network rollout is complete; and
- **SIRO** – network rollout underway, but over the lifetime of this review has potential to provide WCA services in certain areas.

⁹¹³ As noted in paragraphs 10.119 to 10.124, ComReg considers that absent regulation, a number of retail subscribers of Access Seekers using WCA inputs (Bitstream) would switch to purchasing services directly from Eircom.

Regional WCA Market

- 11.117 As noted in paragraph 11.49, Eircom is the largest supplier of WCA in the Regional WCA Market and Access Seekers have limited options for switching to an alternative WCA supplier, although ComReg notes that BT Ireland does supply WCA services in some areas of the Regional WCA Market. In addition, because of the more rural nature of the Regional WCA Market, there is limited scope for a purchaser of Eircom's WLA products or an alternative network operator to supply WCA in the Regional WCA Market as any wholesale offering would need to have a wider geographic footprint to meet the expectations of WCA Access Seekers.
- 11.118 Access Seekers rely on Eircom's WCA services to support retail operations and in the absence of regulation, are unlikely to be in a position to credibly threaten to respond to any changes in Eircom's commercial terms and conditions by seeking an alternative source of supply. As discussed in paragraphs 11.52 to 11.55, the barriers to entry in the Regional WCA Market are likely to be sufficient to inhibit the emergence of any commercially led widespread alternative source of supply for Access Seekers.

Evidence of bargaining power from operator negotiations

- 11.119 ComReg has considered if the exercise of effective CBP is evidenced from any bargaining in WCA negotiations between Eircom and Access Seekers. ComReg sought evidence of bargaining power and CBP from operators in the February 2015 SIR, however no such information was made available to ComReg.
- 11.120 Furthermore, ComReg is of the view that price changes for products provided by Eircom in the WCA Market have only changed in response to existing regulatory obligations or to comply with existing regulatory obligations.
- 11.121 ComReg notes that the above assessment takes place in the context of the markets defined and regulated under the 2010 WPNIA Decision and 2011 WBA Decision. In this Consultation, ComReg proposes that VULA products should be placed in the WLA Market, upstream from the WCA Market (and the previously defined WBA Market products). ComReg notes that this assessment is made having regard to the assumption that all of the remedies that ComReg proposes to impose in the WLA Market (as set out in Section 6) are in place – thereby safeguarding the promotion of competition in downstream markets that rely on such WLA inputs.

Preliminary Conclusion on CBP Assessment

- 11.122 Having regard to the analysis in paragraphs 11.98 to 11.123 above, ComReg's preliminary view is that it is unlikely that Eircom would be sufficiently constrained in the Regional WCA Market by CBP such that it would prevent it from behaving, to an appreciable extent, independently or competitors, customers and consumers.

11.123 While Eircom may face stronger constraints from CBP with respect to its supply in the Urban WCA Market, ComReg does not consider that they would be sufficient, in and of themselves, to act as an effective competitive constraint.

Overall Preliminary Conclusion on Competition Assessment

11.124 In paragraphs 11.11 to 11.123 above, ComReg has considered a wide range of factors to identify whether any undertaking enjoys a position of SMP in the WCA Markets identified in Section 8. These factors have included:

- Existing competition in the WCA Markets;
- Potential competition in the WCA Markets; and
- The strength of any CBP.

11.125 Insofar as the Regional WCA Market is concerned, ComReg's preliminary view is that neither existing competition, potential competition nor CBP are likely, within the lifetime of this market review, to prevent Eircom from behaving, to an appreciable extent, independently or competitors, customers and consumers.

11.126 Insofar as the Urban WCA Market is concerned, ComReg's preliminary view is that existing and potential competition are likely, within the lifetime of this market review, to prevent Eircom from behaving, to an appreciable extent, independently or competitors, customers and consumers. ComReg does not consider that CBP, in and of itself, is likely to constrain Eircom's behaviour in the Urban WCA Market. In view of this, ComReg's preliminary view is that no undertaking is likely to have SMP in the Urban WCA Market. ComReg again notes that this assessment is made having regard to the assumption that all of the remedies that ComReg proposes to impose in the WLA Market (as set out in Section 6 and 8) are in place – thereby safeguarding the promotion of competition in downstream markets that rely on such WLA inputs.

Proposed Designation of Eircom with Significant Market Power in the Regional WCA Market

11.127 ComReg has considered a wide range of factors to identify whether any undertaking enjoys a position of SMP in the WCA Markets identified in Section 8.

- 11.128 ComReg's preliminary view is that the Regional WCA Market is not effectively competitive and that Eircom would not be sufficiently constrained by existing competition, potential competition or CBP such that it would prevent it from behaving, to an appreciable extent, independently or competitors, customers and consumers.
- 11.129 Where ComReg determines, as a result of a market analysis carried out by it in accordance with Regulation 27 of the Framework Regulations, that a given market identified in accordance with Regulation 26 of the Framework Regulations is not effectively competitive, ComReg is obliged to designate an undertaking under Regulation 27(4) of the Framework Regulations as having significant market power.
- 11.130 Having regard to the preliminary conclusions above, ComReg is of the preliminary view that Eircom should be designated as having SMP in the Regional WCA Market.

Question 11: Do you agree with ComReg's assessment of SMP in the WCA Markets?⁹¹⁴ Please explain the reasons for your answer, clearly indicating the relevant paragraph numbers to which your comments refer, along with all relevant factual evidence supporting your views.

⁹¹⁴ Respondents should note that ComReg's assessment of the WCA Markets is made having regard to the assumption that all of the remedies that ComReg proposes to impose in the WLA Market (as set out in Section 6) are in place – thereby safeguarding the promotion of competition in downstream markets that rely on such WLA inputs.

12 Competition Problems in the Regional WCA Market and Impacts on Competition and Consumers

Overview

- 12.1 Having defined the Regional WCA Market (and Urban WCA Market) in Section 10 and having found Eircom to possess a position of SMP in the Regional WCA Market, in this Section, ComReg seeks to identify any competition problems which, absent regulation, could potentially arise in the Regional WCA Market (or related markets). This analysis informs the imposition of appropriate remedies to address the identified competition problems, the discussion of which is outlined in Section 11.
- 12.2 In Section 10 ComReg set out its preliminary view, that there are two WCA Markets, namely the Urban WCA Market and the Regional WCA Market. In Section 11 ComReg set out its preliminary view that Eircom has SMP in the Regional WCA Market, allowing it to act independently of its competitors, customers and consumers. ComReg also set out its preliminary view that no undertaking had SMP in the Urban WCA Market.
- 12.3 As noted in paragraph 2.21, in accordance with Regulation 27(4) of the Framework Regulations, where an undertaking is designated as having a position of SMP in a relevant market, ComReg is required to impose on that undertaking (as deemed appropriate) each of the obligations (or remedies) set out in Regulations 9 to 13 of the Access Regulations.
- 12.4 The European Commission's Explanatory Note to the 2014 Recommendation makes it clear that the underlying purpose of the *ex ante* regulatory framework is to address competition problems that originate from structural factors in the industry. For example, high barriers to entry given the nature of the telecoms industry inhibit the emergence of effective competition, thereby justifying the imposition of *ex ante* regulation.
- 12.5 It is ComReg's preliminary view that the underlying ability and incentives for Eircom to potentially engage in anti-competitive behaviour absent regulation is due to a lack of effective competition in the Regional WCA Market, coupled with Eircom's position as a vertically integrated supplier competing with its wholesale customers in downstream markets.

12.6 ComReg would note that it is neither necessary to catalogue examples of actual abuse nor to provide exhaustive examples of potential abuse. Rather, the purpose of *ex ante* regulation is to prevent the possibility of abuse of dominance given that Eircom has been identified on a preliminary basis as having SMP in the Regional WCA Market.

Types of Competition Problems

12.7 In the absence of regulation in the Regional WCA Market, ComReg considers that Eircom would have the ability and incentive to influence competition through effects on prices, innovation, output and the variety or quality of goods and services provided. As outlined previously in relation to the WLA Market (paragraph 7.8) competition problems can arise when an SMP operator seeks to:

- Exploit customers or consumers by virtue of its SMP position;
- Leverage its market power into adjacent vertically or horizontally related markets with a view to foreclosing or excluding competitors in downstream and/or upstream markets; and
- Exclude or delay investment and market entry into the Regional WCA Market (and ultimately downstream markets).

12.8 Each of these competition problems are considered in detail below. ComReg notes that it intends to carry out a further elaboration on pricing related competition problems in the Separate Pricing Consultation.

Exploitative Practices

12.9 In the context of Eircom's proposed SMP designation in the Regional WCA Market, it is ComReg's preliminary view that Eircom would have the ability and incentive to engage in exploitative practices to its own ultimate competitive advantage.

12.10 Such exploitative practices could include excessive pricing, inefficiency or inertia to the ultimate detriment of End Users. These potential concerns are considered below.

Excessive pricing

12.11 In paragraphs 7.11 to 7.17, ComReg has explained and discussed excessive pricing.

- 12.12 Eircom's presence in the Regional WCA Market is characterised by a high market share (as discussed in Section 11), an absence of effective competition, high and non-transitory barriers to entry associated with control over infrastructure not easily replicated, limited scope for potential competition and insufficient countervailing buyer power (CBP).⁹¹⁵ Thus, there is insufficient pressure to prevent Eircom from behaving independently of its competitors, customers and consumers by for example, engaging in excessive pricing. ComReg is of the view that Eircom is incentivised to exploit its WCA customers in the Regional WCA Market given that it competes with such SPs in downstream retail and/or wholesale markets, as well as in the Regional WCA Market.
- 12.13 For example, as outlined in paragraphs 10.119 to 10.124, if Eircom raised the price of WCA, this would raise input costs for purchasers of WCA from Eircom.⁹¹⁶ Given that such inflated wholesale prices may be passed on by the SPs to their retail and/or wholesale customers via higher retail prices, it could lead to reduced revenues for these SPs and possibly their exit from the downstream retail and/or wholesale markets. This way, Eircom's excessive pricing of WCA could lead to the distortion or foreclosure of competition in these markets.
- 12.14 As noted in Section 7⁹¹⁷, excessive pricing can not only pose a deterrent to entry, but also distort incentives to invest among SPs currently purchasing WCA from Eircom. This too could also limit the extent to which WCA purchasers could climb the ladder of investment to move to the use of more infrastructure related upstream WLA products.
- 12.15 To address the potential for excessive pricing in the Regional WCA Market, ComReg considers that *ex ante* regulation is required. As outlined in paragraph 7.15, competition law applied on an *ex-post* basis is often unsuitable in preventing excessive pricing in markets characterised by a lack of effective competition like the Regional WCA Market.
- 12.16 As noted later in Section 13, ComReg currently imposes a range of price control obligations on Eircom under the 2011 WBA Decision and the 2013 NGA Decision. ComReg is of the view that absent such regulation, WCA prices would not be aligned with prices that would prevail in a competitive market outcome. Given the ability and incentives for Eircom, as the SMP undertaking, to engage in excessive/exploitative pricing, transparency, price control and related cost accounting obligations are therefore considered justified by ComReg to ensure that prices are set at an appropriate level.

⁹¹⁵ These issues were discussed in depth in Section 11.

⁹¹⁶ Assuming Eircom would provide them with such inputs absent regulation.

⁹¹⁷ As discussed in paragraphs 7.11 to 7.17 of this Consultation.

12.17 As with the WLA Market, ComReg is of the preliminary view that price control and related obligations are justified in order to ensure appropriate WCA charges are set at levels that are reflective of the underlying efficient cost of providing these products and that such charges are applied in a non-discriminatory fashion to other Access Seekers and between Access Seekers and Eircom to itself.

Inefficiency/Inertia

12.18 The issues around inefficiency and inertia which may arise from a lack of effective competition in a market were discussed previously in Section 7⁹¹⁸.

12.19 As with the WLA Market, ComReg is of the preliminary view that absent regulation, Eircom would face limited competitive pressure to innovate and provide efficient and effective WCA products. Eircom's WCA customers are, to an extent, dependent on Eircom's timely investment in technology and systems to realise certain efficiency gains, which could potentially be passed on, to some degree, to End Users. As such, potential lower levels of innovation and investment resulting from a lack of effective competition in the Regional WCA Market would likely be to the detriment of End Users.

12.20 For this reason, ComReg's preliminary view is that in addition to price control obligations, access obligations are also justified in order to remedy any potential competition problems that would arise from Eircom's lack of incentive to innovate.

Leveraging

12.21 As described in paragraph 7.24, leveraging takes place where a vertically integrated operator has close links with other markets either at the horizontal or vertical level and can, by virtue of having SMP in one market, transfer (leverage) its market power into these related markets. This could have the effect of strengthening the SMP undertaking's position in those related markets or reinforcing its existing market power in the SMP market in question.

12.22 Given the close relationships between the Regional WCA Market and the Urban WCA Market, WLA Market and related retail markets, Eircom has the incentive to engage in leveraging behaviours in the absence of regulation. The impact of leveraging could include:

- Raising rivals' costs;
- Introducing barriers to accessing WCA products, services and facilities (which in turn could raise barriers to entry and/or expansion in related markets);

⁹¹⁸ As discussed in paragraphs 7.18 to 7.23 of this Consultation.

- Reducing competitive pressures on related wholesale/retail services; and
- Enabling the extraction of additional revenues by the SMP undertaking.

12.23 In the paragraphs below, ComReg examines the competition issues which may arise through leveraging which is of relevance of the Regional WCA Market.

Vertical Leveraging

12.24 Vertical leveraging arises where a vertically integrated undertaking is able to leverage its SMP position at one level in the production or distribution chain into upstream and downstream markets in which it is also active.

12.25 ComReg is of the view that Eircom is incentivised, absent regulation, to use its market power in the Regional WCA Market to influence competition in related wholesale and/or retail markets through its ability to control the key network inputs used by Access Seekers.

12.26 Examples of vertical leveraging include:

- Refusal to deal/denial of access/restrictions on access;
- Non-price based vertical leveraging behaviour;
- Information asymmetries; and
- Price based vertical leveraging behaviour.

Refusal to deal / denial of access / restrictions on access

12.27 As noted in the analysis of the WLA Market⁹¹⁹, vertical leveraging can manifest itself as an outright refusal to supply or as a constructive refusal to supply. Constructive refusal to supply could include delaying tactics such as protracted negotiations in respect of the supply of new wholesale products or features, discriminatory use or withholding of information, quality discrimination, disproportionate entry criteria as well as unreasonable terms and conditions associated with access (e.g. restricting access to backhaul facilities for Bitstream services).

12.28 A restriction on access could entail an SMP operator restricting the use of a WCA product or service, for example not offering certain broadband speeds in order to prevent the Access Seeker competing against them in the retail market among certain types of broadband packages.

⁹¹⁹ As discussed in paragraphs 7.30 to 7.32 of this Consultation.

Non-Price Based Vertical Leveraging Behaviour

12.29 Similar to the analysis of the WLA Market⁹²⁰, non-price based vertical leveraging can amount to constructive rather than outright denial of access and can include:

- (a) Delaying tactics;
- (b) Quality discrimination;
- (c) Creating or exploiting information asymmetries and the withholding of relevant information;
- (d) Disproportionate entry criteria;
- (e) Unwarranted withdrawal of access already granted;
- (f) Unreasonable product bundling/tying.

12.30 Each of the above examples of non-price based vertical leveraging are discussed in detail in paragraph 7.33.

Information Asymmetries

12.31 A vertically integrated SMP undertaking may create or exploit information asymmetries to the detriment of downstream competition.

12.32 As outlined in 7.34, this could include, for example, any differences in the interface between the SMP undertaking's internal access to IT systems, and the wholesale customers' access. Where Access Seekers' do not have visibility or input into relevant IT system changes and are not aware of the IT development process and its timetable, they will be unable to contribute or make a request for a service at the appropriate point.

12.33 Given that Eircom is vertically integrated, it may also be difficult to compare the WCA products provided to its retail arm with those offered to Access Seekers. A lack of transparency in how products are both developed and implemented internally could also make it difficult to demonstrate equivalence. For example, Eircom could launch products at the downstream retail or wholesale level using WCA products not currently made available to Access Seekers. In this case, Access Seekers would not be able to replicate such offerings in the downstream retail markets. Similarly, if Access Seekers are not aware of all of the features of wholesale products available to Eircom internally, they may not be able to avail of them and thus offer a less competitive product in the retail market.

12.34 As outlined in paragraphs 7.35 to 7.40 in the analysis of the WLA Market, further examples of information asymmetries which could potentially be exploited include:

⁹²⁰ As discussed in paragraphs 7.33 to 7.34 of this Consultation.

- Failure of the SMP undertaking to provide information metrics in relation to the overall performance of WCA products;
- Insufficient notice of future planning, network and process changes relevant to WCA products; and
- Disruption of the customer switching process for Access Seekers.

12.35 ComReg's overall view is that, in the absence of regulation, the above competition issues surrounding information asymmetries could arise in the Regional WCA Market. This is due to Eircom's presence in upstream and downstream markets where it is competing alongside Access Seekers.

Price Based Vertical Leveraging Behaviour

12.36 Vertical leveraging can also be observed in the pricing behaviour of the SMP undertaking. As noted in paragraph 12.22, the SMP undertaking could foreclose competition in a downstream market by offering a WCA product that does not allow an efficient Access Seeker to earn sufficient margin and recover their efficiently-incurred costs (i.e. impose a margin squeeze).

12.37 Such a margin squeeze could lead to the foreclosure of competitors, higher prices for retail customers, deterrence of entry/expansion and investment by Access Seekers and the acquiring of Access Seekers' investments in the Regional WCA Market and downstream markets (which may also limit Access Seekers' abilities to move to the use of upstream WLA products).

12.38 Similar to imposing a margin squeeze through WCA prices, an SMP undertaking could also engage in predatory pricing at the retail level. For example, by pricing its retail products below cost (while holding WCA prices fixed), the SMP operator could foreclose competition by exposing retail competitors to a margin squeeze. Once competition has been eliminated, the SMP operator could increase prices either back to their original level or to an anticompetitive inflated level. In considering predatory pricing, the SMP operator must trade-off the short run loss in profits from below cost pricing with the long run gain in profits from reduced competition. The same issue could also arise between the Regional WCA Market and the upstream WLA Market.

12.39 ComReg's preliminary view is that, in the absence of regulation, price based vertical leveraging could arise in the Regional WCA Market given Eircom's position as a vertically-integrated SMP undertaking.

Horizontal Leveraging

12.40 Horizontal leveraging involves an undertaking which has SMP in one market using that market power to exert undue influence in other markets that are at a similar level in the production or distribution chain. Horizontal leveraging can involve variants of tying/bundling, cross subsidisation/predatory-type behaviour and foreclosing competition from infrastructure-based competitors through margin squeeze.

- 12.41 For example, while the WLA Market lies upstream from the WCA Markets, products from both wholesale markets can be used to compete in the same retail broadband (and other) market (as well as WLA being used to compete in the WCA Markets. Similarly, resale or end-to-end wholesale access products, while not considered to fall within the WCA Market, can also be used to provide retail broadband (and other) services to consumers.
- 12.42 Leveraging from the Regional WCA Market into the Urban WCA Market can also occur, as the two markets are horizontal to each other, covering different geographic areas. An operator with SMP in the Regional WCA Market could leverage its dominant position in that market into the Urban WCA Market where it competes with many of the same retail operators. Absent regulation in the Regional WCA Market, Eircom could be incentivised to cross-subsidise retail and/or wholesale services offered in the Urban WCA Market (e.g. lower prices for broadband bundles) to gain market share in the Urban WCA Market and recover any financial losses incurred in the Regional WCA Market where it has a large customer base and high market share and faces less competition from network based SPs and those SPs using WLA inputs.
- 12.43 In the absence of regulation, Eircom could be incentivised to engage in this type of leveraging if the WLA Market is more profitable than the Regional WCA Market. Similarly, if WCA inputs are priced too low relative to WLA inputs, this could discourage investment in infrastructure by Access Seekers specifically tailored to WLA products.
- 12.44 ComReg is of the preliminary view that absent regulation, Eircom would have the incentive and ability to leverage its market power in the Regional WCA Market to impact entry and potential efficient infrastructural investments. For example, where resale or end-to-end products are priced too low relative to WCA or WLA inputs, this might discourage potentially efficient investment in infrastructure to the detriment of consumers.
- 12.45 These potential problems warrant the imposition of remedies relating to access, transparency, non-discrimination, accounting separation, and price control and cost accounting to prevent and/or identify instances of leveraging.

Exclusionary practices

- 12.46 As with the examples of vertical and horizontal leveraging, the SMP operator may attempt to defend its position in the Regional WCA Market by engaging in conduct aimed at defending its position and/or foreclosing the market.
- 12.47 ComReg's preliminary view is that exclusionary behaviours likely to take place in the Regional WCA Market are closely associated with the ability and incentives of a vertically-integrated SMP undertaking, as discussed in paragraphs 12.7 to 12.45 above in the context of leveraging and the exclusionary impacts in horizontally or vertically related markets.

12.48 ComReg is of the preliminary view that, as the vertically integrated undertaking with SMP in the Regional WCA Market, Eircom has both the ability and incentives to restrict or distort the development of competition in the WCA Market.

Overall Preliminary conclusions on competition problems

12.49 Having regard to the analysis set out in paragraphs 12.7 to 12.48, ComReg is of the preliminary view that, absent regulation, Eircom, as the SMP undertaking in the Regional WCA Market has the ability and incentive to engage in actions which could negatively impact on competition and customers in related retail and/or wholesale markets, as well as having the potential to reinforce its dominance in the Regional WCA Market over time.

12.50 ComReg has presented examples of such behaviour and therefore considers that it is justified and proportionate to impose robust obligations on Eircom in the Regional WCA Market relating to access, transparency, non-discrimination, price control and cost accounting and accounting separation. The detail of these obligations is discussed in Section 11 below.

Question 12: Do you agree that the competition problems and the associated impacts on competition consumers identified are those which could potentially arise in the Regional WCA Market (and related markets)? Please explain the reasons for your answer, clearly indicating the relevant paragraph numbers to which your comments refer, along with all relevant factual evidence supporting your views.

13 Remedies for the WCA Market

Approach to Specifying and Implementing Remedies

- 13.1 In Sections 11 and 12, ComReg set out its preliminary view that Eircom has SMP in the Regional WCA Market and identified a range of competition problems and competition or consumer impacts that, absent regulation, could arise in the Regional WCA Market as a result. These competition problems relate to, amongst other things, Eircom having the ability and the incentive to foreclose competition in the Regional WCA Market, leverage its SMP position into adjacent (horizontal and /or vertically related) markets, and exploiting wholesale and retail customers, ultimately to the detriment of competition and End Users.
- 13.2 For the avoidance of doubt, the remedies proposed in this section relate to Eircom's proposed SMP designation in the Regional WCA Market only (given ComReg's preliminary view that Eircom does not hold SMP in the Urban WCA Market).⁹²¹
- 13.3 In this Section, ComReg considers the imposition of regulatory remedies (or obligations) to address these competition problems, and ComReg:
- reviews the legal framework for imposing remedies (paragraphs 13.4 to 13.8 below);
 - reviews existing WCA remedies imposed under the 2011 WBA Decision, 2013 NGA Decision and in other decisions (paragraphs 13.9 to 13.23 below);
 - assesses the regulatory approaches to imposing regulatory remedies in the Regional WCA Market (paragraphs 13.24 to 13.30 below); and
 - proposes and justifies regulatory remedies in the Regional WCA Market relating to access, non-discrimination, transparency, price-control and cost accounting, and accounting separation as well as the withdrawal of certain remedies (paragraphs 13.31 to 13.377 below).

⁹²¹ ComReg has prepared a sunset period (outlined in Section 14) with respect to the maintenance of certain existing obligations in the Urban WCA Market.

Legal Framework for Imposing Remedies

13.4 In accordance with Regulation 8(1) of the Access Regulations⁹²², where an undertaking is designated as having SMP in a relevant market, ComReg is required⁹²³ to impose on such an undertaking such of the obligations set out in Regulations 9 to 13 as ComReg considers appropriate. In this regard, the obligations that may be imposed by ComReg on SMP undertakings are those relating to:

- Access;
- Transparency;
- Non-Discrimination;
- Price Control and Cost Accounting; and
- Accounting Separation.

13.5 In addition, Regulation 8(6) of the Access Regulations provides that any of the above obligations imposed must:

- be based on the nature of the problem identified;
- be proportionate and justified in the light of the objectives laid down in Section 12 of the Communications Regulation Act 2002 (as amended) and Regulation 16 of the Framework Regulations⁹²⁴; and
- only be imposed following public consultation and notification of the draft measures to the European Commission, BEREC and other NRAs in accordance with Regulation 12 of the Framework Regulations.

⁹²² European Communities (Electronic Communications Networks and Services) (Access) Regulations 2011 (S.I. No. 334 of 2011) (the '**Access Regulations**').

⁹²³ The SMP Guidelines also state at paragraph 17 that "*NRAs must impose at least one regulatory obligation on an undertaking that has been designated as having SMP*".

⁹²⁴ Pursuant to section 12 of the Communications Regulation Act 2002 (as amended), ComReg's relevant objectives in relation to the provision of electronic communications networks and services are: (i) to promote competition, (ii) to contribute to the development of the internal market, and (iii) to promote the interests of users within the Community. Regulation 16 of the Framework Regulations further specifies ComReg's obligations.

- 13.6 Regulations 12(1) and 12(4) of the Access Regulations also provide statutory criteria that ComReg must take into account before imposing access obligations on an SMP undertaking. These criteria include, inter alia, examining the technical and economic viability of using or installing competing facilities; the feasibility of providing access; the initial outlay of investment by the undertaking; and the need to safeguard competition in the long term.
- 13.7 Regulation 13(2) and Regulation 13(3) of the Access Regulations provide that ComReg is also required, when imposing price control obligations, to take into account
- the investment made by the SMP operator which ComReg considers relevant and allow such operator a reasonable rate of return on adequate capital employed, taking into account any risks involved specific to a particular new investment network project⁹²⁵; and
 - ensure that any cost recovery mechanism or pricing methodology that ComReg imposes serves to promote efficiency and sustainable competition and maximise consumer benefits⁹²⁶.
- 13.8 These considerations are taken into account throughout this Section, as appropriate, when assessing whether and what form of remedy to impose, and are also discussed in further detail in the context of the Regulatory Impact Assessment found in Section 15. ComReg has also taken the following into account in considering the imposition of remedies on the SMP service provider:
- the EC's 2010 NGA Recommendation, 2005 Accounting Separation and Cost Accounting Recommendation and the 2013 Non-Discrimination Recommendation;
 - the "revised BEREC common position on best practice in remedies on the market for wholesale broadband access (including Bitstream Access) imposed as a consequence of a position of significant market power in the relevant market"⁹²⁷ and

⁹²⁵ Pursuant to Regulation 13(2) of the Access Regulations.

⁹²⁶ Pursuant to Regulation 13(3) of the Access Regulations.

⁹²⁷ Revised BEREC common position on best practice in remedies on the market for wholesale broadband access

http://berec.europa.eu/eng/document_register/subject_matter/berec/regulatory_best_practices/common_approaches_positions/1126-revised-berec-common-position-on-best-practice-in-remedies-on-the-market-for-wholesale-broadband-access-including-bitstream-access-imposed-as-a-consequence-of-a-position-of-significant-market-power-in-the-relevant-market

- the comments letters issued by the European Commission pursuant to Articles 7 and 7a of the Framework Directive in its review of regulatory measures notified by Member States under the EU consultation mechanism for electronic communications service.

Existing WCA Remedies

13.9 Before considering which remedies would best meet ComReg's statutory/regulatory objectives in the Regional WCA Market, it is worth highlighting the existing remedies that are in place with respect to Eircom's provision of WBA arising from the obligations imposed in the 2011 WBA Decision, 2013 NGA Decision and subsequently in other relevant decisions. These are discussed⁹²⁸ briefly below⁹²⁹.

Existing WCA access remedies

13.10 Eircom is currently subject to a range of access obligations in the WBA market, under the 2011 WBA Decision, having been designated with SMP in the 2011 WBA Decision. These obligations were further specified in the 2013 NGA Decision. The remedies were designed to address various competition problems that were identified in the 2011 WBA Decision. The access obligations imposed under the 2011 WBA Decision and further specified in the 2013 NGA Decision require Eircom to provide the following services and facilities:

- (a) Next Generation Bitstream combined with Multicast where required;
- (b) VUA combined with support for Multicast where required⁹³⁰;
- (c) Backhaul for Next Generation Bitstream and VUA, including backhaul on Ethernet technology;
- (d) Co-Location;
- (e) Interconnection, including interconnection based on Ethernet technology, to the following:

⁹²⁸ This does not purport to be an exhaustive list of each individual remedy currently imposed upon Eircom. Details of existing obligations imposed upon Eircom are available at http://www.ComReg.ie/telecoms/table_of_smp_obligations.563.1076.html.

⁹²⁹ The terminology used throughout this section on existing WCA remedies largely reflects the terminology as was used in the 2011 WBA Decision, 2013 NGA Decision and other decisions.

⁹³⁰ As set out in Sections 5 to 8 of this Consultation, ComReg is proposing that Eircom's VUA products now fall into the WLA Market, which is upstream of the WCA Market.

- IBH;
- ISH;
- CSH;
- Migrations; and
- In Premises Services.⁹³¹

13.11 In addition, the 2013 NGA Decision also imposed obligations upon Eircom to:

- (a) Provide access to service and facilities in accordance with the requirements of the Decision Instrument and with any product descriptions and conditions that were contained in the then current version of the Wholesale Bitstream Access Reference Offer (**'WBARO'**);
- (b) To negotiate in good faith with undertakings requesting access;
- (c) Not to withdraw access to facilities already granted without ComReg's prior approval;
- (d) To grant open Access to technical interfaces, protocols or other key technologies that are indispensable for the interoperability of services or virtual network services;
- (e) To provide access to OSS or similar software systems necessary to ensure fair competition in the provision of services; and

13.12 Eircom was additionally required to provide access in a fair, reasonable and timely manner. In that regard, Eircom was required to:

- (a) Conclude, maintain or update, as appropriate, legally binding SLAs which include provision for associated Performance Metrics with OAOs;
- (b) Negotiate in good faith with OAOs in relation to the conclusion of legally binding and fit-for-purpose SLAs;
- (c) Ensure that all SLAs include provision for service credits arising from a breach of an SLA, with details of how service credits are calculated;
- (d) Ensure that payment of service credits, where they occur, shall be made in a timely and efficient manner; and
- (e) Ensure that where a request for provision of Access, or a request for provision of information is refused or met only in part, Eircom shall, provide the objective criteria for refusing a request for access or information.

⁹³¹ "In Premises Services(s)" means associated service(s) provided by Eircom to an Access Seeker which enable or support the provision of NGA WBA services and facilities.

Existing non-discrimination remedies

- 13.13 Eircom is subject to non-discrimination obligations under the 2011 WBA Decision and the 2013 NGA Decision, with respect to the provision of WBA.
- (a) Apply equivalent conditions in equivalent circumstances to other undertakings providing equivalent services; and
 - (b) Ensure that all services and information are provided to other undertakings under the same conditions and of the same quality as the services and information that Eircom provides to its own services or those of its subsidiaries or partners.
- 13.14 In addition, services and information shall be provided by Eircom to Access Seekers in sufficient time, that is, the earlier of:
- at the same time as the WBA service(s) or information is provided to Eircom's retail or downstream division; or
 - at least two months prior to any Eircom retail service or facility, which relies on the provision of the WBA service(s) or information, being made available being made available by Eircom in the retail or downstream market, unless otherwise agreed with ComReg.
- 13.15 Eircom was also required to ensure that access to OSS and information shall be of the same standard and quality as that which Eircom provides to itself.
- 13.16 The 2013 NGA Decision additionally imposed obligations on Eircom:
- (a) To provide pre-ordering, ordering, provisioning, fault reporting and repair for Next Generation Bitstream and VUA on an EOI basis;
 - (b) To provide access to all other product services and facilities on an EoO basis;
 - (c) To submit Statements of Compliance ('SoC') to ComReg within a specified time frame; and
 - (d) To provide specific information with respect to contents of the SoC;
 - (e) Not to launch Next Generation WBA until 20 May 2013 or until all the conditions with respect to non-discrimination and transparency were met; and
 - (f) To advise ComReg in writing of any potential co-investment arrangements in relation to NGA WBA products.

Existing transparency remedies

- 13.17 The 2011 WBA Decision and 2013 NGA Decision imposed various transparency obligations on Eircom in relation to the provision of services, with ComReg requiring it to publish specified information, such as accounting information, technical specifications, network characteristics, terms and conditions for supply and use and prices.

13.18 Amongst the obligations imposed under these Decisions, were included requirements on Eircom to:

- (a) publish a WBARO which should contain a minimum specified set of details with respect to the access products defined, including prices; be sufficiently unbundled so that Access Seekers are not required to pay for services that are not requested; and be subject to a transparent change management process, including advance public notification of proposed changes to products and prices;
- (b) provide, in accordance with specified timeframes, advance notification to Access Seekers and to ComReg of proposed changes to the WBARO, prices and the introduction of products, services and facilities;
- (c) ensure transparency in its billing by making its wholesale invoices sufficiently disaggregated, detailed and clearly presented such that an Access Seeker can reconcile the invoice to Eircom's WBARO and WBARO prices;
- (d) publish information in respect of Next Generation WBA products, services, facilities and processes which shall be sufficient to identify and justify any permissible differences between these products, services, facilities and processes and those which Eircom supplies to itself;
- (e) publish on its publicly available website KPIs, Performance Metrics and SLAs relating to WBA products, services and facilities;
- (f) publish in advance on its publicly available website information regarding its NGA roll out plans providing at different timeframes specific information with respect to geographic availability of the service;
- (g) make available and keep updated on its publicly available wholesale website at least six (6) months in advance of implementation (or such period as may be reasonably agreed with ComReg), information regarding the introduction of, changes to, or technical developments relating to Eircom's network, infrastructures or new technologies, as well as sufficient information regarding products, services and facilities which could reasonably be expected to support products, services or facilities in respect of Next Generation WBA (or such other information as reasonably required by ComReg), including as regards such products, services or facilities to be offered to Eircom's retail or downstream division;
- (h) provide details to ComReg in respect of the rollout of NGA;
- (i) meet requirements concerning access to confidential and/or commercial information; and

- (j) make available and keep updated on its publicly available wholesale information such as accounting information, technical specifications, network characteristics, terms and conditions for supply and use, and prices and as may be specified by ComReg from time to time.

Existing price control remedies

- 13.19 Eircom's current generation ('**CG**') copper based WCA services (Bitstream and Bitstream managed backhaul ('**BMB**')) are currently subject to a cost orientation price control obligation, a margin squeeze obligation and a price floor, as set out in the 2011 WBA Decision. These obligations are further specified in the following decisions:
- (a) ComReg Decision D06/12⁹³² (referred to throughout this section as the '**2012 WBA Price Floors Decision**');
 - (b) ComReg Decision D11/14⁹³³ (referred to throughout this section as the '**2014 WBA Pricing Decision**');
 - (c) ComReg Decision D03/16 (2016 Access Pricing Decision), in relation to the pricing approach of standalone broadband ('**SABB**').
- 13.20 The purpose of the 2012 WBA Price Floors Decision is to prevent Eircom from setting its Bitstream prices too low such that they could discourage investment in LLU by alternative operators. Arising from the 2014 WBA Pricing Decision Eircom is obliged to comply with a national cost orientation obligation, a sub-national cost orientation outside the LEA⁹³⁴ (referred to as '**Outside the LEA**') as well as a retail margin squeeze test (differentiated by larger exchange area⁹³⁵ ('**LEA**') and Outside the LEA). The 2016 Access Pricing Decision further specifies, among other things, the pricing methodology and maximum price for SABB Outside the LEA.
- 13.21 Eircom's next generation ('**NG**') services i.e., VUA (now defined as falling within the WLA Market) and NG Bitstream, (i.e. the monthly rental element) are not currently subject to a cost orientation obligation but subject to a number of margin squeeze tests based on the 2013 NGA Decision.
- 13.22 CG and NG WCA ancillary services are also subject to the obligation of cost orientation based on the 2013 NGA Decision.

⁹³² ComReg Document No 12/32: Wholesale Broadband Access: Further specification to the price control obligation and an amendment to the transparency obligation; dated 5 April 2012 ('**2012 WBA Price Floors Decision**').

⁹³³ ComReg Document No 14/73R: 'Wholesale Broadband Access: Price Control obligation in relation to current generation Bitstream ('**2014 WBA Pricing Decision**').

⁹³⁴ The meaning of "Outside the LEA" is described in Chapter 4 of the 2014 WBA Pricing Decision.

⁹³⁵ This is the LEA as determined by Section 2.1 of the Decision Instrument at Annex 3 of ComReg Decision D04/13 ('**2013 Bundles Decision**').

Existing WCA cost accounting and accounting separation remedies

13.23 Eircom is currently subject to a cost accounting obligation and accounting separation obligation per the 2011 WBA Decision and the 2013 NGA Decision. The details of these obligations are contained in the 2010 Accounting Separation Decision.

Assessment of Regulatory Approaches to Imposing Remedies in the Regional WCA Market

13.24 In Section 11, ComReg has set out its preliminary view that Eircom has SMP in the Regional WCA Market. Furthermore, in Section 12 ComReg identified a range of potential competition problems that may arise in the Regional WCA Market, absent regulation, arising from Eircom's position as a vertically integrated SMP undertaking that competes with Access Seekers in a number of other retail and wholesale markets. In this Section, ComReg assesses the regulatory options for addressing the competition problems that have been identified, before then proposing specific regulatory obligations.

Option of 'No Regulation' in the Regional WCA Market

13.25 ComReg has considered whether the option of de-regulation or regulatory forbearance is appropriate in the Regional WCA Market.

13.26 Regulation 8(1) of the Access Regulations and Regulation 27(4) of the Framework Regulations require ComReg to impose at least some level of regulation on undertakings designated as having SMP. In Section 11, ComReg set out its view that the Regional WCA Market is not effectively competitive (and is not likely to become effectively competitive within the timeframe covered by this review). In Section 12, ComReg identified a range of competition problems that could occur in the Regional WCA Market, absent regulation.

13.27 In view of this assessment, it is ComReg's preliminary view that the Regional WCA Market (and related markets including downstream retail and wholesale markets) would be unlikely to function effectively absent regulation. This would not be in the interest of promoting sustainable retail competition. As discussed in Section 12 concerning competition problems, a number of service providers use WCA inputs to compete with Eircom in the provision of WCA and retail services and, in some cases, for the provision of other wholesale services. ComReg has set out its preliminary view that Eircom therefore has the ability and incentive to exclude or foreclose Access Seekers competing in the provision of retail services by refusing to supply them with WCA (including constructive refusal), or by setting WCA prices at an excessive level.

13.28 It is ComReg's preliminary view that the option of regulatory forbearance in the Regional WCA Market is not, therefore, appropriate or justified. The relevant issue to be considered, therefore, relates to what form of regulation is appropriate. In particular, which remedies are appropriate having regard to the particular circumstances of the Regional WCA Market, the associated identified competition problems and taking account of the relevant statutory requirements to which ComReg must have regard when imposing remedies. ComReg sets out its preliminary views on these issues below.

Option to impose remedies in the Regional WCA Market

13.29 As noted in paragraphs 13.9 to 13.20, Eircom has to date been subject to a range of SMP based regulatory obligations as imposed primarily in 2011 WBA Decision and the 2013 NGA Decision, as well as in a number of other decisions that enhanced or amended existing remedies in the intervening period. On that basis, Eircom is already subject to a range of regulatory obligations requiring it to provide WCA to Access Seekers in the Regional WCA Market and to do so on non-discriminatory and transparent terms and conditions, including at regulated prices.

13.30 ComReg sets out below its preliminary views on the detail of the proposed imposition of regulatory obligations on Eircom in the Regional WCA Market.

Proposed Remedies in the Regional WCA Market

13.31 In the Sections below ComReg sets out its preliminary views regarding remedies that it proposes to impose upon Eircom in the Regional WCA Market. These include:

- (a) Access (paragraphs 13.32 to 13.181);
- (b) Non-Discrimination (paragraphs 13.182 to 13.238);
- (c) Transparency (paragraphs 13.239 to 13.257);
- (d) Price Control and Cost Accounting (paragraphs 13.258 to 13.362); and
- (e) Accounting Separation (paragraphs 13.363 to 13.366).

Access Remedies

- 13.32 As identified in Section 10, ComReg notes that, in providing downstream wholesale and retail services, a number of Access Seekers are wholly or largely dependent upon the use of Eircom's WCA services⁹³⁶.
- 13.33 ComReg has already set out its view that Eircom has the ability and incentive to refuse to supply WCA to Access Seekers, either actually or constructively, or to provide these services on discriminatory or unreasonable terms and conditions (including in relation to price) and that this would likely hinder the development of sustainable competition in the Regional WCA Market as well as in related markets.
- 13.34 This would ultimately be detrimental to the interests of End Users, and would be contrary to the objectives set out in Section 12 of the Communications Regulation Act 2002 (as amended) and Regulation 16 of the Framework Regulations.
- 13.35 ComReg's position with respect to the need for Access Remedies as opposed to *ex-post* enforcement is set out in paragraphs 8.31 to 8.42 above. ComReg considers that the same arguments apply to the WCA market.
- 13.36 Additionally in paragraphs 8.3 to 8.7 above ComReg set out the Regulatory framework for imposing access obligations and the factors which must be taken into account when considering obligations.
- 13.37 In general terms, ComReg's approach to remedies is consistent with the approaches put forward by the EC and BEREC. Where we propose to depart from the various recommendations, opinions and common positions set out by those bodies, the exceptions and reasoning will be detailed in the relevant section of this Consultation.

Proposed Access Remedies

- 13.38 ComReg considers it necessary to impose a range of access obligations upon Eircom which are ultimately intended to facilitate the development of sustainable competition in downstream markets.

⁹³⁶ When ComReg refers to 'services' throughout this Consultation, unless otherwise stated, it also generally refers to related products and associated facilities.

- 13.39 The significant majority of the access obligations that ComReg proposes to impose in this Section, effectively results in a continuation of Eircom's offer of the existing Wholesale Bitstream⁹³⁷ products in accordance with the product descriptions and terms and conditions of supply or use, as specified in the current version of the WBARO, and in addition, in accordance with the proposed obligations discussed elsewhere in this Consultation.
- 13.40 As noted in Section 11, ComReg does not consider that existing or potential competition would effectively constrain Eircom's market power in the Regional WCA Market within the lifetime of this market review (i.e. three years following the effective date of a decision on this analysis). In particular, although there is a transition towards NGA services and the rollout of fibre deeper into Eircom's network, ComReg notes that retail broadband competition has and, for the period of this review, is likely to continue to be dependent on availability of wholesale access to WCA products such as Bitstream within the Regional WCA Market area.
- 13.41 In this respect, access to such WCA products is necessary to maintain competition within the Regional WCA Market area and to minimise foreclosure concerns that could arise, absent such regulation.
- 13.42 ComReg proposes to impose certain access requirements upon Eircom to meet reasonable request for access and to provide a range of specific products, services and facilities in order to address identified competition problems and ultimately to promote the development of downstream competition to the benefit of End Users.
- 13.43 ComReg proposes to impose the following access obligations upon Eircom:
- (a) to meet reasonable requests for access (discussed in paragraphs 13.46 to 13.48 below);
 - (b) to provide access to specific WCA products; (discussed in paragraph 13.49 to 13.58 below);
 - (c) to provide access to Backhaul (discussed in paragraphs 13.59 to 13.64 below.);

⁹³⁷ Such products were deemed to fall within the then WBA market as imposed under the 2011 WBA Decision and the 2013 NGA Decision.

- (d) to provide access to Migrations⁹³⁸ (discussed in paragraphs 13.65 to 13.81 below);
- (e) to provide access to Interconnection Services, including In-Building Handover, In-Span Handover , and Customer-sited Handover Edge Node Handover ‘**Flexible Interconnection Services**’ ⁹³⁹ and **Co-Location**⁹⁴⁰ for Interconnection⁹⁴¹ (discussed in paragraphs 13.82 to 13.96);
- (f) to provide access to Associated Facilities and in particular – Multicast and Class of Service (‘**CoS**’) (discussed in paragraphs 13.97 to 13.105);
- (g) to negotiate in good faith with undertakings requesting access; (discussed in paragraphs 13.106 to 13.107);
- (h) not to withdraw access to facilities already granted without ComReg’s prior approval; (discussed in paragraphs 13.108 to 13.112);
- (i) to grant open access to technical interfaces, protocols or other key technologies that are indispensable for the interoperability of services or virtual network services; (discussed in 13.114 to 13.115); and
- (j) to provide access to OSS or similar software systems necessary to ensure fair competition in the provision of services; (discussed in paragraphs 13.116 to 13.119).

13.44 In addition, ComReg is proposing to impose the following obligations as conditions of access upon Eircom:

- (a) requirements governing fairness, reasonableness and timeliness of access including a requirement with respect to the timeliness of product development (paragraphs 13.120 to 13.171);

13.45 The consideration of and justification for the above access remedies is discussed below.

⁹³⁸ Migrations is where the upstream wholesale input used to supply a retail service is changed whilst maintaining services to the End User, irrespective of whether or not the supplier at the retail level changes. For the avoidance of doubt, Migrations include but are not limited to migrations:-(i) between all Next and/or Current Generation WCA services in any direction; (ii) between Next or Current Generation WLA and Next or Current Generation WCA in any direction; (iii) between Next Generation WCA in any direction; (iv) Bulk Migrations and (v) Bitstream Soft Migrations.

⁹³⁹ Flexible Interconnection Services means the use of Interconnection Services at any technically feasible point in the network hierarchy.

⁹⁴⁰ “Co-Location” shall have the same meaning and description as under Part B “Co-location services” of the Schedule to the Access Regulations (as may be amended from time to time) save that it includes for the purposes of this Decision Instrument access to services and facilities at Eircom Exchange(s) or their equivalent to facilitate access to NG and CG Bitstream products.

⁹⁴¹ Interconnection Co-Location means the provision of co-location for the purposes of connecting to IBH or ENH.

Requirement to meet Reasonable Requests for Access

- 13.46 ComReg's preliminary view is that, pursuant to Regulation 12(1) of the Access regulations that Eircom should be required to meet all reasonable requests from undertakings for the provision of access to WCA products, services and associated facilities within the Regional WCA Market.
- 13.47 ComReg considers it necessary to impose a range of access obligations upon Eircom which are ultimately intended to facilitate the development of sustainable competition in downstream markets.
- 13.48 The significant majority of the access obligations that ComReg proposes to impose here, and elsewhere in this Section, effectively results in a continuation of Eircom's offer of the existing WCA products in accordance with the product descriptions and terms and conditions of supply or use, as specified in the current version of Eircom's WBARO and in addition, in accordance with the proposed obligations discussed elsewhere in this Consultation.

Requirement to provide access to Specific Wholesale Central Access Products

- 13.49 Pursuant to Regulation 12(2) (a) of the Access Regulations, ComReg proposes that Eircom should be required to provide access to specific WCA products, services and facilities. The justification for these proposed requirements is discussed below.
- 13.50 ComReg proposes that Eircom should provide access to specific CG WCA products, namely ('**Bitstream BMB**')⁹⁴², ('**Bitstream IP**')⁹⁴³ and ('**Bitstream BEA**')⁹⁴⁴ and specific NG WCA products, namely ('**Bitstream Plus**')⁹⁴⁵ and ('**Bitstream Plus VEA**')⁹⁴⁶. The NG WCA product set includes FTTH, FTTC and exchange launched product variants. CG and NG Bitstream products are also offered on a Standalone basis⁹⁴⁷.

⁹⁴² Bitstream Managed Backhaul or '**Bitstream BMB**' is a current generation wholesale Bitstream product variant provided by Eircom in the Market.

⁹⁴³ Bitstream IP is a current generation wholesale Bitstream product variant provided by Eircom in the Market.

⁹⁴⁴ Bitstream Ethernet Access or '**Bitstream BEA**' is a current generation wholesale Bitstream product variant provided by Eircom in the Market

⁹⁴⁵ Bitstream Plus is a next generation wholesale broadband product set provided by Eircom in the Market and includes but is not limited to Bitstream Plus and Bitstream Plus VEA.

⁹⁴⁶ Bitstream Plus VEA ('VDSL Ethernet Access') is a next generation wholesale Bitstream Plus product variant provided by Eircom in the Market.

⁹⁴⁷ Standalone broadband means the supply NG or CG Bitstream services without a POTS service included.

- 13.51 Eircom's CG WCA products offer speeds of 1 to 24Mbps downstream and 128kbps to 2Mbps upstream. These products are based on ADSL and ADSL2+ technologies and are provided over Eircom's copper access network.
- 13.52 Eircom's NG WCA products offer downstream bandwidths from 7Mbit/s to 1000Mbit/s and upstream bandwidths ranging from 1 Mbit/s to 100 Mbit/s. NG WCA products also offer a range of service features including CoS and Multicast that are not available on CG WCA products. These features enable a wider variety of service offerings to be provided on Bitstream Plus products.
- 13.53 ComReg is of the preliminary view that competition within the Regional WCA Market has been and, for the period of this review, is likely to be dependent on Access Seekers having access to WCA products and Associated Facilities. WCA therefore is necessary to safeguard the development of effective competition to the ultimate benefit of End Users.
- 13.54 Typically, Access Seekers consume WCA inputs to establish a market presence enabling them to achieve greater economies of scale, scope and density before moving up the ladder of investment by building out their own network in combination with the use of upstream WCA inputs.
- 13.55 WCA access therefore lowers the entry barriers to downstream markets and ultimately enables Access Seekers to build network infrastructure (regional and national), which in turn facilitates the transition from service based competition to infrastructure based competition.
- 13.56 ComReg's preliminary view is that Eircom, as a vertically integrated undertaking with SMP in the Regional WCA Market, has the ability and incentive to refuse to provide access to WCA products, services and associated facilities. In this respect, access to WCA products, services and facilities are necessary to ensure the continued development of sustainable and effective competition and to minimise foreclosure concerns that could arise, absent such regulation.
- 13.57 In assessing the proportionality of WCA access obligations, ComReg considers that these obligations are no more restrictive than is necessary to achieve the aims identified including the development of competition. Eircom has provided Bitstream and Bitstream Plus on foot of regulatory obligations imposed under 2011 WBA Decision and the 2013 NGA Decision.
- 13.58 For the reasons set out above, in ComReg's preliminary view the proposed WCA access obligation is justified and proportionate given the aims pursued of promoting competition and the interests of End Users.

Requirement to provide access to Backhaul

- 13.59 Pursuant to Regulation 12 (2) of the Access Regulations, ComReg proposes that Eircom should be required to provide access to Backhaul.

- 13.60 Backhaul services and their associated interconnection ultimately enables End Users to send and receive data (internet, voice, IPTV, VoD etc.) The WCA products consists of local access combined with Backhaul. End Users' traffic is transported to and from the Point of Handover using Backhaul services. Backhaul connectivity services are currently provided by Eircom's Bitstream (Ethernet) Connection services ('**BECS**')⁹⁴⁸ and the ('**BECS over WEIL**')⁹⁴⁹ products.
- 13.61 As noted in Section 12 concerning competition problems and in paragraphs 12.27 to 12.28 above, ComReg has noted that competition within the Regional WCA Market has been and, for the period of this review, is likely to be dependent on Access Seekers having access to Backhaul. Backhaul services, facilities and their associated interconnection are required for the WCA service and facilities to operate. Backhaul is a core component of WCA access products.
- 13.62 Absent regulation, ComReg's preliminary view is that Eircom, as a vertically integrated undertaking with SMP in the Regional WCA Market, has the ability and incentive to refuse to provide access to Backhaul services and facilities. In this respect, access to Backhaul services and facilities are necessary to ensure effective downstream competition and to minimise foreclosure concerns that could arise, absent such regulation.
- 13.63 In assessing the proportionality of Backhaul access obligations, ComReg did not identify any viable alternative access obligations that foster sustainable competition in a less burdensome manner. If the Backhaul access obligation is not imposed, this may result in Eircom restricting Backhaul access, or changing the terms and conditions to the ultimate detriment of End Users and ultimately undermining other access obligations.
- 13.64 For the reasons set out above, in ComReg's preliminary view the proposed Backhaul access obligations are justified, proportionate and given the aims pursued.

⁹⁴⁸ http://www.openeir.ie/Products/Broadband/Bitstream_Connection/ BECS Product Description V4.

⁹⁴⁹ http://www.openeir.ie/Products/Broadband/Bitstream_Connection/ BECS via WEIL Product Description V1.

Requirement to provide access to Migration Services including Bitstream Soft Migrations

- 13.65 Pursuant to Regulation 12(2)(a) of the Access Regulations, ComReg proposes that Eircom should be required to provide access to Migration Services⁹⁵⁰.
- 13.66 The justification for the above proposed requirement is discussed below.
- 13.67 Migration Services provide Access Seekers with the ability to change wholesale access products (including to access products mandated in other regulated markets) in response to demand-side requirements or for the optimisation of supply-side needs with the minimum possible disruption to End Users.
- 13.68 Migration services can be '**inter-market Migrations**' between, for example, products offered in the WCA and WLA Markets, or '**intra-market Migrations**' (for example, between copper based WCA and fibre or hybrid based WCA services). inter-market Migration or intra-market Migration services can occur at the level of an individual migration, ultimately affecting one End User only ('**Individual Migration**')⁹⁵¹, or can be a bulk migration ultimately affecting groups of End Users ('**Bulk Migrations**')⁹⁵², including up to an Access Seekers' entire customer base.
- 13.69 Typically, a Migration order requires a physical network change and/or change to some network element (a configuration, the enabling or disabling of a feature). Prior to the introduction of LLU Soft Migrations⁹⁵³, there was a one to one relationship between each Migration order and the network interventions that were required.

⁹⁵⁰ "Migration(s)" in this Section is where the upstream wholesale input used to supply a downstream or retail service is changed whilst maintaining services to the End User, irrespective of whether or not the supplier at the retail level changes. For the avoidance of doubt, Migrations include but are not limited to migrations:-(i) between all Next and/or Current Generation WCA services in any direction; (ii) between Next or Current Generation WLA and Next or Current Generation WCA in any direction; (iii) Bitstream Soft Migrations, and (iv) Bulk Migration.

⁹⁵¹ Individual Migration means the facility whereby the Migration relates to single End User.

⁹⁵² "Bulk Migration" means the facility whereby an Access Seeker can have multiple Migrations facilitated via a single request.

⁹⁵³ Defined in footnote 593.

- 13.70 The introduction of LLU Soft Migrations in 2012 changed this relationship. In the case of LLU Soft Migrations only the necessary network changes required are implemented at the time of the Migration order. Optional tasks that are not necessary to complete the Migration order, for example the recovery of jumpers, may be completed at a later stage.
- 13.71 In ComReg's view, this pragmatic and efficient approach adopted for LLU Soft Migrations should be extended to other Migration types, in particular the Migration from POTS⁹⁵⁴ based Bitstream Plus to standalone Bitstream plus, and Bitstream to standalone Bitstream. In ComReg's preliminary view, the LLU Soft Migrations approach of disabling the line card and porting the telephone number could be customised to facilitate a '**Bitstream Soft Migration**'⁹⁵⁵.
- 13.72 A Bitstream Soft Migration would deliver a similar outcome to a LLU Soft Migration from ('**SB-WLR**')⁹⁵⁶ and Line Share to GLUMP as an LLU Soft Migration. This will remove the potential limitation on the number of Migrations that can occur per day, because of physical limitations on the number of technicians that can actually work simultaneously at MDFs. The upper limit on the number of Soft Migrations is determined by the capabilities of the OSS systems, which should be significantly above the daily requirements of Access Seekers, considering the number of electronic orders that can be handled per day by Eircom's OSS.
- 13.73 An Access Seeker's ability to migrate between various types of wholesale inputs is a fundamental requirement for properly functioning downstream markets. If an Access Seeker cannot seamlessly and efficiently switch between wholesale products, competition in the downstream markets could be severely hampered. Access Seekers would not be able to freely choose between the wholesale products that best meets their needs and ultimately the needs of their customers by rationalising their wholesale inputs.
- 13.74 For example, if an Access Seeker is consuming a WCA service (such as Bitstream Plus) and that Access Seeker wants to switch to using an upstream WLA product (or a WCA product based on WLA) instead (for example, a VUA product), then a Migration service is required in order to facilitate a seamless transfer of services.

⁹⁵⁴ Plain Ordinary Telephone Service.

⁹⁵⁵ "**Bitstream Soft Migration**" means the facility whereby an End User can migrate from SB-WLR with Bitstream/Bitstream Plus to standalone Bitstream/Bitstream Plus without the need for physical network intervention at the time of provisioning and may include the porting of their telephone number from the current service provider, if required. While ComReg refers to specific Bitstream products here, this would apply in principle to any Bitstream product.

⁹⁵⁶ **SB-WLR** means Single Billing Wholesale Line Rental.

- 13.75 If Access Seekers are unable to effectively and efficiently change between wholesale inputs or to change/rationalise wholesale inputs at a pace that is necessary for the business needs, this could artificially raise competitors' costs, restrict sales, or limit scope for product differentiation, which could ultimately impact the development of effective competition in the WCA Regional Market and related upstream and downstream markets.
- 13.76 Absent regulation, ComReg's preliminary view is that Eircom, as a vertically integrated undertaking with SMP in the Regional WCA Market, has the ability and incentive to actually or constructively refuse access to Migrations services. In this respect, access to Migrations is necessary to ensure the development of sustainable and effective upstream and downstream competition and to minimise foreclosure concerns that could arise, absent such regulation.
- 13.77 In assessing the proportionality of the above Migration obligations, ComReg considers that these obligations are no more restrictive than is necessary to achieve the aims identified including the development of sustainable and effective competition. The imposition of a Migrations obligation is in the interest of the End Users, as a properly functioning Migrations process minimises the disruption that could occur when an End User's wholesale inputs are changed.
- 13.78 The alternative to the Migrations obligation is a "cease and provide solution".⁹⁵⁷ This approach could cause significant extended service interruptions for End Users. An extended service interruption could dissuade Access Seekers from changing wholesale inputs (for their downstream wholesale/retail customers), because of the potential churn that could result from the interruption of End User's services.
- 13.79 It could also cause Access Seekers customers (or customers of service providers who purchase services from other Access Seekers) to switch services to other service providers on the basis that End Users believe Access Seekers are providing poor service related to changing wholesale inputs.
- 13.80 As noted earlier, Eircom has to date provided Migrations on foot of regulatory obligations imposed under 2011 WBA Decision and the 2013 NGA Decision.
- 13.81 For the reasons set out above, in ComReg's preliminary view, the proposed Migrations obligations are justified and proportionate.

⁹⁵⁷ A cease and provide process is one where the original product or service is "ceased", i.e. disconnected, and a replacement product or service is provided as a new connection. Cease and provide processes work independently of each other and may entail physical work being completed.

Requirement to provide access to Interconnection Services, Flexible Interconnection and Co-Location

- 13.82 Pursuant to Regulation 12(2)(a) of the Access Regulations, ComReg proposes to impose an obligation on Eircom requiring it to provide access to the following services:
- (a) Interconnection Services⁹⁵⁸, including Flexible Interconnection Services; and
 - (b) Interconnection Co-Location and Associated Facilities.
- 13.83 The justification for the above proposed requirements is discussed below.
- 13.84 Interconnection Services are physical and/or logical connectivity between networks to enable the handover of traffic between undertakings' networks at a PoH. The PoH for purposes of the provision of WCA products, services and facilities can occur at any technically feasible physical location in Eircom's network, requested by an Access Seeker i.e. any Ingress point (an entry point into core network – typically at a SP Edge Node) or Egress Point (exit point from the core network – typically at a SP Edge Node).
- 13.85 As noted earlier, Eircom currently supplies a range of Interconnection Services in the Regional WCA Market i.e. ISH, CSH, IBH and ENH. These interconnection service types are essential to support the purchase by Access Seekers of access services within the Regional WCA Market area. For example, in order for Access Seekers to be able to avail of WCA products, services and facilities they require interconnection with the identified range of Interconnection Services providing flexibility for Access Seekers.
- 13.86 Therefore, the full suite of Interconnection Services is required to ensure that there is sufficient flexibility for Access Seekers who have invested to varying degrees in building out their own network infrastructure.

Flexible Interconnection

- 13.87 As Access Seekers invest and build out their networks they should be able to interconnect at any technically feasible point in the network that is economically feasible for them. Arbitrarily restricting interconnection points will result in unnecessary backhaul costs being incurred and will prevent Access Seekers from optimising their network investment.

⁹⁵⁸ Interconnection Services include ISH, CSH, IBH and ENH. These terms are discussed in Section 8 of this Consultation, paragraphs 8.125 to 8.137.

13.88 Interconnection and use of Interconnection Services can occur at any point in the network where there is an Ingress or Egress point to the core network, for example a Provider Edge Node, or any other technically feasible network node. Therefore, Flexible Interconnection is necessary to foster sustainable competition through efficient use of network resources, and to prevent unnecessary bundling of backhaul or the stranding of existing assets.

Co-location for Interconnection and Associated Facilities

13.89 Interconnection Services for the Regional WCA Market consists of four interconnection types, namely IBH, CSH, ISH and ENH. Co-location is required for IBH and potentially ENH. In the circumstances where an Access Seeker has unbundled an exchange for LLU based services or for VUA then the Access Seeker can reuse their existing co-location services and facilities to connect to an interconnection service.

13.90 However, in some circumstances the Access Seeker may not have unbundled an exchange and therefore may not have signed an ARO. Such Access Seekers may not have an existing co-location presence that can be reused for Bitstream or Bitstream Plus interconnection. Therefore, Co-location and Associated Facilities such as power, air conditioning, etc. are necessary to enable Interconnection Services in the Regional WCA Market.

13.91 The availability of Interconnection Services is fundamental to the ladder of investment concept that underpins sustainable competition. Interconnection Services enable Access Seekers to move from service based competition based on WCA national handover products to WCA based regional handover products as the Access Seekers expand their core and backhaul network footprints.

13.92 Interconnection is needed to enable Access Seekers' networks to connect with Eircom's network. Without interconnection, competition in downstream markets could be restricted to the resale of Eircom's services, thereby limiting Access Seekers to innovate in pricing or product terms. ComReg's preliminary view is that Eircom, as a vertically integrated undertaking with SMP in the Regional WCA Market, has the ability and incentive to refuse access to Interconnection Services.

13.93 In this respect, access to Interconnection Services and the associated Co-Location facilities is necessary to ensure the development of sustainable and effective downstream competition and to minimise foreclosure concerns that could arise, absent regulation.

13.94 In assessing the proportionality of the obligation requiring Eircom to provide access to Interconnection Services, Flexible Interconnection, Interconnection Co-location and Associated Facilities, ComReg considers that these obligations are no more restrictive than is necessary to achieve the aims identified, including the development of sustainable and effective competition.

- 13.95 Eircom has to date provided Interconnection Services on foot of regulatory obligations most recently imposed under the 2013 NGA Decision. The continuation of this obligation is in the interests of End Users to facilitate their choice of Service Providers.
- 13.96 In ComReg's preliminary view, the proposed obligations are justified and proportionate for the reasons set out above.

Requirement for Associated Facilities

- 13.97 Pursuant to Regulation 12 of the Access Regulations, ComReg proposes that Eircom should be required to provide access to Associated Facilities including;
- (a) Multicast;
 - (b) Class of Service (CoS);
- 13.98 The justification for the above proposed requirements is discussed below.

Requirement to provide access to Multicast

- 13.99 The justification for the obligation to provide WCA Multicast is the same as that for the WLA Market. This reasoning is set out in Section 8 of this Consultation⁹⁵⁹.

Requirement for Class of Service

- 13.100 The requirement for CoS in the Regional WCA Market mirrors that of the CoS as described in the WLA remedies Section 8 of this consultation.

Associated Facilities - Justification and Proportionality Assessment

- 13.101 For a VOIP service to replicate a Public Switched Telephone Network ('PSTN') telephony service in terms of service quality, a CoS feature is necessary. A CoS feature enables frames containing voice data to be prioritised as they transit the network. If voice data could not be prioritised at times of high network load, the voice quality for VOIP services could deteriorate to an unacceptable level from the End User's perspective.
- 13.102 The Multicast feature enables the provision of IPTV services. As noted in Section 3, bundled services are an important and growing segment of retail markets. The combination of CoS and Multicast enables Access Seekers to offer bundled services by way of WCA, in downstream markets. The absence of these features could limit the scope for product differentiation by the Access Seeker, thereby ultimately undermining consumer choice and competition in the retail market.

⁹⁵⁹ As discussed in paragraphs 8.174 to 8.179 of this Consultation.

- 13.103 Absent regulation, ComReg's preliminary view is that Eircom as the vertically integrated undertaking with SMP in the Regional WCA Market, has the ability and incentive to refuse (actually or constructively) or withdraw access to the above Associated Facilities. In this respect, access to these Associated Facilities is necessary to ensure the development of sustainable and effective downstream competition.
- 13.104 In assessing the proportionality of the obligations requiring Eircom to provide access to Associated Facilities, ComReg considers that these obligations are no more restrictive than is necessary to achieve the aims identified, including the development of sustainable and effective competition.
- 13.105 In ComReg's preliminary view the proposed Associated Facilities obligations are justified and proportionate.

Requirement to negotiate in good faith

- 13.106 Pursuant to Regulation 12(2) of the Access Regulations, ComReg proposes to continue to impose an obligation on Eircom to negotiate in good faith⁹⁶⁰ with Access Seekers requesting access to WCA and associated facilities. Having regard to the competition problems identified in Section 12, ComReg considers this measure to be proportionate and justified in order to ensure that genuine bona fide negotiations take place between Eircom and Access Seekers in relation to access.
- 13.107 The rationale for this obligation is generally the same as that described in the WLA Market and set out above in paragraphs 8.280 to 8.287.

Requirement not to withdraw access to facilities already granted

- 13.108 Pursuant to Regulation 12(2)(c) of the Access Regulations, ComReg proposes to impose an obligation on Eircom not, without the prior approval of ComReg, to withdraw access to facilities already granted. For the avoidance of doubt, this does not mean there are no objectively justifiable circumstances for withdrawing access to WCA and associated facilities (such as the unjustified non-payment of wholesale charges), however, this would have to be considered on the basis of the facts of the particular circumstances governing the proposed withdrawal of access.

⁹⁶⁰ Amongst the factors that ComReg may have regard to in any assessment of Eircom's compliance with its obligation to negotiate in good faith, ComReg may consider the extent to which Eircom has adequately resourced such negotiations.

- 13.109 Having regard to the competition problems identified in Section 12, ComReg has identified that Eircom would have the ability and incentive to withdraw access to WCA and access to associated facilities, either outright or constructively, resulting in restrictions and/or distortions in competition to the detriment of End Users. As networks develop, this could also result in changes to points of interconnection or types of interconnection offered or provided by Eircom.
- 13.110 However, ComReg considers that the proposed remedy, requiring that Eircom seek ComReg's approval prior to any withdrawal of access, will promote regulatory certainty for all parties without unduly restricting investment incentives.
- 13.111 More specifically, ComReg proposes that Eircom should notify ComReg, in writing, of any proposal to withdraw access to facilities already granted, giving detailed reasons for the proposal, including the impacts that the withdrawal of access is likely to have on existing WCA purchasers. Where Eircom proposes to withdraw a service or services, ComReg would retain the right to consult with relevant parties, prior to making a decision on whether to grant or to withhold its approval to any such request.
- 13.112 ComReg is of the preliminary view that a period of five years prior notification of the closure of an MDF or the closure or relocation of an Aggregation Node should be considered as appropriate and proportionate. However, the five year notification period may be reduced, if Eircom offers an alternative Access option that is acceptable to all Access Seekers impacted by the proposed withdrawal of Access. Alternative Access could for instance be based on the introduction of a new technology by Eircom or offered as a result of a future "reasonable request" or some other evolutionary product.
- 13.113 ComReg also notes that within the period of this review it is possible that Eircom may seek to put in place a programme to commence the retirement of its copper infrastructure. Any such programme would be considered by ComReg having regard to the principles to be established on foot of ComReg's finalisation of the issues subject to the 2016 Copper Network Transition Consultation⁹⁶¹.

⁹⁶¹ Transition from Eir's copper network, Proposed principles and notification procedures, [ComReg Document 16/01](#), 16 January 2016 ('**2016 Copper Network Transition Consultation**').

Requirement to grant open access to technical interfaces, protocols and other key technologies

- 13.114 Pursuant to Regulation 12(2)(e), ComReg proposes to impose an obligation on Eircom to grant open access to technical interfaces, protocols and other key technologies that are indispensable for the interoperability of services. Having regard to the competition problems identified in Section 12, ComReg considers that this remedy is both justified and proportionate in order to ensure that, in the context of the provision of access to WCA services and Associated Facilities, Eircom does not engage in leveraging and exploitative practices.
- 13.115 In so doing, ComReg considers that this obligation will contribute to the development of sustainable downstream competition to the ultimate benefit of End Users.

Requirement to provide access to Operational Support Systems or similar software systems necessary to ensure fair competition in the provision of services

- 13.116 Pursuant to Regulation 12(2)(h), ComReg proposes to maintain an obligation on Eircom to provide access to OSS or similar systems to ensure fair competition in the provision of services.
- 13.117 Access to Eircom's OSS plays an important role in Eircom's provisioning of wholesale services to Access-Seekers and its downstream arm. This also includes access to OSS for the purpose of fault and in-service management. Access to OSS is, therefore, essential, to the effectiveness and efficiency of the operational aspects of the supply of the wholesale WCA products, services and facilities that are ultimately used as inputs to the supply of service(s) to End Users.
- 13.118 In the absence of Access Seekers being able to gain effective and efficient access to Eircom's OSS, they would likely be at a competitive disadvantage relative to Eircom's retail arm in the providing of service(s). Having regard to the competition problems discussed in Section 12, ComReg considers that this obligation is needed to support Eircom's general access obligation because Eircom has the ability and the incentives to impede access to its OSS in order to leverage its market power into downstream and adjacent markets.
- 13.119 The standards of access equivalence (whether on an EoO or EoI basis) that is to be applied by Eircom in providing access to its OSS or similar software systems is discussed in the context of proposed non-discrimination obligations.

Requirements governing fairness, reasonableness and timeliness of access

- 13.120 As noted in Section 12, ComReg considers that Eircom has the ability and incentive to constructively refuse to supply access (including delay or other behaviours which have the effect of raising rivals' costs) to WCA products, services and facilities.
- 13.121 Regulation 12 (3) of the Access Regulations empowers ComReg to attach to relevant access obligations conditions covering fairness, reasonableness and timeliness. In the case of WCA services and facilities ComReg requires Eircom to ensure that the terms and conditions for access are governed by an SLA⁹⁶². These largely mirror the same requirements proposed in the WLA Market.
- 13.122 The purpose of the above requirement is to ensure that access to wholesale services is provided in a fair, reasonable and timely manner, thereby promoting effective downstream competition, to the ultimate benefit of consumers.
- 13.123 To address such issues ComReg proposes to impose the following requirements upon Eircom :
- (a) to conclude, maintain and update legally binding, fit for purpose SLAs with Access Seekers for WCA products, services and facilities and the Unified Gateway ('UG')⁹⁶³, which shall encourage an efficient level of performance;
 - (b) negotiate in good faith with Undertakings in relation to the conclusion of legally binding and fit-for-purpose SLAs (either in the case of a new SLA or an amendment to an existing SLA);

⁹⁶² Service Level Agreements or SLAs are legally binding contracts between Eircom and Access-Seekers in relation to the service levels which Eircom commits to from time to time, as more particularly set out in the ARO.

⁹⁶³ Unified Gateway or 'UG' is an interface into Eircom's OSS used by Access Seekers in order to avail of regulated wholesale services, including WLA and WCA products, services and facilities.

- (c) provide Undertakings, at the end of the SLA Negotiation Period⁹⁶⁴, with Eircom's best and final offer ('**BAFO**') in respect of the relevant SLA which, for the avoidance of doubt, shall be fit for purpose; include all relevant information that is required under this Section 13.123 and accord with the principles set out in this Section 13.123. The SLA Negotiation Period ends with the closing of negotiations and the making of a BAFO by Eircom to Undertakings with respect to the SLA. When Eircom makes its BAFO, the SLA is deemed by ComReg to be concluded;
- (d) ensure that the SLA Negotiation Period includes a discussion on the process for suspension of an SLA and the associated terms and conditions, as described below;
- (e) ensure that SLAs specify circumstances which trigger the payment of Service Credits⁹⁶⁵ such as a failure by Eircom to achieve committed service levels, or the occurrence of specified events (such as incidents of service outage or deterioration), or other appropriate criteria;
- (f) ensure that SLAs specify the methodology for calculating the quantum of Service Credits and include an example calculation of Service Credits;
- (g) ensure that circumstances which trigger the payment of Service Credits and the methodology for calculating the quantum of Service Credits, taken together, are fair and reasonable in that they adequately incentivise Eircom to deliver an efficient level of service quality and allow Undertakings to recoup at a minimum the direct costs and any other loss of value that the Undertakings incur as a result of the circumstances that had triggered the payment of Service Credits;
- (h) ensure that application of Service Credits, where they occur, shall be applied automatically and in a timely and efficient manner;
- (i) ensure that SLAs include, where appropriate, the comprehensive set of terms and conditions governing the circumstances when the SLA can be suspended, and the process to be applied for the suspension of the SLA. Such terms and conditions should be based on objectively defined and measurable parameters;

⁹⁶⁴ SLA Negotiation Period means the duration of time required by Eircom to close negotiations between it and Undertakings in respect of an amended or new SLA.

⁹⁶⁵ Service Credit(s) means a financial credit which is provided by Eircom to an Access Seeker where Eircom has failed to meet the service levels which Eircom commits to from time-to-time in its SLA.

- (j) In relation to an existing product, service or facility, following a request from an Undertaking (including Eircom) for an amendment to an SLA, Eircom shall, within one (1) month of the receipt of such a request, inform the Undertaking in writing whether the request for an amendment is accepted or rejected and, if accepted, include details of the SLA Negotiation Period and the associated start date. Negotiations in respect of the amended SLA shall close, unless otherwise agreed with ComReg, within six (6) months of the date the Undertaking makes such a request. Within one (1) month of the date the Undertaking makes such a request Eircom may seek an extension to the six (6) month period from ComReg;
- (k) In relation to an amendment to an existing product, service or facility, where Eircom itself initiates the amendment, Eircom shall, within one (1) month of the initiated amendment, inform and seek Undertakings' views as to whether the proposed product amendment should result in an amendment to the relevant SLA;
- (l) Eircom shall ensure that its obligations with respect to SLAs have been complied with prior to notifying ComReg of non-pricing amendments or changes to the ARO resulting from the offer of a new or an amendment to an existing product, service or facility which falls with the scope of the Regional WCA Market;
- (m) Eircom shall ensure that the new or amended SLA is implemented and is made available to Undertakings by the date on which:
 - (i) any amendment or change to an existing product, service or facility;
 - or
 - (ii) the offer of a new product, service or facility comes into effect;
- (n) Where the amended SLA does not relate to (l)(i) or (l)(ii) above, Eircom shall ensure that the amended SLA is implemented and is made available to Undertakings within three months from the end of the SLA Negotiation Period (unless otherwise agreed with ComReg); and
- (o) Within six months (unless otherwise agreed with ComReg) of the Effective Date of this Decision Instrument Eircom shall update its SLAs to include all relevant information and accord with the principles set out above.

- 13.124 In terms of justification, SLAs are intended to prevent Eircom from engaging in actual or constructive refusal to supply effective and efficient access to WCA products, services and facilities. Ultimately, the proposed SLA obligations are designed to ensure fair competition in the provision of WCA products, services and facilities by allowing Access Seekers to compete on a level playing field with Eircom (and its wholesale customers) in downstream markets.
- 13.125 In addition to demanding higher quality and more innovative products and services, End Users expect efficient and timely provision of services, including a high degree of reliability and effective fault management and repair. Therefore, Access Seekers are increasingly reliant on efficient delivery, service quality and after sales support from Eircom in order to be able to compete effectively in downstream markets.
- 13.126 The expected level of service both at the point of delivery and in-life are key selling points which can influence an End User when coming to a decision to take up a product or service or switch service providers. Therefore, for Access Seekers, the quality of SLAs which support regulated wholesale products are an extremely important component of the wholesale input and, in ComReg's view, are integral to the wholesale offering.
- 13.127 Suitable and well-crafted SLAs which support timely and efficient service provision and fault repair are necessary, both at the point of sale and to ensure that the End User experiences a high standard of after sales service and support. Therefore, the SLAs that support WCA products, services and facilities are very important in ensuring effective downstream competition and are necessary to ensure high quality services are offered, ultimately, to End Users⁹⁶⁶.
- 13.128 The nature of a fit for purpose SLA will depend on many factors, including the nature of the wholesale services provided by Eircom and the nature of the downstream retail services to be provided by Access Seekers. A fit for purpose SLA could be based on a commitment to achieve committed service levels, or on the occurrence of particular events such as service outages, or both. In any particular SLA, it is possible that there may also other sorts of circumstances in which it is appropriate that Service Credits be triggered. The precise nature of a particular SLA is best settled in negotiations between Eircom and Access Seekers, with the back-up possibility of ComReg using its dispute resolution powers if Access Seekers are unwilling to accept Eircom's best and final offer.

⁹⁶⁶ ComReg notes that WLA inputs can be used by Access Seekers to deliver a wide range of downstream wholesale services which, ultimately, are directly or indirectly used in the provision of retail services.

- 13.129 ComReg notes that there are certain types of SLA which could result in Service Credits being paid even by an efficient operator. An example would be an event-based SLA that provided for service credits whenever an outage occurs because even an efficient operator would expect some degree of outages to occur. Depending on the nature of the fit for purpose SLA, it might therefore be reasonable to include a portion the service credits (if any) that an efficient operator would incur in any calculation of a cost-oriented price for the service in question.
- 13.130 Sub-standard SLAs or delays in finalising SLAs and making them available to Access Seekers have more significant impacts on Access Seekers who are trying to grow market share and win customers from established SPs with significant market shares, such as Eircom. ComReg is of the view that as the incumbent operator with SMP in the Regional WCA Market, Eircom does not have an incentive to provide fit-for-purpose SLAs which support the delivery of effective or high quality downstream services.
- 13.131 It is ComReg's preliminary view that, in order to conclude an SLA, Eircom must discuss and negotiate, as required, the details of a new or amended SLA with Access Seekers. After the discussions finish (including within the prescribed timelines discussed below), Eircom must offer to Access Seekers its BAFO, which should be a fit for purpose SLA and in accordance with its obligations. At this point the SLA is concluded. Should Access Seekers consider that the concluded SLA is not fit for purpose or does not meet their requirements then they can consider options such as raising a dispute with ComReg who would then consider whether Eircom is in compliance with its obligations.
- 13.132 ComReg notes that there have been ongoing problems with significant delays in concluding SLAs resulting in Eircom not introducing or amending SLAs in a timely manner.
- 13.133 Delays in the development and availability of suitable SLAs can have an adverse impact on competition and on End Users, as the absence of suitable SLAs ultimately lowers certainty regarding the timeliness and quality of access being provided. ComReg also notes that Access Seekers have raised concerns with ComReg regarding such delays and regarding the suitability of the SLAs which have been offered by Eircom.
- 13.134 In addition, Access Seekers have expressed concern regarding the suspension of SLAs by Eircom. Such suspensions can have a significant impact on the effectiveness of the SLA. Eircom retain the ability to suspend SLAs, however, it is not always clear as to the process or criteria applied when SLAs are suspended.

13.135 ComReg considers, therefore, that there is a need to reconsider the obligations imposed upon Eircom regarding the development of SLAs. In ComReg's preliminary view, there is a need for more granular SLA related obligations, in particular, relating to the timeliness of SLA developments. These proposals are discussed in the following paragraphs.

SLA amendments for existing products

13.136 ComReg accepts and expects that discussions between Eircom and Access Seekers need to take place regarding the details of amended SLAs on foot of a request from an Access Seeker or where Eircom itself seeks to introduce an amendment to an SLA, including the introduction of a new SLA. In such circumstances, Eircom proposes SLAs or SLA parameters for discussion with Access Seekers. However, there is currently no specific time by which these discussions must end, and significant delays can, therefore, occur in concluding SLAs.

13.137 Prolonged discussions on the details of the SLA or prolonged deliberation by Eircom only serves to delay the availability of SLAs, and this is not in the best interests of Access Seekers, competition or End Users. It can also amount to an effective refusal of access. ComReg notes, however, that while discussions between Access Seekers and Eircom are necessary and expected, the responsibility for the timely development of fit for purpose SLAs for WCA products, services or facilities is a matter, in the first instance, for Eircom.

13.138 A request from an Access Seeker for an amended SLA needs to be considered by Eircom in the context of Eircom's obligation to meet reasonable request for access (as well as its other obligations). However, it is important that Eircom considers SLA access requests, and SLA amendments generally, in a fair, reasonable and timely manner. In ComReg's preliminary view, more granular obligations relating to the management of changes to and the introduction of SLAs are required in order to ensure that SLAs are concluded in an effective and timely manner.

13.139 ComReg therefore proposes that the period of time required to discuss an amendment to an existing SLA with Access Seekers be proposed by Eircom at the outset, with this referred to as the SLA Negotiation Period. During the SLA Negotiation Period Eircom must discuss and negotiate proposed SLAs in a proactive manner, and in good faith, with Access Seekers.

13.140 After this SLA Negotiation Period, it is ComReg's preliminary view that Eircom should make its BAFO to Access Seekers in relation to SLAs. This BAFO should be fit for purpose and should be made by Eircom to Access Seekers within six months of a request from an Access Seeker, or within six months of when Eircom itself seeks to amend an existing SLA (or introduce a new SLA). At the point Eircom makes its BAFO, the SLA has been concluded.

- 13.141 ComReg also proposes that the SLA offer, i.e. Eircom's BAFO, should be implemented and made available to Access Seekers within three months of the SLA offer being made by Eircom, unless otherwise agreed with ComReg. ComReg considers that this requirement is reasonable, as discussions with Access Seekers have ended at that point and Eircom are required to make a BAFO which is fit for purpose (and in accordance with its obligations elsewhere) and, therefore, should be implemented and made available by Eircom.
- 13.142 Eircom shall, therefore, implement a fit for purpose SLA within three (3) months of making its BAFO to Access Seekers, unless otherwise agreed with ComReg. ComReg may, at its sole discretion, grant or refuse any request for an extension to the three month period above.

New product development and changes to existing products

- 13.143 In addition to managing requests from Access Seekers for amended SLAs, it is ComReg's preliminary view that Eircom also must develop new SLAs, or amend existing SLAs where required, when Eircom is planning to introduce new products or changes to existing products. In these circumstances, in order to conclude an SLA, Eircom must initiate the SLA Negotiation Period, at the end of which Eircom must make its BAFO regarding the SLA to Access Seekers, with this also being done prior to notification of the amended product or product change to ComReg in accordance with its transparency obligations (discussed elsewhere).
- 13.144 In ComReg's preliminary view, the development of SLAs tends to occur after the product development process has completed. This can raise issues, as the new or amended wholesale product being introduced to the market may not have an SLA, or may include an SLA which is not fit for purpose.
- 13.145 This would then require the subsequent development and conclusion of a new SLA which would then take place when the product is already available in the market. ComReg is of the preliminary view that such a scenario is not in the best interests of competition, Access Seekers or End Users, given the absence of a fit for purpose SLA can undermine the timely and effective use of the products in question.

- 13.146 Eircom has developed and introduced new regulated products to the market with SLAs⁹⁶⁷ which require further development. This has resulted in the availability of wholesale products that, in the opinion of Access Seekers, have ineffective SLAs⁹⁶⁸. Ineffective SLAs undermine the effectiveness of access obligations, and may restrict or distort competition, ultimately to the detriment of End Users.
- 13.147 In ComReg's preliminary view, if Eircom is required to conclude an SLA before new products (including services and facilities) are notified to ComReg, then such problems can be minimised or avoided.
- 13.148 In ComReg's preliminary view, amendments to existing WCA products, services and facilities, need to be considered somewhat separately to new product developments, in particular, with respect to the associated SLAs. Not all amendments to products, services or facilities require changes to the associated SLA. However, as Access Seekers consider that SLAs are, in general, an integral part of a WCA product offering, they are likely to have a view as to whether proposed amendments to existing products, services or facilities require an associated SLA amendment.
- 13.149 Examples of such amendments include, inter alia, process changes, the introduction of new order types and the retirement of existing order types. Access Seekers have, for example, raised concerns that when order types are introduced, changed or replaced by Eircom, the associated SLA is not changed at the same time. This results in a delay before the SLA is amended, and therefore in such situations the new or amended order type is in use without being supported by an SLA.
- 13.150 ComReg is therefore of the view that Eircom should inform Access Seekers of the proposed amendment to the product, service or facility and discuss with Access Seekers whether an amendment to an SLA is required. This includes all proposed changes to existing WCA products, services and facilities.
- 13.151 ComReg is of the preliminary view that should an Access Seeker request an amendment to an SLA, on foot of a proposed amendment to an existing WCA product, service or facility, then any associated new or amended SLA should be concluded before any product amendment is notified to ComReg. In addition, the new or amended SLA must be fully developed, implemented and available to Access Seekers before the new or amended product is made available in the market.

⁹⁶⁷ The NGA product set was initially developed and launched in May 2013 with an SLA which needed significant development. A new NGA SLA was not concluded for a number of years and was published on 1 February 2016, over two and a half years after the NGA product was launched.

⁹⁶⁸ On a number of occasions after the launch of NGA services in May 2013 Access Seekers raised concerns with ComReg that the NGA SLA was not fit for purpose and proposed an amended SLA.

13.152 Therefore, should an Access Seeker or Access Seekers form the view that a new or amended SLA is required as a result of the proposed new or amended product, then Eircom must treat this access request in accordance with all of its proposed obligations, including those set out above.

13.153 ComReg's preliminary view is, therefore, that Eircom shall :

- (a) to conclude, maintain and update legally binding, fit for purpose SLAs with Access Seekers for WCA products, services and facilities and the UG, which shall encourage an efficient level of performance;
- (b) negotiate in good faith with Undertakings in relation to the conclusion of legally binding and fit-for-purpose SLAs (either in the case of a new SLA or an amendment to an existing SLA).
- (c) provide Undertakings, at the end of the SLA Negotiation Period, with Eircom's BAFO in respect of the relevant SLA which, for the avoidance of doubt, shall be fit for purpose; include all relevant information that is required and accord with the principles set out through this section. The SLA Negotiation Period ends with the closing of negotiations and the making of a BAFO by Eircom to Undertakings with respect to the SLA. When Eircom makes its BAFO, the SLA is deemed by ComReg to be concluded;
- (d) ensure that the SLA Negotiation Period includes a discussion on the process for suspension of an SLA and the associated terms and conditions;
- (e) In relation to an existing product, service or facility, following a request from an Undertaking (including Eircom) for an amendment to an SLA, Eircom shall, within one (1) month of the receipt of such a request, inform the Undertaking in writing whether the request for an amendment is accepted or rejected and, if accepted, include details of the SLA Negotiation Period and the associated start date. Negotiations in respect of the amended SLA shall close, unless otherwise agreed with ComReg, within six (6) months of the date the Undertaking makes such a request. Within one (1) month of the date the Undertaking makes such a request Eircom may seek an extension to the six (6) month period from ComReg.
- (f) In relation to an amendment to an existing product, service or facility, where Eircom itself initiates the amendment, Eircom shall, within one (1) month of the initiated amendment, inform and seek Undertakings' views as to whether the proposed product amendment should result in an amendment to the relevant SLA.

- (g) Eircom shall ensure that its obligations with respect to SLAs have been complied with prior to notifying ComReg of non-pricing amendments or changes to the ARO resulting from the offer of a new or an amendment to an existing product, service or facility which falls within the scope of the Relevant Market.
- (h) Eircom shall ensure that the new or amended SLA is implemented and is made available to Undertakings by the date on which:
 - (i) any amendment or change to an existing product, service or facility;
 - or
 - (ii) the offer of a new product, service or facility.comes into effect in accordance with its transparency obligations (discussed later below).
- (i) Where the amended SLA does not relate to (h)(i) or (h)(ii) above, Eircom shall ensure that the amended SLA is implemented and is made available to Undertakings within three months from the end of the SLA Negotiation Period (unless otherwise agreed with ComReg).

SLA for the Unified Gateway (UG)

13.154 For the avoidance of doubt, the provision of SLAs apply to all forms of access, including access to OSS systems and interfaces (for example, the UG). In order to provide access to Eircom's OSS, Eircom has developed a method of access by Access Seekers through its OSS, namely through the UG. The UG is a broker system which interrogates Eircom's backend systems and therefore allows processing of various wholesale service order types such as service provision and service assurance.

13.155 Access Seekers have built their own OSS systems to interface with the UG. The operational efficiency of the UG is critical to the proper functioning of downstream markets as it is the mechanism through which wholesale orders are processed which, in turn, ultimately impact the End User's service experience. As it is integral to the provision of access to regulated products and services, ComReg considers that an SLA with respect to the performance of the UG is essential in order to ensure that Access Seekers have the ability to manage their use of WCA products and services with confidence.

13.156 It is ComReg's preliminary view, therefore, that Eircom should conclude negotiations with respect to an SLA for the UG. Eircom's other proposed SLA obligations also apply in this regard.

Suspension of an SLA

- 13.157 Eircom can suspend the application of SLAs under certain conditions. It is however not sufficiently clear as to what these conditions are, or the process that is followed when Eircom decide to suspend an SLA. SLA suspensions, particularly where they are prolonged, can have a significant impact on the effectiveness of the underlying levels of access being provided.
- 13.158 ComReg considers that the rules and conditions giving rise to any suspension of an SLA should be a matter for discussion between Access Seekers and Eircom. It is reasonable that Access Seekers can both consider and input into any conditions, rules and the processes associated with any such suspensions. As was the case above, such discussions should occur before the conclusion of negotiations on the SLA.
- 13.159 The decision to suspend an SLA should also be based on Objective Criteria. These criteria should be specified in the SLA, be related to the SLA parameters and be measurable. Access Seekers should have an opportunity to input into the development of these Objective Criteria.
- 13.160 The SLA suspension process and the objective criteria used in order to make a decision relating to any suspension of the SLA should be made available to Access Seekers and clearly set out in the SLA.
- 13.161 Discussions on the conditions that give rise to SLA suspension should be part of the discussions that lead to the conclusion of negotiations regarding the SLA.
- 13.162 ComReg therefore proposes that Eircom is required to:
- (a) ensure that SLAs include, where appropriate, the comprehensive set of terms and conditions governing the circumstances when the SLA can be suspended, and the process to be applied for the suspension of the SLA. Such terms and conditions should be based on objectively defined and measurable parameters.

Failure to meet SLA committed service levels

- 13.163 The committed service levels in the SLA should be such to ensure that the wholesale services are of sufficient quality to allow Access Seekers to have access in a fair, reasonable and timely manner, thereby enabling them to compete effectively in downstream markets. A high standard of service provisioning and reliable, timely and effective fault repair are important characteristics of the provision of downstream service offerings.

- 13.164 During the sales and after-sales process, Access Seekers may make commitments to End Users, regarding the level of service that can be expected. Access Seekers therefore need certainty regarding the quality of the wholesale service provided and this can be provided for with SLAs which include committed service levels which provide certainty regarding service quality and which allow Access Seekers to make competitive retail service offerings available in downstream markets.
- 13.165 ComReg is of the view that SLAs should incentivise Eircom to provide WCA products, services and facilities at to a standard that meets the need of Access Seekers and allows them to provide services of the required quality in downstream markets. ComReg is of the preliminary view that SLAs should include Service Credits such that they adequately incentivise Eircom to deliver an efficient level of service quality and allow Undertakings to recoup at a minimum the direct costs and any other loss of value that the Undertakings incur as a result of the circumstances that had triggered the payment of Service Credits.
- 13.166 SLA Service Credits should be fair and reasonable and it is reasonable that Access Seekers should not have to bear any administrative burden relating to the payment of Service Credits, as such payments arise from Eircom not meeting committed service levels. Therefore, it is ComReg's preliminary view that, when committed service levels are not met by Eircom, Service Credits should be automatically paid by Eircom to Access Seekers in a timely and efficient manner.
- 13.167 In addition, Access Seekers should understand how Service Credits are calculated in order for them to fully understand how Eircom is incentivised to provide WCA products, services and facilities to the required standard. This would also allow Access Seekers to be able to reconcile Service Credit payments with the requirements of the SLA and with respect to the service provided by Eircom over the relevant period.
- 13.168 The level of Service Credits and the calculation of payments should be discussed during the SLA Negotiation Period and it is ComReg's preliminary view that the concluded SLA should explain how Service Credits are calculated and the SLA text should include the provision of an example calculation.
- 13.169 Failure by Eircom to meet SLA committed service levels can result in costs being incurred by Access Seekers resulting from increased churn or payment of compensation to End Users by way of, for example, waiving service charges. ComReg is of the preliminary view that it is reasonable that the Service Credits to be paid by Eircom to Access Seekers in the event that Eircom does not meet the committed service levels in its SLAs should be such that the Access Seekers can recover the costs incurred, arising from such a failure by Eircom.

13.170 It is ComReg's preliminary view therefore that Eircom should be required:

- (a) ensure that SLAs specify circumstances which trigger the payment of Service Credits such as a failure by Eircom to achieve specified committed service levels, or the occurrence of specified events (such as incidents of service outage or deterioration), or other appropriate criteria;
- (b) ensure that SLAs specify the methodology for calculating the quantum of Service Credits and include an example calculation of Service Credits;
- (c) ensure that circumstances which trigger the payment of Service Credits and the methodology for calculating the quantum of Service Credits, taken together, are fair and reasonable in that they adequately incentivise Eircom to deliver an efficient level of service quality and allow Undertakings to recoup at a minimum the direct costs and any other loss of value that the Undertakings incur as a result of the circumstances that had triggered the payment of Service Credits; and
- (d) ensure that application of Service Credits, where they occur, shall be applied automatically and in a timely and efficient manner.

13.171 A number of the above SLA related conditions are currently imposed upon Eircom through its existing regulatory obligations. However, there are a number of additional obligations which ComReg considers are justified and proportionate as they primarily require Eircom to improve the planning and timing of the availability of SLAs. These proposed obligations should:

- encourage Eircom to achieve acceptable levels of service performance in the provision of services to Access Seekers and to ensure that a level playing field is created in terms of the access provided by Eircom to Access Seekers and that which Eircom supplies to itself;
- ensure that Eircom engages in genuine bona-fide negotiations with Access Seekers when seeking to agree fit-for-purpose appropriate SLAs;
- provide certainty regarding the timeliness of the engagement by Eircom with Access Seekers during SLA discussions and the conclusion of negotiations;
- provide assurances to Access Seekers surrounding the levels of service to be provided by Eircom so that they are, in turn, able to offer consequential service assurances to their own downstream customers (and prospective customers);
- ensure that Eircom is adequately incentivised to achieve the committed service levels set out in its SLAs by ensuring that any Service Credits to be paid by Eircom to Access Seekers are fair and reasonable;
- establish committed service levels against which the standards of performance achieved by Eircom can be readily measured and compared;

- hold Eircom accountable for its committed service levels by establishing a mechanism for Access Seekers to receive Service Credits where committed service levels are not achieved by Eircom; and
- Ensure that Eircom does not seek to fetter Access Seekers' ability to effectively access WCA inputs in the provision of downstream services in markets where Eircom is or may also be competing.

Requirement for timeliness of Product Development

13.172 ComReg is proposing to impose certain timelines with respect to the development of wholesale products in the Regional WCA market. The proposed obligation is as described for the WLA market and the rationale and justification for this remedy is as described in the WLA market. (paragraphs 8.354 to 8.374).

Withdrawal of Access Obligations Imposed in the 2013 NGA Decision

13.173 ComReg is proposing to withdraw the following obligation. An In-Premises Services access obligation was imposed in the 2013 NGA Decision to address potential competition problems identified at that time. It is ComReg's preliminary view that this potential competition problem is more appropriately addressed through the general non-discrimination obligation.

13.174 ComReg also proposes to withdraw the obligation to notify ComReg in writing in advance of any potential co-investment arrangements in relation to Next Generation WCA products services and facilities that may take place between Eircom and another party.

13.175 Irrespective of whatever co-investment or other arrangements that an SMP undertaking might seek to engage in, it nonetheless has to comply with its regulatory obligations. ComReg can also seek to obtain information from such an undertaking, using its statutory information gathering powers, should it be necessary. Therefore, the continuation of this obligation is not proportionate as a viable alternative is available.

Consideration of statutory criteria on proposed access obligations

13.176 In paragraphs 13.4 to 13.8 above, ComReg set out a range of statutory criteria that ComReg must consider when imposing access obligations. These criteria are considered below having regard to the proposed access obligations set out in paragraphs to 13.32 to 13.175 above.

- **Technical and economic viability of using or installing competing facilities:** In this Consultation, ComReg has defined the Regional WCA Market and has set out its preliminary view that existing competition, potential competition and CBP are unlikely to result in effective competition within the market. In light of this, and having regard to the apparent presence of barriers to entry⁹⁶⁹ identified in the Regional WCA Market (related to control of infrastructure/resources not easily duplicated), using or installing competing facilities to provide WCA is not likely to be economically feasible within the period of this review. This is evidenced by the lack of large scale entry in the Regional WCA Market since the 2011 WBA Decision and Eircom's high and persistent market share. ComReg does not consider it likely that Eircom's position within the Regional WCA Market will change within the period of this review. Eircom has to date been providing WCA services and it is, therefore, technically able to continue to provide these services.
- **Feasibility of providing access in relation to capacity available:** Access to WCA products, services and facilities are currently provided by Eircom, albeit on foot of existing regulatory obligations. On a forward-looking basis, ComReg is not aware that there would be any material capacity constraints that would give rise to Eircom facing difficulties in meeting the proposed access obligations.
- **The initial investment of the facility owner:** Having regard to Regulation 12(4)(c) and Regulation 13(2) of the Access Regulations⁹⁷⁰, ComReg's approach to imposing access remedies is based on principles that, inter alia, allow a reasonable rate of return on adequate capital employed, taking into account the risks involved. When proposing price control remedies (see paragraph 13.8), ComReg is mindful of facilitating the development of effective and sustainable competition to the benefit of consumers without compromising efficient entry and investment decisions of undertakings over time. ComReg is also mindful of the role of regulatory transparency and consistency in contributing to a more predictable environment conducive to long-run investment decisions being made.

⁹⁶⁹ See Section 11 for the consideration of barriers to entry in the Regional WCA Markets.

⁹⁷⁰ According to Regulation 13(2) of the Access Regulations "To encourage investments by the operator, including in next generation networks, the Regulator shall, when considering the imposition of obligations under paragraph (1), take into account the investment made by the operator which the Regulator considers relevant and allow the operator a reasonable rate of return on adequate capital employed, taking into account any risks involved specific to a particular new investment network project".

- **The need to safeguard competition:** In Section 12 and throughout this Section, ComReg has highlighted the impacts on downstream competition and the impacts on consumers that could arise given Eircom's ability and incentives to potentially engage in exploitative or exclusionary behaviours in the Regional WCA Market (absent regulation). These include, inter alia, actual or constructive denial of access, excessive pricing and other behaviours which could damage the development of sustainable competition in the downstream retail market. ComReg considers that imposing access (and other obligations) in the Regional WCA Market will ultimately promote the development of sustainable competition in retail markets, to the benefit of consumers.
- **Intellectual property rights:** ComReg's preliminary view is that intellectual property rights are not likely to be a significant concern in the context of the provision of access to WCA products, services and facilities.
- **Pan European Services:** ComReg's preliminary view that its proposed approach should facilitate the provision of pan-European services since its proposed approach is consistent with the policies of the European Commission and other NRAs. Consistent regulation of WCA across the EU will help to support a seamless provision of pan-European services by allowing Service Providers in other Member States to provide electronic communications services in Ireland. For example, by using Eircom's WCA products, services and facilities potentially combined with other wholesale services, to compete within Ireland.

13.177 In view of the above, ComReg's preliminary view is that the proposed obligations requiring Eircom to provide access to WCA products, services and associated facilities, are proportionate and justified.

13.178 ComReg has also considered whether access obligations would be sufficient in themselves to resolve the identified competition problems. For the reasons set out in the discussion of the other proposed remedies below, ComReg does not consider this to be the case. For example, the imposition of access obligations alone would not resolve issues such as excessive pricing or margin squeeze, discrimination on price or quality grounds, or ensure transparency of terms and conditions of access.

Summary of Preliminary Conclusions on Access Obligations

13.179 Having regard to the analysis set out in paragraphs 13.38 to 13.178 above, ComReg's preliminary view is that proposed access obligations are proportionate and justified. The proposed specific requirements include:

- (a) to meet reasonable requests for access;

- (b) to provide access to WCA products, including Bitstream, Bitstream BEA, Bitstream Plus and Bitstream Plus VEA;
- (c) to provide access to Backhaul;
- (d) to provide access to Migrations, including Bulk Migrations;
- (e) to provide access to Interconnection Services, including In-Building Handover, In-Span Handover, Customer-sited Handover Edge Node Handover and Flexible Interconnection Services;
- (f) to provide access to Co-Location for Interconnection;
- (g) to provide access to Associated Facilities and in particular – Multicast, Class of Service;
- (h) to negotiate in good faith with undertakings requesting access;
- (i) not to withdraw access to facilities already granted without ComReg's prior approval;
- (j) to grant open access to technical interfaces, protocols or other key technologies that are indispensable for the interoperability of services or virtual network services;
- (k) to provide access to OSS or similar software systems necessary to ensure fair competition in the provision of services;
- (l) to provide access in accordance with a range of conditions governing fairness, reasonableness and timeliness including but not limited to SLA, Services Credits, timeline for the agreement of the SLA, product development timelines etc.
- (m) requirement Regarding Timeliness of Product Development; and

13.180 ComReg has also proposed the withdrawal of the following obligations:

- (a) In-Premises Services;
- (b) Notification of co-investment.

13.181 ComReg has also considered whether the access obligations identified above would be sufficient in and of themselves to address the competition problems identified in Section 12 and does not consider this to be the case. For example, excessive pricing, margin squeeze and discriminatory behaviour could still occur in the presence of an access obligation.

Non-Discrimination Remedies

13.182 Below ComReg sets out its preliminary views regarding the non-discrimination remedies that it proposes to impose upon Eircom in the Regional WCA Market.

13.183 ComReg is proposing to continue to impose both general and specific non-discrimination obligations on Eircom in order to address identified competition problems that could arise in the Regional WCA Market. ComReg is also proposing some enhancements to existing obligations which largely mirror those discussed in the WLA Market.

13.184 Pursuant to Regulation 10 of the Access Regulations, ComReg is proposing to require that Eircom:

- applies equivalent conditions in equivalent circumstances to other Undertakings requesting, or being provided with Access (including Access to WCA and associated facilities) or requesting or being provided with information in relation to such Access; and
- provides Access (including Access to WCA and Associated Facilities) and information to all other Undertakings under the same conditions and of the same quality as Eircom provides to itself or to its subsidiaries, affiliates or partners.

13.185 These obligations are intended to ensure that Eircom does not favour its downstream arm, or unduly favour any particular Access Seeker(s) in the provision of WCA products, services and facilities such that it might otherwise restrict or distort competition in any downstream or adjacent markets, ultimately impacting on the development of sustainable retail and/or wholesale competition.

Specification of the non-discrimination standards with respect to the provision of WCA

13.186 Pursuant to Regulation 10 of the Access Regulations ComReg is proposing to the imposition on Eircom of non-discrimination obligations as follows:

- (a) All NG WCA products, services and facilities are to be provided to a standard of EoI in all cases.
- (b) CG WCA products, services and facilities will be supplied to at least an EoO standard, unless otherwise specified elsewhere.

- (c) All new provisions of CG WCA products, services and facilities when used, by Eircom's downstream arm, for the provision of retail services to Consumers⁹⁷¹ will be provided to a standard of Eol, unless otherwise agreed with ComReg.
- (d) Service assurance for all CG WCA products, services and facilities, are to be provided to a standard of Eol, not including the Service Assurance Systems Interfaces⁹⁷².
- (e) ComReg considers that the obligation to provide service assurance for all CG WCA products, services and facilities, to a standard of Eol (not including the Service Assurance System Interfaces) should be implemented by Eircom within 6 months of the final decision on the market analysis for the Regional WCA Market being published, unless otherwise agreed with ComReg.
- (f) Eircom to supply all CG WCA products services and facilities, on the basis of Eol by 1 November 2018 unless otherwise agreed by ComReg.

13.187 The rationale and justification for these proposed obligations is discussed below.

13.188 When considering the imposition of non-discrimination obligations the standard of the obligation needs to be considered, particularly in relation to the potential impact such an obligation may have for the processes and systems that underpin the provision and in-life management of WCA products, services and facilities.

13.189 As noted in Section 8, Eol and EoO are two standards of non-discrimination which can be considered by NRAs⁹⁷³. While both standards seek to ensure the provision of access in a non-discriminatory manner, they can, when imposed, have significantly different implications for the SMP undertaking's systems and processes and for the effectiveness of the obligation. ComReg has taken into account these differences, and their implications, when considering whether it is justified, reasonable and proportionate to oblige Eircom to apply either standard to the provision of WCA products, services and facilities.

⁹⁷¹ Consumer is as defined in the Framework Regulations 2011, as follows: "*consumer means any natural person who uses or requests a publicly available electronic communications service for purposes which are outside his or her trade, business or profession.*"

⁹⁷² Service Assurance Systems Interface: Refers to the system or systems to which operators connect to allow them to log faults relating to regulated services, in this case WCA services. This includes operators logging faults by submission of service assurance orders on an order handling system for example the Unified Gateway or by directly logging faults on to Eircom's Fault Handling system ('FHS').

⁹⁷³ See the 2013 Non-Discrimination Obligation.

- 13.190 An EoI standard requires that the vertically-integrated SMP undertaking consumes exactly the same upstream inputs as its wholesale customer. The processes and systems used by an Access Seeker during all stages of the product life cycle (i.e. from pre-provisioning and provisioning to service assurance and customer switching) should be exactly the same (subject to minor exceptions) as those used by Eircom's downstream arm.
- 13.191 The EoO standard requires that the vertically integrated SMP undertaking provides Access Seekers with access to upstream inputs in a manner which achieves the same standards in terms of functionality, price, terms and conditions, service and quality levels as the vertically integrated undertaking provides to itself, albeit potentially using different systems and processes.
- 13.192 While both the EoI and EoO obligations can be imposed with a view to achieving the same objectives there are significant differences between EoI and EoO obligations in terms of both their effectiveness and the implications of each for the SMP undertaking.
- 13.193 The European Commission recommendation on consistent non-discrimination obligations and costing methodologies states:
- “The Commission considers that equivalence of inputs (EoI) is in principle the surest way to achieve effective protection from discrimination as access Seekers will be able to compete with the downstream business of the vertically integrated SMP operator using exactly the same set of regulated wholesale products, at the same prices and using the same transactional processes. In addition, and contrary to an Equivalence of Output (EoO) concept, EoI is better equipped to deliver transparency and address the problem of information asymmetries.”*
- 13.194 ComReg shares the European Commission's view that an EoI obligation can be more effective than an EoO obligation and also allows more effective compliance monitoring, however an obligation of EoI may not be appropriate in all cases.
- 13.195 When considering the imposition of regulatory obligations generally, it is necessary to consider whether they are proportionate. This is particularly relevant when considering an EoI obligation as the potential impact of the imposition of an EoI obligation on the SMP undertaking, in this case Eircom, can be significant in terms of the system changes that can arise as a result.
- 13.196 The co-existence of NG WCA and CG WCA services has resulted in Eircom operating two IT systems as follows. Firstly, a legacy IT system which supports CG WCA and currently delivers services on the basis of EoO. Secondly, a new IT system which delivers NG WCA services and some CG WCA services on the basis of EoI.

- 13.197 Eircom's IT systems used for the provision of WCA services are in transition as a multi-year programme for the retirement of legacy IT systems is underway. The transition in Eircom's IT systems is happening in parallel with the demand for higher speed services which is resulting in an increase in NG WCA provision, with a corresponding reduction in and migration from CG WCA services.
- 13.198 While the shift in demand from CG WCA services to NG WCA services facilitates the planned retirement of Eircom's legacy IT systems, it is clear that a reduced installed base of CG WCA services will remain in place for some time to come. This CG WCA installed base is likely to persist for a considerable period after Eircom's planned transition between legacy and new IT systems has been completed⁹⁷⁴.
- 13.199 These are key considerations when determining the standard of non-discrimination to be applied to the supply of WCA products, services and facilities. In this context, ComReg considers the standard of non-discrimination that can be applied to the two categories of WCA services, i.e. CG and NG WCA, in the following sections.

NG WCA Services

- 13.200 As part of its NGA network rollout, Eircom redeveloped its IT systems to support NG WCA services. These new IT systems were developed such that NG WCA services could be offered to all operators on the basis of EoI, whereby all undertakings will use the same OSS including the same order interface⁹⁷⁵.
- 13.201 Eircom's new IT systems were developed such that NG WCA services could be delivered on the basis of EoI, and in the 2013 NGA Decision an obligation to provide NG WCA services on the basis of EoI for pre-ordering, ordering, provisioning and service assurance was imposed on Eircom for the delivery of then WBA services.
- 13.202 Eircom's IT systems can support the provision of NG WCA services on the basis of EoI and ComReg considers that the obligation to provide pre-provisioning, provisioning and service assurance for NG WCA on the basis of EoI should be imposed, in all cases.

⁹⁷⁴ Eircom informed ComReg [redacted]. Ref Letter from Eircom to ComReg, 3 February 3rd 2016 and subsequent discussions with ComReg including discussions on Sept 8th 2016.

⁹⁷⁵ An order interface is the interface used by operators to place orders for pre-provisioning, provisioning and services assurance for regulated access services including WCA. An order interface called the Unified Gateway was developed by Eircom to allow Access Seekers to place orders for pre-provisioning, provisioning and services assurance for regulated access services including WCA. Eircom's downstream arm use a different order interface in some circumstances. The evolution towards an EoI environment requires, inter alia, the redevelopment of systems in order to ensure that all operators, including Eircom's downstream arm, use the same order interface.

13.203 ComReg's preliminary view, therefore, is that all NG WCA services should be provided on the basis of EoI for all processes.

CG WCA Services

13.204 The volume of customers using CG broadband (and related) services has been in long term decline as NGA services have rolled out. However, the general trend of migration to NGA services is far from complete and there will likely be a significant CGA customer base for a considerable period to come, almost certainly beyond the lifetime of this review. Ultimately, however, at some point in the future it is possible that the volume of CGA services will be much reduced and might disappear altogether (this may not be geographically uniform).

13.205 Currently, CG WCA services must be offered on the basis of at least EoO. Eircom is planning to migrate all CG WCA services onto its new IT systems and provide CG WCA services on the basis of EoI. ComReg understands that, in practice, Eircom has already begun this transition and is providing some CG WCA on the basis of EoI, with plans to migrate the remainder in the near future.

13.206 In order to consider how appropriate non-discrimination obligations can be applied to CG WCA services in the context of the ongoing phased transition of CG WCA to EoI compliant systems, ComReg considers that there are a number of categories that are relevant. These categories are discussed below.

13.207 The categories are:

- CGA Services⁹⁷⁶ provided to *Consumers* since September 2015.
- CGA Services provided to Other categories of End Users.
- CGA installed base (all categories)

13.208 From a systems perspective and in the context of WCA, Eircom distinguishes between "*Consumers*" and other retail End Users⁹⁷⁷. ComReg understands that its definition of "*Consumer*" is consistent with the definition in the 2011 Framework Regulations. "Other" retail End Users, include for example, businesses and the public sector.

⁹⁷⁶ CG services refers to CG services which are provided using CG WCA products, services and facilities as wholesale inputs.

⁹⁷⁷ Eircom defines retail market segments as "Consumer", "Small and Medium size Businesses" ("SMB") "Large Business", "Corporate" and "Government" and have a phased strategy for the migration of these End User types.

- 13.209 The CG installed base includes all CG WCA provided on the basis of EoO. However, since September 2015⁹⁷⁸ Eircom has provided all aspects of its CGA service in respect of new provides to End Users who are Consumers, on an Eol basis⁹⁷⁹. This extends to pre-provisioning, provisioning, and all in-life services including fault reporting and repair.
- 13.210 Eircom continues to develop its new IT systems in order to support CG WCA services for the CG WCA installed base⁹⁸⁰ on the basis of Eol. This process is not complete and all CG services in respect of these customers are currently provided on the basis of EoO over legacy IT systems.
- 13.211 ComReg's preliminary view is that the obligation to provide CG WCA services on an Eol basis should be extended to new provisions of CG WCA to Consumers for pre-provisioning, provisioning, fault reporting and fault repair. This is because it is proportionate given that Eircom is already providing services to these End Users on an Eol basis since September 2015 and the imposition of an Eol obligation will ensure certainty in the application of non-discrimination requirements to the provision of these aspects of the service.
- 13.212 When considering the imposition of an Eol obligation for CG WCA services where Eol is not in place (i.e. for the CGA installed base) in the following sections, the question arises, in light of the likely trajectory of CG volumes, as to whether it makes sense to insist on Eol in all circumstances for CGA, in light of the cost and risks associated with the solutions considered.
- 13.213 ComReg sought and received information from Eircom regarding the implications of the imposition of an Eol obligation for CG WCA services provisioned over Eircom's legacy IT systems⁹⁸¹.
- 13.214 Two possible scenarios are considered :
- Changing Eircom's legacy systems to support Eol; and
 - The migration of the CGA installed base from Eircom's Legacy IT systems to Eircom's new IT systems.

⁹⁷⁸ This date has been provided to ComReg in correspondence from Eircom dated 3 February 2016.

⁹⁷⁹ Eircom have informed ComReg of a number of minor exceptions where new provide orders for Consumers are processed on the basis of EoO corresponding to approximately [x<] (less than 2%) of Consumer orders. ComReg is satisfied that the explanations provided by Eircom regarding the exceptions are valid (correspondence dated 7 Sept 2016).

⁹⁸⁰ The CG WCA installed base includes CG WCA used to provide retail services to all "Other" Eircom End Users and CG WCA used by Access Seekers to provide downstream services to End Users.

⁹⁸¹ A SIR on CG WCA from ComReg was sent to Eircom on 20th November 2015. A response, which included a report on CG WCA, was received on 3 February 2016.

Changing Eircom's legacy IT systems to support EoI

- 13.215 ComReg requested information from Eircom regarding the implications for its legacy IT systems of the imposition of an EoI obligation for the CGA installed base. ComReg reviewed and considered this information and considered the implications of requiring Eircom to reconfigure its legacy IT systems in order to provide CG WCA services on the basis of EoI.
- 13.216 There are a number of process and systems issues that need to be addressed in order to provide wholesale services on the basis of EoI. These considerations arise from the need to redevelop legacy IT systems designed to provide services on the basis of EoO. However, the main issues which give rise to costs and complexities are associated with the redevelopment of the OSS and, in particular, the Order Interface⁹⁸² such that the same Order Interface could be used by both Access Seekers and Eircom's downstream arm.
- 13.217 ComReg considers that redeveloping Eircom's legacy IT systems to an EoI standard would be complex and costly, and would not be justified.
- 13.218 Due to the costs of system changes and the ongoing migration of services from CG WCA to NG WCA, ComReg considers that it would not be proportionate or justified to impose an obligation of EoI for CG WCA products and services if the only way of implementing the obligation was for Eircom to change their legacy IT systems such that they could support EoI.
- 13.219 An alternative means of achieving EoI would be to migrate existing customers and those new CG WCA provides currently not subject to EoI onto existing EoI compliant systems.

Migration of CG WCA installed customer base from legacy IT systems to new IT systems

- 13.220 ComReg requested information from Eircom regarding the implications of migrating CG customer data from Eircom's legacy IT systems to Eircom's new IT systems, thereafter allowing all services to be delivered on an EoI basis. ComReg reviewed the information received from Eircom, which provides details of its strategy for the migration of CG WCA customers off their legacy IT systems onto their new IT systems.
- 13.221 This strategy entails market led migrations as customers move to broadband (and related) services based on NG WCA wholesale inputs, resulting in the movement of the customer's record from Eircom's legacy IT systems to its new IT systems, as a result of a new provision of NG WCA.

⁹⁸² Order Interface is a generic term used to describe any interface into Eircom's OSS used by Eircom's downstream arm or Access Seekers in order to avail of regulated wholesale services. Access Seekers use the Unified Gateway as an Order Interface.

13.222 For the remainder of customers who do not migrate from CG WCA services to NG WCA services, Eircom is considering a bulk migration process which is currently at the planning stage. This would result in customer records being moved, in bulk, from Eircom's legacy IT systems to Eircom's new IT systems.

[Redacted]

13.223 With the information available to it, ComReg has considered the complexities of the bulk migration of CG WCA services to Eircom's new IT systems, the lead time for the development required to achieve such a transition and the risks involved with expediting such transitions in the context of declining CG WCA volumes. ComReg considers that there are considerable risks associated with expediting such a transition and considers that a target date for completion of the transition from CG WCA to Eircom's new IT systems by 1 November 2018 is achievable.

13.224 However, as there are complexities with such projects, some of which can emerge during the planning and transition processes and which can potentially have a negative impact on End Users, ComReg will consider requests from Eircom to vary the timeline in exceptional circumstances. In such circumstances, ComReg would request supporting documentation from Eircom and may get independent expert advice to assess any case supporting a request, from Eircom, for an extension to the timeline.

13.225 ComReg's preliminary position is that Eircom should be obliged to provide:

- (a) all CG WCA services should be provided on at least an EoO basis
- (b) all CG WCA services provided to Consumers on the basis of EoI, unless otherwise agreed with ComReg.
- (c) all CG WCA services, on the basis of EoI by 1st November 2018 unless otherwise agreed with ComReg.

Service Assurance for the CGA installed base.

13.226 With respect to CGA WC on legacy IT systems, the main concerns regarding the potential for discrimination arise with respect to service assurance. This is due to the differences between fault screening and fault logging processes for faults managed using the Service Assurance System Interfaces used by Access Seekers, the Unified Gateway, when compared with faults managed using the systems interfaces used by Eircom's downstream arm. In particular, the difference in the application of business rules⁹⁸³ related to services assurance as between Eircom's downstream arm and Access Seekers.

⁹⁸³ Business rules define the actions and/or decisions that must be taken prior to an order passing through a particular point in a business process.

- 13.227 ComReg considers that, because of this concern, during the period up to 1st November 2018 (or an alternative date agreed by ComReg) prior to CG WCA services being provided on the basis of Eol, other than the Service Assurance System interfaces, service assurance should be provided to Access Seekers and Eircom's downstream arm using exactly the same systems, processes and associated business rules⁹⁸⁴.
- 13.228 ComReg considers that this approach achieves the correct balance between allowing a reasonable period of time for Eircom to transition its installed base of CG WCA customers, thus avoiding redevelopment of Eircom's legacy IT systems, and ensuring that the potential opportunity for discrimination in CG WCA services is minimised to the greatest extent possible during the transition period.
- 13.229 The application of Eol in this instance is such that, other than the Service Assurance System Interfaces, Eircom follows exactly the same processes, including the same business rules, and uses the exactly the same systems that Access Seekers use from the point that a fault is logged on either the UG or Eircom's IT systems, such as its Fault Handling System ('FHS'), when availing of service assurance for CG WCA products.
- 13.230 By applying this proposed Eol obligation, but not applying it to the Service Assurance System Interfaces in this instance, it is possible to avoid the complications, difficulties and costs associated with re-engineering legacy IT systems. In this case, Eircom could continue to use a different Service Assurance System Interface than that which is used by Access Seekers. However, once an Eircom CG WCA fault is logged, it is subsequently managed in exactly the same way using the same systems and processes as a CG WCA fault logged by an Access Seeker.
- 13.231 In the case of CG WCA, ComReg considers that Eol should be applied to CG WCA saved for the Service Assurance System Interfaces.
- 13.232 ComReg considers that this proposed obligation is proportionate as it applies only in the interim period as Eircom completes the migration to new IT systems. ComReg also considers that the changes required to the early stages of the fault handling process in order to provide service assurance to the standard of Eol, other than the Service Assurance System Interfaces, are justified and not overly burdensome to implement.

⁹⁸⁴ Eol requires all operators i.e. Access Seekers and Eircom's downstream arm to use the same systems for the provisioning and management of RAP services. An exception is allowed in this case whereby although Eol is applied, different systems interfaces can be used by Access Seekers and Eircom's downstream arm for fault management. The processing of the fault from the point when the fault is initially placed (or logged) on the system i.e. on the Unified Gateway by an Access Seeker or on Eircom's Fault Handling System (FHS) by Eircom's downstream arm, however, must be exactly the same with respect to the same systems and processes including business rules.

13.233 Therefore, ComReg considers that the imposition of an Eol obligation, save for the Service Assurance System Interfaces, for service assurance is justified, and proportionate for the CG WCA installed base.

13.234 ComReg considers that the obligation to provide service assurance on an Eol basis as described above should be implemented by Eircom within 6 months of the final decision on the WCA market analysis being published.

Summary of Preliminary Conclusions on Non-Discrimination Standards

13.235 Having regard to the analysis set out in paragraphs above, ComReg's preliminary view is that proposed non-discrimination obligations are proportionate and justified. The proposed specific requirements include:

13.236 Eircom should be obliged to provide WCA NGA as follows:

- (a) All NG WCA products, services and facilities are to be provided to a standard of Eol in all cases.
- (b) CG WCA products, services and facilities will be supplied to at least an EoO standard;
- (c) Service Assurance for all CG WCA products, services and facilities, are to be provided to a standard of Eol (excluding the Service Assurance System Interfaces).
- (d) ComReg considers that the obligation to provide service assurance for all CG WCA products, services and facilities, to be provided to a standard of Eol (not including the Service Assurance System Interfaces) should be implemented by Eircom within 6 months of the final decision on the WCA market analysis being published, unless otherwise agreed with ComReg.
- (e) All new provisions of CG WCA products, services and facilities when used, by Eircom's downstream arm, for the provision of retail services to Consumers⁹⁸⁵ will be provided to a standard of Eol, unless otherwise agreed with ComReg. This extends to pre-provisioning, provisioning, and all in-life services including fault reporting and repair.
- (f) Eircom to supply all CG WCA products services and facilities, on the basis of Eol by 1 November 2018 unless otherwise agreed by ComReg.

⁹⁸⁵ Consumer is as defined in the Framework Regulations 2011, as follows: "consumer" means any natural person who uses or requests a publicly available electronic communications service for purposes which are outside his or her trade, business or profession.

Summary of Preliminary Conclusions on Non-Discrimination Obligations

13.237 Having regard to the analysis set out in paragraphs 13.182 to 13.236 above, ComReg's preliminary view is that proposed non-discrimination obligations are proportionate and justified. The proposed specific requirements include:

- (a) non-discrimination obligations to ensure equivalent treatment of Access Seekers by Eircom in its provision of services and information to them; and
- (b) non-discrimination obligations to ensure that Eircom provides the same services and information to Access Seekers as Eircom supplies to itself.

13.238 ComReg has also considered whether the non-discrimination obligations identified above would be sufficient in and of themselves to address the competition problems identified in Section 12 and does not consider this to be the case. For example, excessive pricing, constructive denial of access problems or poor service quality issues could still occur in the presence of a non-discrimination obligation.

Transparency Remedies

13.239 In Section 12, ComReg identified that Eircom has the ability and incentive to engage in a range of exploitative and exclusionary behaviours which can impact adversely upon competition and consumers. The potential for leveraging of market power into related markets through informational asymmetries was also identified.

13.240 A transparency obligation is considered necessary in order to monitor and ensure the effectiveness of any access, non-discrimination, (and other obligations such as price control) as it allows ComReg and to a certain extent Access Seekers to monitor the compliance of an SMP Undertaking's pricing and other behaviour (such as with respect to terms and conditions of use, quality or technical parameters) with non-discrimination and access obligations, and to address potential competition problems relating to price or quality discrimination.

13.241 Additionally transparency obligations are necessary to ensure that Access Seekers are provided with all relevant and necessary information with respect to wholesale products offered by the SMP operator in the market.

- 13.242 Regulation 9 of the Access Regulations provides that ComReg may, inter alia, specify obligations to ensure transparency in relation to access or interconnection requiring an SMP undertaking to make public specified information such as accounting information, technical specifications, network characteristics, prices, and terms and conditions for supply and use, including any conditions limiting access to or use of services and applications where such conditions are permitted by law.
- 13.243 Transparency obligations can be standalone but can also support other obligations being imposed and, as evidenced from the above, usually relate to requirements to make specified information publicly available.
- 13.244 Apart from the above, as noted in the Access Directive⁹⁸⁶, transparency of terms and conditions for access and interconnection, including prices, also serve to speed-up negotiations between undertakings, avoid disputes and give confidence to market players that a service is not being provided on discriminatory terms.
- 13.245 Openness and transparency of technical interfaces can also be particularly important in ensuring interoperability. Transparency on prices (and changes to them) is also likely to provide the necessary clarity to Access Seekers in order that they can consider impacts on the structure or level of retail prices. Transparency also provides the means for Eircom to demonstrate that access to WCA products, services and facilities is being provided in a non-discriminatory manner.
- 13.246 ComReg considers that transparency obligations are justified, necessary and proportionate to ensure that Access Seekers are not disadvantaged in their downstream operations. The EC, as part of its consultation process for the 2013 Non-Discrimination Consultation, points out that non-price discrimination is particularly difficult to detect and:-
- 13.247 “One of the main concerns regarding non-price discriminatory behaviour, such as the above mentioned quality discrimination, is the difficulty to detect them. Therefore, in order to ensure the effectiveness of a non-discrimination obligation, it is equally important to ensure that both the national regulator and access Seekers can monitor the SMP operator's performance when supplying wholesale inputs in order to see whether it supplies any such wholesale services to its competitors with the same quality as it provides to itself. Otherwise the desired results in the downstream markets are unlikely to be achieved.”⁹⁸⁷

⁹⁸⁶ Recital 16 of the Access Directive

⁹⁸⁷ European Commission: Questionnaire For The Public Consultation On The Application Of A Non-discrimination Obligation Under Article 10 Of The Access Directive (Including Functional Separation Under Article 13a) Published 3 October 2011 Page 7 Paragraph 3.

13.248 In the 2013 Non-Discrimination Recommendation, the EC went onto state in Recital 12 that:

“One of the main obstacles to the development of a true level playing field for access seekers to electronic communication networks is the preferential treatment of the downstream businesses, for example the retail arm, of a vertically integrated operator with significant market power (SMP operator) through price and non-price discrimination (for example, discrimination regarding quality of service, access to information, delaying tactics, undue requirements and the strategic design of essential product characteristics). In this respect it is particularly difficult to detect and address non-price discriminatory behaviour through the mere application of a general non-discrimination obligation. It is, therefore, important to ensure true equivalence of access by strictly applying non-discrimination obligations and employing effective means to monitor and enforce compliance.”

13.249 The Directive recommended amongst other things that NRAs should impose obligations with respect to KPIs and SLAs.

13.250 ComReg considers that the timely availability of information regarding network development and rollout, new products and product upgrades, associated service level agreements and related performance reporting is essential, in order for operators to compete effectively with Eircom.

Current Transparency Remedies

13.251 Eircom is currently subject to a range of transparency obligations as described in paragraphs 13.17 to 13.18 above. The sections below outline the proposed transparency remedies.

Proposed Transparency Remedies

13.252 In accordance with Regulation 9 of the Access Regulations ComReg considers that Eircom should be required to comply with a range of transparency obligations (the majority of which are already imposed upon it under existing regulatory decisions) in order to minimise information asymmetries and facilitate effective access to WCA product services and facilities and to ultimately promote effective competition in downstream and related markets.

13.253 The proposed transparency remedies for the Regional WCA market are set out below. In all cases references to ARO are, for the purposes of the WCA market, taken to refer to the WBARO.

- (a) maintenance and publication of an ARO which is to contain a minimum list of items;
- (b) associated ARO change management process;
- (c) advance notification timeframes for ARO and price changes;

- (d) provide transparency in the billing of WCA wholesale charges;
- (e) publication of KPIs SLAs and Eircom's performance in meeting the committed service levels within its SLAs;
- (f) publication of details with respect to requests for the development of regulated products, services or facilities;
- (g) publication an up to date Product Development Roadmap listing all developments and indicating relevant milestone and target dates;
- (h) Provide notification with respect to proposed trials; and
- (i) provisions to cater for the issue of commercially sensitive or confidential information.

13.254 The justification and rationale for the proposed obligations are largely as described for those transparency remedies set out for the WLA Market in Section 8 in respect of the products, services and facilities obligated in the Regional WCA market. The relevant transparency sections in the WLA section are in the following paragraphs:

- (a) publish an ARO discussed in paragraphs 8.462 to 8.478;
- (b) provide, in accordance with specified timeframes, advance notification to Access Seekers and to ComReg of proposed changes to the ARO, prices and the introduction of products, services and facilities discussed in paragraphs 8.479 to 8.486;
- (c) ensure transparency in its billing by making its wholesale invoices sufficiently disaggregated, detailed and clearly presented such that an Access Seeker can reconcile the invoice to Eircom's ARO and ARO prices discussed in paragraphs 8.487 to 8.488;
- (d) publish on its publicly available website Key Performance Indicators (KPIs), SLAs and reports relating to WCA products, services and facilities discussed in paragraphs 8.490 to 8.508;
- (e) publish information with respect to the development of products, services and facilities discussed in paragraphs 8.553 to 8.566;
- (f) provide advance notification of proposed product trials discussed in paragraphs 8.567 to 8.576; and
- (g) meet requirements concerning access to confidential and/or commercial information, discussed in paragraphs 8.577 to 8.584.

13.255 ComReg also proposes that Eircom should be required, as specified by ComReg in writing from time to time, to make public on its publicly available wholesale website, information that may be reasonably requested by ComReg that is relevant to the provision of WCA products, services and facilities such as accounting information, technical specifications, network characteristics, terms and conditions for supply and use, and prices.

- 13.256 This allows ComReg to proactively intervene in specific cases where it considers that transparency is lacking regarding the provision of information regarding WCA products, services and facilities, notwithstanding the standard transparency measures proposed above being in place.
- 13.257 ComReg has considered whether transparency obligations would be sufficient in themselves to resolve the competition problems identified in Section 12, and does not consider this to be the case. In particular, ComReg considers that problems associated excessive pricing, discriminatory behaviour (on price or non-price grounds) or denial of access would not be adequately addressed through transparency obligations alone.

Price Control and Cost Accounting Remedies

Overview

- 13.258 As part of the review of the Regional WCA Market, ComReg is required to consider whether a price control obligation is appropriate. Where a price control is considered appropriate, ComReg must consider what type of price control would best meet its regulatory objectives in line with Section 12 of the Communications Regulations Act 2002 (as amended), including promoting competition, contributing to the development of the internal market and the promotion of the interests of users within the community.
- 13.259 As set out in Section 10 of this Consultation, ComReg is of the preliminary view that there are two separate geographic WCA Markets, namely the Urban WCA Market, which as discussed in Section 11, ComReg proposes should be deregulated and the Regional WCA Market, which ComReg proposes should be subject to regulation.
- 13.260 Previously, in the 2013 Bundles Decision, ComReg defined two areas with varying prospective competitive conditions namely the LEA⁹⁸⁸ and Outside the LEA.

⁹⁸⁸ LEA has the meaning as set out in Section 2.1 of the Decision Instrument contained in Annex 3 of ComReg Decision D04/13.

- 13.261 In the 2013 Bundles Decision, ComReg identified criteria which could be used to identify areas where uptake of unbundled and local access services, whether LLU and/or VUA, is likely to be viable, and the potential for the future emergence of alternative infrastructure providers of high-speed broadband at a fixed location ('AIP') which, prospectively, are more likely to facilitate a greater degree of competition and where regulation should be responsive to any such prospective changes. ComReg identified individual qualifying areas/exchanges based on the criteria whose total geographic area was defined as the LEA. The criteria are set out in the 2013 Bundles Decision. ComReg is reviewing the LEA criteria, as part of the current review of the net revenue test ('NRT')⁹⁸⁹, to assess whether any changes are required. ComReg will shortly consult on these matters in the Separate Pricing Consultation.
- 13.262 ComReg proposes to continue to differentiate its pricing remedies in the Regional WCA Market to take account of the varying structural and competitive conditions prospectively between the more urban areas and the rural areas, as previously established in the 2013 Bundles Decision. However, given ComReg's proposal in Section 11 and 14 to deregulate 88 Exchange Areas in urban areas (corresponding to the Urban WCA Market), ComReg considers that these 88 Exchange Areas are no longer part of the mix of exchanges used to determine the boundary between the LEA and Outside the LEA areas, as they are currently known. ComReg proposes to retain the criteria used to define the then LEA set out in the 2013 Bundles Decision, but to remove those Exchange Areas that now fall within the Urban WCA Market.

⁹⁸⁹ This is the test that ComReg applies to assess whether or not Eircom is covering its total costs when it sells a bundle of services together and thereby complying with the obligation not to unreasonably bundle services.

13.263 The Exchange Areas that remain within the LEA (i.e. after excluding those Exchange Areas that now fall into the Urban WCA Market) are referred to as “**Regional Area 1**” to reflect the fact that these Exchange Areas fall within the Regional WCA Market. Regional Area 1 currently includes 285 exchanges (i.e., the 369 Exchange Areas currently defined within the existing LEA minus 84 Exchange Areas that ComReg consider now fall into the Urban WCA Market). In addition, four (4) of Eircom exchanges that previously fell Outside the LEA are now included in the Urban WCA Market (as set out in Section 10). The remaining Exchange Areas that comprised “Outside the LEA” are now renamed as “**Regional Area 2**” to reflect the fact that these Exchange Areas fall within the Regional WCA Market. Table 30 below illustrates the link between the existing LEA and the new Regional Area 1 as well as the existing Outside the LEA and the new Regional Area 2.⁹⁹⁰ Please note that there is a difference between the Exchanges Areas identified in Section 10 and Appendix 5 (1217 Exchange Areas) and the Exchange Areas used for pricing purposes associated with the 2013 Bundles Decision (1204 Exchange Areas). The difference relates to the fact that the Exchanges Areas identified in this Consultation includes cabinets and aggregation nodes which are not included in the Exchange Areas used in the context of pricing.

Table 30: Exchange Area Relationships

Description	No. of Exchanges	%
2016 WCA Markets		
Urban WCA Market	88	7%
Regional WCA Market	1129	93%
Total	1217	
2013 Bundles Decision (D04/13)		
Larger Exchange Area (LEA)	369	31%
Outside the LEA	835	69%
Total	1204	
Adjustment to 2013 Bundles Decision		
Urban WCA Market (proposed deregulation)	88	7%
Regional WCA Market:		
Regional Area 1*	285	24%
Regional Area 2**	831	69%
	1204	

*LEA (369) excluding 84 exchanges from the Urban WCA Market.

**Outside the LEA (835) excluding 4 exchanges from the Urban WCA Market.

⁹⁹⁰ In the Separate Pricing Consultation ComReg will consult in more detail on Regional Area 1 and Regional Area 2 in terms of establishing the Exchanges Areas to be used to set the relevant prices for WCA services.

- 13.264 Given the competition concerns discussed in Section 12 associated with the Regional WCA Market, ComReg considers that Eircom has the ability and incentive to engage in a range of anti-competitive pricing behaviours to the ultimate detriment of competition and End Users, in these Exchange Areas.
- 13.265 Absent regulation in the Regional WCA Market, ComReg considers that Eircom has the potential to ultimately exploit End Users by virtue of its SMP position by setting excessive wholesale charges. This could raise the input costs for those SPs that purchase Eircom's wholesale services. Given that such above cost wholesale prices may then be passed on by such SPs to their retail End Users via higher retail prices, it could ultimately have the potential to harm the development of effective competition in the downstream market, potentially through the actual or effective exclusion of downstream competitors.
- 13.266 In addition, ComReg considers, as discussed in Section 12, that absent regulation in the Regional WCA Market, Eircom has the potential to leverage its market power into adjacent vertically or horizontally related markets through price and non-price means with the effect of foreclosing or excluding competitors in downstream retail and/or upstream wholesale markets. Eircom, as a vertically-integrated operator with SMP, has the incentive to use its market power in upstream markets to affect the competitive conditions in downstream wholesale and/or retail markets, in particular, through its ability to control the key inputs used by SPs — which compete against Eircom in such markets. This could result in a distortion of or restriction in competition in these downstream markets, ultimately resulting in harm to End Users, potentially in the form of higher prices, lower output/sales, reduced quality or reduced consumer choice.
- 13.267 On the basis of the competition problems discussed at Section 12 and given the points set out in paragraphs 13.258 to 13.266, ComReg considers that a price control obligation is justified and proportionate in the Regional WCA Market.
- 13.268 Regulation 13(1) of the Access Regulations provides that ComReg may:
- “...impose on an operator obligations relating to cost recovery and price controls including obligations for cost orientation of prices and obligations concerning cost accounting systems, for the provision of specific types of access or interconnection in situations where a market analysis indicates that a lack of effective competition means that the operator concerned may sustain prices at an excessively high level or may apply a price squeeze to the detriment of end-users.”*
- 13.269 Regulation 13(3) provides that:

“The Regulator shall ensure that any cost recovery mechanism or pricing methodology that it imposes under this Regulation serves to promote efficiency and sustainable competition and maximise consumer benefits. In this regard, the Regulator may also take account of prices available in comparable competitive markets.”

13.270 In line with the provisions of Regulation 13 of the Access Regulations, as set out in paragraphs 13.268 to 13.269 above, the general purpose of price control and cost accounting obligations are to ensure that prices charged are not excessive (or do not cause a margin squeeze) and that the measures put in place promote efficiency and ultimately sustainable retail competition, while maximising consumer benefits.

Price control obligations

13.271 As set out in Section 8, there are a number of options available to ComReg in the form of a price control for the wholesale services mandated in the Regional WCA Market. The relevance and appropriateness of each approach are discussed below under the following headings:

- Regulatory Forbearance;
- Benchmarking;
- Retail minus;
- Cost orientation; and
- Margin squeeze obligations.

Regulatory forbearance

13.272 This option would mean ‘No price control’ where Eircom would have freedom to set the monthly rental prices for its wholesale Bitstream services at the level of their choice. In this situation, ComReg would have no influence over the monthly rental (and other) prices.

13.273 Based on the analysis carried out in Section 11, ComReg proposes that no SP operating in the Urban WCA Market has SMP. On this basis, therefore, no *ex ante* regulation is required in the Urban WCA Market.

13.274 ComReg’s preliminary view is that the option of Regulatory Forbearance does not seem appropriate in the Regional WCA Market given that ComReg has identified, on a preliminary basis, that Eircom has SMP in the Regional WCA Market and having regard to the competition problems identified in Section 12 of the Consultation.

13.275 With regard to the option of forbearance, ComReg is of the preliminary view that the option of no price control is not appropriate in the Regional WCA Market for the reasons outlined at paragraph 13.274.

Benchmarking

- 13.276 ComReg set out a description of the Benchmarking approach in Section 8. Benchmarking tends to be used when there is an absence of sufficient cost data to allow a NRA to arrive at a suitably informed cost based price. However, ComReg has already modelled a significant volume of cost and network data in relation to the Eircom access network⁹⁹¹ and core network⁹⁹² in Ireland and has developed an understanding of the relevant costs as a result.
- 13.277 In this case, ComReg is of the preliminary view that benchmarking is not an appropriate approach to set wholesale prices in the Regional WCA Market at this time given the availability of detailed costs models.

Retail minus

- 13.278 ComReg set out a description of the retail-minus price control approach in Section 8. One of the risks of a retail minus price control is the fact that the wholesale access price may be too high if the retail price is too high.⁹⁹³ ComReg considers that if the wholesale price is set too high, effective competition may not develop and efficient investment decisions may be impaired due to the wholesale price misrepresenting the build-or-buy signal. This is particularly relevant to Regional Area 2 where little or no alternative infrastructure is available other than Eircom.
- 13.279 In addition, ComReg considers that there is less price certainty with a retail-minus approach as the wholesale price may change depending on changes by Eircom to the retail price. This does not create the appropriate 'build-or-buy' signals for operators considering investment or create sufficient regulatory certainty for market participants.
- 13.280 A retail minus price control was historically used for setting the prices for CG Bitstream services at a time when the costs and demand for Bitstream services was less well known. However, in 2014, ComReg imposed a cost orientation obligation in relation to Eircom's CG Bitstream services in order to address concerns regarding excessive pricing (as set out in the 2014 WBA Pricing Decision).

⁹⁹¹ Please see Chapter 5 of the 2016 Access Pricing Decision for the details regarding the revised copper access model (known as the '**Revised CAM**').

⁹⁹² Please see Chapter 6 of the 2014 WBA Pricing Decision for further details regarding costs associated with the core network (or Bitstream cost model).

⁹⁹³ High retail prices are more likely to arise in rural areas due to the absence of competition from alternative infrastructure providers. However, in urban areas where a greater degree of competition exists at the retail level the retail minus approach may be adequate.

- 13.281 In the 2014 WBA Pricing Decision, ComReg considered that the costs and demand associated with CG Bitstream were well established and therefore ComReg determined the appropriate costs relevant to the provision of CG Bitstream services in the Bitstream cost model⁹⁹⁴. Therefore, ComReg considers that a retail-minus control is no longer appropriate to establish the wholesale Bitstream prices.
- 13.282 Similarly, for NG FTTC based Bitstream, ComReg now has a better understanding of the costs and penetration levels associated with FTTC based Bitstream since its deployment in 2013, which allows ComReg to estimate the relevant cost of providing the service. This is discussed in more detail at paragraphs 13.304 to 13.307.
- 13.283 Therefore, ComReg is of the preliminary view that a retail minus approach is generally not appropriate for determining the prices of WCA based services in the Regional WCA Market. However, the particular case in which such a price control is appropriate for nascent FTTH services which may be an exception to the above, is considered separately below in paragraphs 13.335 to 13.338.

Cost Orientation

- 13.284 ComReg set out a description of the cost-orientation price control approach in Section 8.
- 13.285 Given the provisions of Regulation 13 of the Access Regulations, a cost orientation obligation should allow the SMP operator to ensure that its wholesale access prices recover no more than its actual incurred costs adjusted for efficiency plus a reasonable rate of return.
- 13.286 In addition, setting wholesale access prices by way of cost orientation breaks the link between the SMP operator's control of the retail price and the wholesale price faced by its competitors. ComReg considers that this helps ensure greater predictability of wholesale price levels for alternative operators as cost oriented prices can be determined for the entire period of the price control thereby allowing them to make investment decisions and develop business plans with a greater degree of confidence.
- 13.287 Furthermore, a cost orientation price control should also ensure that Eircom is prevented from charging excessive prices for wholesale inputs, given the concerns outlined in Section 12.
- 13.288 ComReg sets out the proposed measure of cost orientation obligations in the context of CG WCA services and NG FTTC based WCA services in the sections below.

⁹⁹⁴ Please see the 2014 WBA Pricing Decision, Chapter 6 for further details.

Current generation WCA services

- 13.289 As set out in paragraphs 13.19 to 13.22, Eircom's CG wholesale Bitstream services are subject to an obligation of cost orientation nationally as well as an obligation of cost orientation in the Outside the LEA area.
- 13.290 Cost orientation should ensure that Eircom is recovering no more than its actual costs, adjusted for efficiency plus a reasonable rate of return, in line with Regulation 13(2) of the Access Regulations which provides that:
- 13.291 "To encourage investments by the operator, including in next generation networks, the Regulator shall, when considering the imposition of obligations under paragraph (1), take into account the investment made by the operator which the Regulator considers relevant and allow the operator a reasonable rate of return on adequate capital employed, taking into account any risks involved specific to a particular new investment network project."
- 13.292 In addition, a cost orientation obligation across the Regional WCA Market should allow Eircom some flexibility to cross subsidise from Regional Area 1 to Regional Area 2 while ensuring overall cost recovery (plus a reasonable rate of return) across the Regional WCA Market. Furthermore, by imposing a cost orientation obligation on the Regional WCA Market ComReg avoids the risk that Eircom may use revenues from less competitive areas in the Regional WCA Market to cross-subsidise its activities in the Urban WCA Market. Therefore, the risk of cross-subsidy from the Regional WCA Market to the Urban WCA Market is mitigated if cost orientation is applied in the Regional WCA Market.
- 13.293 ComReg considers that the risk of excessive pricing remains in the Regional WCA Market. In the Regional WCA Market and absent regulation in the WCA Market, Eircom has a retail market share of \approx [REDACTED].
- 13.294 The cost orientation obligation should ensure that Eircom can only recover its efficiently incurred costs which are relevant to the provision of WCA products, services and facilities in the Regional WCA Market. This should, in turn, lead to efficient price and investment signals (build-or-buy) being provided to all market participants.

- 13.295 The recent retail price increases by Eircom for standalone CG broadband services from 1 September 2016⁹⁹⁵ is also suggestive that Eircom's retail prices are not currently constrained, in the presence of regulation. Therefore, a cost orientation obligation alleviates the risks associated with excessive pricing as the prices should reflect no more than actual costs adjusted for efficiencies plus a reasonable rate of return. In addition, ComReg considers that maintaining the obligation of cost orientation ensures continuity and predictability with the current pricing regime for current generation Bitstream services, although only in relation to the Regional WCA Market.
- 13.296 For the reasons set out above at paragraphs 13.289 to 13.295, ComReg is of the preliminary view that a cost orientation obligation for current generation Bitstream services in the Regional WCA Market is appropriate and justified as it should prevent Eircom from charging excessive prices for wholesale inputs, given the competition concerns outlined in Section 12.
- 13.297 ComReg intends to issue Separate Pricing Consultation, which will assess, amongst other things, the appropriate methodology and modelling approach for current generation Bitstream and BMB services in the Regional WCA Market.
- 13.298 In Regional Area 2, Eircom is the main fixed broadband provider. There are very few or no alternative infrastructure broadband providers in Regional Area 2 and ComReg has concerns that Eircom could price excessively in that specific area, absent regulatory intervention. ComReg's objective is to protect those operators and, ultimately, End Users in rural areas from excessive prices where they decide to purchase a SABB service from Eircom.
- 13.299 At present, CG Bitstream and BMB services, including CG SABB, have a cost orientation obligation specific to Regional Area 2. In this area, which is likely to overlap to a considerable degree with the NBP, the constraints on pricing currently are even fewer as we understand that no operator plans to roll out commercial infrastructure in this area. This question will be further considered in the forthcoming Separate Pricing Consultation.

⁹⁹⁵ Please see page 2, second table at <https://www.eir.ie/opencms/export/sites/default/.content/pdf/pricing/Part3.1.pdf>.

- 13.300 For CG SABB Outside the LEA⁹⁹⁶ (which is now referred to as “**SABB in Regional Area 2**”⁹⁹⁷), ComReg continues to consider that cost orientation should apply. Eircom may price excessively for SABB services, given that there is little or no alternative infrastructure competition in this area. In Regional Area 2 there are fewer access alternatives available. In addition, Eircom’s prices do not appear to be constrained given its recent retail price increases for standalone current generation broadband services from 1 September 2016⁹⁹⁸, in the presence of regulation. Therefore, ComReg’s objective is to protect those operators and, ultimately, end-users in rural areas from excessive prices where they decide to purchase a broadband only service from Eircom. In the 2016 Access Pricing Decision, we specified that Eircom should ensure that the monthly rental charge offered or charged by Eircom should be no more than Eircom’s total actual incurred costs Outside the LEA (adjusted for efficiency) plus a reasonable rate of return associated with the provision of SABB. The relevant costs are based on a Top-Down HCA costing methodology except for Active Assets where the costs are calculated using a BU-LRAIC+ methodology. Please see Chapter 7 of the 2016 Access Pricing Decision for further details. We propose that this obligation should continue and therefore should be re-imposed on Eircom as part of this draft decision.
- 13.301 For CG WCA ancillary services⁹⁹⁹ ComReg continues to consider that a cost orientation obligation remains appropriate for the Regional WCA Market, as further specified in the 2016 Access Pricing Decision. The cost orientation obligation should ensure that these essential ancillary services / facilities for the provision of CG WCA are not priced in an excessive and/or discriminatory manner¹⁰⁰⁰ and that they have a level playing field within which all operators can compete.

⁹⁹⁶ The meaning of “Outside the LEA” is described in Chapter 4 of the 2014 WBA Pricing Decision.

⁹⁹⁷ This reflects the fact that we propose that 4 exchanges in this area should no longer be subject to regulation.

⁹⁹⁸ Please see page 2, second table at <https://www.eir.ie/opencms/export/sites/default/content/pdf/pricing/Part3.1.pdf>.

⁹⁹⁹ These are associated facilities that include migrations, fault repair, access connections, co-location, in-building handover, in-span handover and customer sited handover.

¹⁰⁰⁰ Either between current generation and next generation services and / or between different operators.

- 13.302 The cost orientation obligation for current generation ancillary services has been further specified in the 2016 Access Pricing Decision such that Eircom should ensure that it recovers no more than its actual incurred costs (adjusted for efficiencies) plus a reasonable rate of return associated with the provision of ancillary services to current generation WBA products, services or facilities.¹⁰⁰¹ Such ancillary services include migrations, fault repair, access connections, co-location, in-building handover, in-span handover and customer sited handover in the Regional WCA Market. ComReg proposes that the costing approach for CG WCA ancillary services as further specified in the 2016 Access Pricing Decision should be re-imposed on Eircom.
- 13.303 Interconnection services (including WEILs) should also be subject to the obligation of cost orientation. The cost orientation obligation should ensure that these essential services are not priced in an excessive and/or discriminatory manner and that they are based on a level playing field for all operators to compete.

Next generation WCA services

- 13.304 Currently, NG Bitstream prices are subject to a margin squeeze obligation based on the 2013 NGA Decision. For FTTC based Bitstream, ComReg considers a stricter form of regulation may be more appropriate than the current margin squeeze approach.
- 13.305 In the 2013 NGA Decision ComReg considered that a cost orientation obligation was not appropriate given the then level of uncertainty associated with the rollout of FTTC, both in terms of costs and penetration levels. In addition, ComReg considered at that time that there was a sufficient degree of effective retail pricing constraints from cable and prospectively from LLU based retail and wholesale services (if the right regulatory protections were in place) to warrant a more flexible pricing approach. ComReg considered that this should be achieved by allowing the incumbent flexibility on wholesale NG pricing in the then WBA market, subject to complying with a margin squeeze test against retail prices, while ensuring no foreclosure of LLU based retail or wholesale services. Therefore, a margin squeeze regime was then implemented as a means of encouraging investment in NGA.
- 13.306 However, in the context of this review, ComReg now considers that a cost orientation price control seems proportionate and justified for FTTC based Bitstream in the Regional WCA Market for a number of reasons:

¹⁰⁰¹ Section 4.5 of the Decision Instrument set out in Annex 2 of the 2016 Access Pricing Decision.

- (a) The predictability of demand for FTTC based Bitstream services is now easier to forecast given the historic penetration data that is available since Eircom's FTTC deployment in 2013. Therefore, it would be easier to determine forecasted costs and volumes associated with the provision of FTTC based Bitstream.
- (b) Recent price changes indicate that pricing constraints in relation to Eircom's retail and/or wholesale broadband prices are of limited effectiveness and that existing price controls need to be updated to reflect new circumstances. In particular, the constraint posed by copper based broadband is likely to have diminished as evidenced by the reduction in LLU volumes and the switch from copper to fibre based services in the NGA footprint. This view is supported by the evidence available. Eircom increased its NGA wholesale prices twice since the launch of NGA services in 2013. In July 2015 Eircom increased the NGA Bitstream rental price by €2, from €17.50 to €19.50.¹⁰⁰² In September 2016, Eircom increased the rental price for FTTC based NGA Bitstream by €3.50, from €19.50 to €23, and the rental price for FTTH based Bitstream was increased by €3.¹⁰⁰³ Similarly, at a retail level Eircom increased its retail broadband prices for standalone FTTC and FTTH products by €5 (including VAT).¹⁰⁰⁴ These pricing developments are evidence that Eircom's prices are not currently sufficiently constrained at a retail or wholesale level, in the presence of regulation.
- (c) By imposing a cost orientation obligation on FTTC based Bitstream in the Regional WCA Market ComReg avoids the risk that Eircom may use revenues from less competitive parts of the Regional WCA Market to cross-subsidise its activities in the Urban WCA Market. Therefore, the risk of cross-subsidy from the Regional WCA Market to the Urban WCA Market is mitigated if cost orientation is applied in the Regional WCA Market.
- (d) A cost orientation obligation for FTTC based Bitstream in the Regional WCA Market would ensure a consistent regulatory approach with the pricing of current generation Bitstream services, as discussed at paragraphs 13.289 to 13.296. The consistency of pricing approaches between wholesale products using different technologies helps operators to make an efficient choice of the most optimal wholesale product to build/buy.

¹⁰⁰² Please see Eircom's Bitstream price list at http://www.openeir.ie/Reference_Offers/?selectedtab=wbaro

¹⁰⁰³ See Eircom's Wholesale Broadband Access Reference Offer ("WBARO") price list at http://www.openeir.ie/Reference_Offers/?selectedtab=wbaro

¹⁰⁰⁴ Please see second table at page 3 of <https://www.eir.ie/opencms/export/sites/default/.content/pdf/pricing/Part3.1.pdf>

- (e) A cost orientation obligation for FTTC based Bitstream in the Regional WCA Market should also provide the appropriate investment signals to market participants in Regional Area 1 and Regional Area 2 (i.e., that the prices set will incentivise efficient behaviour in the relevant area). Efficient behaviour should result in the economy getting the greatest value from its resources and would benefit End Users.
- (f) A cost orientation obligation should provide greater price certainty. Setting an upfront cost oriented price for FTTC based WCA Bitstream services in the Regional WCA Market for the forthcoming price control period provides certainty to Eircom as to what it has to do in order to ensure compliance with its obligation and also to Access Seekers that use the regulated products as to what the price will be for the service they are buying. This compares with less price certainty for Access Seekers by way of the margin squeeze approach as Eircom has flexibility during the price control period to make changes to the wholesale price depending on changes by Eircom to the retail price.
- (g) With regard to cost recovery, the cost orientation obligation takes into account the investment made by the operator and allows a reasonable rate of return on adequate capital employed, in line with Regulation 13 of the Access Regulations.

13.307 Therefore, ComReg is of the preliminary view that FTTC based Bitstream prices in the Regional WCA Market, should be subject to a cost orientation obligation for the reasons set out in paragraph 13.306.

13.308 The proposed price control for FTTH based Bitstream is set out at paragraphs 13.335 to 13.338.

13.309 ComReg intends to issue Separate Pricing Consultation in the coming months, which will assess amongst other things, the appropriate costing methodologies, the cost modelling approach, and the associated price(s) for FTTC based Bitstream.

- 13.310 For next generation WCA ancillary services ComReg continues to consider that a cost orientation obligation remains appropriate in the Regional WCA Market. The cost orientation obligation should ensure that these essential ancillary services / facilities for the provision of next generation are not priced in an excessive and/or discriminatory manner¹⁰⁰⁵ and that they are based on a level playing field for all operators to compete. The cost orientation obligation for next generation ancillary services has been further specified in the 2016 Access Pricing Decision such that Eircom should ensure that it recovers no more than its actual incurred costs (adjusted for efficiencies) plus a reasonable rate of return associated with the provision of ancillary services to next generation WBA products, services or facilities.¹⁰⁰⁶ Such ancillary services include migrations, fault repair, access connections, co-location, in-building handover, in-span handover and customer sited handover, with the exception of In-premises services which is subject to non-discrimination obligation. ComReg proposes that the costing approach for the WCA ancillary services, such that Eircom should recovers no more than its actual incurred costs adjusted for efficiencies plus a reasonable rate of return as justified in the 2016 Access Pricing Decision should be re-imposed on Eircom for NG WCA ancillary services in the Regional WCA Market.
- 13.311 Interconnection services (including WEILs) should also be subject to the obligation of cost orientation. The cost orientation obligation should ensure that these essential services are not priced in an excessive and/or discriminatory manner and that they are based on a level playing field for all operators to compete.
- 13.312 ComReg does not propose at this stage to impose a cost orientation obligation on next generation Bitstream services based on FTTH. Instead ComReg proposes that these prices would be governed by a margin squeeze test as described below in paragraphs 13.335 to 13.338.

Margin squeeze obligations

- 13.313 In Section 12, ComReg described the competition concerns relevant to the Regional WCA Market.
- 13.314 Eircom currently has a regulatory obligation in the WBA market, pursuant to the 2011 WBA Decision, not to cause a margin / price squeeze.

¹⁰⁰⁵ Either between CG and NG services and / or between different operators.

¹⁰⁰⁶ Section 4.6 of the Decision Instrument set out in Annex 2 of the 2016 Access Pricing Decision.

- 13.315 Given Eircom's proposed SMP designation in the Regional WCA Market there are concerns that it could leverage its market power into adjacent vertically or horizontally related markets through price and non-price means with the effect of foreclosing or excluding competitors in downstream retail and/or related wholesale markets. Eircom, as a vertically-integrated operator with SMP in the Regional WCA Market, has the incentive to use its market power to affect the competitive conditions in downstream wholesale and/or retail markets, in particular, through its ability to control the key inputs used by wholesale customers — which compete against Eircom in such markets. This could result in a distortion of or restriction in competition in these downstream markets, ultimately resulting in harm to End Users, potentially in the form of higher prices, lower output/sales, reduced quality or End User choice.
- 13.316 ComReg considers that, from a regulatory perspective, it is important that the appropriate 'build or buy' incentives are maintained to encourage Access Seekers to 'climb the ladder of investment'. In order for these incentives to exist, Access Seekers must have sufficient margins or 'economic space' between different wholesale products or 'rungs' on the ladder of investment. This should promote the development of effective retail and downstream competition.
- 13.317 ComReg is of the preliminary view that in the absence of an appropriate price control on Eircom obliging it to maintain such an economic space between its wholesale products, by virtue of its control of the underlying access infrastructure and its presence at both wholesale and retail levels, Eircom would have the ability and incentives to price its wholesale access inputs in such a way as to dampen the competitive constraints it faces at the retail level from Access Seekers that use Eircom's wholesale products. This ultimately could allow Eircom to extract supra-normal profits through either higher retail prices for End Users or through maintaining a dominant share of the market.
- 13.318 To achieve ComReg's regulatory objective of promoting efficient investment and protecting the interests of End Users, it is important to ensure that there are appropriate protections and incentives in place for Access Seekers who choose to 'climb the ladder of investment' as opposed to acting as resellers.
- 13.319 Therefore, ComReg is of the preliminary view that the imposition of an obligation not to cause a margin squeeze continues to be appropriate, proportionate and justified in the Regional WCA Market.

Margin squeeze obligation for current generation WCA services

13.320 This sub-section is discussed under the following headings:

- Current generation retail margin squeeze obligation; and
- Current generation wholesale margin squeeze obligation.

Current generation retail margin squeeze obligation

13.321 Currently, Eircom is subject to the obligation not to cause a retail margin squeeze for current generation Bitstream services¹⁰⁰⁷. While ComReg proposes that cost orientation should continue to apply to current generation Bitstream and BMB services in the Regional WCA Market, as discussed at paragraphs 13.289 to 13.296, ComReg considers that a retail margin squeeze obligation continues to be appropriate, proportionate and justified, in the Regional WCA Market for the following reasons:

- (a) Eircom, as a vertically-integrated operator with SMP in the Regional WCA Market, has the incentive to use its market power in the upstream market to affect the competitive conditions in downstream wholesale and/or retail markets, in particular, through its ability to control the key inputs used by wholesale customers — which compete against Eircom in such markets. This could result in a distortion of or restriction in competition in these downstream markets, ultimately resulting in harm to End Users, potentially in the form of higher prices, lower output/sales, reduced quality or reduced consumer choice.
- (b) In the WCA Market and absent regulation, Eircom has a market share in excess of \times [] which together with its vertically integrated nature is in a position to either price excessively and/or cause a margin squeeze.
- (c) In the Regional WCA Market and absent regulation, Eircom has a \times [] retail broadband market share while Virgin Media has approximately \times []¹⁰⁰⁸ retail broadband market share and the remaining market share (of circa \times []¹⁰⁰⁹) relates to BT, Vodafone and SIRO.
- (d) The retail margin squeeze test should protect operators that rely on LLU and Line Share wholesale inputs. This is particularly important in Regional Area 1 where unbundling activity may take place.

13.322 In Regional Area 2 the question arises as to why Eircom would have an incentive to cause a retail margin squeeze in the presence of a general cost orientation obligation in the Regional WCA Market. ComReg is of the preliminary view that a retail margin squeeze obligation is appropriate in Regional Area 2, for the following reasons:

¹⁰⁰⁷ Please see Chapter 7 of the 2014 WBA Pricing Decision for further details.

¹⁰⁰⁸ Virgin Media has a market share of less than 10%

¹⁰⁰⁹ The remaining market share is less than 10%.

- (a) There are little or no alternative wholesale providers in Regional Area 2. In this case Eircom may attempt to foreclose competition in the retail broadband market as, given its dominant position in the Regional WCA Market it is likely to have the incentive and ability to do so.
- (b) There are a number of smaller operators in Regional Area 2. Given their lack of scale these are vulnerable to exclusionary behaviour given that they do not share Eircom's economies of scale and that they have no realistic alternative means of provision.
- (c) The presence of a wholesale cost orientation obligation is no guarantee that Eircom could not impose a margin / price squeeze at the retail level:
 - (i) Eircom continues to be the primary wholesale broadband supplier in Ireland and controls a ubiquitous access infrastructure which is not easily replicated by competitors. ComReg considers that Eircom has both the ability and incentive to obstruct the development of retail competition based on Bitstream type services which is the most important source of competition in Regional Area 2.
 - (ii) There is a risk that Eircom as a vertically integrated SMP operator controlling its own wholesale inputs provided to downstream operators could - through a combination of setting Bitstream prices at the upper limits of the cost oriented wholesale price control and pricing its retail broadband unprofitably low - engage in anti-competitive margin squeeze with a view to leveraging its dominant position from the Regional WCA Market to the retail broadband market. This potential margin squeeze may result in retail foreclosure of other competitors in the retail broadband market (and related markets), which would be to the detriment of End Users.

13.323 In addition, ComReg considers that maintaining the retail margin squeeze obligation ensures continuity and predictability with the current pricing regime for current generation Bitstream services, although only in relation to the Regional WCA Market.

13.324 Therefore, ComReg is of the preliminary view that a retail margin squeeze obligation should be maintained in the Regional WCA Market, both in Regional Area 1 and in Regional Area 2, for the reasons set out at paragraphs 13.321 to 13.323.

13.325 ComReg proposes that Eircom should not cause a retail margin squeeze between the price for retail current generation broadband and the price for wholesale Bitstream services in both Regional Area 1 and in Regional Area 2 of the Regional WCA Market.

13.326 As part of the Separate Pricing Consultation, ComReg will assess amongst other things the appropriate margin squeeze principles that should apply in Regional Area 1 and in Regional Area 2.

Current generation wholesale margin squeeze obligation

- 13.327 As noted above, ComReg considers that from a regulatory perspective it is important that the appropriate ‘build or buy’ incentives are maintained to encourage Access Seekers to ‘climb the ladder of investment’. In order for these incentives to exist, Access Seekers must have sufficient margins or ‘economic space’ between different wholesale products or ‘rungs’ on the ladder of investment. This should promote the development of effective retail and downstream competition.
- 13.328 Eircom currently provides a resale broadband product to wholesale operators, which ComReg has termed “**End-to-end Bitstream**” or “**White Label Bitstream**”. This product allows an operator (a reseller) with no infrastructure or corresponding internet service provider (‘ISP’) service to offer a broadband service (and related services) at the retail level. The key underlying wholesale inputs of this End-to-end Bitstream service are currently regulated while the provision of the End-to-end Bitstream product is not.
- 13.329 Currently, Eircom is subject to a margin squeeze test between Eircom’s End-to-end Bitstream service and the associated WBA regulated components, as set out in the 2012 WBA Price Floors Decision.
- 13.330 ComReg considers that Eircom’s provision of resale or End-to-end WBA, if not subject to appropriate regulatory controls for its regulated component parts, may conflict with the important regulatory goal of infrastructure investment — by Eircom offering resale or End-to-end Bitstream below the prices of its regulated WCA components (which could undermine / discourage investment in LLU / VUA and lead to discriminatory pricing of WCA services).
- 13.331 In order to incentivise operators to invest in more infrastructure based services, rather than reselling Eircom’s broadband (in the case of End-to-end Bitstream), it is important that the price of End-to-end Bitstream service is greater than the price of current generation Bitstream in the Regional WCA Market.
- 13.332 Therefore, at a minimum, ComReg considers that the price for End-to-end Bitstream should be based on the full and same prices of the related regulated Bitstream product and any other regulated WCA component products offered by Eircom in the Regional WCA Market.

- 13.333 While ComReg is of the preliminary view that Eircom should not cause a wholesale margin squeeze between the price of End-to-end Bitstream and the price for Bitstream in the Regional WCA Market ComReg welcomes the views of stakeholders on the likely future take-up or demand for current generation End-to-end Bitstream based WCA services and whether it is necessary to continue to maintain such an obligation. The test may no longer be appropriate where there is little or no likely future demand for this service.
- 13.334 For now, ComReg proposes to maintain the wholesale margin squeeze test between the price of End-to-end Bitstream and the price for Bitstream in the Regional WCA Market.

Margin squeeze obligation for next generation WCA services

- 13.335 To date, all NGA services in the WBA Market have been subject to the obligation not to cause a margin squeeze, pursuant to the 2013 NGA Decision.

Next generation wholesale margin squeeze obligation for FTTH

- 13.336 There is currently a margin squeeze test in place between Eircom's End-to-end NG Bitstream service and NG Bitstream. Please see paragraph 13.328 for a description of the "End-to-end" WCA product.
- 13.337 ComReg considers that Eircom's provision of resale or End-to-end next generation Bitstream, if not subject to appropriate regulatory controls for its regulated component parts, may conflict with the important regulatory goal of infrastructure investment — by Eircom offering resale or End-to-end next generation Bitstream below the prices of its regulated WCA components (which could undermine / discourage investment in LLU / VUA and lead to discriminatory pricing of WCA services). Therefore, it is important that the price of the End-to-end next generation Bitstream service should continue to be greater than the price of NGA Bitstream.
- 13.338 ComReg is of the preliminary view that Eircom should continue to ensure that it does not cause a wholesale margin squeeze between the price for End-to-end next generation Bitstream and NGA Bitstream in the Regional WCA Market for the reasons set out in paragraph 13.337. This would apply to all forms of NGA including FTTC and FTTH.
- 13.339 ComReg intends to issue Separate Pricing Consultation in the coming months, which will assess amongst other things, the appropriate margin squeeze principles for the margin squeeze tests.

Next generation retail market squeeze obligation (FTTH)

- 13.340 As set out above, in the context of concerns about excessive pricing, ComReg proposes that FTTC based Bitstream should be subject to cost orientation. ComReg considers that given the level of uncertainty associated with the provision of FTTH based Bitstream services it is currently difficult to determine precise estimations of costs and penetration levels for FTTH services.

- 13.341 FTTH based Bitstream penetration levels are still very low and it is difficult to forecast the future penetration rate. Given these uncertainties the FTTH price is likely to be very sensitive to the penetration rate such that a wrong forecast could distort future market development — if the price is too high, it may deter alternative operators from investing and if the price is too low, Eircom may reduce its investments in FTTH.
- 13.342 Therefore, ComReg is of the preliminary view that we should maintain the margin squeeze obligation for FTTH based Bitstream as a control to prevent excessive pricing. A margin squeeze test is more practical where it is difficult to determine an accurate estimation of costs, especially given the sensitivity of price to forecasted volume of users. A margin squeeze obligation also gives the regulated entity more pricing flexibility which is important to maintain investment incentives for the rollout of FTTH infrastructure. As set out below ComReg is of the preliminary view that this obligation is also justified because of concerns about foreclosure at the retail level.

Next generation retail margin squeeze obligation (all other NGA services)

- 13.343 Eircom, as a vertically-integrated operator with SMP in the Regional WCA Market, has the incentive to use its market power in the upstream market to affect the competitive conditions in downstream wholesale and/or retail markets, in particular, through its ability to control the key inputs used by wholesale customers — which compete against Eircom in such markets. This could result in a distortion of or restriction in competition in these downstream markets, ultimately resulting in harm to End Users, potentially in the form of higher prices, lower output/sales, reduced quality or reduced consumer choice.
- 13.344 ComReg notes that absent regulation Eircom would have around \times [REDACTED]¹⁰¹⁰ retail market share in the Regional WCA Market. ComReg recognises that absent regulation Eircom would have the ability and incentive to leverage market power into or from both horizontally and vertically related markets. By doing so, Eircom could strengthen its position in those related markets and potentially also reinforce its existing market power in the Regional WCA Market.
- 13.345 ComReg considers that a retail margin squeeze obligation for NG Bitstream is appropriate in the Regional WCA Market in order to ensure that there is no foreclosure of operators at a retail level, in the context of FTTH and/or FTTC services. Eircom has an incentive and ability to set retail prices at a level relative to its own wholesale prices that could foreclose competition. This could result in market foreclosure / substantial lessening of competition in the retail broadband market which would cause consumer harm.

¹⁰¹⁰ Eircom has a market share greater than 80%.

- 13.346 The proposed retail margin squeeze approach for NG Bitstream should ensure consistency with the retail margin squeeze proposed in the context of CG Bitstream and BMB services, as discussed in paragraphs 13.321 to 13.323.
- 13.347 ComReg is of the preliminary view that a retail margin squeeze obligation for NGA continues to be proportionate and justified in the Regional WCA Market for the reasons set out above.
- 13.348 ComReg is of the preliminary view that the retail margin squeeze tests should be as follows:
- (a) Eircom should ensure that it does not cause a retail margin squeeze between the price for FTTC based retail products and FTTC based Bitstream in the Regional WCA Market; and
 - (b) Eircom should ensure that it does not cause a retail margin squeeze between the price for FTTH based retail product and FTTH based Bitstream in the Regional WCA Market.
- 13.349 ComReg intends to issue Separate Pricing Consultation in the coming months, which will assess amongst other things, the appropriate retail margin squeeze principles for the tests proposed.

Retail Margin squeeze obligation in the context of Bundles

- 13.350 As outlined earlier in this section of this Section, Eircom may pursue a number of wholesale pricing strategies (e.g., vertical leveraging to foreclose markets to competitors, etc.), which could prove detrimental to competition in the retail market. This may occur whether retail services are sold on a standalone or on a bundled basis.
- 13.351 A bundle is a package of retail products/services sold or offered by Eircom consisting of more than one service.
- 13.352 On a standalone basis, absent regulation, SPs could face a margin squeeze at the retail level by Eircom lowering its retail price, such that a SP's retail margins are not sufficient to cover its input costs. This could also occur by Eircom increasing its wholesale charges.
- 13.353 Similarly, where Eircom includes services (e.g. mobile) in a bundle it could increase its market share in those service markets. While bundling in itself is generally beneficial to End Users, ComReg is concerned that if a type of bundle cannot be replicated by SPs then Eircom could strategically be protecting its market position in the upstream market and/or foreclose downstream rivals in that service market — to the long-term detriment of End Users.

13.354 Given the close links between retail and wholesale markets described above, one way to avoid foreclosure is to impose an appropriate margin squeeze test in relevant wholesale markets (FACO, WLA and WCA) instead of the current NRT in the retail fixed voice market. The specific details of this Bundles MST will be addressed in the Separate Pricing Consultation.

Cost accounting obligations

13.355 In general, if price control obligations are to be meaningful, it may be necessary to have a clear and comprehensive understanding of the costs associated with the SMP operators' provision of WCA services. Obligations to maintain appropriate cost accounting systems generally support obligations of price control (and accounting separation), and can also assist ComReg in monitoring the obligation of non-discrimination.

13.356 Furthermore, having regard to Eircom's integrated position across several upstream and downstream markets, the scope for Eircom to leverage its market power, as identified in Section 12, and the associated need to ensure sufficient visibility of how costs are allocated across WCA products, services and facilities and other horizontally and vertically-related input services, ComReg proposes to apply an obligation of cost accounting on Eircom, in the Regional WCA Market in order to support the effectiveness of the proposed price control obligations set out above.

13.357 In order to assess any potential price / margin squeezes, it is important for ComReg to understand the wholesale and retail costs associated with the Regional WCA Market and the Urban WCA Market. Therefore, ComReg considers that Eircom should continue to provide data for the Urban WCA Market.

13.358 Section 10(2) of the Framework Regulations specifies that:

"Where an undertaking has significant market power on wholesale markets, the Regulator may, in accordance with paragraph (1), require the undertaking to provide accounting data on the retail markets that are associated with those wholesale markets."

13.359 Eircom should ensure that it maintains appropriate cost accounting systems to justify its prices/costs of WCA products, services and facilities in the Regional WCA Market given that ComReg proposes to continue with the obligation of cost orientation for current generation services as well as our current proposal to impose a cost orientation obligation for FTTC based NGA Bitstream. The detailed nature of the cost accounting obligations that should apply are those currently imposed upon Eircom in the 2010 Accounting Separation Decision.

13.360 The burden of proof will rest on Eircom to show that its prices/charges for WCA products services and facilities in the Regional WCA Market are in line with the proposed price control obligations imposed. Furthermore, for the purpose of calculating the cost of efficient provision of WCA products, services and facilities associated with the Regional WCA Market, in accordance with Regulation 13(4) of the Access Regulations, ComReg notes that:

“Where an operator has an obligation under this Regulation regarding the cost orientation of its prices, the burden of proof that charges are derived from costs, including a reasonable rate of return on investment lie with the operator concerned..”

13.361 ComReg can also issue directions requiring an operator to provide full justification for its prices and may, where appropriate, require prices to be adjusted.

Summary of Proposed Price Control and Cost Accounting Remedies

13.362 Having regard to the analysis set out in paragraphs 13.271 to 13.361, ComReg is of the preliminary view that price control and cost accounting obligations are both proportionate and justified. In summary, ComReg is proposing that Eircom is subject to the follow price control and cost accounting obligations:

- Eircom shall be subject to the obligation of cost orientation for CG Bitstream, Bitstream Managed Backhaul services and FTTC based Bitstream, in the Regional WCA Market.
- For SABB in Regional Area 2, Eircom shall be subject to the obligation of cost orientation as further specified in the 2016 Access Pricing Decision and to be re-imposed on Eircom such that that the monthly rental charge offered or charged by Eircom should be no more than Eircom’s total actual incurred costs in Regional Area 2 (adjusted for efficiency) plus a reasonable rate of return associated with the provision of SABB. The relevant costs are based on a Top-Down HCA costing methodology except for Active Assets the costs are calculated using a BU-LRAIC+ methodology.
- For CG and NG ancillary services, Eircom shall be subject to the obligation of cost orientation. The cost orientation obligation for CG and NG ancillary services as further specified in the 2016 Access Pricing Decision should be re-imposed on Eircom.
- Eircom shall not cause a retail margin squeeze between the price for retail CG broadband products and the price for the CG Bitstream services in Regional Area 1 of the Regional WCA Market.

- Eircom shall not cause a retail margin squeeze between the price for retail CG broadband products and the price for the CG Bitstream services in Regional Area 2 of the Regional WCA Market.
- Eircom shall not cause a wholesale margin squeeze between the price for CG / NG End-to-end Bitstream and the price for CG Bitstream / NG Bitstream in the Regional WCA Market.
- Eircom shall not cause a retail margin squeeze between the price for NG FTTC based retail products and the price for NG FTTC based Bitstream in the Regional WCA Market.
- Eircom shall not cause a retail margin squeeze between the price for NG FTTH based retail products and the price for NG FTTH based Bitstream in the Regional WCA Market.
- Eircom shall be subject to a cost accounting obligation in the Regional WCA Market.

Accounting Separation Remedies

- 13.363 In accordance with Regulation 11 of the Access Regulations, ComReg can, *inter alia*, require an operator which is vertically integrated to make transparent its wholesale prices and its internal transfer prices, among other things, to ensure compliance with any non-discrimination obligation imposed or, where necessary, to prevent unfair cross-subsidy.
- 13.364 In general, the objective of accounting separation obligations is to provide a higher level of detail of information than that which can be derived from the statutory financial statements of undertakings designated with SMP, with the objective of reflecting, as closely as possible, the performance of those parts of the undertaking's business were it to operate on a standalone basis. In the case of vertically integrated undertakings, it can support non-discrimination obligations and prevent unfair cross-subsidies to other services. It can also assist ComReg in monitoring compliance with these obligations.
- 13.365 Allocating costs to the appropriate and relevant products and services of an SMP undertaking is an important factor to consider when regulating multiple products and services carried over the same network. This is particularly true for Eircom where its fixed core network is a common infrastructure that is used to provide a range of retail and wholesale services, including broadband, leased lines and voice services. Therefore, when setting price controls for WCA products, services and facilities (and in ensuring compliance with pricing and other obligations) information is required about the costs associated with Eircom's provision of WCA services, with such costs being distinct from the costs associated with other services provided over Eircom's network.

13.366 Eircom is currently required to provide separated accounts and maintain detailed cost accounting systems that are sufficiently granular to allow an assessment of cost allocations under the 2010 Accounting Separation Decision. ComReg proposes to maintain the obligations set out under the 2010 Accounting Separation Decision.

Requirement to provide Statements of Compliance

13.367 Pursuant to Regulation 9, 10, 11, 12 and 13 of the Access Regulations ComReg is proposing to require that Eircom submit to ComReg a written Statement of Compliance adequately demonstrating its compliance with all of its regulatory obligations. While ComReg discusses this obligation here in the context of transparency obligations, it applied with respect to all of its other obligations.

13.368 Pursuant to Regulation 10 of the Access Regulations ComReg is proposing to require that Eircom submit to ComReg a written Statement of Compliance ('SoC') adequately demonstrating its compliance with its regulatory obligations in the Regional WCA Market, to include the following:

- (a) A full and true written statement, signed by a person of appropriate expertise and authority within Eircom, acknowledging that Eircom is responsible for securing compliance with its obligations and confirming to the best of their knowledge that Eircom is in compliance with its Regulatory obligations;
- (b) The information relied upon, and the process followed, by the signatory in order to be satisfied that to the best of their knowledge that Eircom is in compliance with its regulatory obligations.
- (c) A description and explanation of the governance measures implemented by Eircom in order to ensure that it is and remains in compliance with its regulatory obligations, in particular:
 - i. A description and explanation of the relevant reporting structures and reporting processes implemented by Eircom.
 - ii. The information relied upon and the process followed by Eircom managers to assess the operation and effectiveness of the processes used to identify and mitigate risks of non-compliance in their areas of responsibility.
- (d) A description of the risks identified and the controls developed to mitigate potential risks of non-compliance with Eircom's regulatory obligations, as they relate to the categories of activities in (e) below and shall include the following in particular:

- i. A description of the purpose of each process which was analysed for risks of non-compliance.
 - ii. A detailed description of the risk analysis process, to include the following:
 1. A description of the expertise employed by Eircom.
 2. A list of all material including all relevant documentation.
 3. A description of how the material and expertise was used.
 - iii. A detailed description of the control development process to include the following:
 1. A description of the expertise employed by Eircom.
 2. A list of all material including all relevant documentation used.
 3. A description of how the material and expertise was used.
 4. A description of the process used to assess the effectiveness of the controls.
- (e) The obligations set out in (a) to (d) shall apply, but for the avoidance of doubt, are not limited to, the following categories of activities:
- i. Pre-provisioning, Provisioning and Service Assurance for WLA products services and facilities.
 - ii. Product development including product enhancements, and pre product development screening of Access requests.
 - iii. Product prioritisation and investment decisions.
 - iv. Access to shared resources including IT and Product Development resources.
 - v. The management of information, both structured and unstructured¹⁰¹¹ in conformance with regulatory requirements
 - vi. Other categories as reasonably required by ComReg.

¹⁰¹¹ Structured information is information which is documented and managed through an established business process in a formal manner and includes Memos, Email messages, Letters, Order forms, Invoices, agendas and reports etc. Unstructured information is managed in a less formal manner and includes information which is passed between individuals or business units through informal communications.

- 13.369 The documentation referred to in paragraph 13.368 shall be of sufficient clarity and detail to enable ComReg, or a third party as determined by ComReg, to review the SoC for completeness and accuracy. Such documentation and information shall also enable ComReg, or a third party as determined by ComReg, to assess whether Eircom has taken all reasonable steps to ensure that the risk assessment and control and governance measures referred to in paragraph 13.368 provide reasonable assurance to ComReg that Eircom is compliant with its Regulatory obligations.
- 13.370 Eircom shall clearly identify, explain, document and demonstrate the following in particular:
- (a) In respect of the standard of Equivalence of Inputs, any and all differences as between systems and processes used to supply OAOs and Eircom's downstream arm setting out why it believes that any such differences are very minor and insignificant and can be objectively justified; and
 - (b) In respect of the standard of Equivalence of Outputs, any and all differences as between systems and processes used to supply OAOs and Eircom's downstream arm. The explanation shall include a description as to how and what controls are in place to ensure an Equivalence of Outputs standard notwithstanding the differences in systems and processes used.
- 13.371 Statements of Compliance will be kept updated by Eircom as required to reflect material changes to the documentation and information detailed in paragraphs 13.367 to 13.370. These updates will be provided to ComReg within one month of the update being required.
- 13.372 Updates or changes to any SoC provided to ComReg will be presented such that the changes are highlighted and the SoC documents include a Version Control¹⁰¹² and Revision History¹⁰¹³.
- 13.373 Eircom shall publish the SoC, and updates to the SoC, on its publicly available website within one month of providing it to ComReg, unless otherwise agreed with ComReg.

¹⁰¹² Version control in this context refers to a standardised regime for the management of changes to documents. Versions should be identified by a number or letter code, associated with a date and timestamp and include the identity and role of the person making the change. Revision History is included as part of the Version control regime.

¹⁰¹³ Revision History: A documented list of changes from the previous draft which is maintained and printed in a dedicated and indexed section of each Statement of Compliance. The list will be cumulative and identify the changes from the preceding versions of the SoC.

13.374 Eircom shall provide a Statement of Compliance, as referred to in paragraphs 13.367 to 13.370, to ComReg within 6 months of the effective date of this Decision or:

- (a) in the case of any offer of a new WCA product, service or facility, seven (7) months in advance of its being made available;
- (b) in the case of any change to an existing WCA product, service or facility, three (3) months in advance of it being made available;
- (c) as otherwise may be required by ComReg.

13.375 The rationale and justification for the proposed remedy is as described for the WLA market in Section 8. The Statement of Compliance should in this instance be relevant to the products, services and facilities required to be provided by Eircom in the WCA market.

13.376 ComReg's preliminary view is that Eircom should be obliged to provide a Statement of Compliance to ComReg with respect to all of its regulatory obligations as imposed in the Regional WCA Market.

Summary of Proposed Remedies in the Regional WCA Market

13.377 In paragraphs 13.31 to 13.365 above, ComReg has outlined the proposed remedies to be imposed on Eircom as the SMP operator in the Regional WCA Market. The proposed obligations fall under five headings as set out in Regulations 9 to 13 and aim to promote effective competition in the market:

- Access (paragraphs 13.32 to 13.181);
 - Non-Discrimination (paragraphs 13.182 to 13.238);
 - Transparency (paragraphs 13.239 to 13.257);
 - Price Control and Cost Accounting (paragraphs 13.258 to 13.362); and
 - Accounting Separation (paragraphs 13.363 to 13.366).
- In addition, ComReg is also requiring Eircom to provide a SoC to ComReg with respect to all of its regulatory obligations as imposed in the Regional WCA Market.

Question 13: Do you agree with ComReg's proposed remedies in the Regional WCA Market? Please explain the reasons for your answer, clearly indicating the relevant paragraph numbers to which your comments refer, along with all relevant factual evidence supporting your views.

14 Withdrawal of SMP and Remedies in the Urban WCA Market

- 14.1 In cases where Eircom has previously been designated as SMP a market and been subject to regulatory obligations, ComReg notes that Regulation 27(2) of the Framework Regulations allows ComReg to give reasonable notice to any parties which it considers to be affected by a withdrawal of such obligations.
- 14.2 As noted in Section 10, ComReg's preliminary view is that no undertaking is likely to have SMP in the Urban WCA Market.
- 14.3 As noted earlier, this preliminary view was predicated on a number of factors, including a forward-looking assessment of the competitive constraints arising in the Urban WCA market through the presence of BT, as well as from a number of retail SPs. Such constraints are supported through upstream regulation in the WLA Market and in the presence of the regulatory obligations that ComReg has now proposed to impose in this Consultation, with such obligations set out in Section 8.
- 14.4 ComReg's preliminary finding that no undertaking has SMP in the Urban WCA Market is therefore predicated on the commencement of the remedies imposed in the WLA Market.
- 14.5 ComReg proposes to withdraw existing regulatory obligations given its preliminary finding that no SP has SMP. In this respect, ComReg proposes that existing obligations, other than those set out below, would, subject to the implementation of obligations imposed in the WLA Market, be withdrawn at the date at which ComReg makes its final decision.
- 14.6 However, in order to facilitate an orderly transition to de-regulation of the Urban WCA Market ComReg is proposing a six month sunset period during which access to existing Bitstream services would be maintained at prevailing prices. At the end of this six month sunset period, these obligations would be withdrawn.
- 14.7 In order to avoid undue disruption to in the Urban WCA Market and, by implication, to competition and End Users, ComReg is proposing that this six month sunset period is necessary to afford Access Seekers a reasonable time period during which to negotiate commercial arrangements with Eircom, to secure alternate suppliers, or in which to connect customer premises using their own infrastructure (including based on WLA inputs).

- 14.8 ComReg proposes that, pending the consideration of views received that a six month sunset period for the withdrawal of the requirement to maintain access to existing Bitstream services at prevailing prices in the Urban WCA market (insofar as they apply to those SPs that are currently supplied with WCA inputs by Eircom) might be reasonable and proportionate. However, this is also predicated on the obligations proposed in the WLA Market coming into effect.
- 14.9 However, ComReg notes that during this 6 month sunset period Eircom is not obliged to meet new requests for WCA inputs on a regulated basis. Eircom is, of course, free to do so on a pure commercial basis and indeed, ComReg would expect it to do so in view of the prospective competitive nature of the Urban WCA Market. The rationale for this approach is that it would be somewhat counter-intuitive to require Eircom to require it to meet new requests for WCA on regulated terms during the sunset period, only to have such requirements withdrawn some month later.
- 14.10 However, all other existing obligations imposed under the 2011 WBA Decision (and the 2013 NGA Decision) would be withdrawn at the date of ComReg's decision on this market analysis.

Question 14: Do you agree with the above proposals to maintain requirements upon Eircom to continue to provide existing access at prevailing prices during a six month sunset period? Please explain the reasons for your answer, clearly indicating the relevant paragraph numbers to which your comments refer, along with all relevant factual evidence supporting your views.

15 Regulatory Impact Assessment

- 15.1 The Regulatory Impact Assessment ('**RIA**') is an analysis of the likely effect of proposed new regulation or regulatory change. The purpose of a RIA is to establish whether regulation is actually necessary, to identify any possible negative effects which might result from imposing a regulatory obligation and to consider any alternatives. The RIA should help identify regulatory options, and should establish whether proposed regulation is likely to have the desired impact. It is a structured approach to the development of policy, and analyses the impact of regulatory options on different stakeholders. Appropriate use of the RIA should ensure that the most effective approach to regulation is adopted.
- 15.2 ComReg's approach to RIA follows the RIA Guidelines¹⁰¹⁴ published by ComReg and takes into account the "Better Regulation" programme¹⁰¹⁵ and international best practice (for example, considering developments involving RIA published by the European Commission and the OECD).
- 15.3 Section 13(1) of the Communications Regulation Act 2002 (as amended) requires ComReg to comply with Ministerial Policy Directions. In this regard, Ministerial Policy Direction 6 of February 2003¹⁰¹⁶ requires that, before deciding to impose regulatory obligations on undertakings, ComReg shall conduct a RIA in accordance with European and international best practice and otherwise in accordance with measures that may be adopted under the "Better Regulation" programme.

¹⁰¹⁴ [ComReg Document 07/56a](#), ComReg, "Guidelines on ComReg's Approach to Regulatory Impact Assessment", 10 August 2007 (the '**RIA Guidelines**').

¹⁰¹⁵ Department of the Taoiseach, "Regulating Better", January 2004. See also "Revised RIA Guidelines: How to conduct a Regulatory Impact Analysis", June 2009, ('**The Department of An Taoiseach's Revised RIA Guidelines**'), available from: http://www.taoiseach.gov.ie/eng/Publications/Publications_Archive/Publications_2011/Revised_RIA_Guidelines_June_2009.pdf

¹⁰¹⁶ Ministerial Policy Direction made by the Minister of Communications, Marine and Natural Resources on 21 February 2003.

- 15.4 In conducting the RIA, ComReg has regard to the RIA Guidelines, while recognising that regulation by way of issuing decisions, e.g. imposing obligations or specifying requirements in addition to promulgating secondary legislation, may be different to regulation exclusively by way of enacting primary or secondary legislation. ComReg's ultimate aim in conducting a RIA is to ensure that all measures are appropriate, proportionate and justified. To ensure that a RIA is proportionate and does not become overly burdensome, a common sense approach will be taken. As decisions are likely to vary in terms of their impact, if after initial investigation, a decision appears to have relatively low impact ComReg may carry out a lighter RIA in respect of those decisions.
- 15.5 ComReg's approach to RIA follows five steps:
- Step 1:** Describe the policy issue and identify the objectives.
 - Step 2:** Identify and describe the regulatory options.
 - Step 3:** Determine the impacts on stakeholders.
 - Step 4:** Determine the impacts on competition.
 - Step 5:** Assess the impacts and choose the best option.
- 15.6 Given the policy issues and objectives (Step 1) are largely similar for both the WLA Market and the regional Market these are considered together. However, Steps 2 to 5 are considered separately for the WLA Market and Regional WCA Market.
- 15.7 The purpose of carrying out a RIA is to aid decision-making through identifying regulatory options and analysing the impact of those options in a structured manner. The Department of An Taoiseach's Revised RIA Guidelines state that
- "RIA should be conducted at an early stage and before a decision to regulate has been taken"*¹⁰¹⁷.
- 15.8 The EC, in reviewing its own use of impact assessments, also notes that:
- "Impact assessments need to be conducted earlier in the policy development process so that alternative courses of action can be thoroughly examined before a proposal is tabled"*¹⁰¹⁸.
- 15.9 In determining the impacts of the various regulatory options, current best practice appears to recognise that full cost-benefit analysis would only arise where it would be proportionate or in exceptional cases where robust, detailed and independently verifiable data is available. Such comprehensive review may be undertaken by ComReg when necessary and appropriate.

¹⁰¹⁷ See paragraph 2.1.

¹⁰¹⁸ Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions, "Second strategic review of Better Regulation in the European Union", COM(2008) 32 final 30.01.2008, p. 6.

- 15.10 Having regard to the various sets of guidelines, it is clear that the RIA should be introduced as early as possible in the assessment of potential regulatory options, where appropriate and feasible. The consideration of regulatory impact provides a discussion of options, and the RIA should therefore be integrated within the overall preliminary analysis. This is the approach which ComReg is following in this market review. The RIA will be finalised in the final decision document, having taken into account all the responses to this Consultation and any comments from the European Commission and the CCPC.
- 15.11 ComReg now conducts its RIA having regard to its proposed approach to impose (or not) regulatory remedies identified in this Consultation, along with a consideration of other options. The following sections, in conjunction with the rest of the analysis and discussion set out elsewhere in this Consultation, represent a RIA. It sets out a preliminary assessment of the potential impact of proposed regulatory obligations for the WLA and Regional WCA Market on Eircom, and the proposed removal of regulatory obligations in the Urban WCA Market as set out in Sections 8, 13 and 14.

Principles in Selecting Remedies

- 15.12 In Sections 8 and 13 ComReg set out the legislative basis upon which it must consider the imposition of remedies. In choosing remedies ComReg is obliged, pursuant to Regulation 8(6) of the Access Regulations, to ensure that they are:
- (a) Based on the nature of the problem identified;
 - (b) Proportionate and justified in the light of the objectives laid down in Section 12 of the Communications Regulation Act 2002 (as amended), and Regulation 16 of the Framework Regulations; and
 - (c) Only imposed following consultation in accordance with Regulations 12 and 13 of the Framework Regulations.
- 15.13 Section 12(1)(a) of the Communications Regulation Act 2002 (as amended) sets out the objectives of ComReg in exercising its functions in relation to the provision of electronic communications networks, electronic communications services and associated facilities, namely:
- (a) To promote competition;
 - (b) To contribute to the development of the internal market; and
 - (c) To promote the interests of users within the European Union.

Describe the Policy Issue and Identify the Objectives – WLA and WCA Markets

- 15.14 In general, the European Commission acknowledges that once SMP is identified in markets, which are defined as susceptible to *ex ante* regulation, then the regulatory framework foresees that at least one regulatory obligation would be imposed to mitigate against the exercise of SMP and to ensure the development of effective competition within and across communications markets. We have noted previously¹⁰¹⁹ that the European Commission has established that the WLA and WCA markets are susceptible to *ex ante* regulation and on this basis ComReg has carried out the preceding analysis in this Consultation.
- 15.15 Having regard to the competition problems identified in Sections 7 and 12, ComReg's ultimate objectives are to enhance the development of effective competition in relevant downstream markets and to help ensure that consumers can reap maximum benefits in terms of price, choice and quality of service. In so doing, ComReg is seeking to prevent exploitative behaviour and/or restrictions or distortions in competition amongst SPs. ComReg is also seeking to provide regulatory certainty to all SPs through the development of an effective and efficient forward-looking regulatory regime that serves to promote competition.
- 15.16 In pursuing these objectives, ComReg has considered the impact of specific forms of regulation in the WLA Market and the Regional WCA Market. As a result, ComReg is of the preliminary view that the remedies specified are both appropriate and justified in light of the market analysis and the identified competition problems. The regulatory options are further considered below.
- 15.17 ComReg also considers it appropriate to remove regulation in the Urban WCA Market given its preliminary view that no undertaking is likely to have SMP.
- 15.18 ComReg recognises that regulatory measures should be kept to the minimum necessary to address the identified market failure in an effective, efficient and proportionate manner. There are a range of potential regulatory options available to ComReg to address the potential competition problems in the WLA Market and the Regional WCA Market.

¹⁰¹⁹ See Section 2.

- 15.19 In this regard, regulation can be considered to be incremental, such that only obligations are imposed which are necessary and proportionate to the competition problems which have been identified. The lightest measure that can be imposed is the obligation of transparency¹⁰²⁰. Should this be insufficient to address competition problems on its own, ComReg may apply a non-discrimination obligation¹⁰²¹. If this is still not sufficient, ComReg may next consider the imposition of an access obligation¹⁰²², or accounting separation obligations¹⁰²³. The final measure to be considered is the imposition of a price control and cost accounting remedy¹⁰²⁴.
- 15.20 In conducting the Regulatory Impact Assessment, ComReg follows the structure set out in this Consultation by first looking at the WLA Market (and then considering the need for regulation or de-regulation of the WCA Markets, in light of upstream regulation in the WLA Market).
- 15.21 Given ComReg has identified in Section 11 that the Urban WCA Market is considered to be tending towards effective competition, ComReg cannot, as a matter of law impose any regulatory obligations in such circumstances. However, as noted in Section 14, ComReg has proposed a sunset period of six months for the withdrawal of certain obligations imposed upon Eircom in the Urban WCA Market.

WLA Market

- 15.22 In Section 5 of this Consultation, ComReg set out its preliminary view on the definition of the WLA Market, followed by an assessment of competition within the WLA Market in Section 5. In Section 5 ComReg consequently proposes to designate Eircom with SMP in the WLA Market. In Section 7, ComReg considered, on the basis of a preliminary SMP finding, the potential for competition problems to arise in the WLA Market over the review period in question.

Identify and Describe the Potential Regulatory Options

- 15.23 In order to address the identified competition problems in the WLA Market, ComReg is required to impose on Eircom one or more (as appropriate) of the obligations (or remedies) set out below:
- (a) Access;

¹⁰²⁰ Regulation 9 of the Access Regulations.

¹⁰²¹ Regulation 10 of the Access Regulations.

¹⁰²² Regulation 12 of the Access Regulations.

¹⁰²³ Regulation 11 of the Access Regulations.

¹⁰²⁴ Regulation 13 of the Access Regulations.

- (b) Transparency;
- (c) Non-Discrimination;
- (d) Price Control and Cost Accounting; and
- (e) Accounting Separation.

15.24 First, ComReg must consider the question of regulatory forbearance, and then incremental imposition of one or more of the obligations outlined in paragraph 15.23 above.

Forbearance

15.25 In the case of the current analysis of the WLA Market, ComReg is required¹⁰²⁵ to impose at least some level of regulation on Eircom, having been designated as having SMP. Regulation 8(1) of the Access Regulations and Regulation 27(4) of the Framework Regulations require ComReg to impose at least some level of regulation on undertakings designated as having SMP. In Section 6, ComReg set out its view that the WLA Market was not effectively competitive (or likely to become effectively competitive within the timeframe covered by this review). In Section 7 ComReg identified a range of competition problems that could occur in the WLA Market, absent regulation.

15.26 In Section 7 ComReg set out its view that, absent regulation, Eircom has the ability and incentive to engage in exploitative and/or exclusionary behaviour in the WLA Market. In view of this, absent the imposition of any remedies within the WLA Market, it is ComReg's view that this market (and related markets) would not likely function effectively. For example, access could be effectively refused or materially delayed (resulting in certain consumers not being able to use broadband (or other) services or having to incur the additional costs in accessing such services). In addition, the price for WLA products could be set above the level that would pertain in a competitive outcome and/or Eircom may be in a position to distort competition in other horizontally or vertically markets, e.g. through obstructing effective telephony or broadband access. As highlighted in Section 8, it is ComReg's preliminary view that the option of regulatory forbearance in the WLA Market is not, therefore, appropriate or justified. By not imposing any regulatory obligations on Eircom, ComReg would be acting contrary to its own regulatory obligations. Per Regulation 8(1) of the Access Regulations and Regulation 27(4) of the Framework Regulations, once SMP has been identified ComReg is obliged to impose at least one regulatory remedy.

¹⁰²⁵ Per Regulation 8(1) of the Access Regulations.

Transparency Obligations

- 15.27 As noted in Section 8, Eircom has previously been designated with SMP pursuant to the 2010 WPNIA Decision and is currently subject to transparency obligations in that market.
- 15.28 ComReg's preliminary view in Section 8 is that Eircom should be required to comply with transparency obligations in order to minimise information asymmetries and, therefore, facilitate effective access to WLA products, services and facilities and promote effective competition in downstream markets.
- 15.29 In Section 7 ComReg identified competition problems which, absent regulation, could potentially arise in the WLA Market. The competition problems identified included *inter alia* potentially excessive and/or discriminatory pricing, as well as a potential for outright or constructive (e.g. through protracted negotiations on terms and conditions) refusal to supply with a view to extracting prices above efficient cost and/or distorting competition in related markets. In this regard, ComReg is proposing that, as part of a general transparency obligation pursuant to Regulation 9 of the Access Regulations, Eircom shall be required to publish an ARO setting out the contractual terms and conditions and technical basis upon which SPs can obtain access to WLA products, services and associated facilities. It is further proposed to continue to require Eircom to publish wholesale prices and to provide advance notice of price and non-price changes to ComReg and to other SPs. A change management process for the ARO is also proposed.
- 15.30 Eircom is already subject to an obligation to publish a ARO by virtue of the 2010 WPNIA Decision, 2011 WBA Decision¹⁰²⁶ and the 2013 NGA Decision, and it thus faces a relatively moderate level of incremental burden from the proposed transparency obligations.
- 15.31 ComReg has also required Eircom to publish KPIs on its publicly available website with such obligations largely a continuation of existing obligations already imposed upon Eircom.
- 15.32 ComReg is also requiring Eircom to continue to provide information to SPs regarding its NGA roll out plans, as well as information relating to wholesale products, services, and facilities such as the expected time for service availability. While ComReg has given some further specificity to the detail such obligations they largely mirror existing obligations. In any event, ComReg considered that such enhanced obligations are necessary and justified.

¹⁰²⁶ ComReg refers to the 2011 WBA Decision as VULA products were previously identified as falling within the then WBA Market as set out in the 2011 WBA Decision, whereas now they are considered to fall within the WLA Market.

- 15.33 Overall, ComReg recognises that some of the obligations will require some greater level of implementation than say general pricing publication obligations. However, ComReg is of the preliminary view that the incremental level of implementation associated with such obligations should be relatively contained.
- 15.34 ComReg has considered whether transparency obligations alone would be sufficient to address the competition problems identified in Section 7 and does not consider this to be the case. For example, problems *inter alia* associated with excessive pricing, discriminatory behaviour (on price or non-price grounds) and/or impeded or delayed access would not be capable of being adequately addressed through transparency obligations alone.

Non-Discrimination Obligations

- 15.35 The principle of non-discrimination is designed to ensure that undertakings with market power do not distort competition, in particular, where they are vertically-integrated undertakings that supply services to undertakings with whom they compete on downstream markets. As discussed in Section 7 a potential competition problem arises when an integrated operator has SMP in one market which has links with other adjacent markets either at a similar (horizontal) or different (vertical) level in the production or distribution chain. In such circumstances the SMP operator may attempt to transfer (leverage) its market power to such horizontally or vertically related markets. This could enable the SMP operator to strengthen its position in those related markets and potentially also reinforce its existing market power in the SMP market in question.
- 15.36 As noted in Section 8, Eircom currently has an obligation of non-discrimination with respect to the provision of WLA products, services and associated facilities.

- 15.37 In Section 7 ComReg identified that Eircom has the ability and incentive to engage in various discriminatory behaviours which can impact upon downstream competition and consumers. For example, Eircom could offer different access products or service quality to different Access Seekers. As a consequence, ComReg proposes to require that Eircom apply equivalent conditions, including in respect of WLA prices or other charges and ensure that access and information are provided to all other undertakings under the same conditions as Eircom provides to itself or to its downstream retail arm. In terms of the standards to be applied to the non-discrimination obligation, as noted in Section 8, save for certain exceptions, ComReg has proposed require Eircom to provide all products, services and facilities, on Equivalence of Output ('EoO') basis. The exception to this where Eircom is to be required to provide pre-ordering, ordering, provisioning fault reporting and repair for VUA, Migrations and CEI on an Equivalence of Inputs ('EoI') basis. In Section 8 ComReg has already considered the appropriateness of applying these different standards, in particular, reasonableness and proportionality have been considered with respect to the consequential IT and systems developments to be made by Eircom.
- 15.38 ComReg has considered whether non-discrimination obligations alone would be sufficient to address the competition problems identified in Section 7 and does not consider this to be the case. For example, excessive/discriminatory pricing, outright or constructive denial of access problems, delaying tactics or poor service quality issues could *inter alia* still remain in the presence of a transparency obligation. Therefore, the imposition of non-discrimination obligations is both proportionate and justified having regard to the competition problems identified.

Access Obligations

- 15.39 An access obligation gives SPs the right to request access to WLA and associated facilities and establishes the principles on which the relevant products and services should be made available. As noted in Section 8, Eircom has a range of access obligations currently imposed upon it by virtue of its existing designation with SMP in the 2010 WPNIA Decision, the 2011 WBA Decision and 2013 NGA Decision. These include obligations to negotiate in good faith with undertakings requesting access; not withdraw access to facilities already granted and continue to provide such facilities in accordance with existing terms and conditions and specifications; and meet reasonable requests for access to specified network elements, facilities or both such elements and facilities.

- 15.40 ComReg's preliminary view is that obligations to provide access to WLA and associated facilities (including civil engineering infrastructure, e.g. ducts and poles access) are both proportionate and justified. ComReg has given further specificity to the CEI obligations to allow more effective and efficient access by Access Seekers to this bottleneck asset, thereby enabling them to potentially install their own infrastructure at a deeper network level. This, in turn, facilitates the development of more independent infrastructure based competition to the benefit of consumers.
- 15.41 ComReg has given more detailed specification to the timeframes within which Eircom must consider and respond to an Access Seeker's request for access in order to more effectively ensure that such requests are responded to in a timely and effective manner. While this will increase the burden on Eircom, ComReg considers that it is what would be expected in the context of the normal management of such requests in a competitive market outcome.
- 15.42 ComReg's preliminary view is that obligations to provide access to WLA and to associated facilities are both proportionate and justified in view of the competition problems identified. ComReg has considered whether obligations other than those relating to access would in themselves resolve the competition problems identified and does not consider this to be the case. Similarly the imposition of access obligations on their own also would not likely prevent all possible forms of exploitative/exclusionary behaviour in the WLA Market such as excessive pricing, discrimination (on price or quality grounds) or ensure transparency of terms and conditions of access.

Price Control and Cost Accounting Obligations

- 15.43 The purpose of price control and cost accounting obligations is to ensure that prices charged are not set above efficient cost (or cause a margin squeeze) and to promote efficiency and sustainable retail competition while maximising consumer benefits. As noted in Section 8, Eircom is currently subject to a price control obligation of cost orientation and cost accounting pursuant to the 2010 WPNIA Decision, the 2011 WBA Decision, the 2013 NGA Decision and the 2016 Access Pricing Decision (amongst others).
- 15.44 In the review of competition problems in Section 7, ComReg considered on a forward-looking basis the scope for competition problems to arise absent price control and cost accounting obligations. Furthermore, Sections 7 and 8 identify a number of important competition, efficiency and ultimately consumer impacts arising from WLA prices that are set above efficient cost.

- 15.45 ComReg proposes that Eircom should be subject to a cost-orientation obligation with respect to access to WLA products, services and associated facilities. ComReg's analysis, set out in Section 8, indicates that Eircom has the ability and incentive to engage in excessive pricing in the WLA Market, absent regulation. This preliminary view to impose a cost orientation obligation on Eircom for copper network and FTTC based WLA also promotes harmonisation and regulatory certainty.
- 15.46 In general, if specific price control obligations are to be meaningful, it may be necessary to have a clear and comprehensive understanding of the costs associated with the provision of WLA by Eircom. ComReg proposes to continue to impose a cost accounting obligation on Eircom having regard to its integrated position across several markets (in particular noting its SMP designations in a number of these markets). In the discussion of competition problems (Section 7), Eircom was identified as having particular ability and incentives to leverage its position from WLA into related markets. There is thus still a need to ensure sufficient visibility of how costs are allocated across WLA and other horizontally and vertically-related inputs. As Eircom is already subject to a cost accounting obligation across a number of regulated markets, including WPNIA, ComReg considers any incremental burden is substantially lessened.
- 15.47 ComReg has considered whether price control obligations alone would be sufficient to address the competition problems identified in Section 7 and does not consider this to be the case. For example, discriminatory behaviour (on price or non-price grounds) or denial of access problems would not be capable of being adequately addressed through such obligations alone.

Accounting Separation Obligations

- 15.48 As noted in Section 8, in general, the purpose¹⁰²⁷ of an accounting separation obligation would be to provide a higher level of detail of information than that which can be derived from the statutory financial statements of undertakings designated with SMP, with the objective of reflecting, as closely as possible, the performance of those parts of the undertaking's business were it to operate on a standalone basis. In the case of vertically-integrated undertakings, it can support non-discrimination obligations and prevent unfair cross-subsidies to other services.

¹⁰²⁷ See Article 1 of the 2005 Accounting Separation and Cost Accounting Recommendation.

- 15.49 Eircom currently has an obligation to maintain separated accounts in the 2010 WPNIA Decision, the 2011 WBA Decision and the 2010 Accounting Separation Decision. In Section 7, ComReg has identified potential competition problems associated with possible price-related leveraging to be particularly pertinent in the case of Eircom (absent regulation) which highlights the importance of continuing to ensure a transparent and effective mechanism of accounting separation.
- 15.50 Having regard to Eircom's integrated position across several related markets (in particular noting its SMP designations in a number of these markets), separated accounts help disclose such possible competition problems and make visible the wholesale and internal transfer prices of a dominant operator's services, thereby facilitating transparency as regards any potential misallocation of costs across different services. The main objective of accounting separation is to make the practical implementation of non-discrimination and cost-orientation transparent by showing cross-subsidisation between products. Requiring separated accounts for the main products and services creates more transparency on internal transfer pricing and repartition of common and joint costs. It is therefore considered proportionate and justified to continue to impose an obligation on Eircom to maintain separated accounts.

Determine the Impacts on Stakeholders

- 15.51 Given that ComReg has proposed to designate Eircom with SMP in the WLA Market, it is ComReg's preliminary view, as outlined paragraphs 15.25 and 15.26 above, that the option of regulatory forbearance is not appropriate or justified and can be discounted when considering the impact on stakeholders.
- 15.52 Having regard to the proposed SMP designation in Section 6 (which requires ComReg to impose at least some level of regulation¹⁰²⁸) as well as the review of competition problems and remedies in Sections 7 and 8 respectively, ComReg has, on an incremental basis, identified why a range of appropriate remedies are necessary, proportionate and justified, while at the same time discounting other remedies where appropriate.
- 15.53 Having regard to the analysis and assessment of the WLA Market, ComReg has now grouped remedies into four options for the purpose of considering the incremental impact of each option on stakeholders:
- (a) **Option 1:** Impose Access obligation only
 - (b) **Option 2:** Impose Access, Transparency and Non-Discrimination obligations

¹⁰²⁸ Pursuant to Regulation 8(1) of the Access Regulations and Regulation 27(4) of the Framework Regulations.

- (c) **Option 3:** Impose Access, Transparency, Non-Discrimination and Price Control and Cost Accounting obligations
- (d) **Option 4:** Impose Access, Transparency, Non-Discrimination, Price Control and Cost Accounting and Accounting Separation obligations.

Option 1: Impose Access Obligation only		
Impact on Eircom	Impact on Competition	Impact on Consumers
<p>Eircom would benefit from reduced regulatory burden relative to 2010 WNPIA Decision, 2011 WBA Decision and related decisions.</p> <p>There would be increased flexibility for Eircom to use its market power at wholesale level to engage in exploitative behaviour and/or influence market developments in downstream markets, including at the retail level. This could facilitate extraction of excessive rents from WLA and related markets.</p> <p>Eircom's incentives to innovate and increase efficiency may be reduced where prices are set above efficient cost are paid for by competitors and, in turn, by their customers.</p>	<p>High risk that, even though access mandated in principle, there would be significant scope for it to be effectively undermined through such practices as high or discriminatory pricing, unreasonable terms and conditions, delaying tactics, poor service quality, etc.</p> <p>Where access is provided to downstream competitors on exploitative or discriminatory terms (relative to that provided to Eircom's own retail arm) this could significantly disadvantage existing rivals and distort existing competition in downstream markets.</p> <p>Ineffective access to WLA could also raise barriers to entry and expansion for new entrants in downstream markets due to inability to guarantee end-to-end connectivity to Eircom's established customer base.</p>	<p>There would be a risk that, even though WLA is mandated in principle, there would be significant scope for it to be effectively undermined through such practices as high or discriminatory pricing, unreasonable terms and conditions, delaying tactics, poor service quality, etc.</p> <p>If downstream competition is distorted or investments discouraged due to ineffective WLA access, consumers would potentially have reduced service choice, quality and innovation.</p> <p>Above-cost WLA could put upward pressure (or slow the rate of any decline) on retail prices. Above-cost WLA would also limit scope for retail pricing innovations thereby potentially depriving consumers of new and innovative bundles/packages involving fixed data (and other) services.</p>

Option 1: Impose Access Obligation only		
<p>Increased risk of disputes and legal challenges involving Eircom’s WLA services arising from ineffective transparency, price control and other preventative measures to protect against non-discrimination. Disputes could increase legal and regulatory costs faced by Eircom and Access Seekers.</p>	<p>WLA prices set above efficient cost would raise financial barriers to entry and expansion for smaller or newer entrants in downstream retail and wholesale markets. Such financial barriers to entry resulting from WLA prices set above efficient cost are considered further in Section 7 and will be further considered in the Separate Pricing Consultation. Where WLA prices are set above efficient cost, this could limit scope for downstream pricing innovations by Eircom’s downstream rivals.</p> <p>Scope would persist for Eircom to squeeze competitors across related wholesale/retail markets through its relative pricing of WLA vis-à-vis other wholesale (e.g. WCA) and retail services.</p>	

Option 1: Impose Access Obligation only		
	<p>Regulatory certainty is reduced given wholesale access and pricing uncertainty. A potentially increased incidence of disputes could also raise legal and regulatory costs for Eircom's rivals.</p> <p>Differences in regulatory approach between Ireland and other EU countries (broader set of obligations are generally envisaged by other NRAs) and deviations from European Commission guidance could also generate legal uncertainty for pan-European operators considering investments in Ireland.</p>	

Option 2: Impose Access, Transparency and Non-Discrimination Obligations		
Impact on Eircom	Impact on Competition	Impact on Consumers
<p>Eircom would benefit from a reduced regulatory burden relative to the 2010 WNPIA Decision, 2011 WBA Decision and related decisions.</p> <p>There would still be increased flexibility for Eircom to use its market power at wholesale level to engage in exploitative and exclusionary behaviour in respect of WLA pricing. Could facilitate extraction of excessive rents from WLA and related markets.</p> <p>Eircom's incentives to innovate and increase efficiency may be reduced where WLA prices set above efficient cost are paid for by competitors and, in turn, by their customers.</p>	<p>While the risk of impeding access to WLA may be moderated somewhat relative to Option 1, effective WLA access may still be undermined through above cost WLA pricing.</p> <p>Where access is provided to downstream competitors on exploitative terms, this could significantly disadvantage existing rivals and distort existing competition in downstream markets.</p> <p>Ineffective access to WLA (through exploitative or exclusionary pricing) could also raise barriers to entry and expansion for new entrants in downstream markets.</p>	<p>There would be a risk that, even though WLA is mandated in principle, there would be significant scope for it to be effectively undermined through such practices as excessive pricing and/or margin squeeze.</p> <p>If downstream competition is distorted or investments discouraged due to ineffective WLA access, consumers would potentially have reduced service choice, quality and innovation.</p> <p>Above-cost WLA could put upward pressure (or slow the rate of any decline) on downstream wholesale and/or retail prices. Above-cost WLA would also limit scope for wholesale and retail pricing innovations ultimately depriving consumers of new and innovative bundles/packages involving fixed data (and other) services.</p>

Option 2: Impose Access, Transparency and Non-Discrimination Obligations		
<p>While risk of disputes and legal challenges involving Eircom’s WLA services might be eased somewhat relative to Option 1 due to enhanced transparency, risk of disputes would persist due to lack of direct regulatory oversight in respect of Eircom’s WLA prices. Disputes could increase the legal and regulatory costs faced by Eircom and Access Seekers and lead to untimely delays ultimately impacting on competition and consumers through reduced service choice, quality and innovation.</p>	<p>WLA prices set above efficient cost would raise financial barriers to entry and expansion for smaller or newer entrants in downstream retail markets. Scope would persist for Eircom to squeeze competitors across related wholesale/retail markets through its relative pricing of WLA vis-à-vis other wholesale (e.g. WCA and Leased Lines) and retail services. Where WLA prices are set above efficient cost, this could limit scope for retail pricing innovations by Eircom’s downstream rivals.</p> <p>Regulatory certainty is reduced given wholesale access and pricing uncertainty. A potentially increased incidence of disputes could also raise legal and regulatory costs for Eircom’s rivals.</p>	

Option 2: Impose Access, Transparency and Non-Discrimination Obligations		
	Differences in regulatory approach between Ireland and other EU countries (broader set of obligations are generally envisaged by other NRAs) and deviations from European Commission guidance could also generate legal uncertainty for pan-European operators considering investments in Ireland.	

Option 3: Impose Access, Transparency, Non-Discrimination and Price Control¹⁰²⁹ & Cost Accounting Obligations		
Impact on Eircom	Impact on Competition	Impact on Consumers
<p>As Eircom is currently subject to price control and cost accounting obligations pursuant to 2010 WPNIA Decision, 2011 WBA Decision and related decisions, the incremental burden of most obligations (ComReg has proposed a new obligation of cost orientation for Eircom’s VUA based WLA product, having regard to the competition problems identified) is not likely to be significant.</p>	<p>Regulating WLA prices at efficient cost would reinforce the effectiveness of the access, transparency and non-discrimination obligations thus reducing risk of competitive distortions in downstream retail markets and potentially lowering barriers to entry/expansion for smaller Service Providers.</p> <p>Regulating WLA prices at efficient cost would potentially provide greater scope for wholesale and/or retail pricing innovations by Eircom’s downstream rivals.</p>	<p>Reduced risk of competitive distortions and more level playing field in downstream markets and greater wholesale pricing certainty helps facilitate retail price and service innovations (e.g. in terms of packages/bundles offered).</p> <p>Reduced risk of above efficient cost WLA prices being passed through to End Users in form of higher prices relative to Options 1 and 2 above.</p> <p>Potential for discriminatory behaviour due to lack of accounting separation may impact on downstream competition and investment with consequent negative implications in terms of price and service choice over time.</p>

¹⁰²⁹ A further detailed RIA on the proposed price control obligations will be set out in the Separate Pricing Consultation and is not further elaborated here. Options 3 and 4 in this Consultation thus assess the merits of imposing a price control obligation which would regulate WLA prices according to the concept of efficient cost (with the impacts of the precise efficient costing methodology proposed to be set out further in the Separate Pricing Consultation).

Option 3: Impose Access, Transparency, Non-Discrimination and Price Control¹⁰²⁹ & Cost Accounting Obligations		
<p>Eircom’s regulatory burden under Option 3 would not be significantly less than under Option 4 (below) as Eircom is already subject to accounting separation obligations in other SMP markets. Under Option 3 there would be increased flexibility for Eircom to obscure internal transfer prices and the real costs of WLA if no accounting separation obligation imposed. There would thus be an increased opportunity for Eircom’s non-discrimination and/or price control obligations to be undermined.</p> <p>Risk of disputes and legal challenges involving Eircom’s WLA prices may be eased relative to Options 1 and 2 due to price control obligation. However, lack of accounting separation may generate uncertainty regarding Eircom’s compliance with non-discrimination and price control obligations, thus also contributing to risk of disputes.</p>	<p>Greater consistency with EU guidance and other regulatory decisions would promote legal certainty and a more predictable environment for potential investors although lack of accounting separation obligation may render monitoring of potential exclusionary behaviour less transparent further impacting on investment incentives for new entrants.</p> <p>While greater certainty that WLA prices would be set at efficient cost potentially moderates risk of disputes relative to Options 1 and 2, the lack of transparency of Eircom’s internal transfer prices due to absence of an accounting separation obligation may still contribute to scope for discrimination (relative to its own retail arm) and consequent risk of disputes.</p>	

Option 3: Impose Access, Transparency, Non-Discrimination and Price Control¹⁰²⁹ & Cost Accounting Obligations		
Any other impacts associated with the proposed price control obligation will be considered in the Separate Pricing Consultation.		

Option 4: Impose Access, Transparency, Non-Discrimination, Price Control & Cost Accounting and Accounting Separation Obligations		
Impact on Eircom	Impact on Competition	Impact on Consumers
<p>Existing regulatory burden on Eircom as per the 2010 WPNIA Decision, 2011 WBA Decision and related decisions would remain.</p> <p>Risk of disputes and legal challenges involving Eircom's WLA prices would be eased relative to Options 1, 2 and 3.</p> <p>Any other impacts associated with the proposed price control obligations will be considered in the Separate Pricing Consultation.</p>	<p>As set out for Option 3 above, greater consistency with EU guidance and other regulatory decisions would promote legal certainty and a more predictable environment for potential investors.</p> <p>Greater certainty that WLA prices would be set at efficient cost, complemented by greater visibility of internal transfers to support non-discrimination obligation, moderates risk of disputes relative to Options 1, 2 and 3.</p>	<p>Reduced risk of competitive distortions and more level playing field in downstream markets and greater wholesale pricing certainty helps facilitate retail price and service innovations (e.g. in terms of packages/bundles offered).</p> <p>Reduced risk of above efficient cost WLA pricing being passed through to End Users in form of higher prices relative to Options 1 and 2 above.</p> <p>Dynamic competition from alternative Service Providers (facilitated by effective price control and appropriate preventative measures for discriminatory behaviour in respect of Eircom's WLA) should help facilitate ongoing delivery of price and service innovations and choice to End Users over time.</p>

Assess the Likely Impacts and Choose the Best Option

- 15.54 In the discussion on the proposed approach on remedies set out in Section 8 relating to the WLA Market, ComReg has taken full account of its obligations under Regulation 8(6) of the Access Regulations (including that any proposed remedies are to be based on the nature of the problem identified), as well as its relevant objectives as set out under Section 12 of the Communications Regulation Act 2002 (as amended).
- 15.55 ComReg's preliminary view is that, absent regulation, there is the potential and incentive for Eircom, as the undertaking proposed to be designated with SMP in the WLA Market, to engage in exploitative and exclusionary behaviours which would impact on competition and consumers. In Section 7 ComReg provided examples of potential competition problems and the impact of these on competition and consumers. ComReg has also highlighted its objectives in regulating the WLA Market in paragraph 15.15 above, in particular, preventing restrictions or distortions of competition in affected downstream retail and wholesale markets and helping to ensure that consumers can achieve maximum benefits in terms of price, choice and quality of service.
- 15.56 The imposition of appropriate *ex ante* remedies to address such competition problems was discussed and justified in Section 8 and each of the specific remedies is designed to promote the development of effective competition and to protect End Users. Given that a full suite of remedies is proposed to be applied on Eircom, it is ComReg's belief that the risk of competition problems and associated impacts should be minimised. This will ultimately be to the benefit of Service Providers and End Users of downstream retail and wholesale services.
- 15.57 The proposed maintenance of regulation on Eircom in the WLA Market (i.e. **Option 4**) is considered justifiable in that it is required to ensure that Eircom does not exploit its market power at the wholesale level to the detriment of competition in both related markets, and to the ultimate detriment of consumers. In Section 7, a broad range of potential competition problems were identified for Eircom, which has the ability and incentives for both exploitative and exclusionary practices given its continuing significant presence in upstream and downstream markets.

15.58 In particular, Eircom's strong position on downstream retail markets (see Sections 3 and 4 and of this Consultation) implies that the ability and incentives to engage in vertical leveraging/foreclosure would seem particularly strong for Eircom. In view of its control over a number of key input markets, Eircom has the ability and incentives to impede downstream competitors through price (e.g. excessive/ discriminatory pricing) and/or non-price means (e.g. by not facilitating access to essential services in the WLA Market). The regulatory obligations proposed in designed to specifically address the competition problems identified and are proportionate in that they are the least burdensome means of achieving this objective.

Regional WCA Market

15.59 In Section 10 of this Consultation, ComReg set out its preliminary view on the definition of the Regional WCA Market, followed in Section 11 by a competition analysis within the WCA Markets. In Section 11 ComReg proposed to designate Eircom with SMP in the Regional WCA Market. In Section 12 ComReg considered, on the basis of a preliminary SMP finding, the potential for competition problems to arise in the Regional WCA Market over the review period in question.

15.60 Given ComReg has identified in Section 11 that the Urban WCA Market is considered to be tending towards effective competition, ComReg cannot, as a matter of law impose any regulatory obligations in such circumstances. However, as noted in Section 14, ComReg has proposed to maintain certain existing obligations during a sunset period of six months in the Urban WCA Market.

15.61 In conducting the Regulatory Impact Assessment for the Regional WCA Market, ComReg assumes the proposed upstream regulation in the WLA Market exists.

Identify and Describe the Potential Regulatory Options

15.62 As noted earlier, in order to address the identified competition problems in the Regional WCA Market, ComReg is required to impose on Eircom one or more (as appropriate) of the obligations (or remedies) set out below:

- (a) Access;
- (b) Transparency;
- (c) Non-Discrimination;
- (d) Price Control and Cost Accounting; and
- (e) Accounting Separation.

- 15.63 First, ComReg must consider the question of regulatory forbearance, and then incremental imposition of one or more of the obligations outlined in paragraph 15.23.

Forbearance

- 15.64 In the case of the Regional WCA Market, ComReg is required¹⁰³⁰ to impose at least some level of regulation on Eircom, having regard to ComReg's preliminary view that Eircom be designated as having SMP. In Section 11, ComReg set out its view that the Regional WCA Market was not effectively competitive (or likely to become effectively competitive within the timeframe covered by this review). In Section 12, ComReg identified a range of competition problems that could occur in the Regional WCA Market, absent regulation.
- 15.65 ComReg set out its view that, absent regulation, there is the potential and incentive for Eircom to engage in exploitative and/or exclusionary behaviour in the Regional WCA Market. In view of this, absent the imposition of any remedies within the Regional WCA Market, it is ComReg's view that the market would not likely function effectively. It is ComReg's preliminary view that the option of regulatory forbearance in the Regional WCA Market is not, therefore, appropriate or justified.

Transparency Obligations

- 15.66 As noted in Section 13, pursuant to the 2011 WBA Decision and the 2013 NGA Decision, Eircom is currently subject to a range of transparency obligations. As also noted in Section 13 ComReg's preliminary view is that Eircom should be required to comply with transparency obligations in order to minimise information asymmetries and, therefore, facilitate effective access to WCA and promote effective competition in downstream markets.
- 15.67 In Section 12 ComReg identified a range of competition problems which, absent regulation, could potentially arise in the Regional WCA Market. The competition problems identified included *inter alia* excessive and/or discriminatory pricing, as well as a potential for outright or constructive (e.g. through protracted negotiations on terms and conditions) refusal to supply with a view to extracting prices above efficient cost and/or distorting competition in related markets.

¹⁰³⁰ Regulation 8(1) of the Access Regulations and Regulation 27(4) of the Framework Regulations require ComReg to impose at least some level of regulation on undertakings designated as having SMP.

- 15.68 ComReg is proposing that, as part of a general transparency obligation, pursuant to Regulation 9 of the Access Regulations, Eircom is to be required to publish a reference offer setting out the contractual terms and conditions and technical basis upon which SPs can obtain access to WCA products, services and associated facilities. It is further proposed that Eircom is required to publish wholesale prices and to provide advance notice of price changes to ComReg and to other SPs.
- 15.69 While Eircom is already subject to an obligation to publish a reference offer by virtue of the 2011 WBA Decision and 2013 NGA Decision, and thus faces a relatively moderate level of incremental burden from the proposed transparency obligations.
- 15.70 ComReg has also required Eircom to publish KPIs on its publicly available website with such obligations largely a continuation of existing obligations already imposed upon Eircom.
- 15.71 ComReg recognises that the transparency obligations will require some greater level of implementation. However, as the reference offer and the associated publication obligations effectively relate to the standard offer of contract for WCA services and associated facilities in the Regional WCA Market, ComReg is of the preliminary view that the incremental level of implementation associated with publishing such standard contracts should be relatively contained.
- 15.72 ComReg has considered whether transparency obligations alone would be sufficient to address the competition problems identified in Section 12 and does not consider this to be the case. For example, problems *inter alia* associated with excessive pricing, discriminatory behaviour (on price or non-price grounds) and/or impeded or delayed access would not be capable of being adequately addressed through transparency obligations alone.

Non-Discrimination Obligations

- 15.73 The principle of non-discrimination is designed to ensure that undertakings with market power do not distort competition, in particular, where they are vertically-integrated undertakings that supply services to undertakings with whom they compete on downstream markets.
- 15.74 As noted in Section 13, Eircom currently has an obligation of non-discrimination with respect to the provision of WCA products services and associated facilities. In Section 12 ComReg identified that Eircom has the ability and incentive to engage in such behaviour which can impact upon downstream competition and consumers.

- 15.75 As a consequence, ComReg proposes to require that Eircom apply equivalent conditions, including in respect of WCA prices or other charges and ensure that access and information are provided to all other undertakings under the same conditions as Eircom provides to itself or to its downstream retail arm. In terms of the standards to be applied to the non-discrimination obligation, as noted in Section 13, ComReg has, having regard to the specific circumstances outlined, proposed to require Eircom to provide WCA products, services and facilities, on an EoI and an EoO basis. In Section 13 ComReg has already considered the appropriateness of applying these different standards, in particular, reasonableness and proportionality have been considered with respect to the consequential IT and systems developments to be made by Eircom.
- 15.76 ComReg has considered whether non-discrimination obligations alone would be sufficient to address the competition problems identified in Section 12 and does not consider this to be the case. For example, excessive/discriminatory pricing, outright or constructive denial of access problems, delaying tactics or poor service quality issues could *inter alia* still remain in the presence of a transparency obligation. Therefore, the imposition of non-discrimination obligations is both proportionate and justified having regard to the competition problems identified.

Access Obligations

- 15.77 An access obligation gives SPs the right to request access to WCA products, services and facilities and establishes the principles on which the relevant products and services should be made available. As noted in Section 13, Eircom has a range of access obligations currently imposed upon it by virtue of its existing designation with SMP in the 2011 WBA Decision and 2013 NGA Decision.
- 15.78 ComReg has given more detailed specification to the timeframes within which Eircom must consider and respond to an Access Seeker's request for access in order to more effectively ensure that such requests are responded to in a timely and effective manner. While this will increase the burden on Eircom, ComReg considers that it is what would be expected in the context of the normal management of such requests in a competitive market outcome.
- 15.79 ComReg's preliminary view is that obligations to provide access to WCA products, services and facilities is both proportionate and justified in view of the competition problems identified in Section 12 ComReg has considered whether obligations other than those relating to access would in themselves resolve the competition problems identified and does not consider this to be the case. Similarly the imposition of access obligations on their own also would not likely prevent all possible forms of exploitative/exclusionary behaviour in the Regional WCA Market such as excessive pricing, discrimination (on price or quality grounds) or ensure transparency of terms and conditions of access.

Price Control and Cost Accounting Obligations

- 15.80 The purpose of price control and cost accounting obligations is to ensure that prices charged are not set above efficient cost (or cause a margin squeeze) and to promote efficiency and sustainable retail competition while maximising consumer benefits. As noted in Section 13, Eircom is currently subject to a price control obligation of cost orientation and cost accounting for copper network based Bitstream services pursuant to the 2011 WBA Decision, the 2013 NGA Decision and subsequent decisions. In addition, Eircom is currently subject to a retail minus price control obligation with respect to its FTTx based Bitstream services pursuant to the 2013 NGA Decision and subsequent decisions.
- 15.81 In the review of competition problems in Section 12, ComReg considered on a forward-looking basis the scope for competition problems to arise absent price control and cost accounting obligations. Furthermore, Section 12 identifies a number of important competition, efficiency and ultimately consumer impacts arising from WCA prices that are set above efficient cost.
- 15.82 ComReg has proposed in Section 13 that Eircom should be subject to a cost orientation obligation with respect to access to copper network and FTTC based WCA products, services and associated facilities. ComReg's analysis, set out in Section 12, indicates that Eircom has the ability and incentive to engage in excessive pricing in the Regional WCA Market, absent regulation. As noted in Section 13, ComReg considers that given the level of uncertainty associated with the provision of FTTH based Bitstream services; it is currently difficult to determine precise estimations of costs and penetration levels for FTTH services. Therefore ComReg proposes that a margin squeeze obligation is appropriate for FTTH based Bitstream services.
- 15.83 As part of RIA to accompany the Separate Pricing Consultation, ComReg proposes to further consider impacts of the detailed nature of the proposed price control obligations.
- 15.84 In general, if specific price control obligations are to be meaningful, it may be necessary to have a clear and comprehensive understanding of the costs associated with the provision of WCA by Eircom. ComReg proposes to continue to impose a cost accounting obligation on Eircom having regard to its integrated position across several markets (in particular noting its SMP designations in a number of these markets). In the discussion of competition problems (Section 12), Eircom was identified as having the ability and incentive to leverage its position from the Regional WCA Market into related markets. There is thus still a need to ensure sufficient visibility of how costs are allocated across WCA and other horizontally and vertically-related inputs. As Eircom is already subject to a cost accounting obligation across a number of regulated markets, including WCA, ComReg considers any incremental burden is substantially lessened.

15.85 ComReg has considered whether price control obligations alone would be sufficient to address the competition problems identified in Section 12 and does not consider this to be the case. For example, discriminatory behaviour (on price or non-price grounds) or denial of access problems would not be capable of being adequately addressed through such obligations alone.

Accounting Separation Obligations

15.86 As noted in Section 13, in general, the purpose¹⁰³¹ of an accounting separation obligation would be to provide a higher level of detail of information than that which can be derived from the statutory financial statements of undertakings designated with SMP, with the objective of reflecting, as closely as possible, the performance of those parts of the undertaking's business were it to operate on a standalone basis. In the case of vertically-integrated undertakings, it can support non-discrimination obligations and prevent unfair cross-subsidies to other services.

15.87 Eircom currently has an obligation to maintain separate accounts in the 2011 WBA Decision and 2013 NGA Decision. In Section 12, ComReg has identified potential competition problems associated with possible price-related leveraging to be particularly pertinent in the case of Eircom (absent regulation) which highlights the importance of continuing to ensure a transparent and effective mechanism of accounting separation. As noted above with respect to the WLA Market, the main objective of accounting separation is to make the practical implementation of non-discrimination and cost-orientation transparent by showing cross-subsidisation between products. It is therefore considered proportionate and justified to continue to impose an obligation on Eircom to maintain separated accounts.

Determine the Impacts on Stakeholders

15.88 Given that ComReg has proposed to designate Eircom with SMP in the Regional WCA Market, it is ComReg's preliminary view, as outlined paragraphs 15.64 to 15.65 above, that the option of regulatory forbearance is not appropriate or justified and can be discounted when considering the impact on stakeholders.

¹⁰³¹ See Article 1 of the 2005 Accounting Separation and Cost Accounting Recommendation.

- 15.89 Having regard to Eircom's proposed SMP designation in the Regional WCA Market in Section 10 (which requires ComReg to impose at least some level of regulation¹⁰³²) as well as the review of competition problems and remedies in Sections 12 and 13 respectively, ComReg has, on an incremental basis, identified why a range of appropriate remedies are necessary, proportionate and justified, while at the same time discounting other remedies where appropriate.
- 15.90 Having regard to the analysis and assessment of the Regional WCA Market, ComReg has now grouped remedies into four options for the purpose of considering the incremental impact of each option on stakeholders:
- (a) **Option 1:** Impose Access obligation only.
 - (b) **Option 2:** Impose Access, Transparency and Non-Discrimination obligations.
 - (c) **Option 3:** Impose Access, Transparency, Non-Discrimination and Price Control and Cost Accounting obligations.
 - (d) **Option 4:** Impose Access, Transparency, Non-Discrimination, Price Control and Cost Accounting and Accounting Separation obligations.

¹⁰³² Pursuant to Regulation 8(1) of the Access Regulations and Regulation 27(4) of the Framework Regulations.

Option 1: Impose Access Obligation only		
Impact on Eircom	Impact on Competition	Impact on Consumers
<p>Eircom would benefit from reduced regulatory burden relative to 2011 WBA Decision and 2013 NGA Decision.</p> <p>There would be increased flexibility for Eircom to use its market power at wholesale level to engage in exploitative behaviour and/or influence market developments downstream, including at the retail level. This could facilitate extraction of excessive rents from WCA and related markets.</p> <p>Eircom's incentives to innovate and increase efficiency may be reduced where prices are set above efficient cost are paid for by competitors and, in turn, by their customers.</p>	<p>High risk that, even though access is mandated in principle, there would be significant scope for it to be effectively undermined through such practices as high or discriminatory pricing, unreasonable terms and conditions, delaying tactics, poor service quality, etc.</p> <p>Where access is provided to downstream competitors on exploitative or discriminatory terms (relative to that provided to Eircom's own wholesale and/or retail arm) this could significantly disadvantage existing rivals and distort existing competition in downstream markets.</p> <p>Ineffective access to WCA could also raise barriers to entry and expansion for new entrants in downstream markets due to inability to guarantee end-to-end connectivity to Eircom's established customer base.</p>	<p>There would be a risk that, even though WCA is mandated in principle, there would be significant scope for it to be effectively undermined through such practices as high or discriminatory pricing, unreasonable terms and conditions, delaying tactics, poor service quality, etc.</p> <p>If downstream competition is distorted or investments discouraged due to ineffective WLA access, consumers would potentially have reduced service choice, quality and innovation.</p> <p>Above-cost WCA could put upward pressure (or slow the rate of any decline) on retail prices. Above-cost WCA would also limit scope for retail pricing innovations thereby potentially depriving consumers of new and innovative bundles/packages involving fixed data (and other) services.</p>

Option 1: Impose Access Obligation only		
<p>Increased risk of disputes and legal challenges involving Eircom’s WCA service arising from ineffective transparency and other preventative measures to protect against non-discrimination. Disputes could increase legal and regulatory costs faced by Eircom.</p>	<p>WCA prices set above efficient cost would raise financial barriers to entry and expansion for smaller or newer entrants in downstream retail and wholesale markets. Such financial barriers to entry resulting from WCA prices set above efficient cost are to be considered further in the Separate Pricing Consultation. Where WCA prices are set above efficient cost, this could limit scope for downstream pricing innovations by Eircom’s downstream rivals.</p> <p>Scope would persist for Eircom to squeeze competitors across related wholesale/retail markets through its relative pricing of WCA vis-à-vis other wholesale (e.g. WLA, WCA) and retail services.</p>	

Option 1: Impose Access Obligation only		
	<p>Regulatory certainty is reduced given wholesale access and pricing uncertainty. A potentially increased incidence of disputes could also raise legal and regulatory costs for Eircom's rivals.</p> <p>Differences in regulatory approach between Ireland and other EU countries (broader set of obligations are generally envisaged by other NRAs) and deviations from European Commission guidance could also generate legal uncertainty for pan-European operators considering investments in Ireland.</p>	

Option 2: Impose Access, Transparency and Non-Discrimination Obligations		
Impact on Eircom	Impact on Competition	Impact on Consumers
<p>Eircom would benefit from a reduced regulatory burden relative to 2011 WBA Decision and 2013 NGA Decision.</p> <p>There would still be increased flexibility for Eircom to use its market power at wholesale level to engage in exploitative and exclusionary behaviour in respect of WCA pricing. Could facilitate extraction of excessive rents from WCA and related markets.</p> <p>Eircom's incentives to innovate and increase efficiency may be reduced where WCA prices set above efficient cost are paid for by competitors and, in turn, by their customers.</p>	<p>While risk of impeding access to WCA may be moderated somewhat relative to Option 1, effective WCA may still be undermined through above cost WCA pricing.</p> <p>Where access is provided to downstream competitors on exploitative or exclusionary terms, this could significantly disadvantage existing rivals and distort existing competition in downstream markets.</p> <p>Ineffective access to WCA (through exploitative or exclusionary pricing) could also raise barriers to entry and expansion for new entrants in downstream markets.</p>	<p>There would be a risk that, even though WCA is mandated in principle, there would be significant scope for it to be effectively undermined through such practices as excessive pricing or margin squeeze.</p> <p>If downstream competition is distorted or investments discouraged due to ineffective WLA access, consumers would potentially have reduced service choice, quality and innovation.</p> <p>Above-cost WCA could put upward pressure (or slow the rate of any decline) on retail prices. Above-cost WCA would also limit scope for retail pricing innovations thereby potentially depriving consumers of new and innovative bundles/packages involving fixed data (and other) services.</p>

Option 2: Impose Access, Transparency and Non-Discrimination Obligations		
<p>While risk of disputes and legal challenges involving Eircom’s WCA services might be eased somewhat relative to Option 1 due to enhanced transparency, risk of disputes would persist due to lack of direct regulatory oversight in respect of Eircom’s WCA prices. Disputes could increase the legal and regulatory costs faced by Eircom.</p>	<p>Below cost WCA pricing could also undermine access to the upstream WLA Market inputs, such that an Access Seeker might not be in a position to profitably invest in availing of WLA products. This could undermine more independent infrastructure based competition.</p> <p>WCA prices set above efficient cost would raise financial barriers to entry and expansion for smaller or newer entrants in downstream retail markets. Scope would persist for Eircom to squeeze competitors across related wholesale/retail markets through its relative pricing of WCA vis-à-vis other wholesale (e.g. WLA) and retail services. Where WLA prices are set above efficient cost, this could limit scope for retail pricing innovations by Eircom’s downstream rivals.</p>	

Option 2: Impose Access, Transparency and Non-Discrimination Obligations		
	<p>Regulatory certainty is reduced given wholesale access and pricing uncertainty. A potentially increased incidence of disputes could also raise legal and regulatory costs for Eircom's rivals.</p> <p>Differences in regulatory approach between Ireland and other EU countries (broader set of obligations are generally envisaged by other NRAs) and deviations from European Commission guidance could also generate legal uncertainty for pan-European operators considering investments in Ireland.</p>	

Option 3: Impose Access, Transparency, Non-Discrimination and Price Control¹⁰³³ & Cost Accounting Obligations		
Impact on Eircom	Impact on Competition	Impact on Consumers
<p>As Eircom is currently subject to price control and cost accounting obligations pursuant to 2011 WBA Decision, 2013 NGA Decision and related decisions, incremental burden of such obligations is limited to those new or amended obligations. As set out in Section 13, ComReg is proposing that Eircom's FTTC based Bitstream products would be subject to a cost-orientation obligation. FTTH based Bitstream services would continue to be subject to a retail minus obligation.</p> <p>Eircom's regulatory burden under Option 3 would not be significantly less than under Option 4 as Eircom is already subject to accounting separation obligations in other SMP markets.</p>	<p>Regulating WCA prices at efficient cost would reinforce the effectiveness of the access, transparency and non-discrimination obligations thus reducing risk of competitive distortions in upstream and downstream markets and potentially lowering barriers to entry/expansion for smaller SPs.</p> <p>Regulating WCA prices at efficient cost would potentially provide greater scope for retail pricing innovations by Eircom's downstream rivals.</p>	<p>Availability of WCA access would facilitate interoperability of services by enabling subscribers of other networks to call Eircom's subscribers.</p> <p>Reduced risk of competitive distortions and more level playing field in downstream markets and greater wholesale pricing certainty helps facilitate retail price and service innovations (e.g. in terms of packages/bundles offered).</p> <p>Reduced risk of high WCA prices being passed through to End Users in form of higher prices relative to Options 1 and 2 above.</p>

¹⁰³³ A further detailed RIA on the proposed price control obligations will be set out in the Separate Pricing Consultation and is not further elaborated here. Options 3 and 4 in this Consultation thus assess the merits of imposing a price control obligation which would regulate WCA prices according to the concept of efficient cost (with the impacts of the precise efficient costing methodology proposed to be set out further in the Separate Pricing Consultation).

Option 3: Impose Access, Transparency, Non-Discrimination and Price Control¹⁰³³ & Cost Accounting Obligations		
<p>Under Option 3 there would be increased flexibility for Eircom to obscure internal transfer prices and the real costs of WCA if no accounting separation obligation imposed. There would thus be an increased opportunity for Eircom's non-discrimination and/or price control obligations to be undermined.</p> <p>Risk of disputes and legal challenges involving Eircom's WCA prices may be eased relative to Options 1 and 2 due to price control obligation. However, lack of accounting separation may generate uncertainty regarding Eircom's compliance with non-discrimination and price control obligations, thus also contributing to risk of disputes.</p> <p>Any other impacts associated with the proposed price control obligations will be considered in the Separate Pricing Consultation.</p>	<p>Greater consistency with EU guidance and other regulatory decisions would promote legal certainty and a more predictable environment for potential investors although lack of accounting separation obligation may render monitoring of potential exclusionary behaviour less transparent further impacting on investment incentives for new entrants.</p> <p>While greater certainty that WCA prices would be set at efficient cost potentially moderates risk of disputes relative to Options 1 and 2, the lack of transparency of Eircom's internal transfer prices due to absence of an accounting separation obligation may still contribute to scope for discrimination (relative to its own retail arm) and consequent risk of disputes.</p>	<p>Potential for discriminatory behaviour due to lack of accounting separation may impact on downstream competition and investment with consequent negative implications in terms of price and service choice over time.</p>

Option 4: Impose Access, Transparency, Non-Discrimination, Price Control & Cost Accounting and Accounting Separation Obligations		
Impact on Eircom	Impact on Competition	Impact on Consumers
<p>As Eircom is currently subject to Accounting Separation obligations pursuant to 2011 WBA Decision, 2013 NGA Decision and related decisions (including the Accounting Separation Decision).</p> <p>Risk of disputes and legal challenges involving Eircom's WCA prices would be eased relative to Options 1, 2 and 3.</p> <p>Any other impacts associated with the proposed price control obligations will be considered in the Separate Pricing Consultation.</p>	<p>As set out for Option 3 above, greater consistency with EU guidance and other regulatory decisions would promote legal certainty and a more predictable environment for potential investors.</p> <p>Greater certainty that WCA prices would be set at efficient cost, complemented by greater visibility of internal transfers to support non-discrimination obligation, moderates risk of disputes relative to Options 1, 2 and 3.</p>	<p>Availability of WCA access would facilitate interoperability of services enabling subscribers of other networks to call Eircom's subscribers.</p> <p>Reduced risk of competitive distortions and more level playing field in downstream markets and greater wholesale pricing certainty helps facilitate retail price and service innovations (e.g. in terms of packages/bundles offered).</p> <p>Reduced risk of above-cost WCA prices being passed through to End Users in form of higher prices relative to Options 1 and 2 above.</p>

Option 4: Impose Access, Transparency, Non-Discrimination, Price Control & Cost Accounting and Accounting Separation Obligations		
		Dynamic competition from alternative SPs (facilitated by effective price control and appropriate preventative measures for discriminatory behaviour in respect of Eircom's WCA) should help facilitate ongoing delivery of price and service innovations and choice to End Users over time.

Assess the Likely Impacts and Choose the Best Option

- 15.91 In the discussion on the proposed approach on remedies set out in Section 13 relating to the Regional WCA Market, ComReg has taken full account of its obligations under Regulation 8(6) of the Access Regulations (including that any proposed remedies are to be based on the nature of the problem identified), as well as its relevant objectives as set out under Section 12 of the Communications Regulation Act 2002 (as amended).
- 15.92 ComReg's preliminary view is that, absent regulation, there is the potential and incentive for Eircom, as the undertaking proposed to be designated with SMP in the Regional WCA Market, to engage in exploitative and exclusionary behaviours, which would impact on competition and consumers. In Section 12 ComReg provided examples of potential competition problems and the impact of these on competition and consumers. ComReg has also highlighted its objectives in regulating the Regional WCA Market in paragraph 15.15 above, in particular, preventing restrictions or distortions of competition in horizontally and vertically related markets and helping to ensure that consumers can achieve maximum benefits in terms of price, choice and quality of service.
- 15.93 The imposition of appropriate *ex ante* remedies to address such competition problems was discussed and justified in Section 13 and each of the specific remedies is designed to promote the development of effective competition, promote efficient investment to the benefit of End Users. Given that a full suite of remedies is proposed to be applied on Eircom in the Regional WCA Market, it is ComReg's view that the risk of competition problems and associated impacts should be minimised. This will ultimately be to the benefit of Service Providers and End Users of downstream retail services and related wholesale services.
- 15.94 The proposed maintenance of regulation on Eircom in the Regional WCA Market (i.e. **Option 4**) is considered justifiable in that it is required to ensure that Eircom does not exploit its market power at the wholesale level to the detriment of competition in both related markets, and to the ultimate detriment of consumers. In Section 12 a broad range of potential competition problems were identified for Eircom, which has the ability and incentives for both exploitative and exclusionary practices given its continuing significant presence in upstream and downstream markets.
- 15.95 In view of its control over a number of key input markets, Eircom has the ability and incentives to impede downstream competitors through price (e.g. excessive/ discriminatory pricing) and/or non-price means (e.g. by not facilitating access to essential services in the Regional WCA Market). The regulatory obligations proposed in designed to specifically address the competition problems identified and are proportionate in that they are the least burdensome means of achieving this objective.

Urban WCA Market

- 15.96 As set out in Section 11, ComReg set out its preliminary view that no undertaking has SMP in the Urban WCA Market. As a result, it is not proposed to impose regulatory obligations on any undertaking in this market.
- 15.97 At present, Eircom is regulated in the Urban WCA Market area by virtue of the 2011 WBA Decision, 2013 NGA Decision and related decisions. As a result of the analysis contained in this Consultation, it is proposed that existing regulatory obligations imposed on Eircom be withdrawn in the Urban WCA Market.
- 15.98 On that basis, the removal of regulation from the Urban WCA Market has been proposed. Therefore, ComReg's regulatory options in the Urban WCA Market are limited to the timing of the withdrawal of existing regulation. As noted in Section 14, ComReg has proposed to maintain certain existing obligations during a sunset period of six months in the Urban WCA Market.
- 15.99 ComReg also proposes to continue to monitor the effectiveness of competition within the Urban WCA Market, notwithstanding the proposed removal of regulation. In this respect, ComReg reserves its right to re-examine competitive conditions within the Urban WCA Market and, if appropriate, to intervene accordingly.
- 15.100 Given regulatory obligations cannot be imposed in the Urban WCA Market (aside from the limited obligations regarding the proposed sunset period), this RIA does not further consider regulatory options with respect to the Urban WCA Market.

Overall Preliminary Conclusions

- 15.101 ComReg has set out RIAs for the WLA Market and the Regional WCA Market above. ComReg invites comments from interested parties on the above RIA and its underlying analysis.

Question 15: Do you agree with ComReg's preliminary conclusions on the Regulatory Impact Assessment? Please explain the reasons for your answer, clearly indicating the relevant paragraph numbers to which your comments refer, along with all relevant factual evidence supporting your position.

16 Next Steps

- 16.1 The consultation period will run to 30 January 2017 and all comments on the issues set out in this Consultation are welcome. It should be noted that ComReg has provided a 11 week consultation period and will not be extending this period¹.
- 16.2 As noted in Sections 8, 13 and elsewhere, ComReg intends to engage in a Separate Pricing Consultation in relation to the detailed nature of the price control obligations set out in this Consultation. ComReg's intention is that there will be an overlap in the consultation periods set out in this Consultation and the Separate Pricing Consultation. In any event, ComReg will provide an opportunity within the Separate Pricing Consultation for respondents to provide any additional views on the matters set out in this Consultation, having regard to the proposals to be set out in the Separate Pricing Consultation.
- 16.3 The task of analysing responses received will be made easier if all comments are referenced to the specific question numbers as set out previously in this document.
- 16.4 Having analysed and considered the comments received, ComReg will review the proposals set out in this Consultation, consult with CCPC and maintain or amend its proposals, as appropriate, including with respect to the draft measures set out in the draft Decision Instruments.
- 16.5 ComReg will then notify these final draft measures to the European Commission, other NRAs and BEREC, pursuant to Regulation 13 of the Framework Regulations. Taking utmost account of any comments received from the European Commission as well as from the other aforementioned parties, ComReg will then seek to adopt and publish the final decision in its subsequent Response to Consultation and Decision.
- 16.6 In order to promote further openness and transparency, ComReg will publish all responses to this Consultation, subject to the provisions of ComReg's guidelines on the treatment of confidential information in ComReg Document No. 05/24.²
- 16.7 ComReg appreciates that many of the issues raised in this Consultation may require respondents to provide confidential information.

¹ ComReg notes that this period includes the period between Christmas and New Year's Day, and has taken account of this when setting the consultation period.

² Guidelines on the Treatment of Confidential Information, Response to Consultation, [ComReg Document 05/24](#), March 2005.

- 16.8 As it is ComReg's policy to make all responses available on its website and for inspection generally, respondents to this Consultation are requested to clearly identify confidential material within their submissions and place any such confidential material in a separate document to their response, with this also being provided by the date referred to in paragraph 16.1 above.
- 16.9 Such Information will be treated subject to the provisions of ComReg's guidelines on the treatment of confidential information as set out in ComReg Document No. 05/24.
- 16.10 In submitting comments, respondents are also requested to provide a copy of their submissions in an unprotected electronic format in order to facilitate their subsequent publication by ComReg.
- 16.11 ComReg also intends, in its final decision on the WLA and WCA Markets, to undertake an updated analysis of the Geographic Market Assessment outlined in Section 10 and Appendix: 5.

Appendix: 1 WLA/WCA Market Research

A 1.1 The WLA/WCA Market Research conducted for ComReg by RedC Research & Marketing Ltd has been published alongside this Consultation in ComReg Document 16/96a.

Appendix: 2 Summary of WLA/WCA Market Research

Introduction

A 2.1 This Appendix presents the findings from independent research commissioned by ComReg on the behaviour of residential and non-residential broadband users in relation to demand for broadband in Ireland. Key aspects of the survey research, conducted by RedC Research & Marketing Ltd in November 2014, include:

- Access to broadband for residential and non-residential users;
- Access to broadband across different platforms and in different areas;
- Incidence of bundling and switching of products among residential and non-residential users;

A 2.2 The following sections outline the key findings from the research among Irish consumers and businesses. The relevant slide number in the WLA/WCA Research document is given in parenthesis above each figure. A complete copy of the WLA/WCA Market Research is contained in Appendix 1.

Results from research among Irish Residential Consumers

A 2.3 The research among residential respondents is presented for the complete sample (1,815 respondents) and is also divided into three geographic regions based on where the respondent lived. These regions were as follows:

- Dublin;
- Other Urban Areas (excluding Dublin); and
- Rural areas (with a population of less than 1,500).

A 2.4 Household decision makers for telecommunications (aged 18+) were interviewed face-to-face and quota controls were imposed to ensure the sample is representative of this population. A number of respondents (16% of residential respondents) indicated that their employer paid for their access to broadband services. As a result, the bundling and switching section of the analysis excludes these households. In some cases, small sample sizes are found in the research. These survey results, which are indicated throughout, should be interpreted with caution.

A 2.5 In the sections below, ComReg presents the key conclusions from the residential broadband survey, using the following themes:

- Broadband Access at Home;
- Means of Access;
- Mobile Broadband;

- Usage Patterns;
- Download Speeds;
- Bundling;
- Knowledge of Cost;
- Contract Lengths; and
- Switching and responses to hypothetical price increases

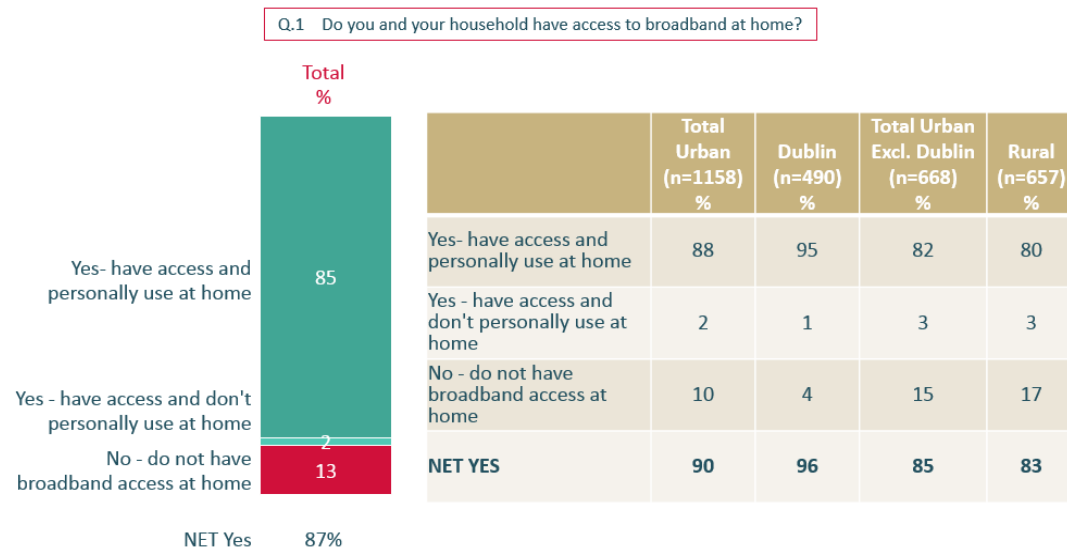
Broadband Access at Home

A 2.6 Of the 1,815 respondents to the WLA/WCA Consumer Market Research, 85% of these reported that they had broadband access at home and personally used their broadband connection, and a further 2% of respondents indicated that they had broadband access but did not personally use it. 13% of respondents indicated that they do not have broadband access at home. Figure 23 below³, gives the breakdown for each region, with some variation. In Dublin, 96% of respondents have broadband access while in rural areas, the corresponding figure is 83%.

Figure 23: Access to Broadband at Home (Slide 11)

Access to Broadband at Home

(Base: All Household Decision Makers 18+ - 1815)



A 2.7 Of the respondents that do not have access, 71% indicated that they do not need broadband access, while a further 26% stated that it is too expensive and 5% report that it is unavailable where they live (Figure 24, below).⁴

³ Slide 11, WLA/WCA Consumer Market Research.

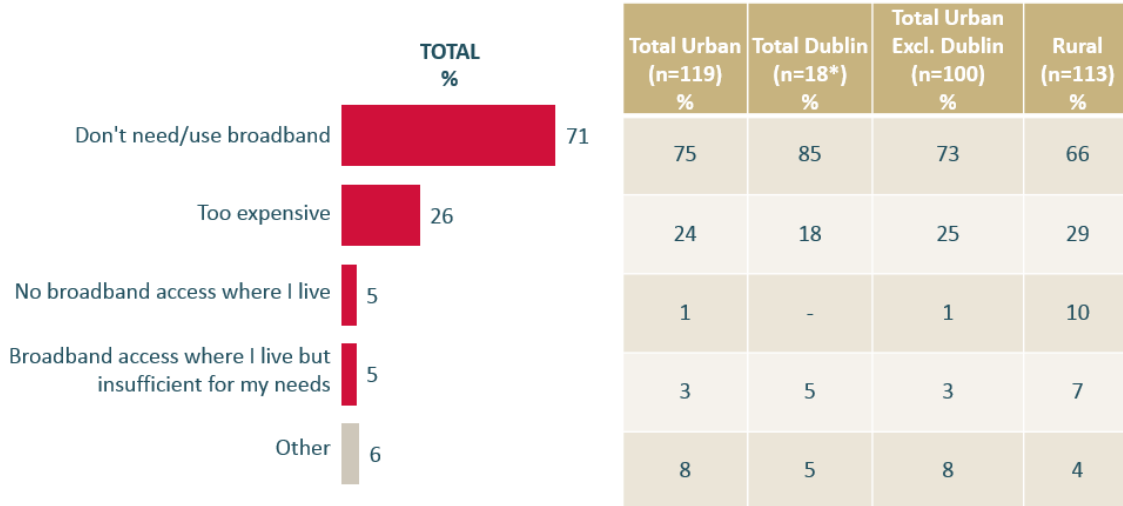
⁴ Slide 12, WLA/WCA Consumer Market Research.

Figure 24: Reason for Not Having Broadband (Slide 12)

Reason For Not Having Broadband – Multiple Responses Allowed

(Base: All Without Broadband Access At Home, n=232)

Q.2 Why do you and your household not have broadband access at home?



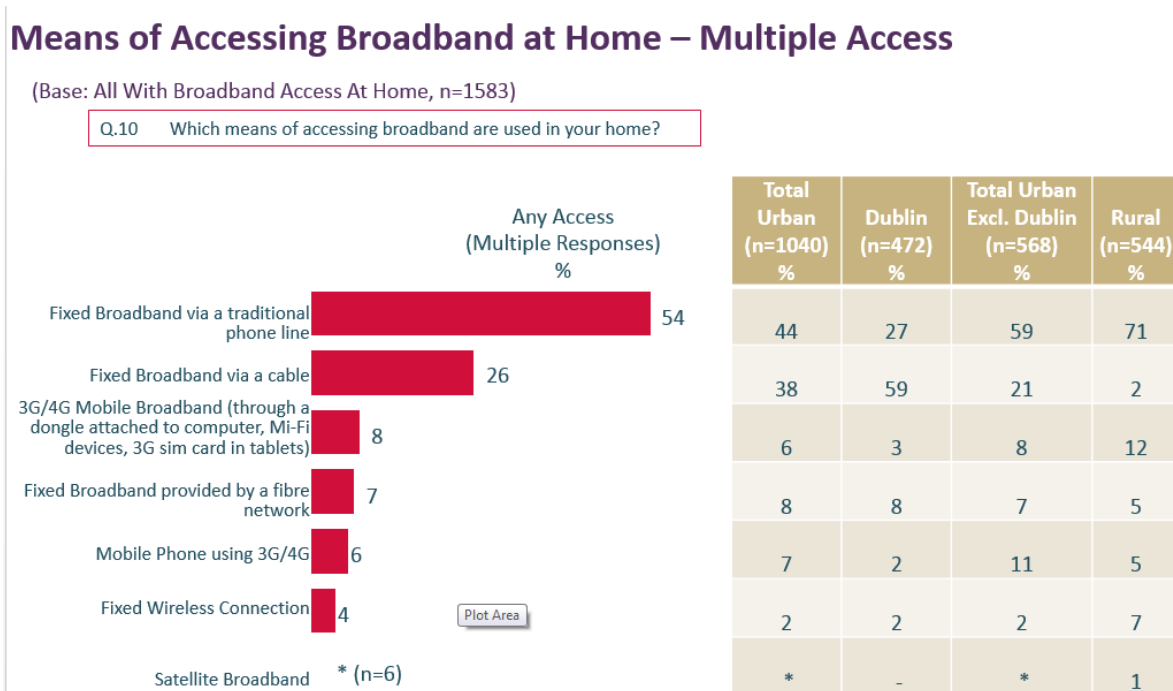
Note Dublin base small

Means of Access

A 2.8 As set out in Figure 25 below⁵, 54% of respondents reported that they have access to fixed broadband through a traditional phone line, a further 26% reported that they have access via a CATV network, while less than 10% each reported that they have access through mobile broadband, fibre network, mobile phone and fixed wireless connection.

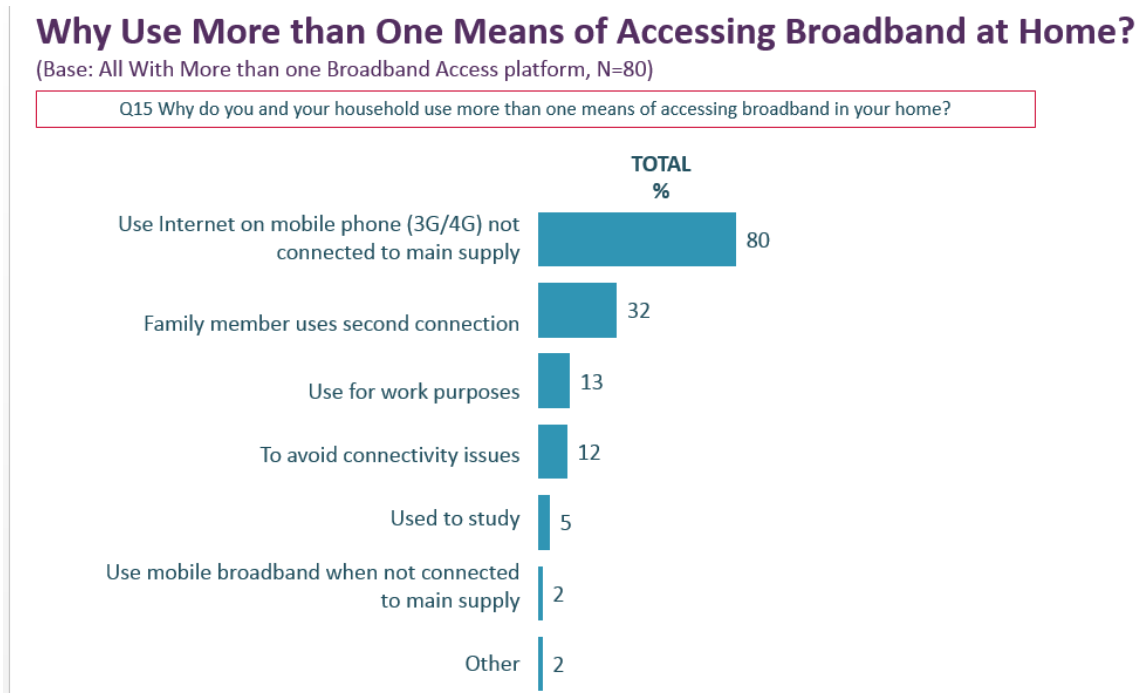
⁵ Slide 22, WLA/WCA Consumer Market Research.

Figure 25: Means of Accessing Broadband at Home (Slide 22)



A 2.9 Figure 26 below⁶ sets out the reasons given by residential respondents for having more than one broadband connection in the home. The sample is based on those persons with more than one broadband access platform at home. The majority (80%) of these respondents have a second connection through their mobile phone (3G/4G) while 32% have a second connection for a family member and 13% use it for work purposes. The large number of respondents who indicated their second connection is through their mobile phone would suggest they retain a mobile service because of its different product characteristics when compared to a fixed broadband service. This would indicate internet access via a mobile phone is a complementary service, rather than a substitute for, a fixed broadband connection.

⁶ Slide 23, WLA/WCA Consumer Market Research.

Figure 26: Why Use More than One Means of Accessing Broadband at Home? (Slide 23)

A 2.10 As set out in Figure 27 below⁷, fixed broadband through a traditional phone line is the most frequent means of accessing broadband (54%), followed by cable (26%), mobile phone (8%) and fibre network (6%). Figure 27 also shows significant variation in the platforms used to access broadband services throughout Ireland. While broadband access via a traditional phone line is the most frequent means of access for those respondents living in rural areas (72%), only 26% of respondents living in Dublin accessed services using the Copper Network. Conversely, 59% of respondents in Dublin accessed broadband services using a CATV network, compared to just 2% in rural areas.

A 2.11 The results of the WLA/WCA Consumer Market Research also show that the most commonly connected devices for broadband services include: laptop (86%), smartphone (71%), tablet (44%), desktop computer (26%), gaming console (25%) and smart TV (13%) (Figure 28).⁸

⁷ Slide 24, WLA/WCA Consumer Market Research.

⁸ Slide 26, WLA/WCA Consumer Market Research.

Figure 27: Most Often Means of Accessing Broadband at Home (Slide 24)

Most Often Means of Accessing Broadband at Home

(Base: All With Broadband Access At Home, n=1583)

Q.11 Which means of accessing broadband do you and your household use **most often when at home**?

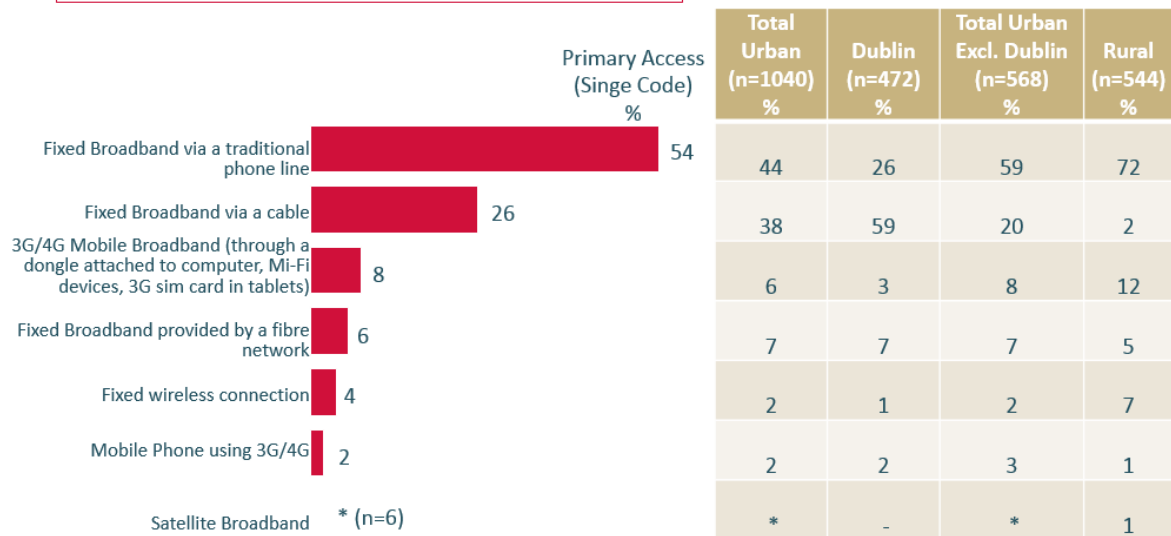
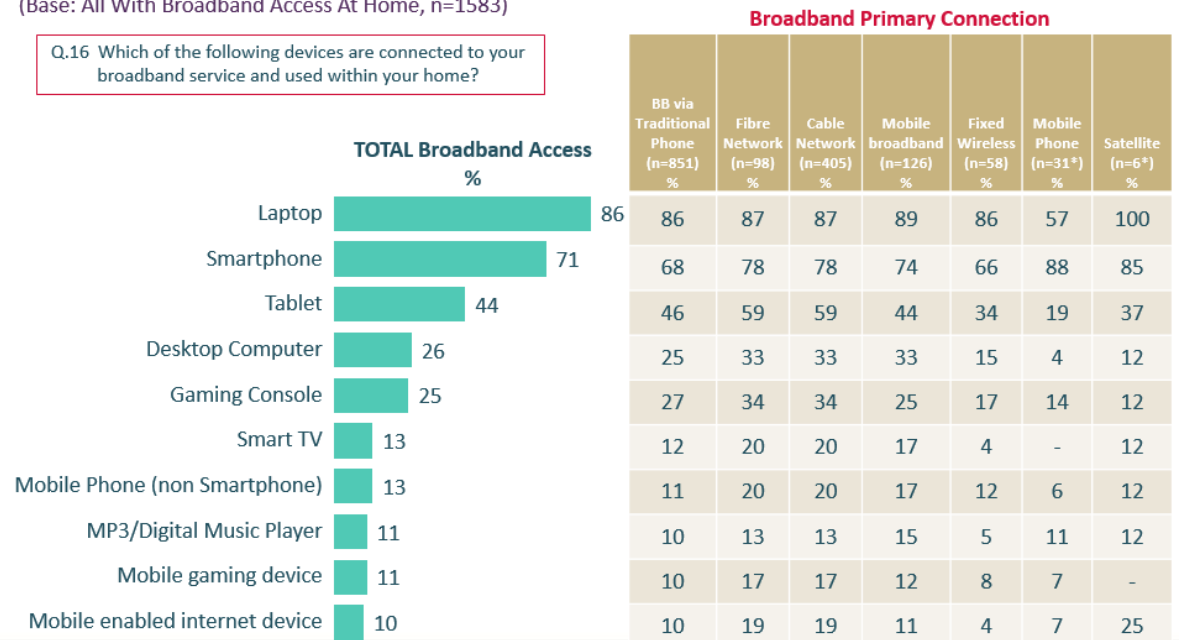


Figure 28: Devices Connected to Broadband Service (Slide 26)

Devices Connected To Broadband Service

(Base: All With Broadband Access At Home, n=1583)

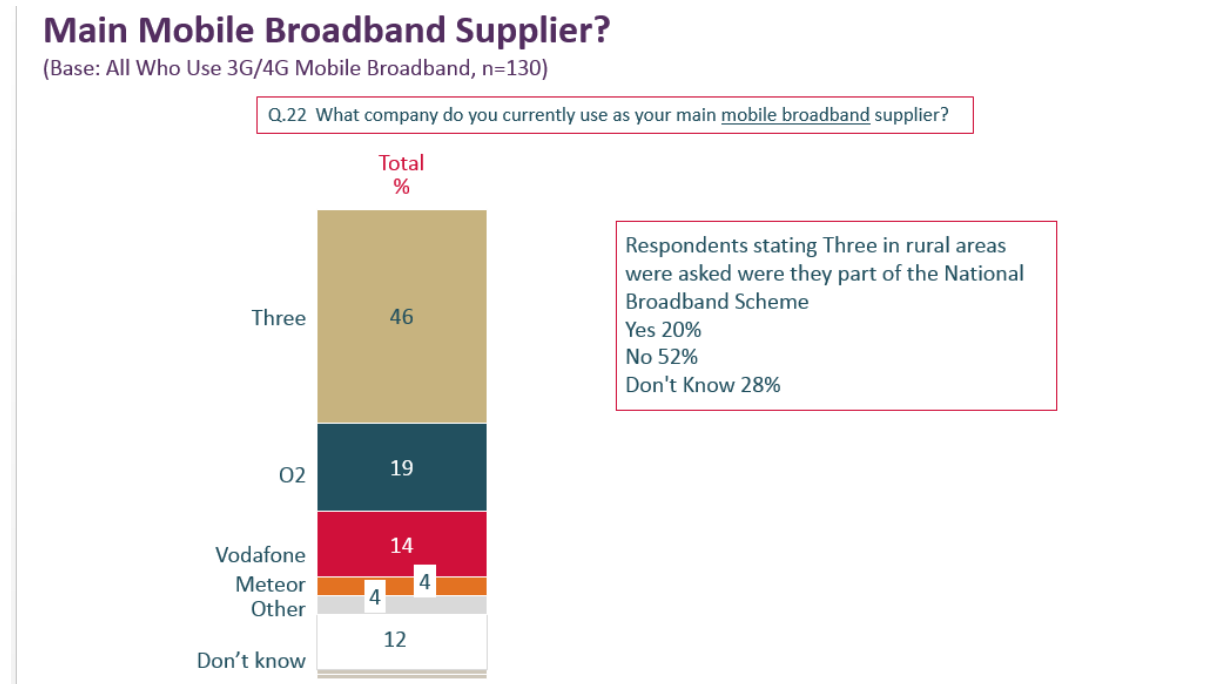
Q.16 Which of the following devices are connected to your broadband service and used within your home?



Mobile Broadband

A 2.12 When respondents with mobile broadband access were asked about their mobile broadband supplier, 46% indicated they use Three, 19% use O2 (now merged with Three), and 14% use Vodafone (Figure 29).⁹ In rural areas, of those respondents stating Three was their mobile broadband supplier, 20% stated that their services were provided as part of the National Broadband Scheme (now closed).¹⁰

Figure 29: Main Mobile Broadband Supplier (Slide 34)



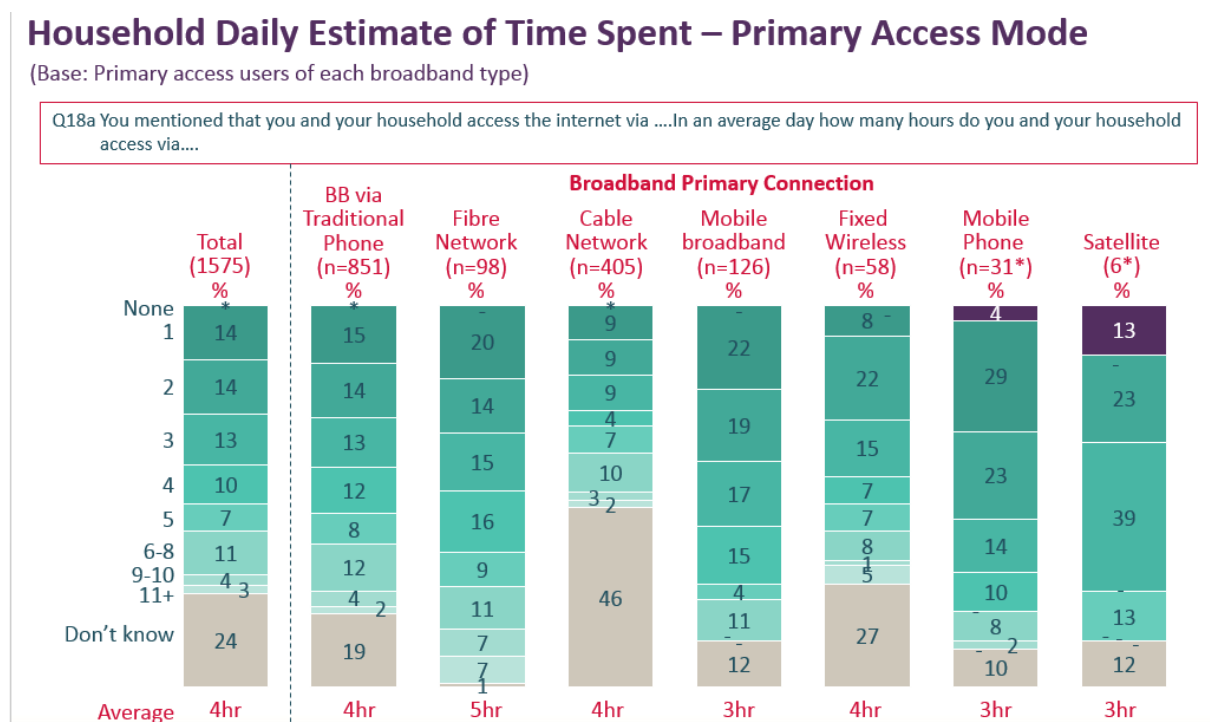
⁹ Slide 34, WLA/WCA Consumer Market Research.

¹⁰ <http://www.dcae.gov.ie/communications/en-ie/Broadband/Pages/National-Broadband-Scheme.aspx>

Usage Patterns

A 2.13 Survey respondents were asked the number of hours they spend per day on the internet using their primary access mode. As set out in Figure 30, below, on average, respondents spent 4 hours online.¹¹ Respondents using a fibre broadband connection spent the most time online, on average (5 hours). It is important to note that time spent ‘online’ can include viewing streamed content. Respondents whose primary access mode was mobile broadband or their mobile phone spent less time online (3 hours) than respondents who used a broadband service via a traditional telephone line, cable or fibre network (4/5 hours).

Figure 30: Household Daily Estimate of Time Spent – Primary Access Mode (Slide 27)



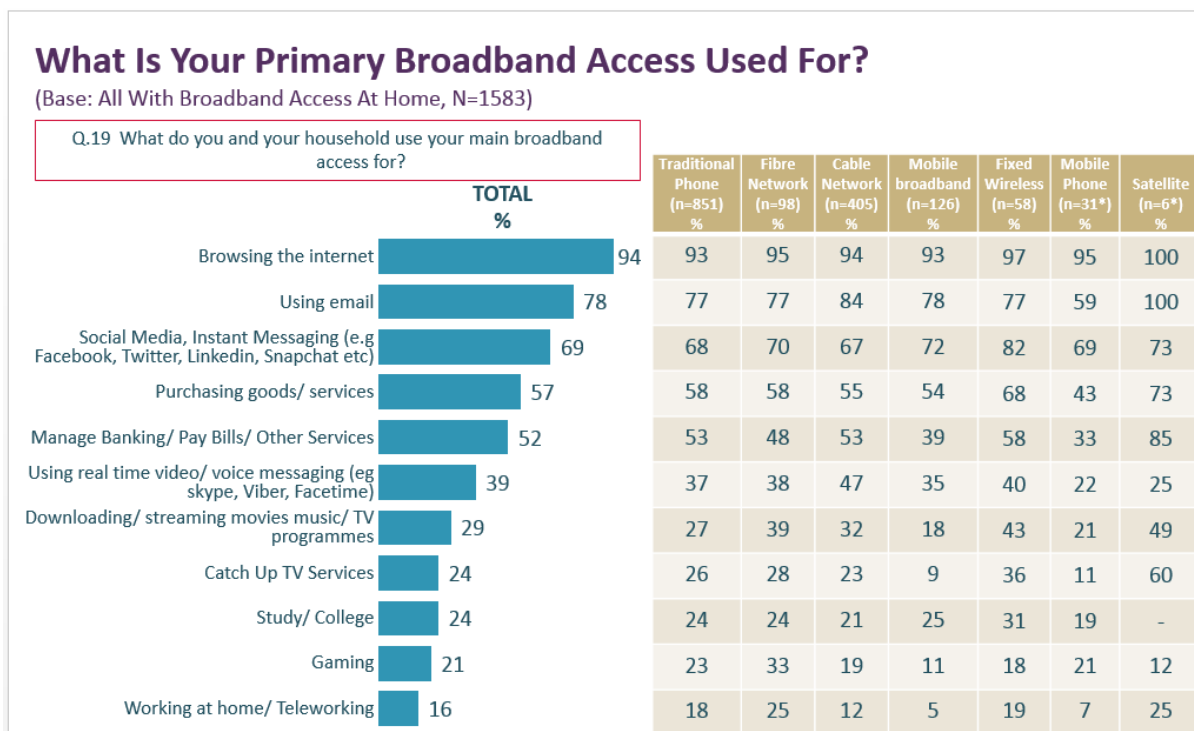
A 2.14 When asked what their main broadband access was used for, 94% of respondents stated that they used their broadband for browsing the internet, followed by email (78%), social media (69%), online shopping (57%), banking and bills (52%), voice messaging/real time communication (39%) and streaming content (29%). These findings are summarised in Figure 31 below.¹²

¹¹ Slide 27, WLA/WCA Consumer Market Research.

¹² Slide 29, WLA/WCA Consumer Market Research.

A 2.15 In some cases, respondents using mobile broadband or broadband access via a mobile phone were less likely to use their service for certain tasks, when compared to respondents using a fixed broadband service. Figure 31 shows that respondents using mobile broadband were less likely to use their broadband service for Catch-Up TV services, Gaming, Online Banking or Teleworking when compared to respondents who used a fixed service.

Figure 31: What is your Primary Broadband Access Used For? (Slide 29)



Download Speed

A 2.16 The survey research among residential consumers revealed important insights into consumers’ knowledge and understanding of broadband speeds (Figure 32).¹³ When asked if they know the maximum claimed download speed for their main broadband service, 25% said they definitely know, while 65% said that they did not know.

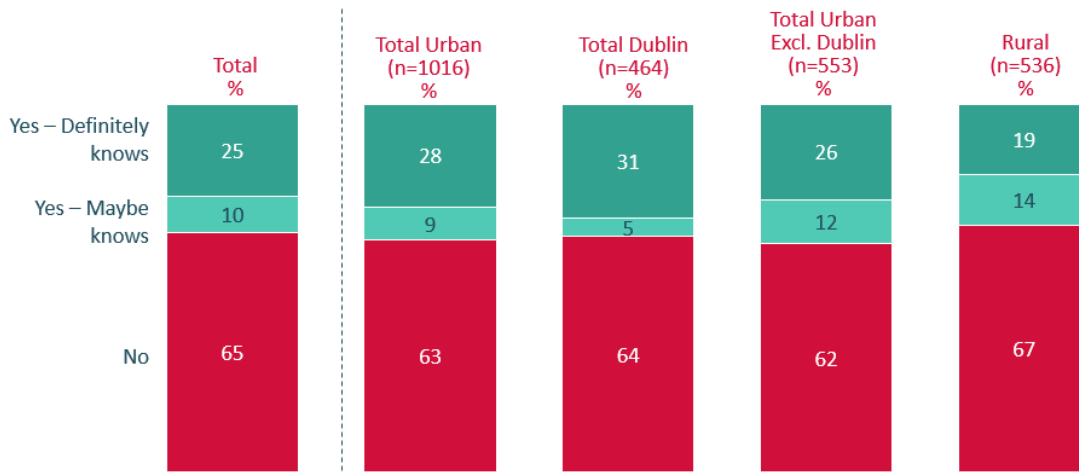
¹³ Slide 48, WLA/WCA Consumer Market Research.

Figure 32: Knowledge of Claimed Maximum Download Speed (Slide 48)

Knowledge Of Claimed Maximum Download Speed

(Base: All Respondents with Broadband Access ex Mobile Phone users n=1552)

Q.25 Do you know the maximum claimed download speed for your main broadband service?

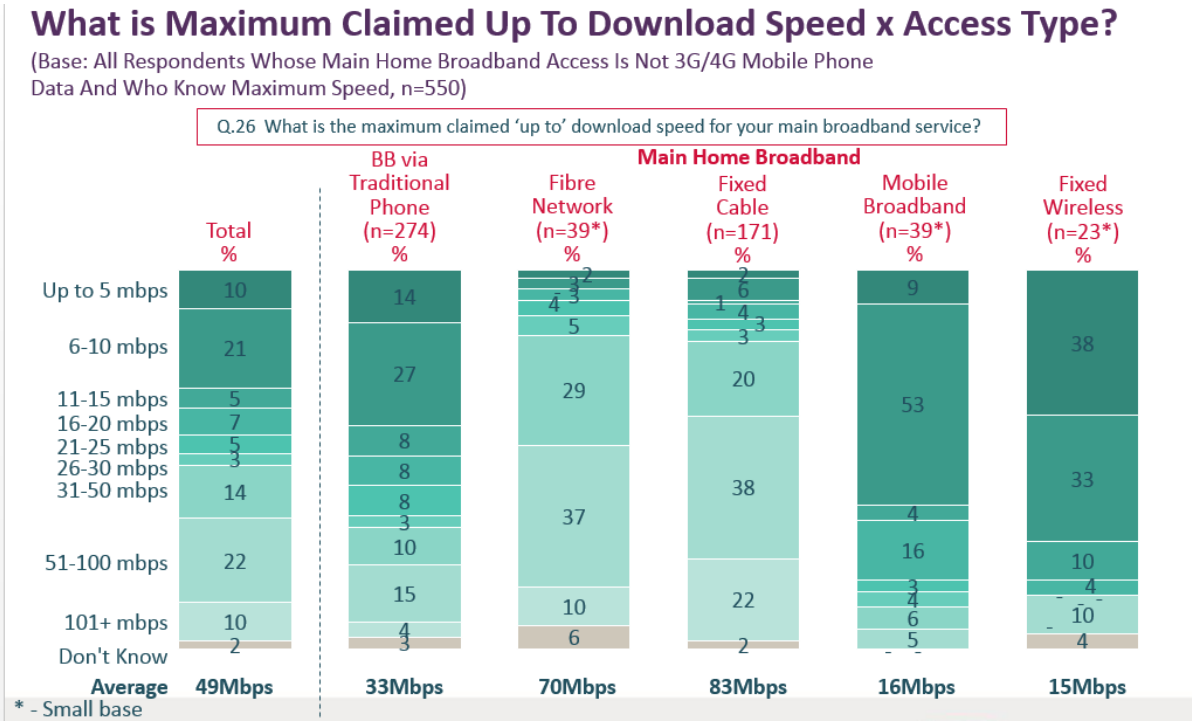


A 2.17 Of those respondents that claim to know their maximum speed, 10% avail of 101+ megabits per second (mbps), 22% avail of 51-100 mbps and 14% avail of 31-50 mbps (Figure 33 below¹⁴). According to the survey findings, the average claimed download speed of service is higher for those residential customers served by a fibre network (70Mb) or CATV network (83Mb) than those served via a traditional phone or Copper Network (33Mb) or via mobile broadband (16Mb).

A 2.18 It is worth noting that the maximum attainable download speed possible over a traditional phone line or Copper Network is 24Mb. 32% of respondents using a traditional phone or Copper Network to access broadband indicated they achieved speeds of greater than 26Mb.

¹⁴ Slide 52, WLA/WCA Consumer Market Research.

Figure 33: What is Maximum Claimed Up To Download Speed x Access Type? (Slide 52)

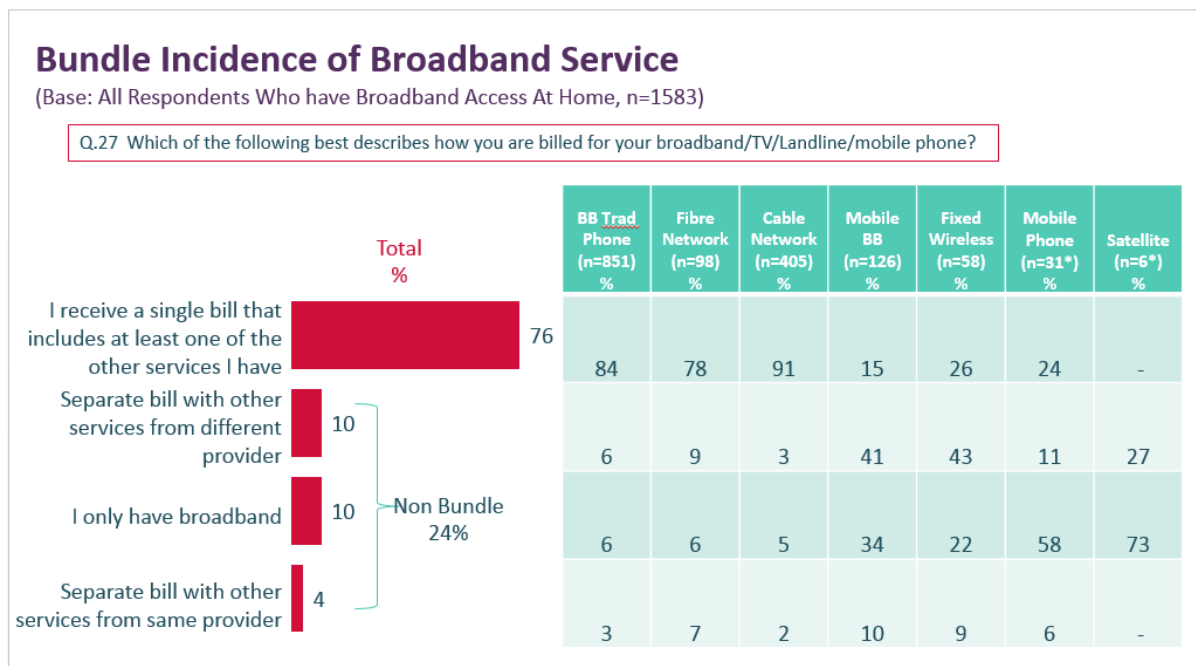


Bundling

A 2.19 To get an idea of the extent of bundling of services, survey respondents were asked to indicate how they are billed for their broadband/TV/landline/mobile phone services. These findings are outlined below.¹⁵ 76% of those with broadband access pay for their service as part of a bundle of telecommunications services, with 24% not paying as part of a bundle. Bundling is highest among respondents on a CATV network, followed by those with broadband access through a traditional phone line. Bundling was less likely among respondents who used mobile broadband or fixed wireless access.

A 2.20 When those respondents with broadband access as part of a bundle were asked about the type of services offered in their bundle, the most popular bundle was broadband and home phone (59%), followed by broadband, home phone and TV (24%). Respondents using a CATV network to access broadband services were more likely to have a triple-play bundle than those respondents with a traditional fixed phone or fibre based broadband service. These findings are summarised in Figure 34 below.¹⁶

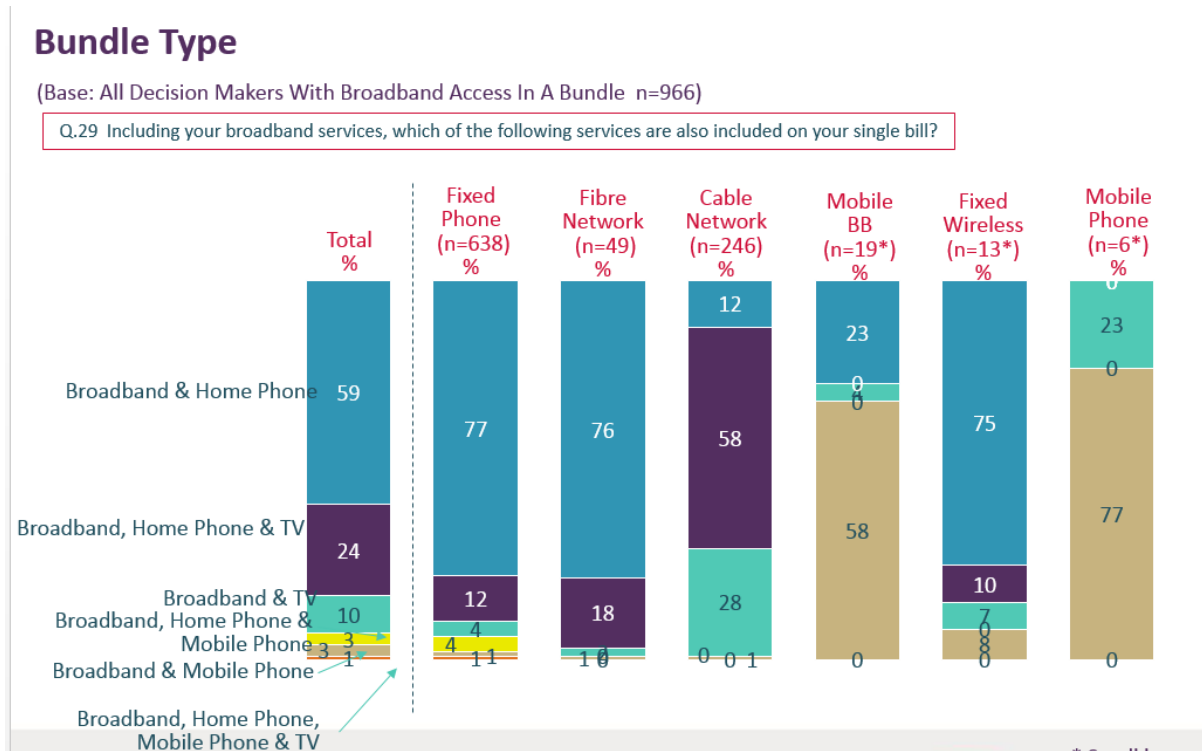
Figure 34: Bundle Incidence of Broadband Service (Slide 56)



¹⁵ Slide 56, WLA/WCA Consumer Market Research.

¹⁶ Slide 59, WLA/WCA Consumer Market Research.

Figure 35: Bundle Type (Slide 59)



A 2.21 Figure 36 below outlines the views of respondents who have unbundled broadband access when asked the reason for this choice.¹⁷ 52% said that they required a broadband service on its own, while 22% preferred to have separate suppliers for services and 10% reported that their broadband provider does not offer other services.

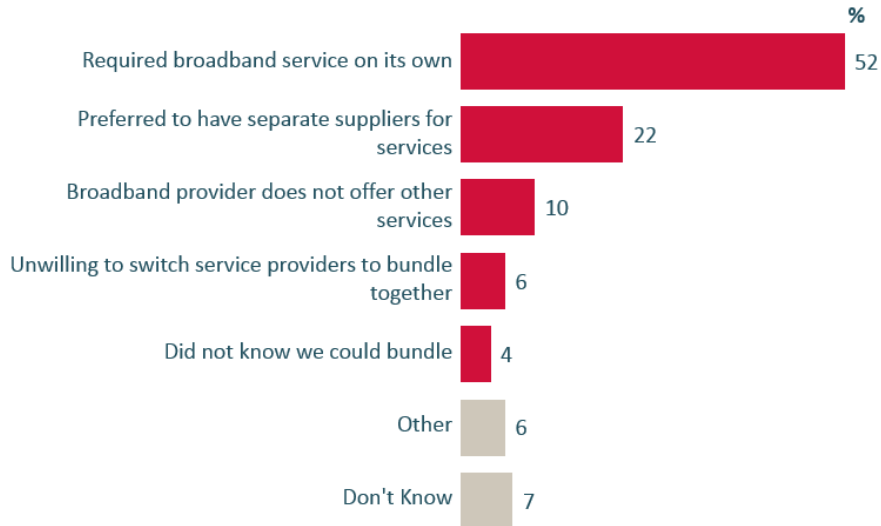
¹⁷ Slide 85, WLA/WCA Consumer Market Research.

Figure 36: Reason for Unbundled Broadband (Slide 85)

Reason For Unbundled Broadband – Multiple Responses

(Base: All respondents who have unbundled broadband access at home =198)

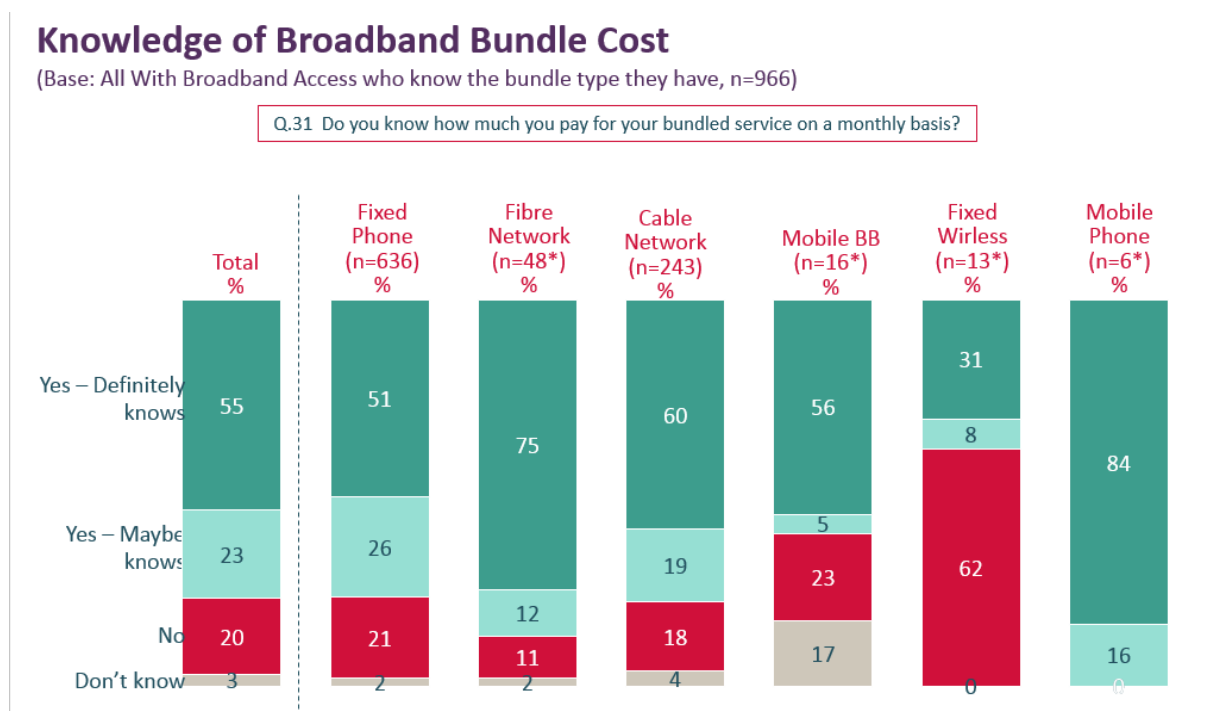
Q45 Why did you and your household choose to purchase your broadband service independent of your other communication services (telephone, TV etc.)



Knowledge of Cost

A 2.22 Survey participants were asked about their knowledge of the monthly cost of their broadband bundle, the findings from which are outlined in Figure 37 below.¹⁸ 55% report that they ‘definitely’ know the monthly cost of their bundle, while 20% report that they do not. The highest prevalence of definite knowledge is among respondents with a fibre connection (75%), followed by those respondents with a broadband service provided over a CATV network (60%).

Figure 37: Knowledge of Broadband Bundle Cost (Slide 62)

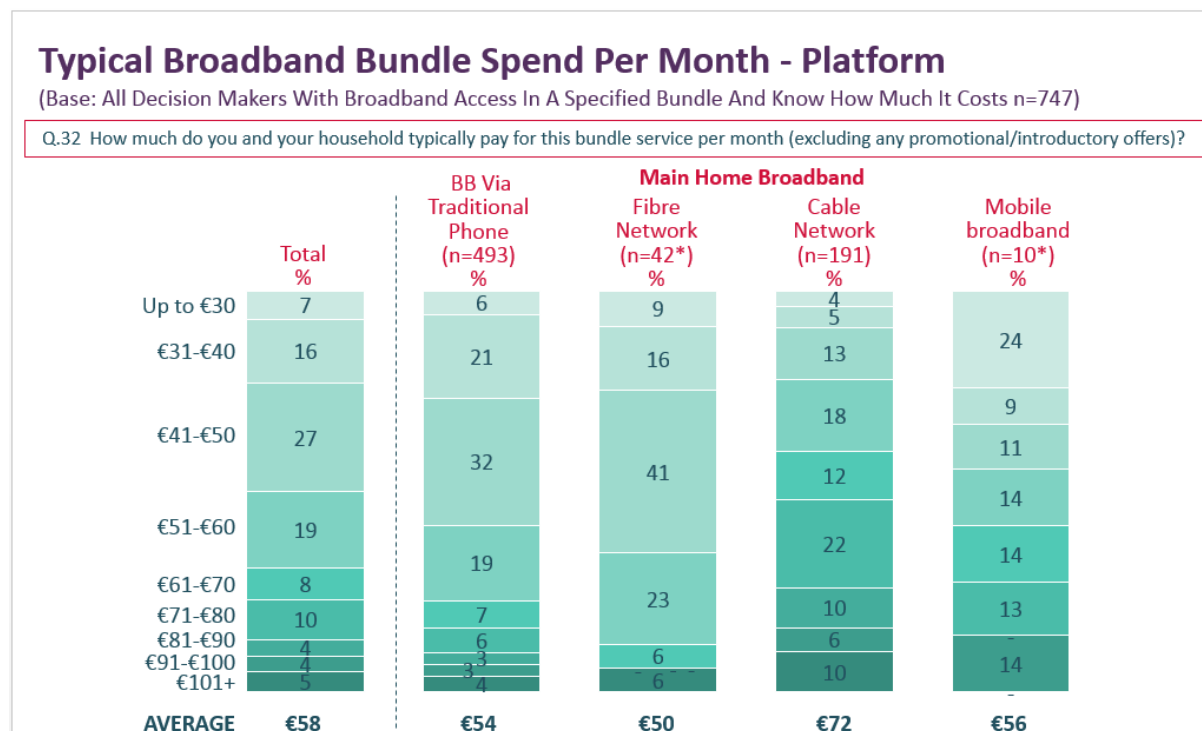


A 2.23 Respondents with broadband access as a part of a bundle and who knew the monthly cost were asked the price they pay per month, net of any promotional offers (Figure 38 below¹⁹). The average spend per month is highest for respondents on a CATV network and 16% of respondents on a CATV network are spending more than €91 per month.

¹⁸ Slide 62, WLA/WCA Consumer Market Research.

¹⁹ Slide 65, WLA/WCA Consumer Market Research.

Figure 38: Typical Broadband Bundle Spend Per Month – Platform (Slide 65)



A 2.24 Respondents with broadband access who are not part of a bundle were asked how much they pay for their broadband per month, the findings from which are outlined in Figure 39.²⁰ 68% report that they ‘definitely’ know how much they pay while 17% said that they did not know. Knowledge of monthly cost in non-bundle households appears to be highest in rural areas (69%) and lowest in Dublin (56%).

A 2.25 Respondents with broadband access that is not part of a bundle and who previously said that they knew the monthly cost were asked the amount they pay per month, as outlined in Figure 40 overleaf.²¹ The average spend per month came in at €32. The average spend per month is highest for those on a CATV network (€42), followed by fibre network (€40) and those on a fixed phone line (€35).

²⁰ Slide 75, WLA/WCA Consumer Market Research.

²¹ Slide 79, WLA/WCA Consumer Market Research.

Figure 39: Knowledge of Broadband Cost (Non Bundle) (Slide 75)

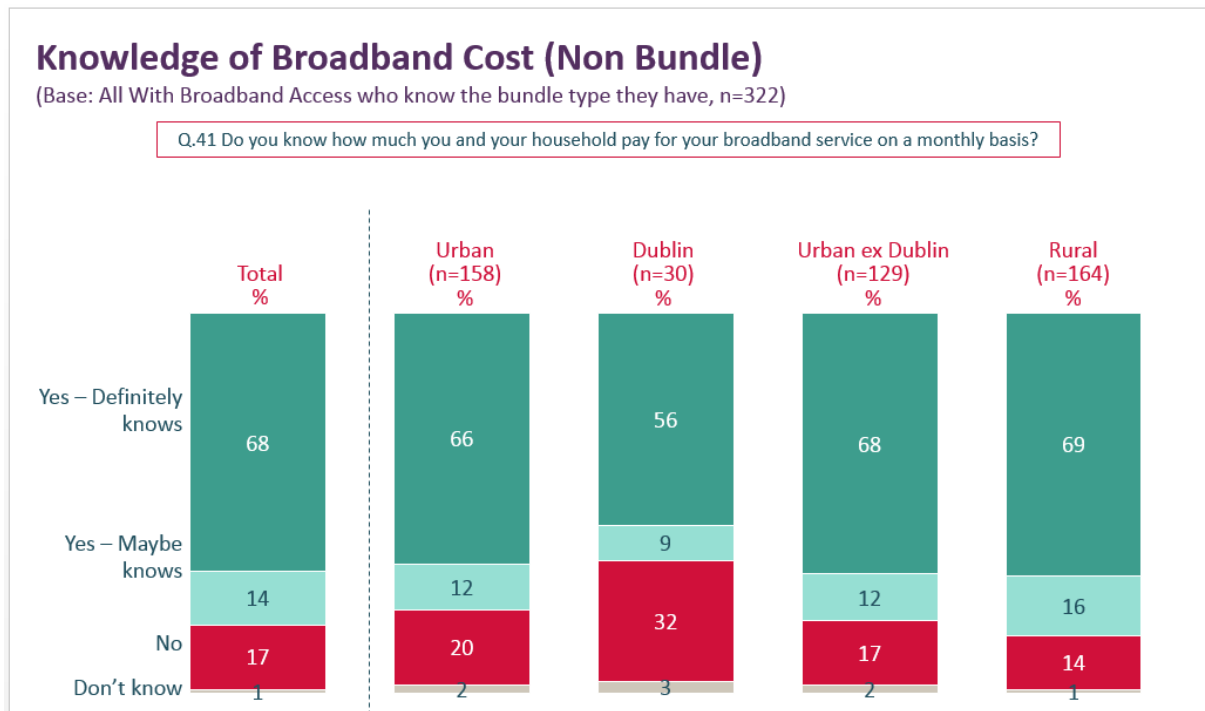
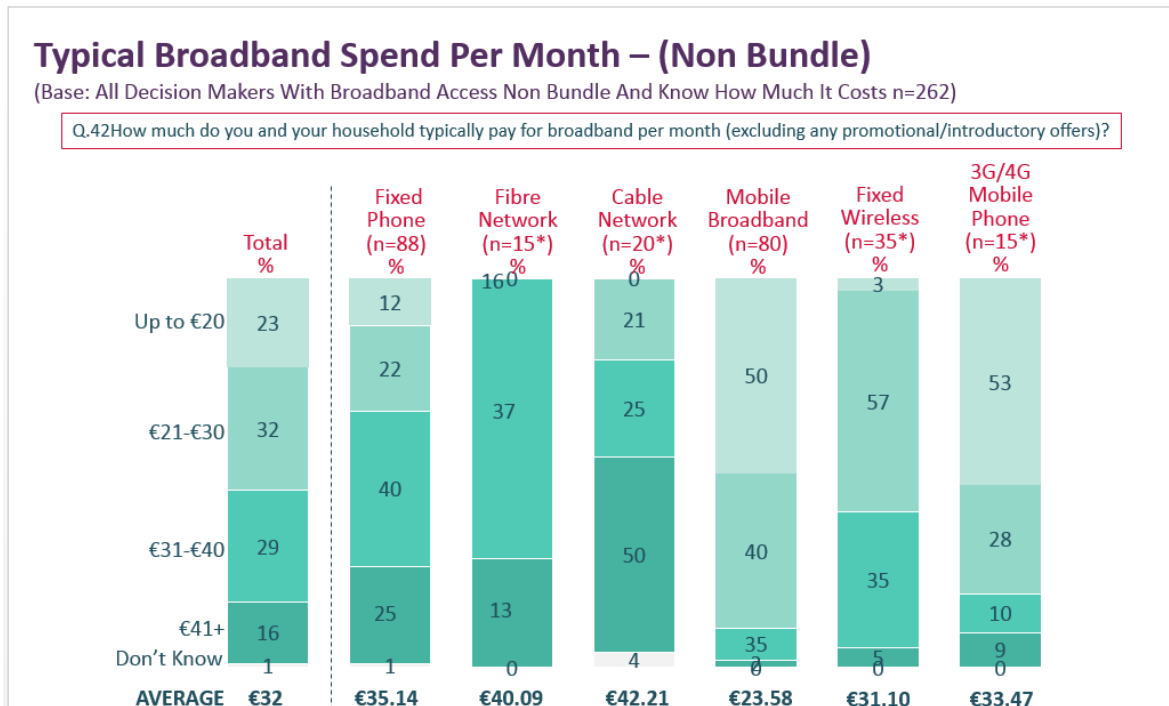


Figure 40: Typical Broadband Spend per Month (Non Bundle) (Slide 79)



Contract Length

A 2.26 The WLA/WCA Consumer Market Research provides insights into the switching behaviour by residential consumers and the types of considerations they take on-board.

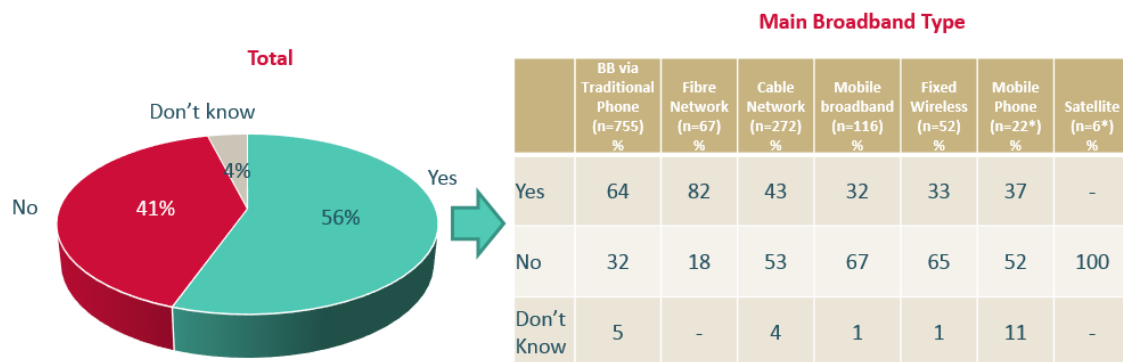
A 2.27 When asked if they are tied into a contract with their broadband provider, 56% of residential respondents said that they were, while 41% said that they were not, as illustrated in Figure 41 below.²² 82% of residential respondents on a fibre network said they were in a contract, while 64% of residential respondents on a broadband connection via phone line were in a contract.

Figure 41: Currently in Contract with Broadband Service Provider? (Slide 91)

Currently in Contract with Broadband Service Provider?

(Base: All Respondents With Broadband Access At Home who pay for own bill n=1298)

Q.37 Thinking about your main broadband service are you and your household currently tied into a contract with your service provider?



A 2.28 Those residential respondents that are tied into a contract were asked the minimum length of this contract, the responses to which are outlined in Figure 42 below.²³ The average period of a contract was reported to be 14 months, with those respondents using a fibre network to access broadband services having a longer contract on average (16 months).

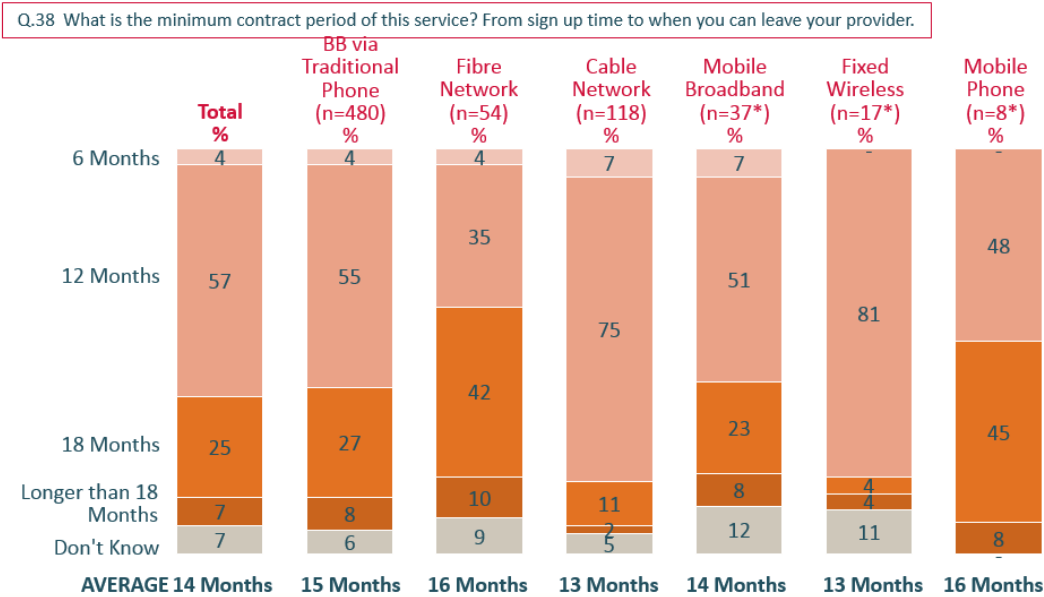
²² Slide 91, WLA/WCA Consumer Market Research.

²³ Slide 93, WLA/WCA Consumer Market Research.

Figure 42: Minimum Contract Period of Broadband Service (Slide 93)

Minimum Contract Period of Broadband Service

(Base: All With Broadband Access And Currently In Contract Excl. Where Employer Pays, n=720)

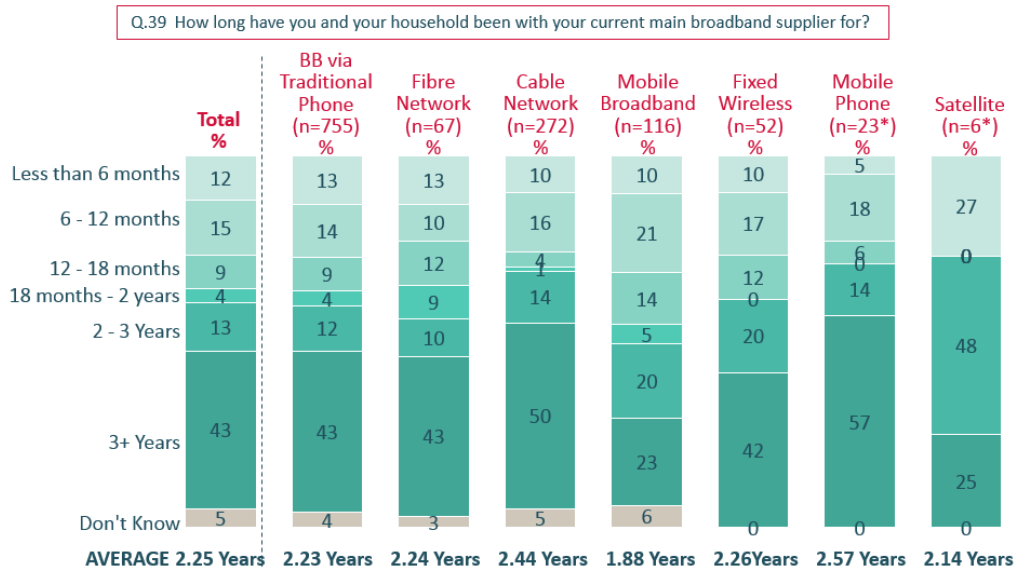


A 2.29 When asked how long they were with their main broadband supplier, the average time was 2.25 years (Figure 43²⁴). Contract length is longest for those respondents accessing broadband services on mobile phone broadband and a CATV network, with contracts on mobile broadband being the lowest.

Figure 43: Length of Time with Current Broadband Supplier (Slide 96)

Length Of Time With Current Broadband Supplier

(Base: All Respondents With Broadband Access At Home who pay own bill, n=1298)



²⁴ Slide 96, WLA/WCA Consumer Market Research.

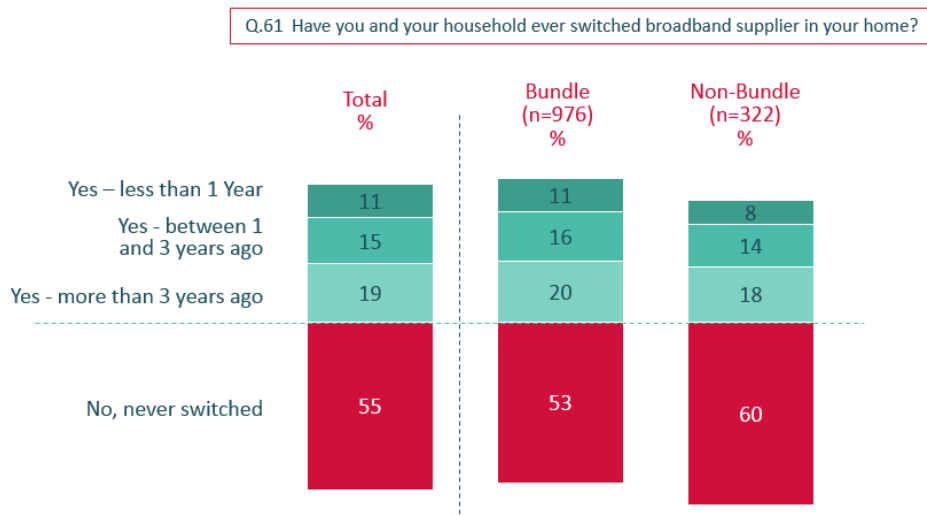
Switching

A 2.30 When asked about switching in the past (Figure 44 below), 45% of respondents indicated they had previously switched broadband supplier. Those respondents with broadband services in a bundle are more like to switch (47%) than those not in a bundle (40%).²⁵

Figure 44: Incidence of Ever Switching Broadband Supplier at Home? (Slide 98)

Incidence Of Ever Switching Broadband Supplier At Home?

(Base: All With Broadband Access At Home who pay own bill, n=1298)



A 2.31 Respondents were also asked about switching by broadband provider (Figure 45 overleaf). 69% of respondents who currently used Eircom claim to have never switched, while 70% of respondents who used Vodafone for their broadband access claim to have switched broadband supplier.²⁶

A 2.32 The breakdown by platform is outlined in Figure 46²⁷ and shows that the highest incidence of switching has taken place among respondents accessing broadband on an FTTC network (50%), via a traditional phone line (46%) and CATV network (44%).

²⁵ Slide 98, WLA/WCA Consumer Market Research.

²⁶ Slide 100, WLA/WCA Consumer Market Research.

²⁷ Slide 101, WLA/WCA Consumer Market Research.

Figure 45: Incidence of Ever Switching Broadband (Slide 100)

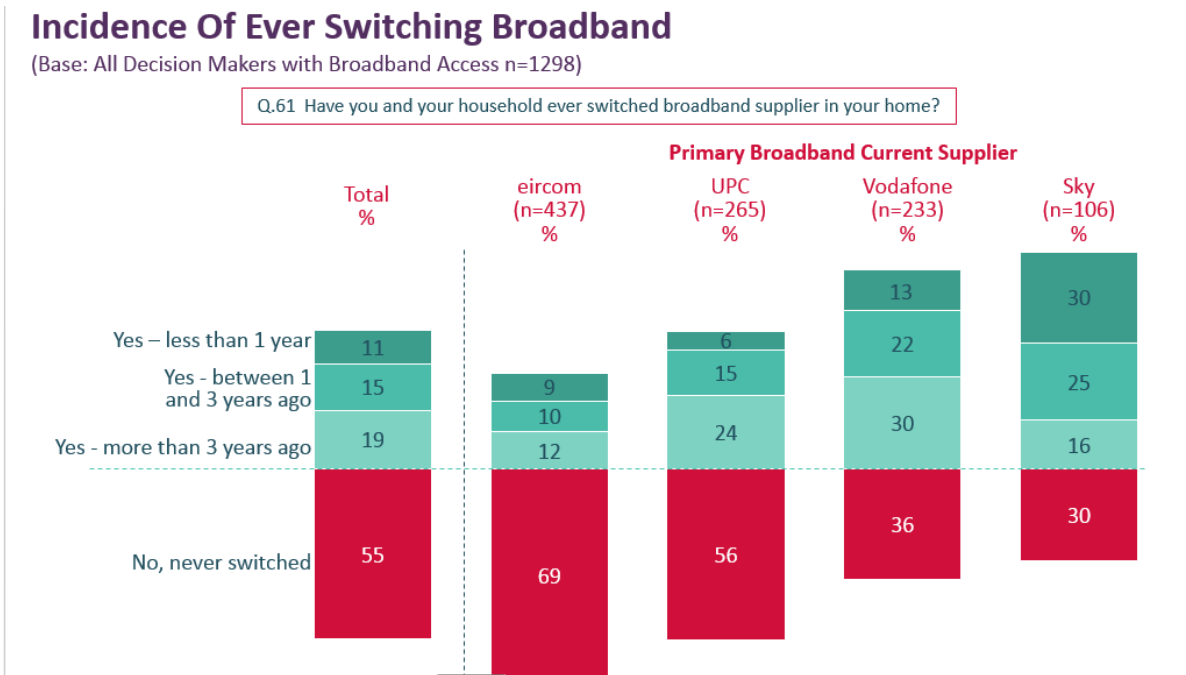
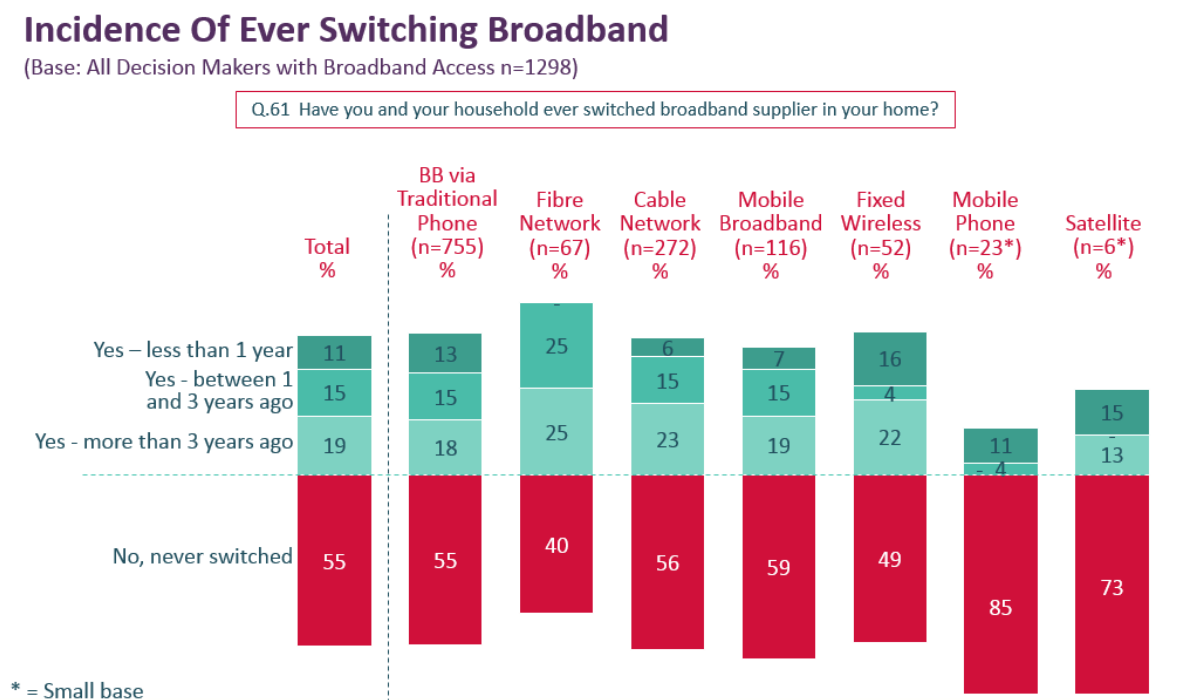


Figure 46: Incidence of Ever Switching Broadband (Slide 101)



A 2.33 When asked the reason for switching, respondents noted that download speed (38%), cost (55%) and availability of promotional prices (29%) were the main motivations for switching, as outlined in Figure 47 below.²⁸

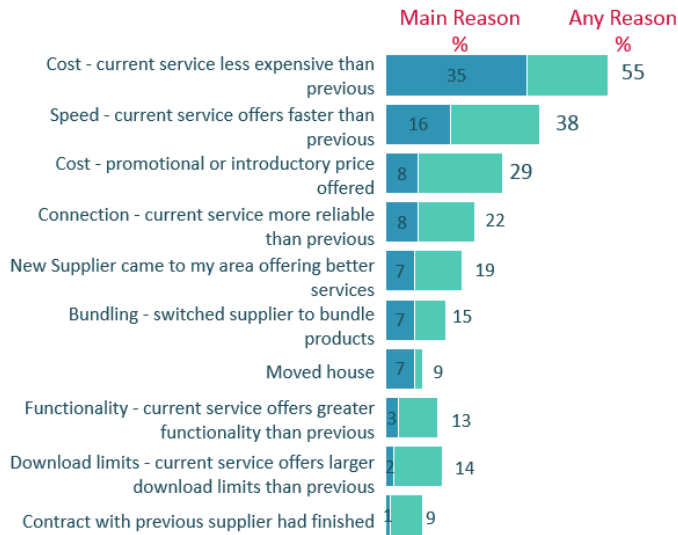
²⁸ Slide 105, WLA/WCA Consumer Market Research.

Figure 47: Reason for Switching Broadband – (Platform) (Slide 105)

Reason For Switching Broadband – (Platform)

(Base: All respondents who have previously switched Broadband excl. where employer pays, n=585)

Q64. What was your and your household main reason for switching broadband supplier? For what other reasons did you switch?



	Any Reason %			
	Traditional Phone (n=343) %	Fixed Fibre (n=40) %	Cable Network (n=120) %	Mobile Broadband (48*) %
Cost - current service less expensive than previous	59	53	55	40
Speed - current service offers faster than previous	33	40	44	44
Cost - promotional or introductory price offered	31	27	30	22
Connection - current service more reliable than previous	20	18	22	32
New Supplier came to my area offering better services	21	20	13	17
Bundling - switched supplier to bundle products	13	6	35	3
Moved house	7	13	6	9
Functionality - current service offers greater functionality than previous	11	9	19	8
Download limits - current service offers larger download limits than previous	13	15	14	18
Contract with previous supplier had finished	11	-	3	24

* = Small base

Small Base – Mobile Phone n =4, Satellite n = 2

Speed and Cost are the main reasons for switching regardless of which current platform the broadband subscriber is on.



Responses to Hypothetical Price Increases: Customers in a Bundle

A 2.34 For those customers who have broadband access as part of a bundle, the responses to a €2 increase in the price of broadband (within the bundle) are summarised in Figure 48 overleaf.²⁹ 70% of customers say it would not change their behaviour, while 24% say that it would. The highest propensity to change is among respondents with broadband access via CATV network (29%). The survey findings showed limited variation when looking at the regional breakdown.

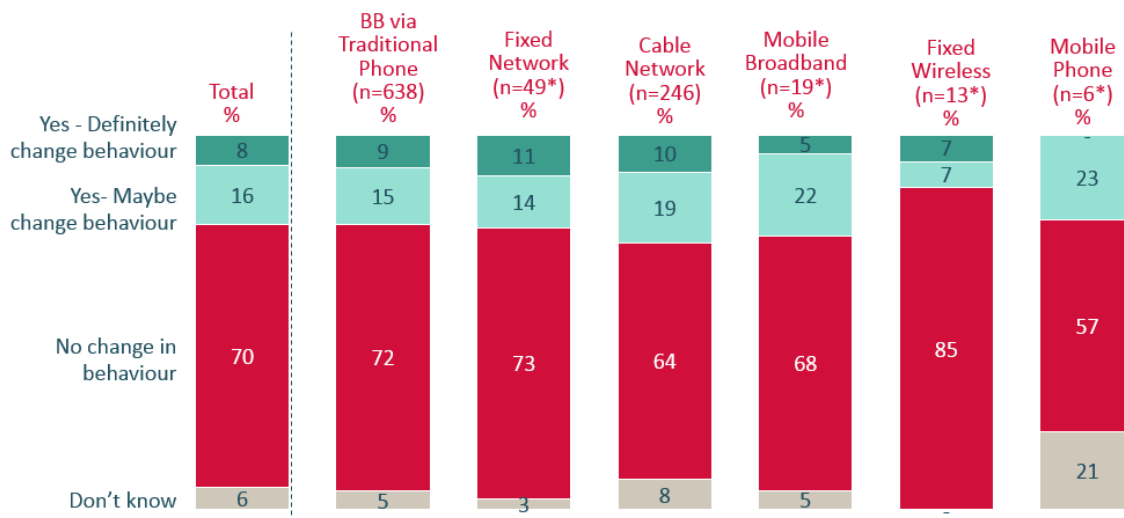
A 2.35 Looking at respondents' hypothetical behaviour by Service Provider shows that respondents with Vodafone and Virgin Media (previously UPC Ireland) are more likely to change their behaviour in response to an increase in the price of broadband within a bundle, whereas Eircom customers are least likely to change their behaviour. This is illustrated in Figure 49 overleaf.

Figure 48: Likely Behaviour If Price of Broadband in Bundle Increase By €2 (Slide 109)

Likely Behaviour If Price Of Broadband in Bundle Increase By €2

(Base: Base: All Respondents Who Have Broadband in Bundle, n=976)

Q.51/56 In response to these hypothetical price increases, do you believe that you (and your household) would change your actual purchasing behaviour with respect to your broadband service?



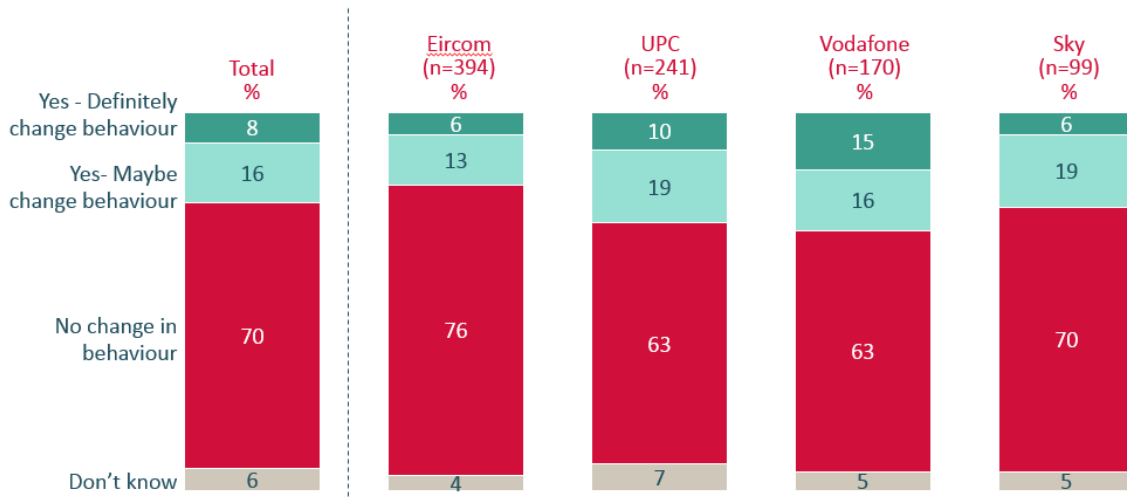
²⁹ Slide 109, WLA/WCA Consumer Market Research.

Figure 49: Likely Behaviour If Price of Broadband in Bundle Increase By €2 (Slide 110)

Likely Behaviour If Price Of Broadband In Bundle Increase By €2

(Base: All With Broadband Access in Bundle, n=976)

Q.51 Imagine if because of an increase in the price of broadband, the price of your overall bundle would increase by €2 per month/Imagine if the price of your broadband service were to increase by €2 per month. In response to these hypothetical price increases, do you believe that you and your household would change your actual purchasing behaviour with respect to your broadband service



A 2.36 When respondents were asked exactly what they would do in response to this €2 increase in the cost of broadband (within the bundle), 54% said that they would cancel their subscription either by switching the whole bundle (35%), just the broadband (14%) or cancel the subscription and not switch (5%). This is illustrated in Figure 50 overleaf.³⁰ The highest likelihood of cancelling was reported among customers on mobile broadband and broadband via traditional phone line. In terms of the breakdown by platform, 59% of both Eircom and Vodafone customers said that they would cancel their subscription either way.

A 2.37 Customers were subsequently asked how likely they were to change the behaviour they described as a type of further verification of their answers given above. The survey findings are outlined in Figure 51 overleaf.³¹ 72% of customers are likely to make the change in behaviour that they indicated, which from A 2.34 above, suggests that 17% of the 24% who said they would change their behaviour, would in effect change their behaviour. Those most likely to maintain their behaviour were on mobile broadband (82%).

³⁰ Slide 111, WLA/WCA Consumer Market Research.

³¹ Slide 114, WLA/WCA Consumer Market Research.

Figure 50: Behaviour Change If Price Broadband Increase By €2 in Bundle (Slide 111)

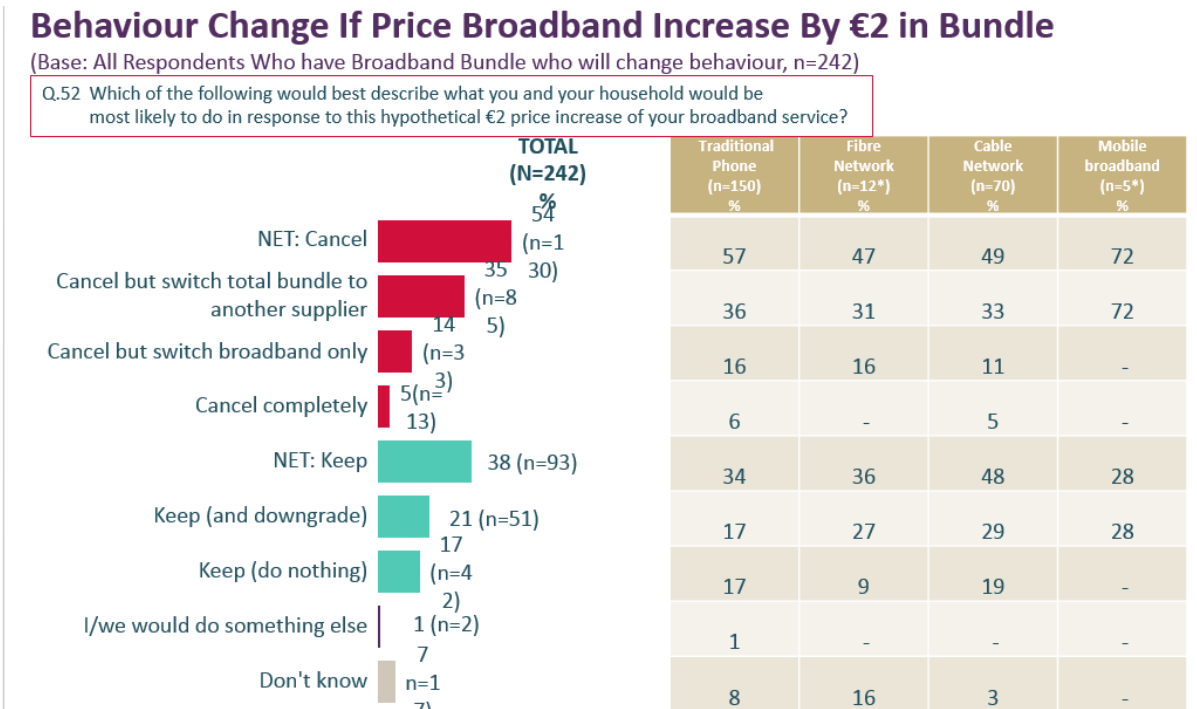
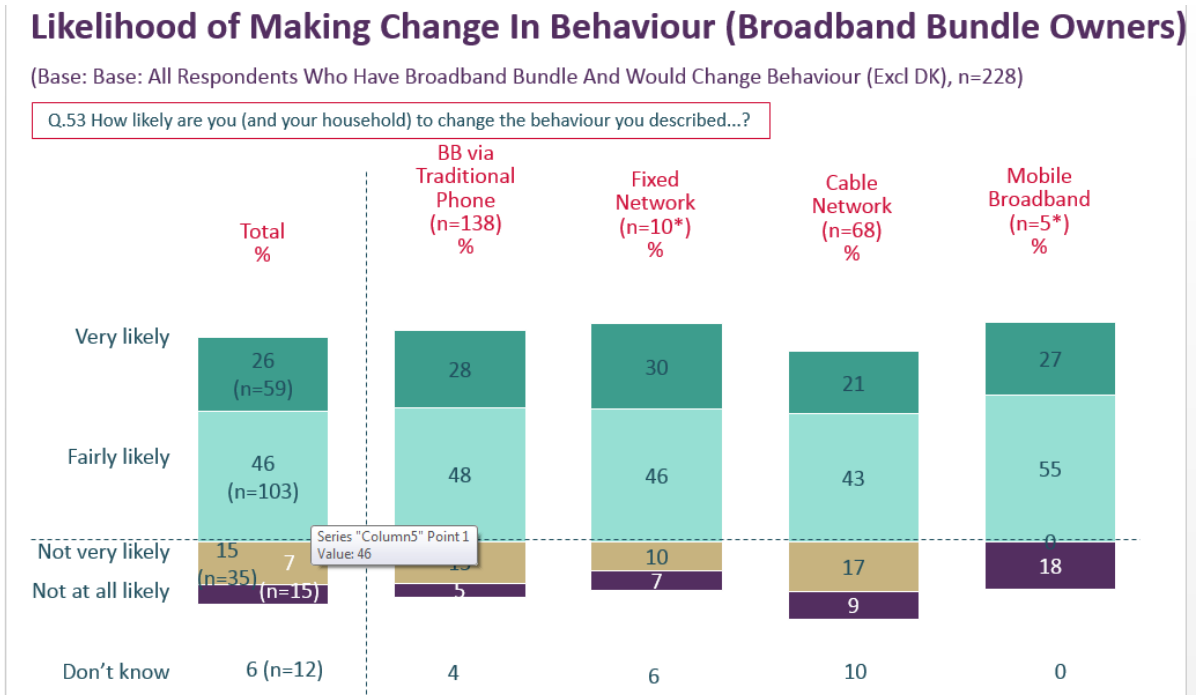
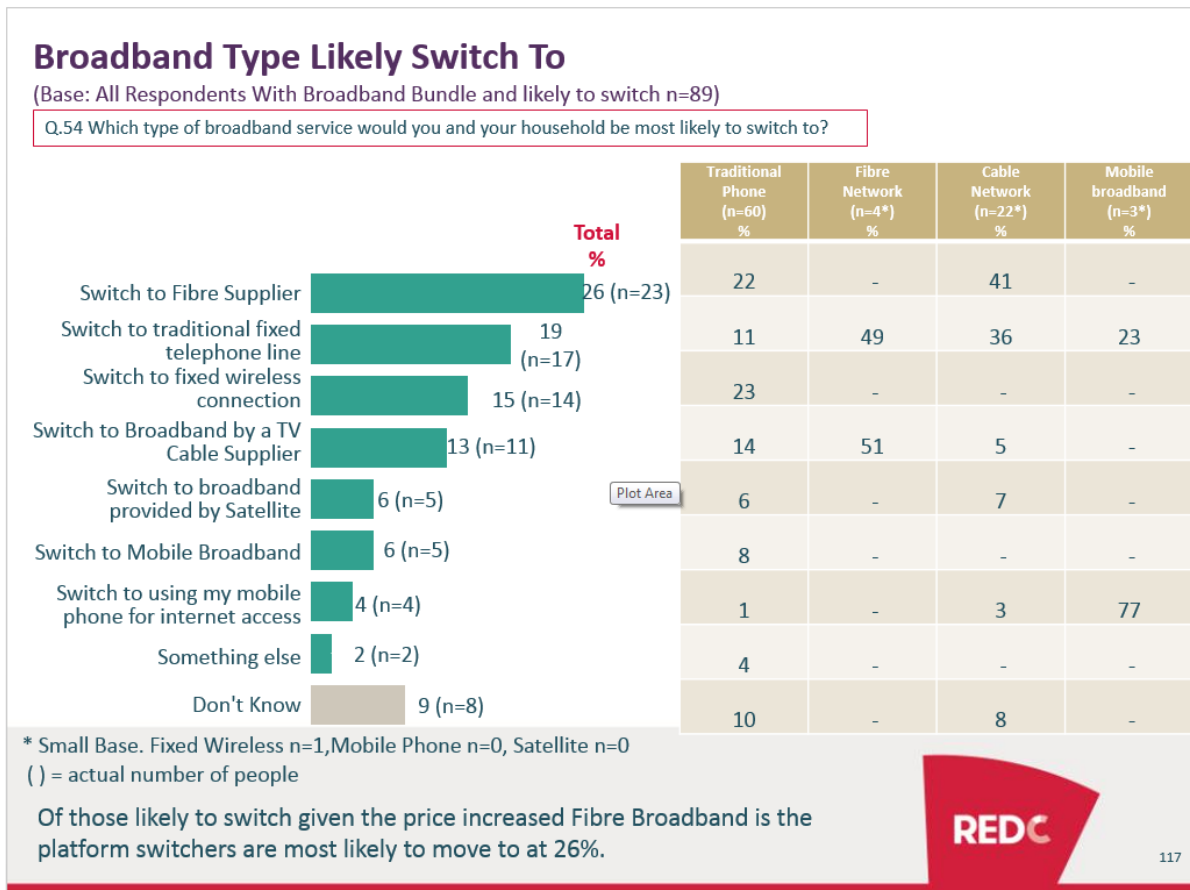


Figure 51: Likelihood of Making Change In Behaviour (Broadband Bundle Owners) (Slide 114)



A 2.38 Respondents were asked which type of broadband they would switch to and 26% said that they would switch to a fibre powered connection, and the likelihood of switching to an FTTC network is highest among those on a CATV network. This is illustrated in Figure 52 below.³² Customers living in Dublin (39%) are most likely to switch to fibre compared with those living in rural areas (16%).³³

Figure 52: Broadband Type Likely Switch To (Slide 117)



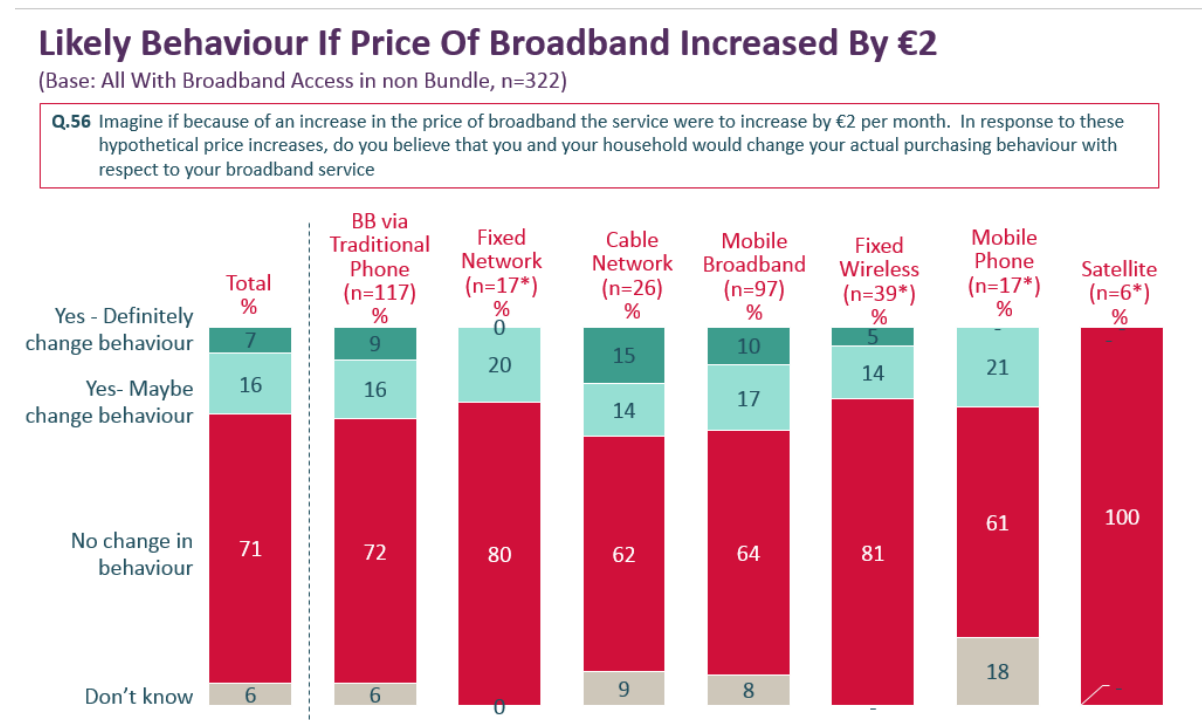
³² Slide 117, WLA/WCA Consumer Market Research.

³³ Slide 118, WLA/WCA Consumer Market Research (not shown above).

Responses to Hypothetical Price Increases: Customers not in a Bundle

A 2.39 Respondents whose broadband access was not part of a bundle were asked about their response to a hypothetical €2 increase in the monthly cost of broadband, the findings for which are presented in Figure 53 below.³⁴ 23% say that they would change their behaviour and this is highest among those on a CATV network connection and also Virgin Media customers.

Figure 53: Likely Behaviour If Price of Broadband Increased By €2 (Slide 122)

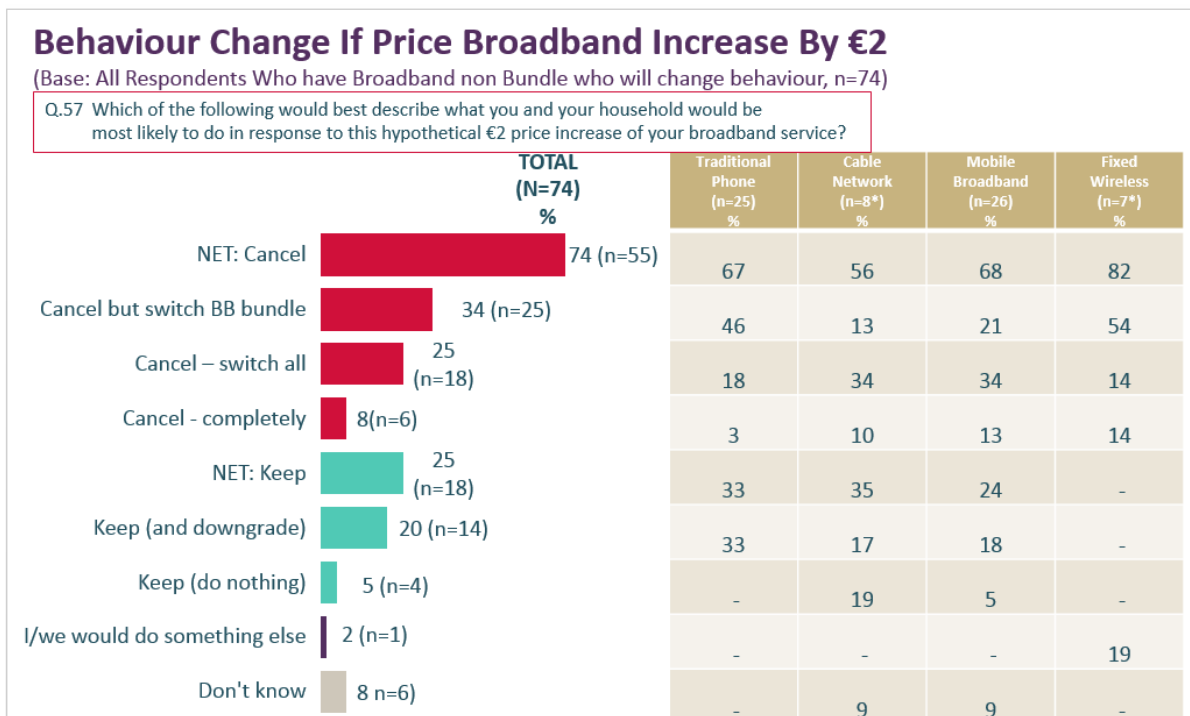


A 2.40 Customers who stated that the hypothetical price increase would change their behaviour were asked their likely course of action. The findings are presented in Figure 54 below.³⁵ Overall, 74% said that they were likely to cancel their subscription as a result of the €2 price increase and this was highest among customers on a fixed wireless connection, customers living in Dublin and customers with Virgin Media.

³⁴ Slide 122, WLA/WCA Consumer Market Research.

³⁵ Slide 124, WLA/WCA Consumer Market Research.

Figure 54: Behaviour Change If Price Broadband Increase By €2 (Slide 124)



A 2.41 Figure 55 overleaf summarises the responses of respondents when asked how likely they would be to change the behaviour that they described above.³⁶ 71% indicated that they would be likely to change their behaviour and, based on the findings in A 2.39, this equates to 16% of respondents effectively changing their behaviour.

A 2.42 When asked what type of broadband service they would switch to, 30% said that they would switch to fibre powered, while 21% said that they would switch to a fixed wireless connection (Figure 56 overleaf³⁷). Switching to a fibre connection is highest among mobile broadband customers.

³⁶ Slide 127, WLA/WCA Consumer Market Research.

³⁷ Slide 130, WLA/WCA Consumer Market Research.

Figure 55: Likelihood of Making Change In Behaviour (Broadband Bundle Owners) (Slide 127)

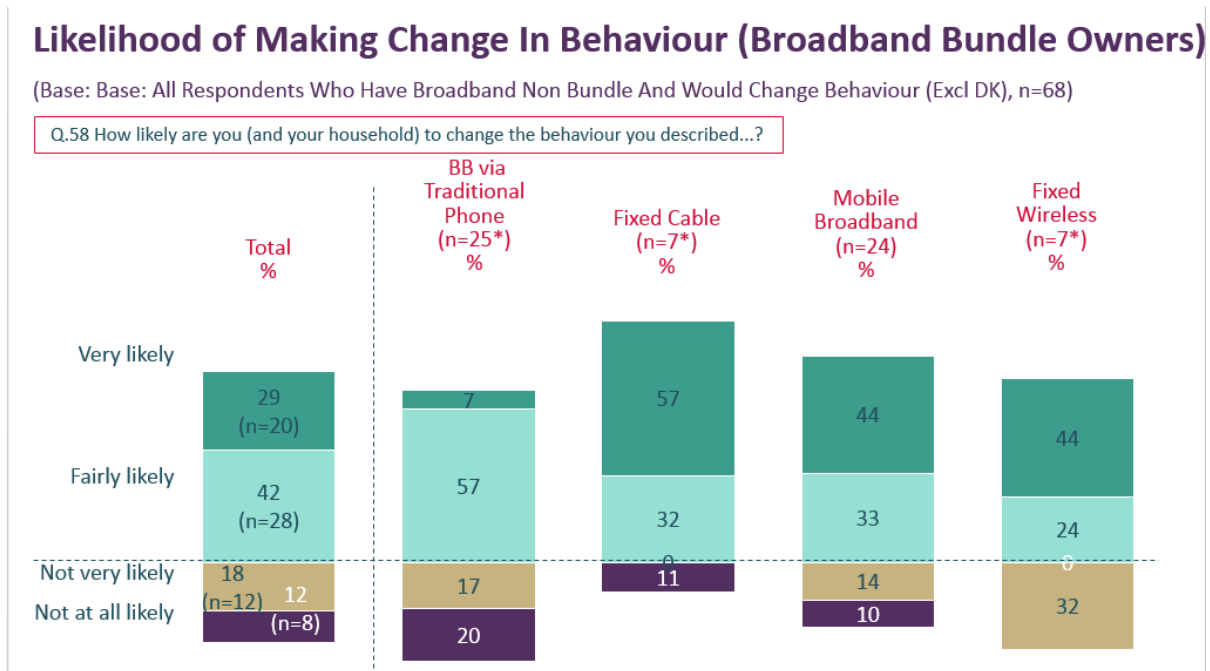
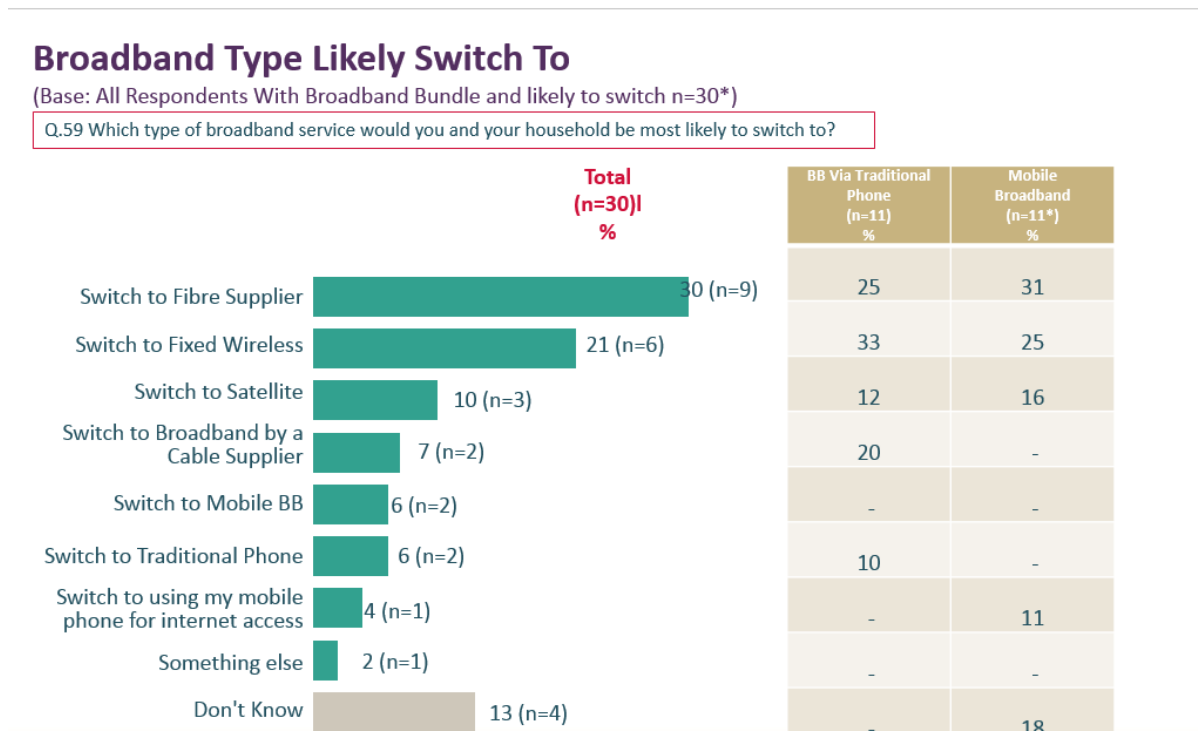


Figure 56: Broadband Type Likely Switch To (Slide 130)



Results from research among Irish Businesses

A 2.43 The research among Irish businesses examines access to broadband and leased lines and the impact of different access modes on businesses.

A 2.44 A total of 1,100 interviews were conducted among a nationally representative sample of Irish businesses by sector, size and region. Fieldwork took place between November and December 2014.

A 2.45 Within each company, the person responsible for making decisions in relation to telecommunications was consulted and in larger companies this was typically an I.T. Manager, while in smaller companies it was more likely to be the owner/manager.

A 2.46 Analysis of the sample shows that broadband users are more likely to be micro businesses (0-10 employees) while leased lines are more prevalent among medium (15-49 employees) and large (250+ employees) companies, particularly in Dublin and in data centres.

A 2.47 In some cases, small sample sizes are found in the research. These survey results, which are indicated throughout, should be interpreted with caution.

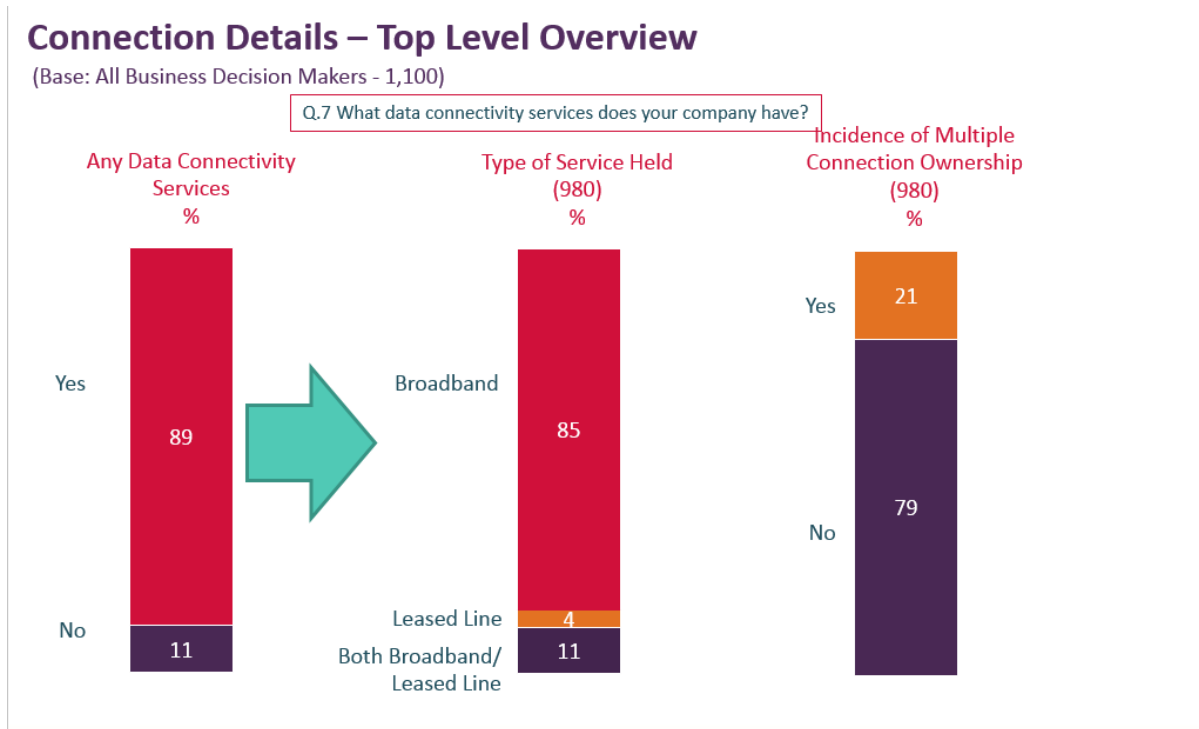
A 2.48 In the sections below, ComReg presents the key conclusions from the business broadband survey, using the following themes:

- Means of Access;
- Usage Patterns;
- Speed of Connection;
- Contract Lengths;
- Bundling;
- Switching Provider; and
- Responses to hypothetical price increases.

Broadband and Leased Line Users

A 2.49 Figure 57 below³⁸ gives an overview of the type of service held by Irish businesses (based on the full sample). 85% of Irish businesses have a broadband connection, while 4% have a leased line connection. Of those businesses with a connection, 21% have access to two or more connections.

Figure 57: Connection Details – Top Level Overview (Slide 12³⁹)



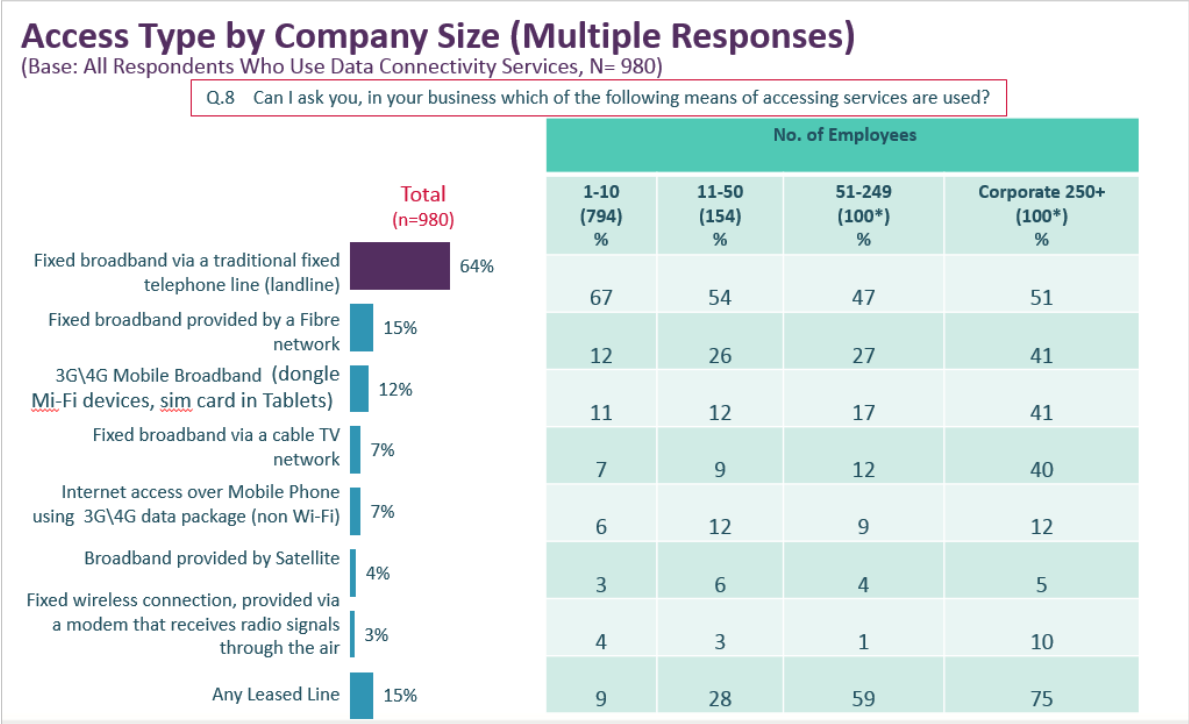
A 2.50 Figure 58 outlines the access type by the size of responding companies.⁴⁰ Overall, 64% of companies had a fixed broadband connection via a traditional phone line, while 15% had access through an FTTC network and 12% had access via mobile broadband (i.e. dongle device). Access via fixed broadband through a phone line is highest for micro enterprises (67%) and small enterprises (54%). Leased lines are most popular among medium (59%) and large (75%) enterprises.

³⁸ Slide 12, WLA/WCA Business Market Research.

³⁹ Figure is taken from Slide 12 in the WLA/WCA Business Market Research.

⁴⁰ Slide 13, WLA/WCA Business Market Research.

Figure 58: Access Type by Company Size (Slide 13)



A 2.51 Survey participants were asked about the access type that they use most often and 58% reported that they rely on fixed broadband (via traditional phone line), while 13% relied on fixed broadband over an FTTC network (Figure 59 overleaf)⁴¹. As with the previous survey question, micro and small enterprises rely on fixed broadband via phone line the most, while medium and large enterprises rely on leased lines the most.

A 2.52 Figure 60 overleaf outlines the responses of businesses who use broadband as their primary access type when asked the type of access used most often.⁴² The findings suggest that fixed broadband via a cable TV network is most prevalent in Dublin, while broadband via a traditional phone line is fairly evenly distributed across regions. Mobile broadband is most popular in Munster compared to all other regions.

⁴¹ Slide 14, WLA/WCA Business Market Research.

⁴² Slide 15, WLA/WCA Business Market Research.

Figure 59: Access Type Most Often Used (Slide 14)

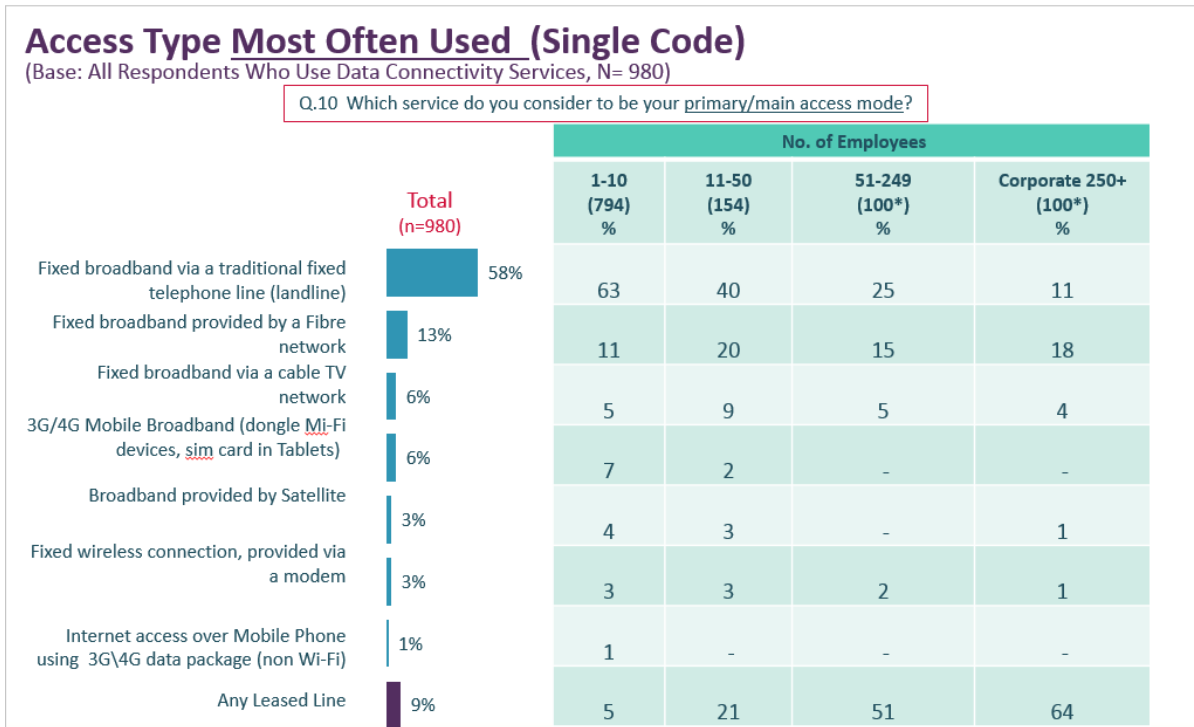
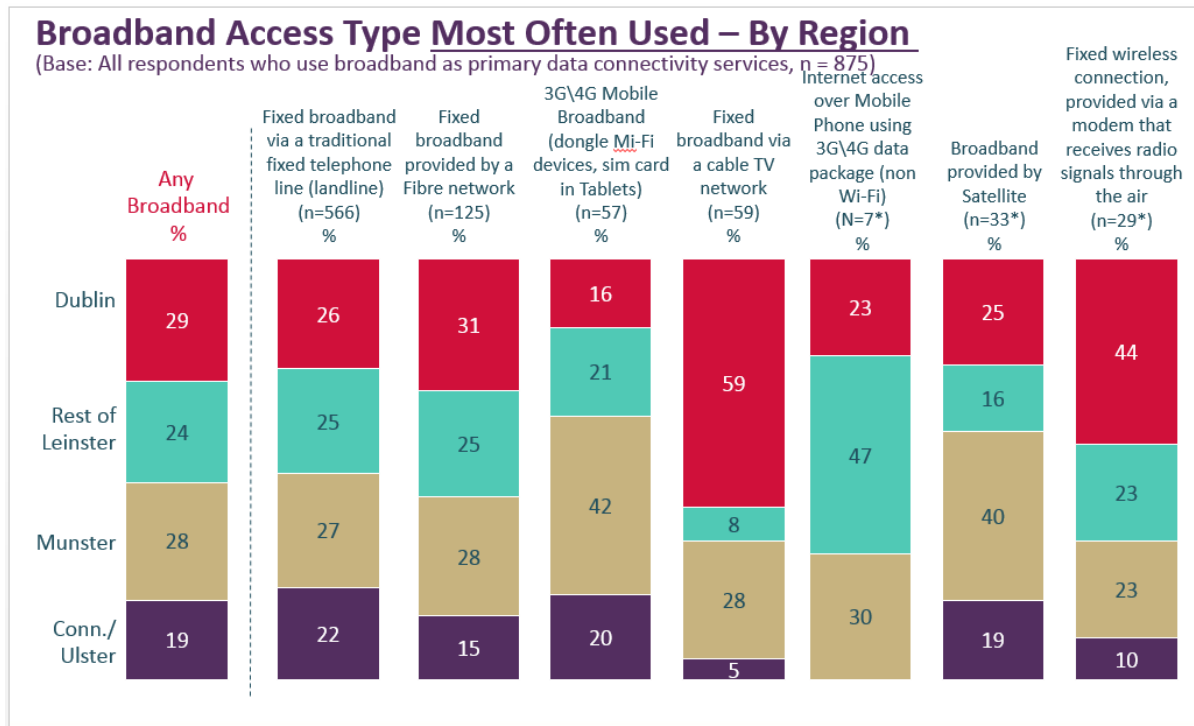
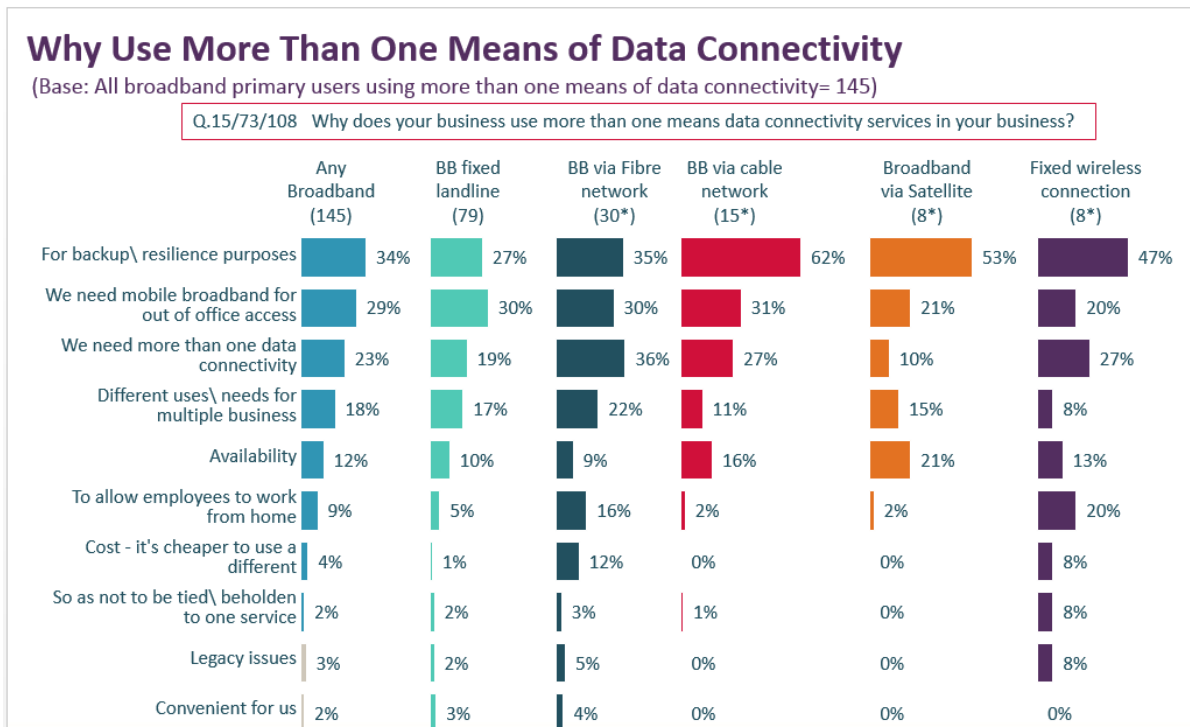


Figure 60: Broadband Access Type Most Often Used – By Region (Slide 15)



A 2.53 When asked the reason for using more than one means of connection, those businesses with more than one connection reported that the main reasons for multiple connection were for backup/resilience purposes and mobile broadband for out of office access (Figure 61 below⁴³). These needs were highest for businesses on a CATV network.

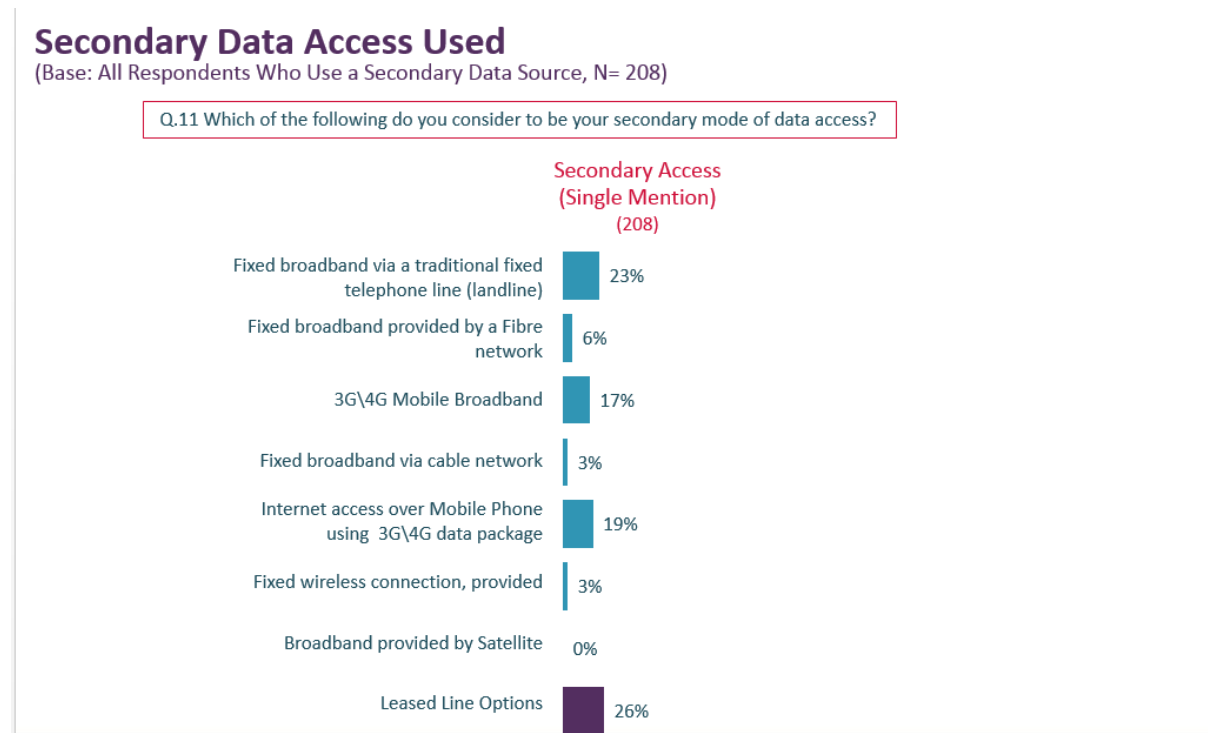
Figure 61: Why Use More Than One Means of Data Connectivity (Slide 21)



A 2.54 Respondents who use a secondary connection were asked about the secondary connection and the findings show that lease lines are the most used secondary connection, followed by broadband access over a phone line and access over mobile phone. These findings are summarised in Figure 62 below.⁴⁴

⁴³ Slide 16, WLA/WCA Business Market Research.

⁴⁴ Slide 23, WLA/WCA Business Market Research.

Figure 62: Secondary Data Access Used (Slide 23)

Usage Patterns

A 2.55 Businesses who use broadband as their primary connection were asked about the use of their primary service, as illustrated in Figure 63 below.⁴⁵ The vast majority of businesses use their broadband connection for email and internet, with the next main use being data services such as cloud computing. 19% use their connection for connectivity between business premises and for employee remote access to the network.

A 2.56 Businesses were asked about the importance of various aspects when selecting their primary broadband supplier, as outlined in Figure 64 below.⁴⁶ The main aspects include availability (percentage of time that the connection is working), bandwidth download and upload speed, as well as resilience, contention and latency.

⁴⁵ Slide 28, WLA/WCA Business Market Research.

⁴⁶ Slide 30, WLA/WCA Business Market Research.

Figure 63: Use of Primary Service – Broadband Primary Access Users (Slide 28)

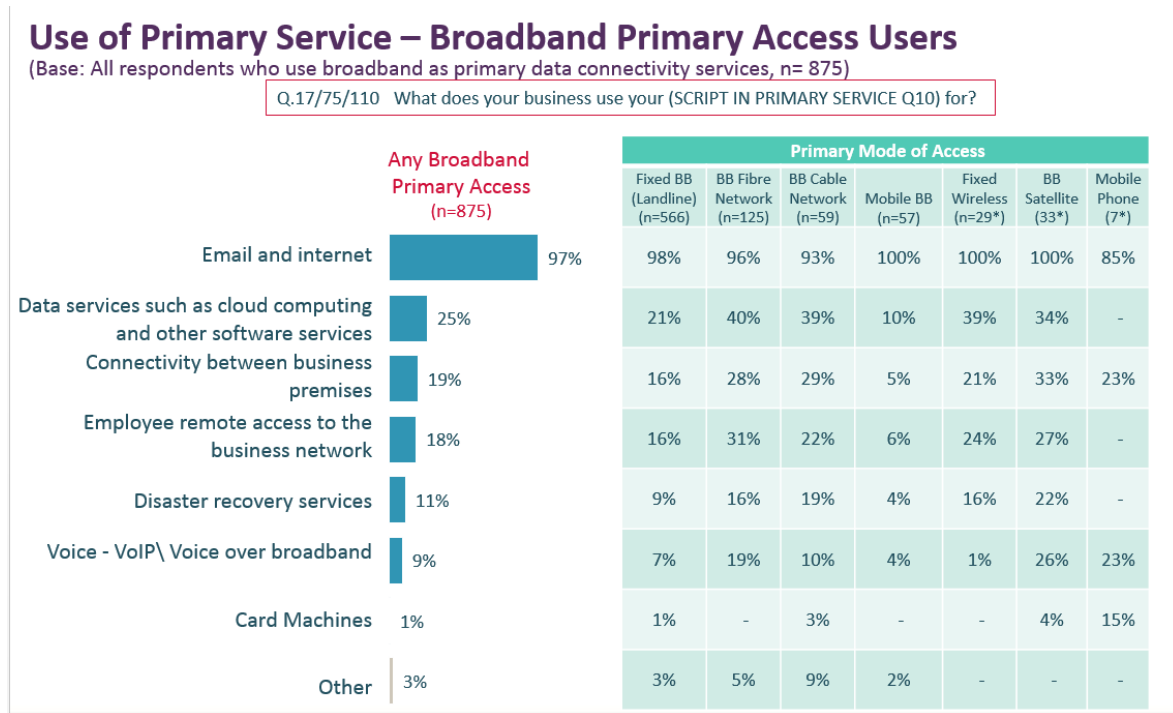
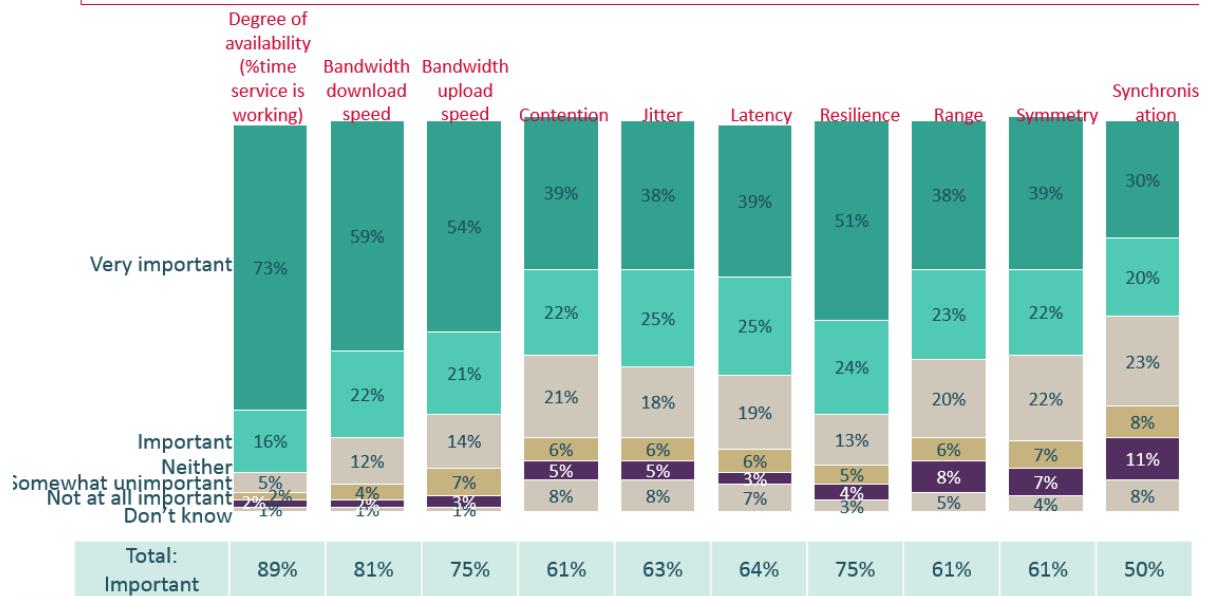


Figure 64: Importance of Aspects When Selecting Primary Broadband Supplier? (Slide 30)

Importance of Aspects When Selecting Primary Broadband Supplier?

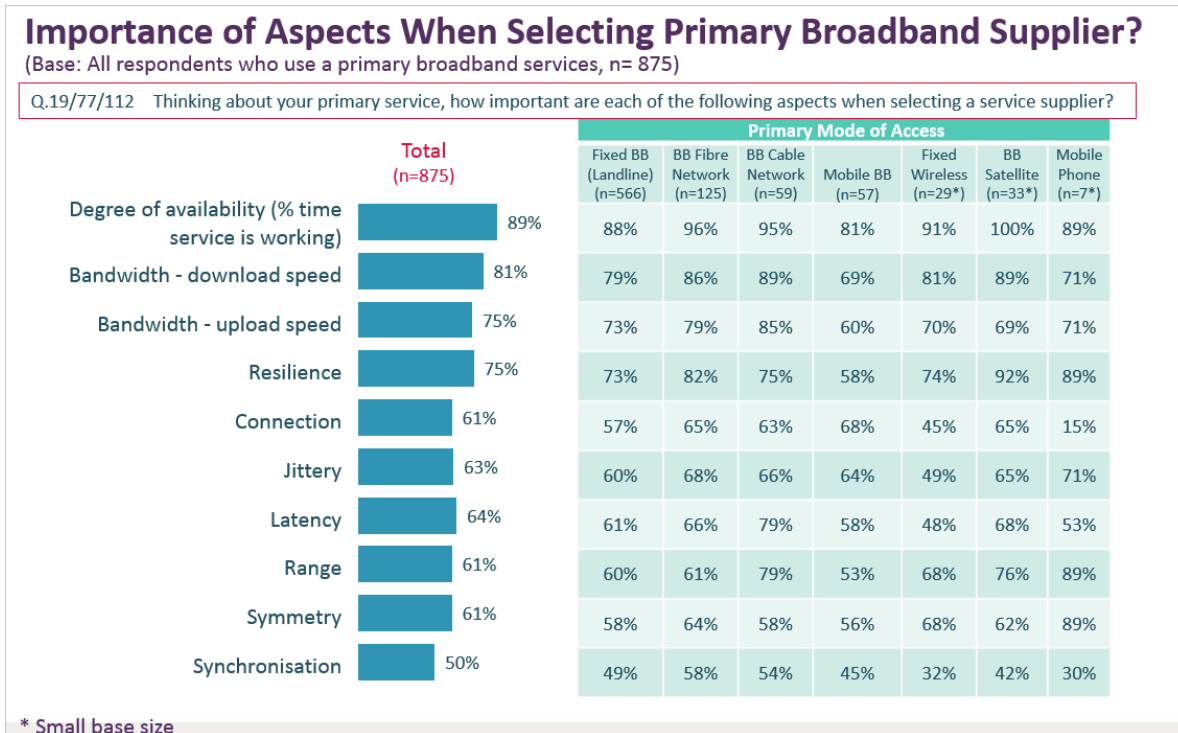
(Base: All respondents who use a primary services, n= 875)

Q.19/77/112 Thinking about your primary service, how important are each of the following aspects when selecting a service supplier?



A 2.57 The survey question above is disaggregated in Figure 65 below by the mode of access.⁴⁷ The availability of the connection and bandwidth (both download and upload speeds) are uniformly important across most broadband platforms.

Figure 65: Importance of Aspects When Selecting Primary Broadband Supplier? (Slide 31)



Speed of Connection

A 2.58 Businesses were asked about their knowledge of the claimed download speeds on their broadband connection. Figure 66 shows that overall 28% of respondents ‘definitely’ know their maximum download speed and users on an FTTC network are most likely to know their maximum speed compared with those on a CATV network.⁴⁸

A 2.59 When subsequently asked what the actual speed was, 60% were obtaining a maximum speed of up to 24 mbps, with 22% obtaining a maximum speed of between 25 and 72 mbps (Figure 67).⁴⁹

⁴⁷ Slide 31, WLA/WCA Business Market Research.

⁴⁸ Slide 39, WLA/WCA Business Market Research.

⁴⁹ Slide 40, WLA/WCA Business Market Research.

Figure 66: Knowledge of Claimed Maximum Download Speed (Slide 39)

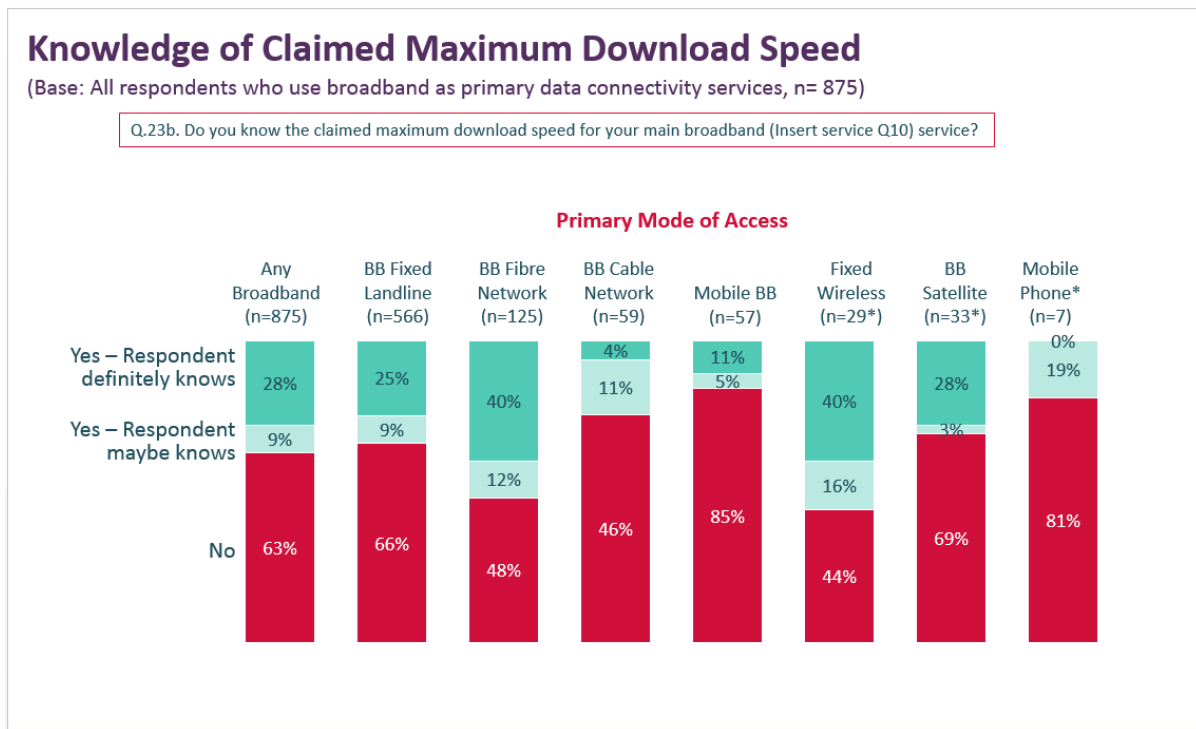
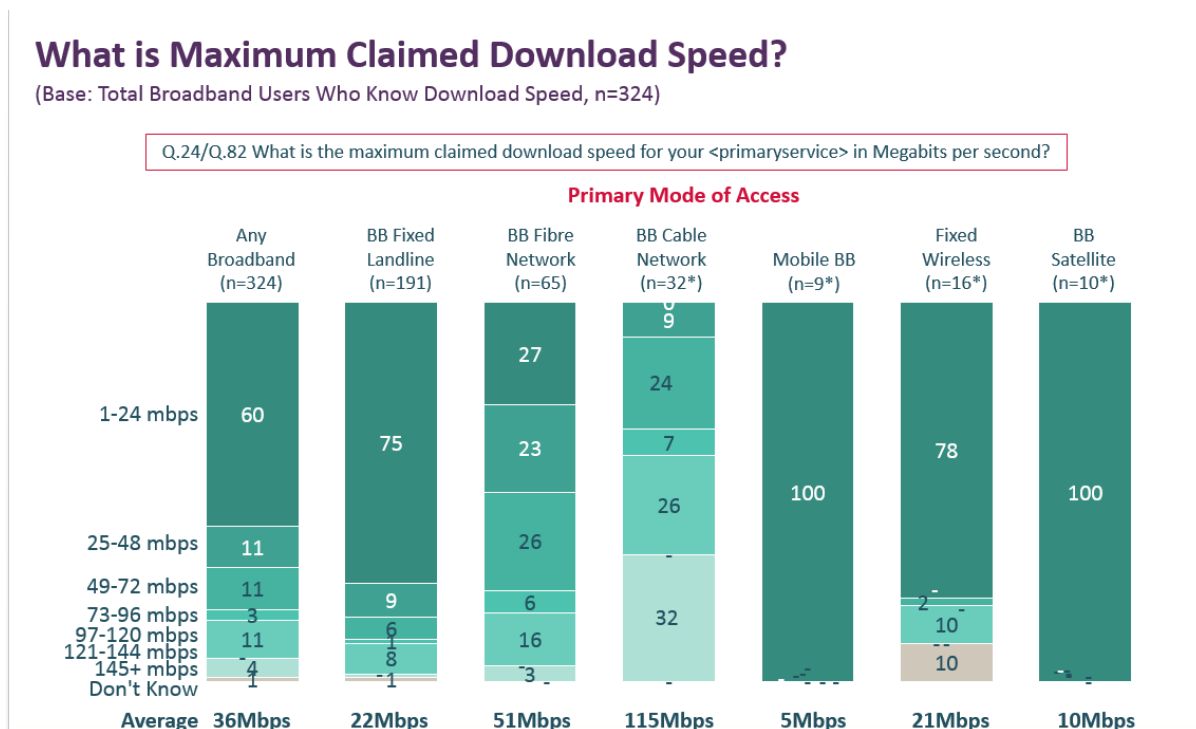
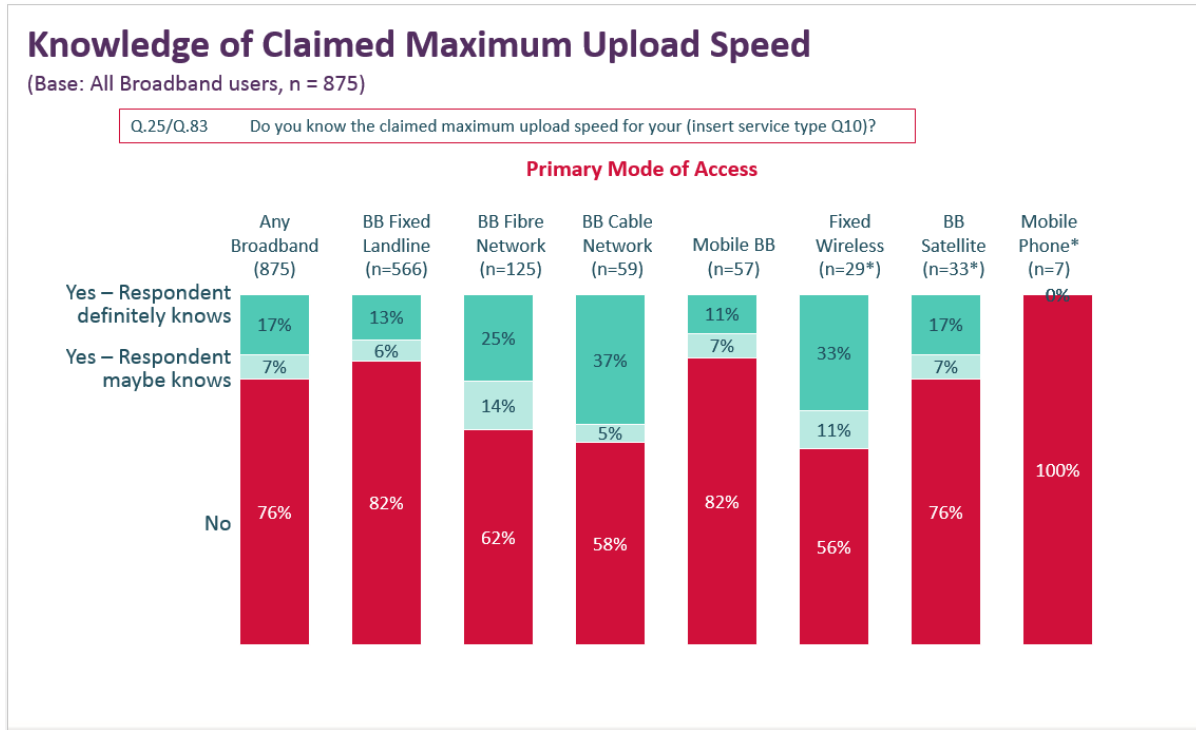


Figure 67: What is Maximum Claimed Download Speed? (Slide 40)



A 2.60 In relation to the maximum upload speed, 17% of businesses reported that they definitely know and again this is highest among CATV network users (Figure 68).⁵⁰

Figure 68: Knowledge of Claimed Maximum Upload Speed (Slide 41)

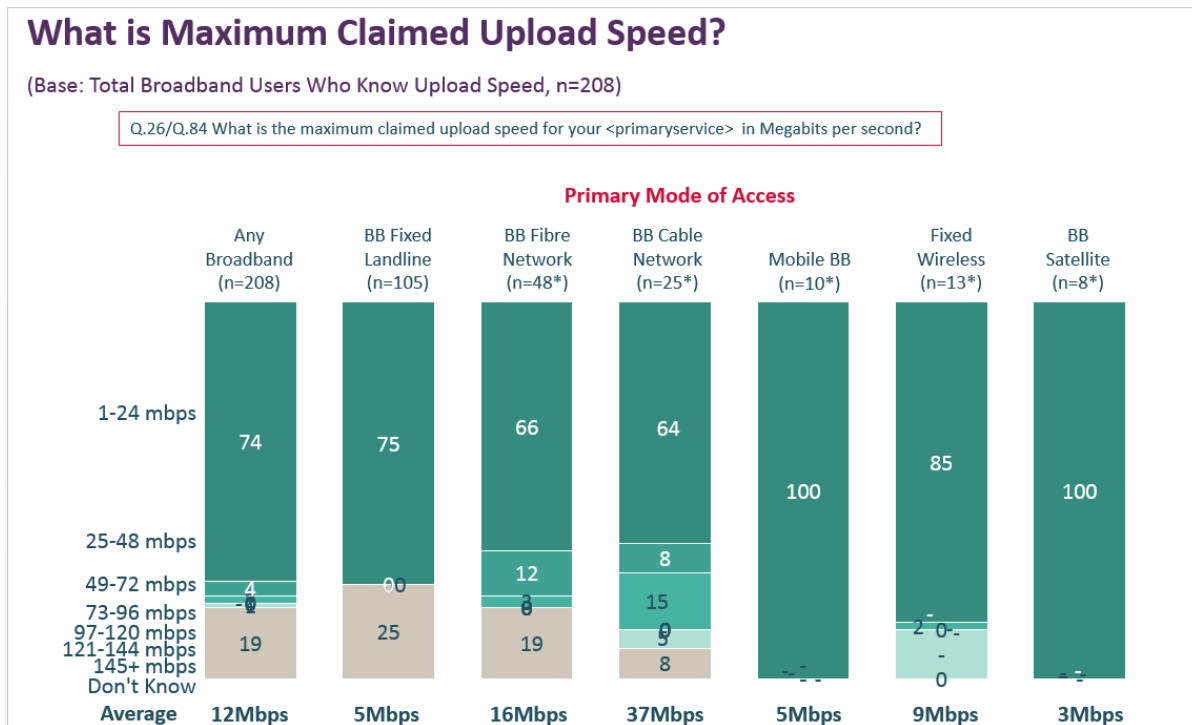


A 2.61 Figure 69 below outlines businesses knowledge of their maximum upload speed and shows that the highest average upload speed is 37 mbps which is on a CATV network.⁵¹ Overall, 74% of respondents were receiving a maximum upload speed of up to 24 mbps.

⁵⁰ Slide 41, WLA/WCA Business Market Research.

⁵¹ Slide 42, WLA/WCA Business Market Research.

Figure 69: What is Maximum Claimed Upload Speed? (Slide 42)



Contracts

A 2.62 The survey research also asked businesses if they were part of a contract and 64% of all businesses reported that they are tied into a contract (Figure 70 overleaf).⁵² The highest proportion of businesses in a contract are mobile broadband users (80%).

A 2.63 Of those businesses who reported that they were in a contract were asked about the length of the contract that they were in (Figure 71 overleaf).⁵³ The majority of respondents were in a contract of between 12 months (34%) and 18 months (38%). For users on broadband through a traditional phone line, the split between 12 and 18 months is roughly equal, while the split is wider for users on an FTTC network, with 23% on a 12 month contract and 41% on an 18 month contract.

⁵² Slide 44, WLA/WCA Business Market Research.

⁵³ Slide 45, WLA/WCA Business Market Research.

Figure 70: Is Primary Service in Contract? (Slide 44)

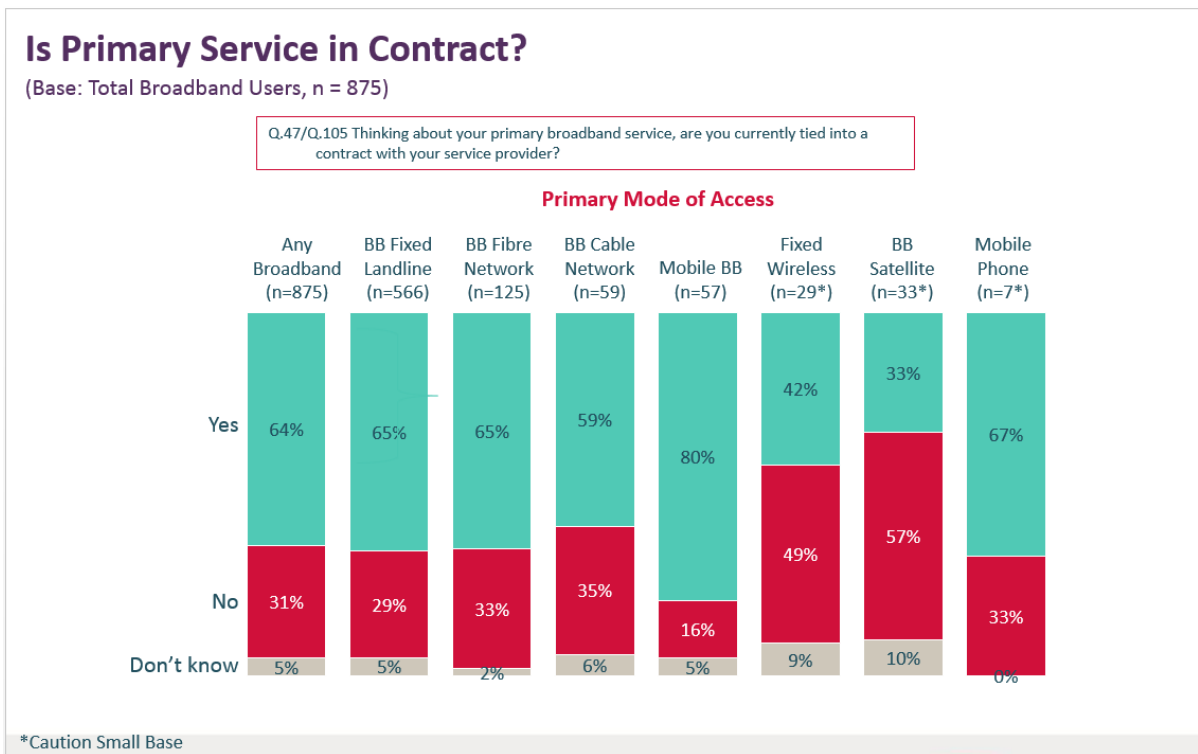
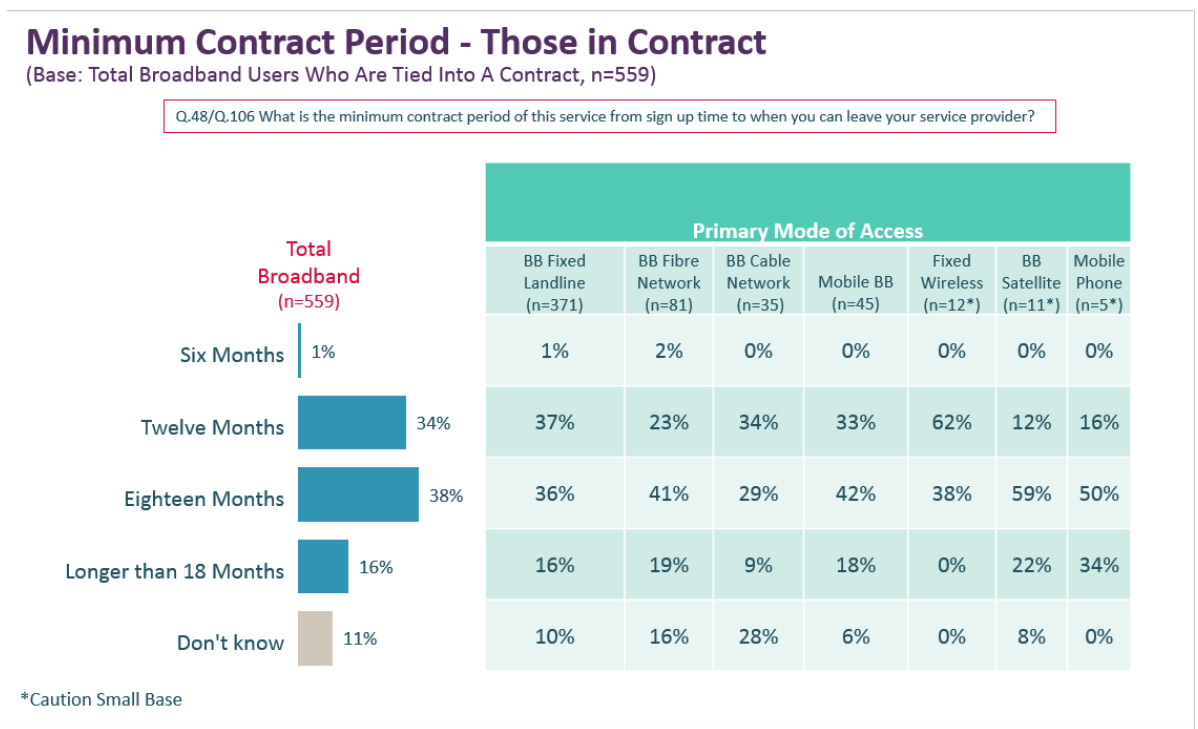


Figure 71: Minimum Contract Period - Those in Contract (Slide 45)



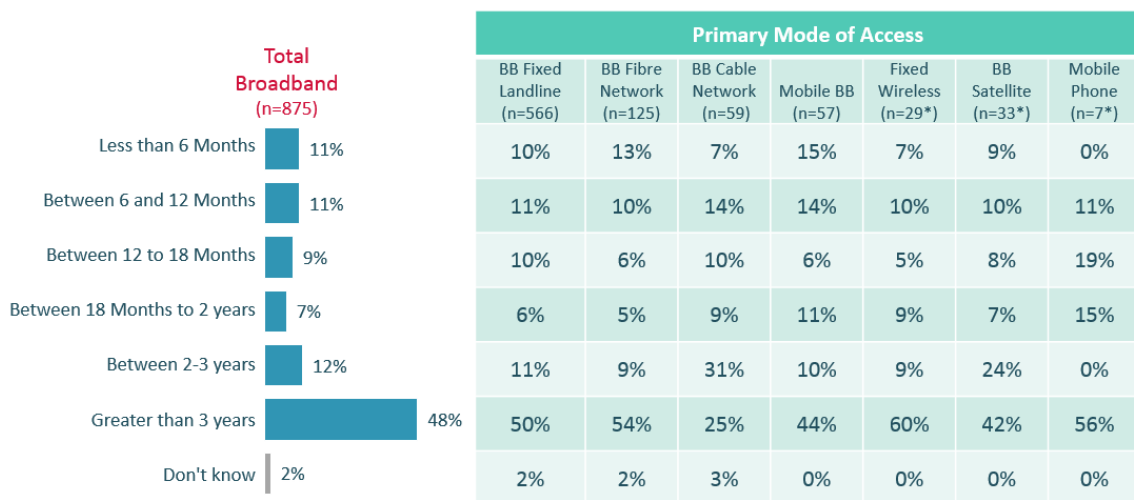
A 2.64 Figure 72 below gives an indication as to the length of time businesses on a broadband connection remain with their provider.⁵⁴ 48% of respondents have been with their provider for more than 3 years, with 12% being with their provider for 2 to 3 years. The remaining businesses are with their provider for between 6 months and 2 years. Higher numbers of those on a traditional land line connection and fibre network are with their provider for more than three years compared with other platforms.

Figure 72: Length of Time with Current Provider (Slide 46)

Length of Time with Current Provider

(Base: Total Broadband Users, n=875)

Q.48b/Q.106b How long has your business been with your current main broadband service provider for?



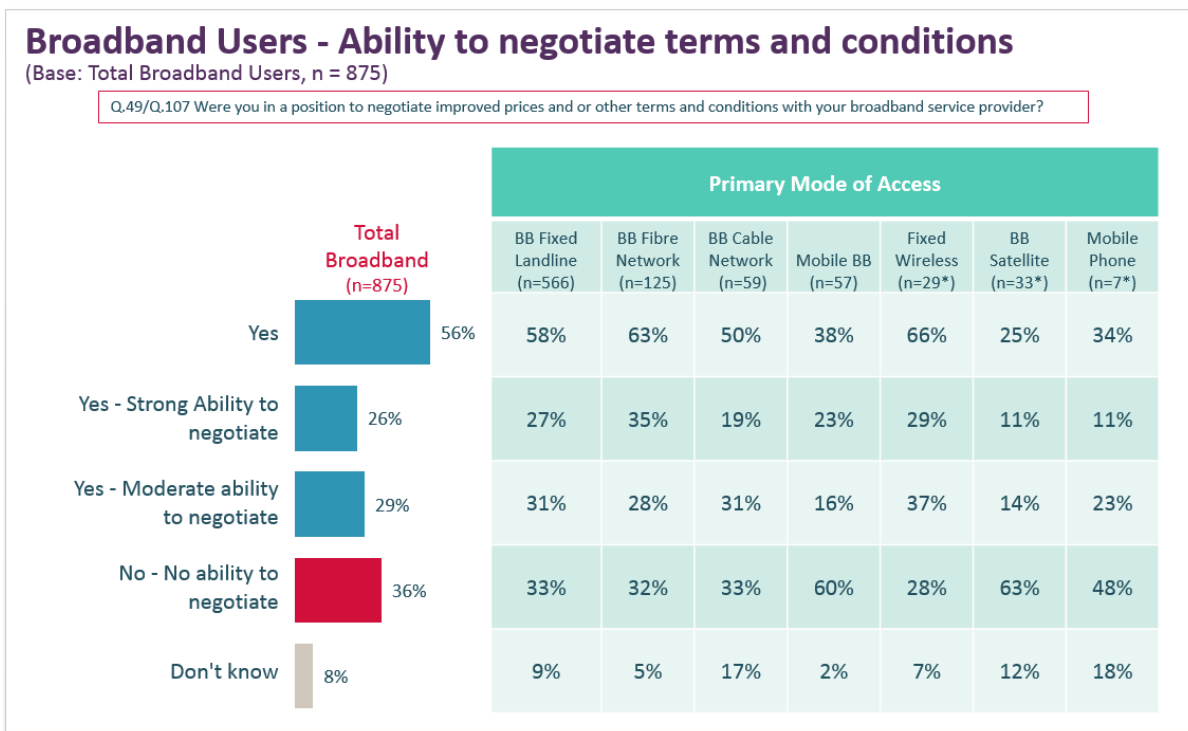
*Caution Small Base

A 2.65 Businesses were asked about their ability to negotiate the terms of their contract with their provider, as outlined in (Figure 73) below.⁵⁵ 56% of respondents claim that they are in a position to negotiate better prices and terms with their provider, and of those, 26% were in a strong position to negotiate.

⁵⁴ Slide 46, WLA/WCA Business Market Research.

⁵⁵ Slide 47, WLA/WCA Business Market Research.

Figure 73: Broadband Users - Ability to negotiate terms and conditions (Slide 47)



Bundling

A 2.66 The survey research presented some important insights into the bundling of services by business consumers. Figure 74 overleaf outlines the incidence of bundling among business broadband users.⁵⁶ 64% of respondents receive a bill that includes services other than broadband, while 20% are billed separately for each of their services. Bundling is highest among businesses with broadband on a fixed landline connection (73%) and on a CATV network (62%).

A 2.67 Bundle users were next asked about their awareness of the cost of their bundle (Figure 75 overleaf).⁵⁷ 77% of respondents report that they know the cost, with 55% stating that they ‘definitely’ know. Awareness of cost is highest among users with a connection via traditional phone line and users on an FTTC network.

⁵⁶ Slide 49, WLA/WCA Business Market Research.

⁵⁷ Slide 51, WLA/WCA Business Market Research.

Figure 74: Incidence of Bundling Broadband (Slide 49)

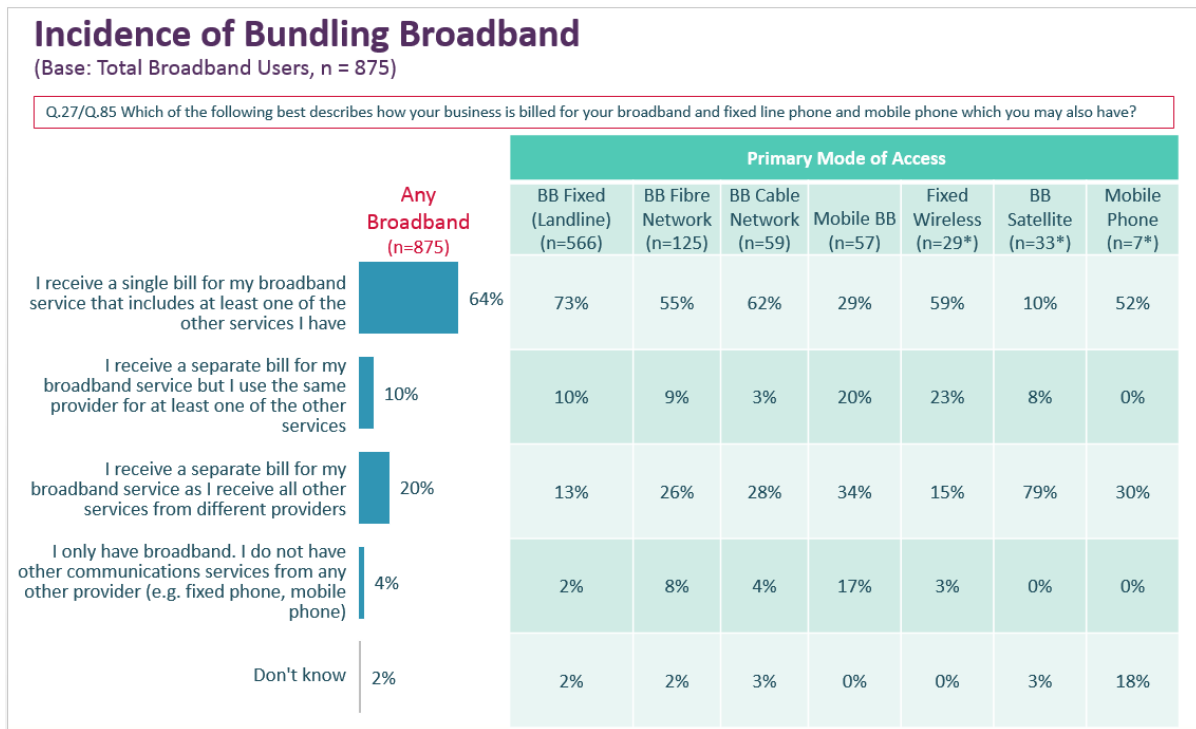
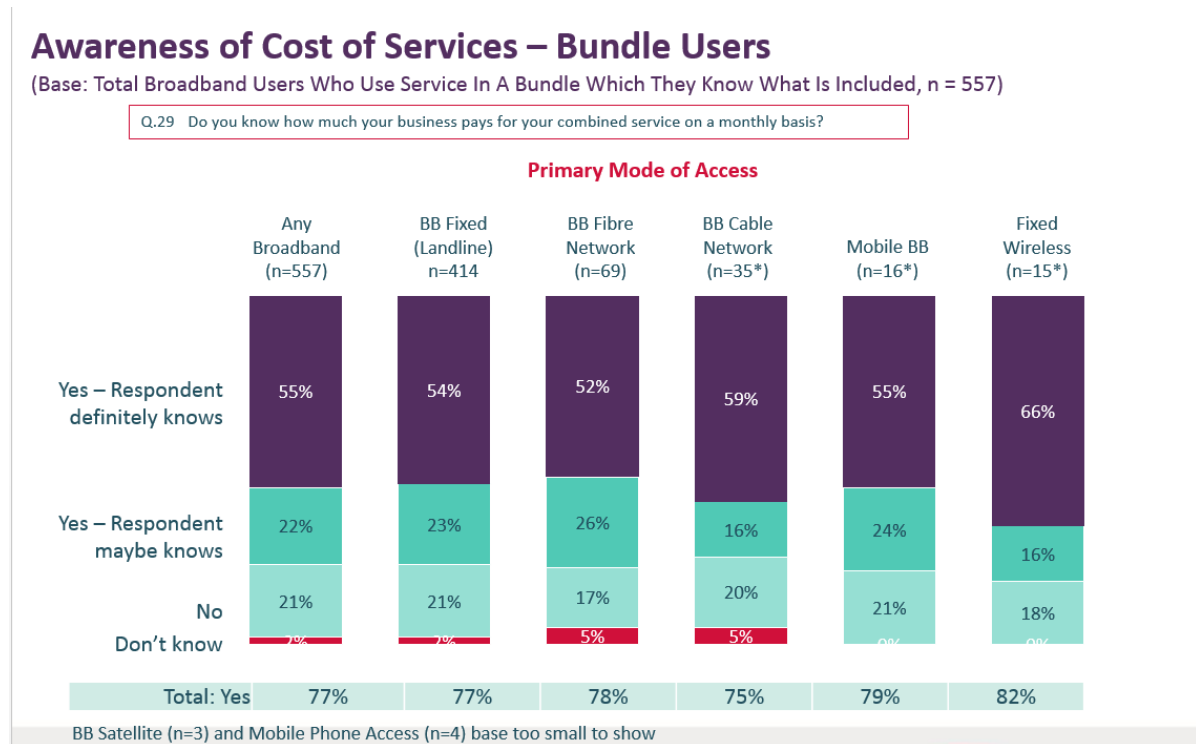


Figure 75: Awareness of Cost of Services – Bundle Users (Slide 51)

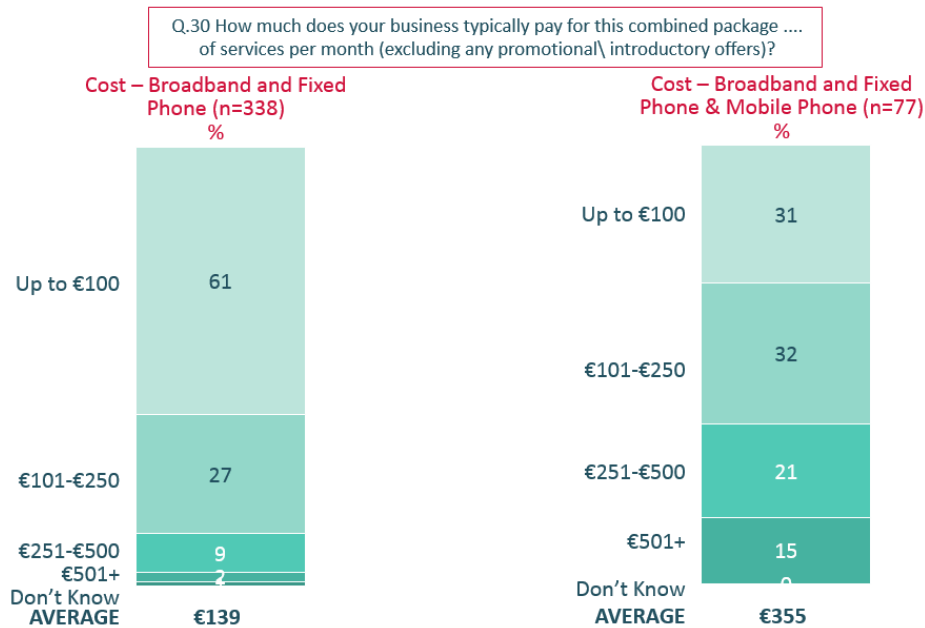


A 2.68 Figure 76 below outlines the typical spend per month on a bundle by businesses who bundle their services.⁵⁸ The most common bundle was found to be broadband and fixed phone, the average cost is €139 per month, and 61% of businesses with this bundle are paying up to €100 per month. For a bundle comprising broadband, fixed phone and mobile phone, the average cost per month was reported to be €355, with 63% of businesses paying up to €250.

Figure 76: Typical Spend Per Month - Bundle Users (Slide 52)

Typical Spend Per Month - Bundle Users

(Base: All Broadband/Fixed Phone Bundle – n=338. BB/Fixed & Mobile Phone – n=77)



A 2.69 Figure 77 overleaf gives an indication of what businesses consider to be the most important component of the bundle.⁵⁹ 46% consider broadband to be most important, followed by fixed phone at 24%.

A 2.70 Looking at users who are not billed as part of a bundle, Figure 78 overleaf summarises their awareness of cost.⁶⁰ 70% of non-bundle users are aware of the monthly cost and this is lower than those businesses who bundle their services.

⁵⁸ Slide 52, WLA/WCA Business Market Research.

⁵⁹ Slide 55, WLA/WCA Business Market Research.

⁶⁰ Slide 56, WLA/WCA Business Market Research.

Figure 77: Most Important Service within Bundle - Broadband Users (Slide 55)

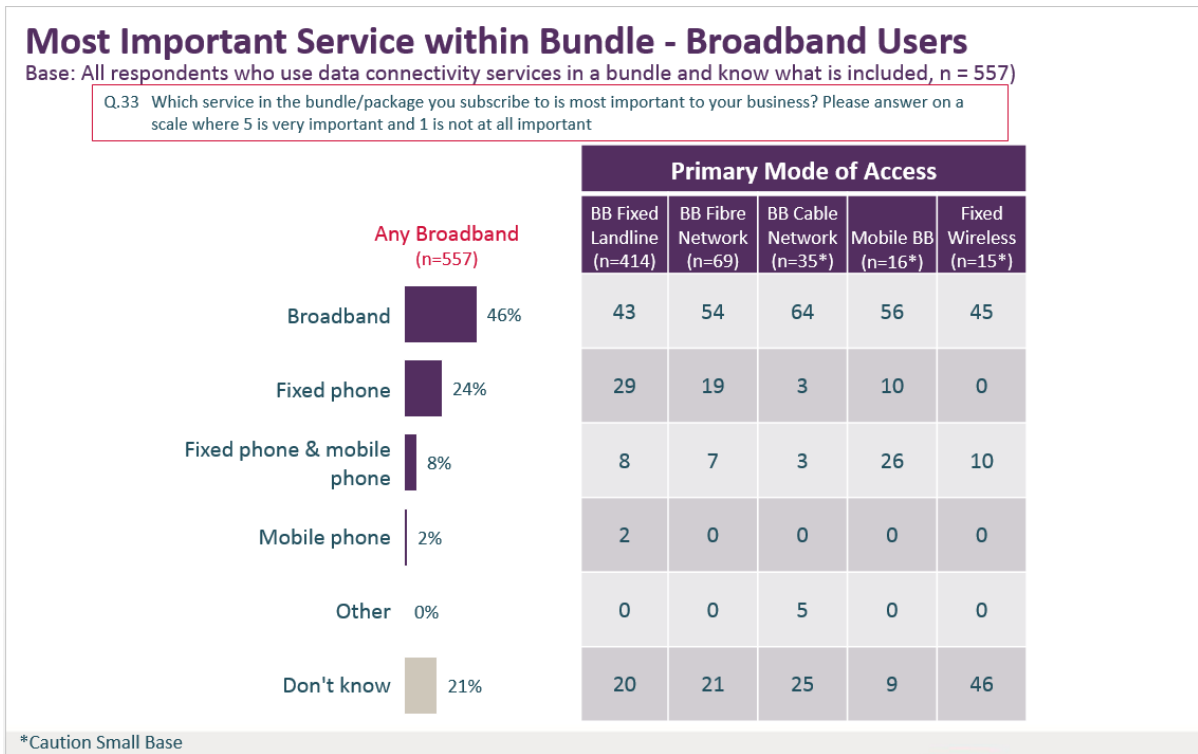
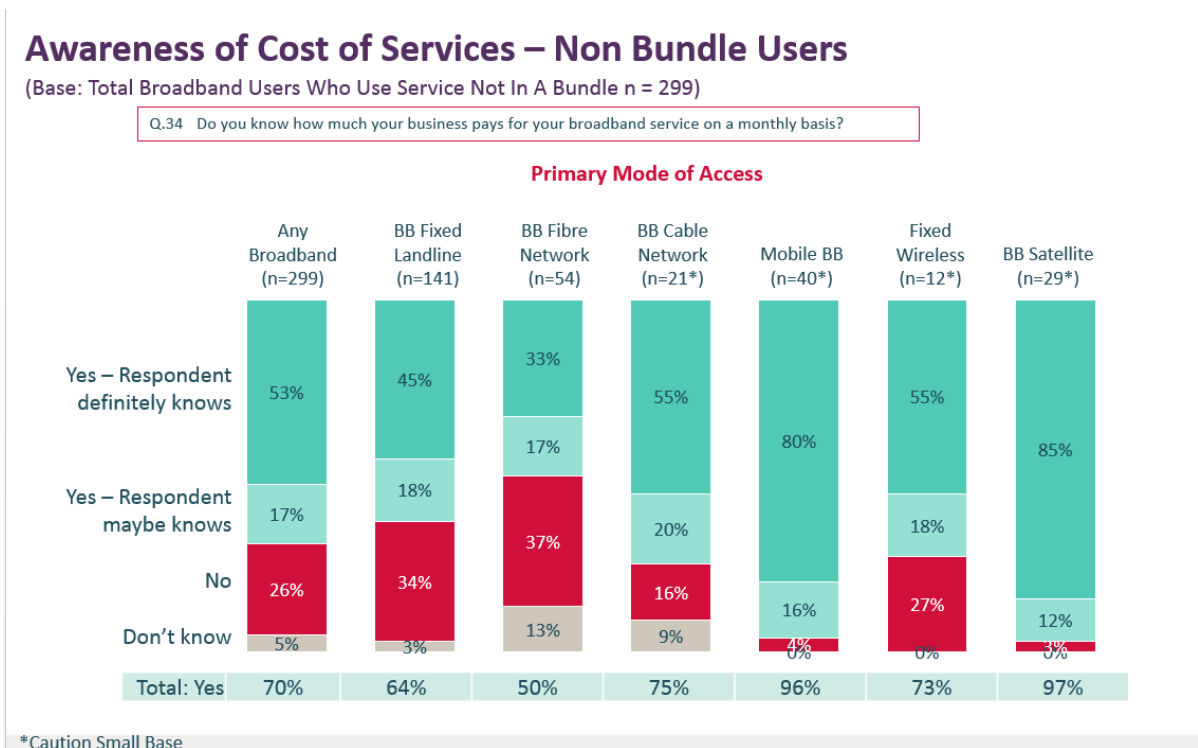
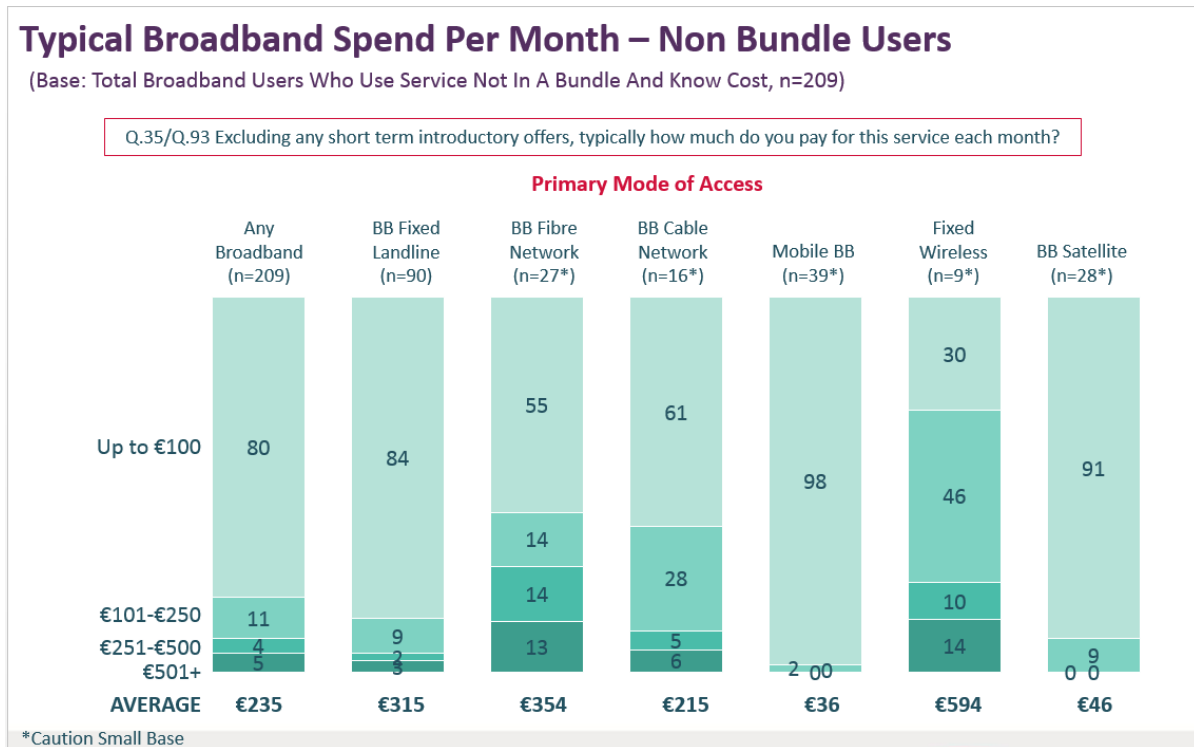


Figure 78: Awareness of Cost of Services – Non Bundle Users (Slide 56)



A 2.71 Figure 79 below outlines the typical spend per month on broadband by non-bundle users.⁶¹ The average cost per month came in at €235, which is higher than the average cost among bundle users. 80% of users are paying up to €100 per month for broadband services, and 84% of users on a fixed landline connection are paying up to €100 per month.

Figure 79: Typical Broadband Spend Per Month – Non Bundle Users (Slide 57)

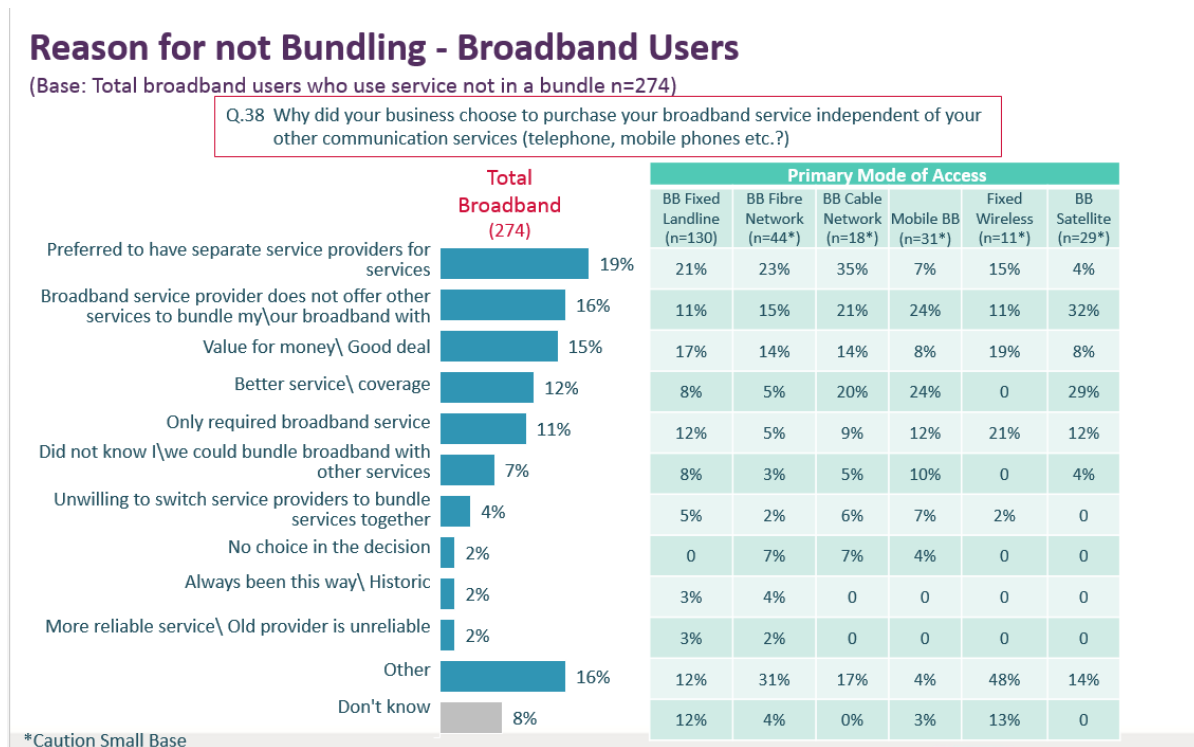


A 2.72 Non-bundle users were asked about their reason for not bundling their services, to the responses to which are outlined in Figure 80 below.⁶² The main reason for not bundling was a preference to have separate Service Providers for each service (19%). Other reasons for not bundling include broadband Service Provider not offering other services (16%), value for money (15%) and service quality (12%).

⁶¹ Slide 57, WLA/WCA Business Market Research.

⁶² Slide 60, WLA/WCA Business Market Research.

Figure 80: Reason for not Bundling - Broadband Users (Slide 60)



Switching

A 2.73 The survey research considers businesses attitudes and behaviour around switching Service Providers. Figure 81 overleaf shows that 47% of businesses have switched in the past, with 21% having switched between 1 and 3 years ago.⁶³ Previous incidences of switching are highest amongst users on a CATV network, mobile broadband and fixed wireless.

A 2.74 Figure 82 overleaf looks at the previous means of access among firms that have switched in the past.⁶⁴ The majority (96%) of businesses that have switched provider have switched from broadband, as opposed to some other form of internet connection. Within this, 81% switched from a connection via traditional landline.

⁶³ Slide 66, WLA/WCA Business Market Research.

⁶⁴ Slide 67, WLA/WCA Business Market Research.

Figure 81: Incidence of Switching (Slide 66)

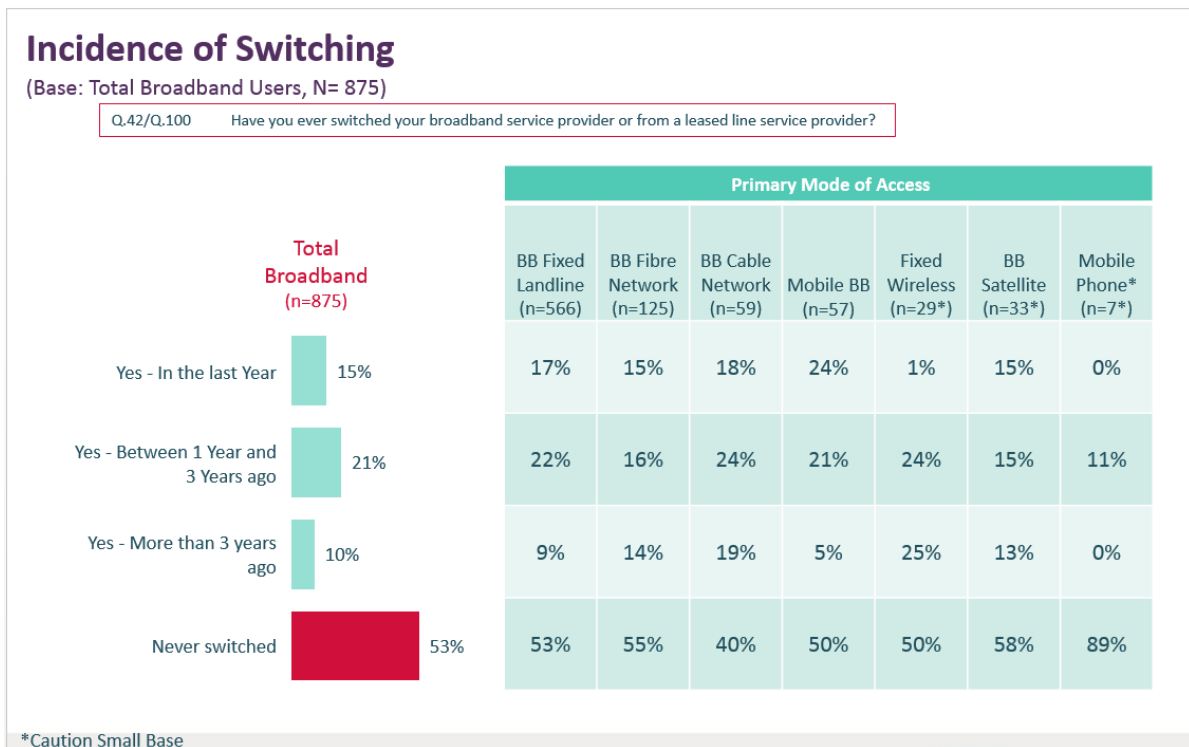
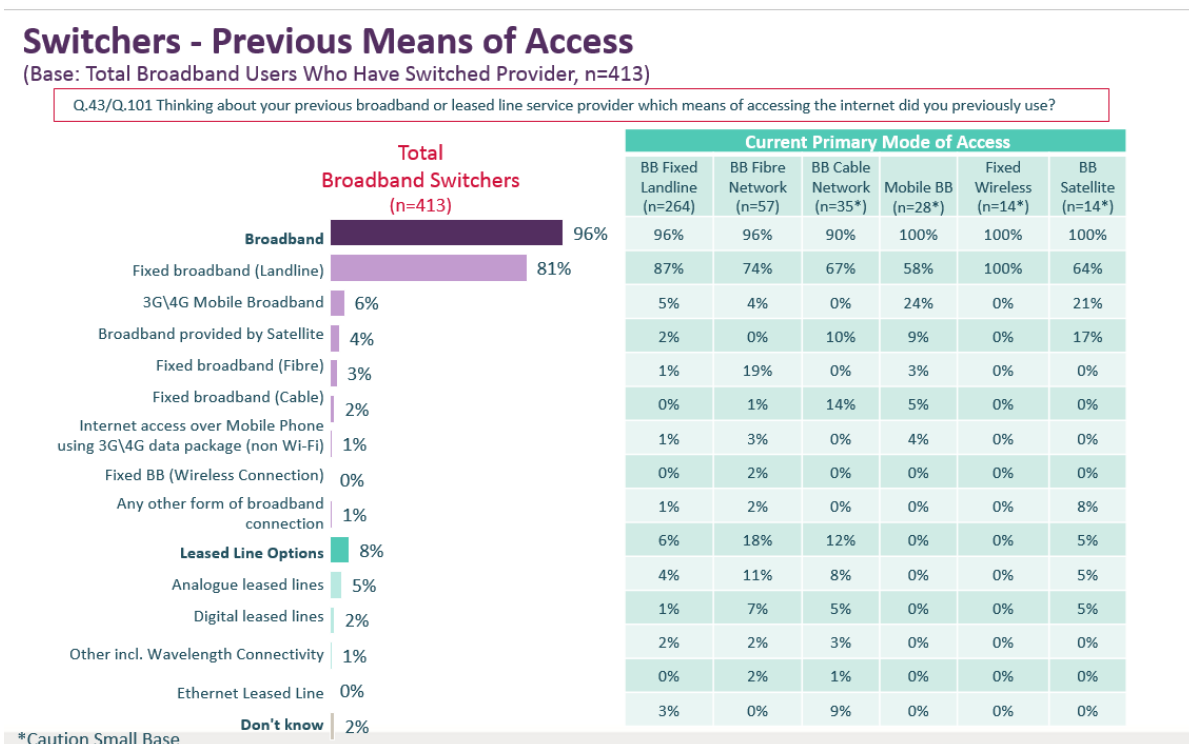
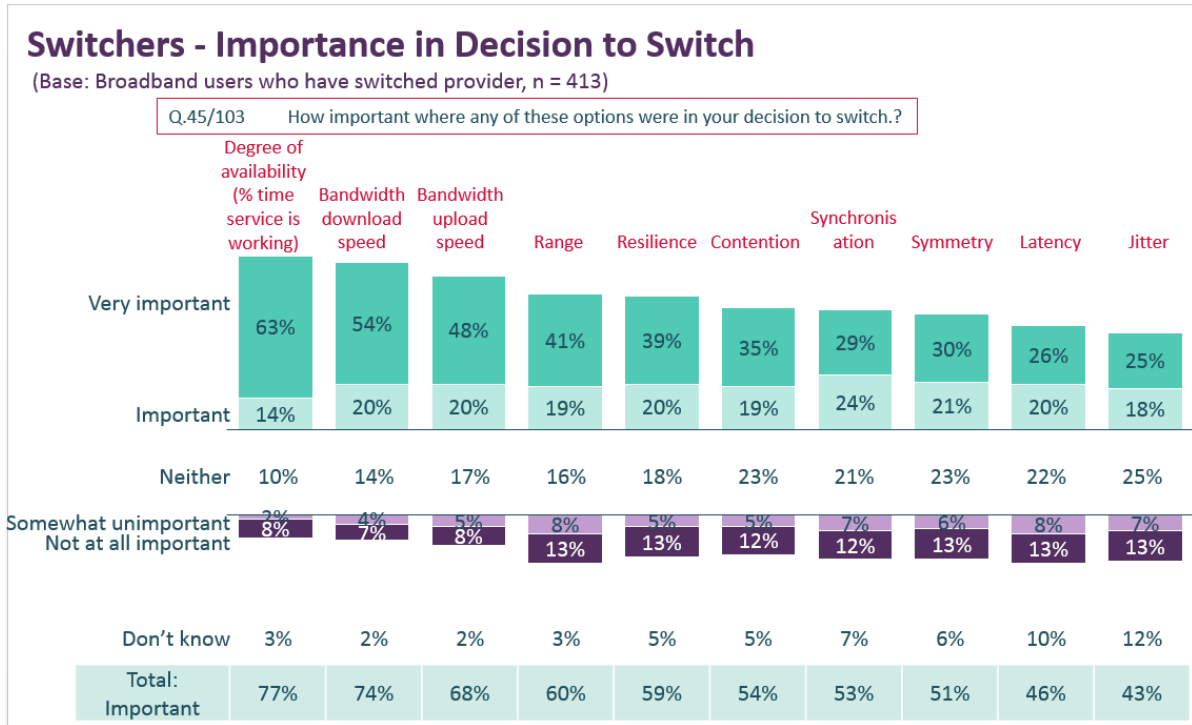


Figure 82: Switchers - Previous Means of Access (Slide 67)



A 2.75 Figure 83 illustrates the considerations of businesses when deciding to switch.⁶⁵ The factors given consideration include the degree of availability of service (time it is working) (77%), download speed (74%), upload speed (68%), as well as range and resilience.

Figure 83: Switchers - Importance in Decision to Switch (Slide 69)



A 2.76 Figure 84 overleaf gives the breakdown of the above question by platform type.⁶⁶ Availability (time service is working), as well as download and upload speeds, is particularly important to broadband users regardless of platform. Download and upload speed are considered most important for businesses on a CATV network.

A 2.77 Finally, Figure 85 overleaf outlines the likelihood of switching by platform, based on businesses' responses.⁶⁷ Businesses on fixed wireless or mobile broadband are most likely to switch in the next 12 to 18 months, while those on a fibre connection are least likely to switch.

⁶⁵ Slide 69, WLA/WCA Business Market Research.

⁶⁶ Slide 70, WLA/WCA Business Market Research.

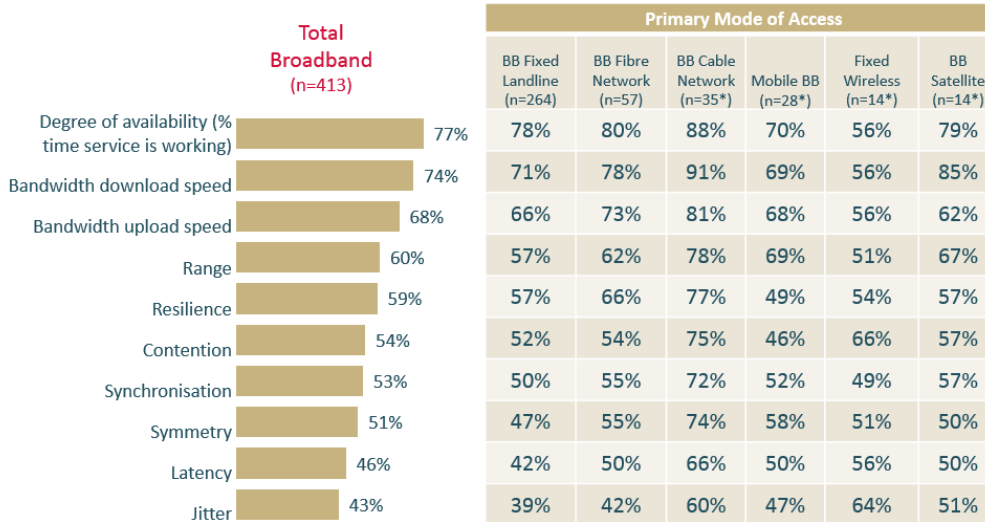
⁶⁷ Slide 71, WLA/WCA Business Market Research.

Figure 84: Switchers - Importance in Decision to Switch (Slide 70)

Switchers - Importance in Decision to Switch

(Base: Total Broadband Users Who Have Switched Provider – n=413)

Q.45/Q.103 How important were these options in your decision to switch?



*Caution Small Base

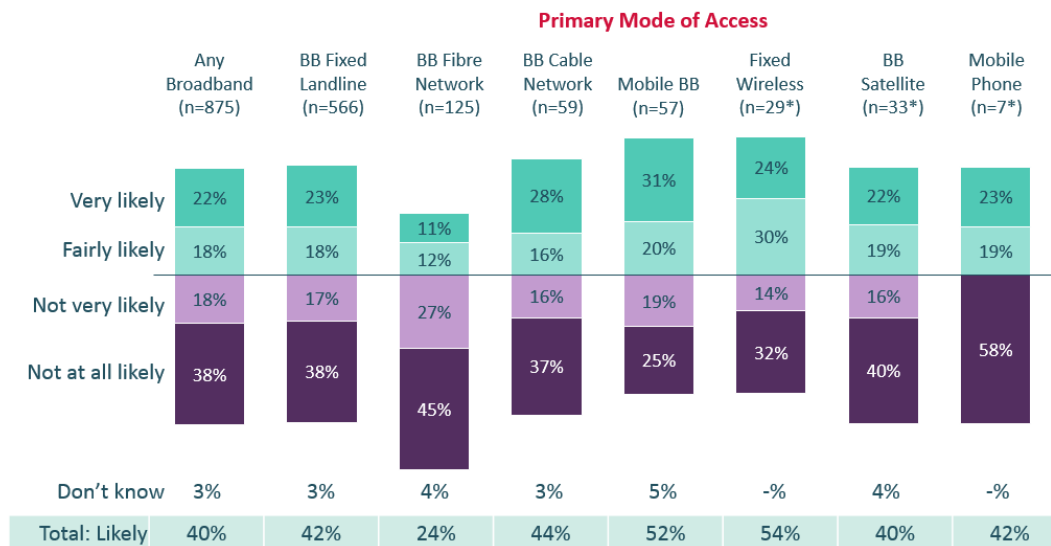
*Access through Mobile Phone base too small to show (1)

Figure 85: Likelihood to Switch - Next 12 - 18 Months (Slide 71)

Likelihood to Switch - Next 12 - 18 Months

(Base: Total Broadband Users, n=875)

Q.46/Q.104 How likely are you to consider switching broadband service provider within the next 12 - 18 months?



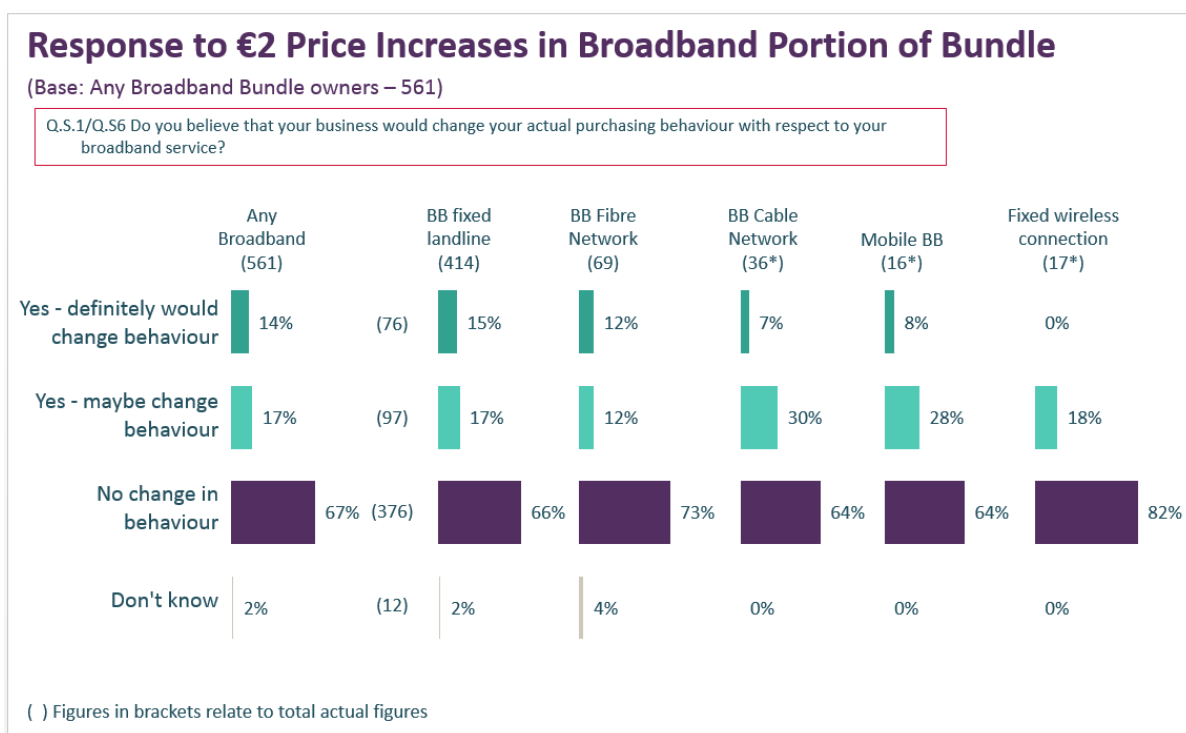
*Caution Small Base

Responses to Hypothetical Price Increases: Customers in a Bundle

A 2.78 As noted previously, the small but significant non transitory increase in price (SSNIP) test assists in determining the relevant market for products of a similar nature. Below, ComReg examines the outcomes of the SSNIP test for both bundle and non-bundle users.

A 2.79 The response of businesses to a €2 increase in the broadband component of their bundle is outlined in Figure 86 below.⁶⁸ Overall, 31% said that they would change their behaviour in response to this price increase and by platform, those on a fixed landline and CATV network are most likely to change their behaviour.

Figure 86: Response to €2 Price Increases in Broadband Portion of Bundle (Slide 73)



A 2.80 Figure 87 outlines the actual change in behaviour in response to the hypothetical €2 increase in the broadband component of the bundle.⁶⁹ Overall, 66% would cancel the service, with 44% cancelling and switching the whole bundle to another provider, 16% cancelling and switching the broadband component of the bundle to another provider, and 5% switching to leased lines.

⁶⁸ Slide 73, WLA/WCA Business Market Research.

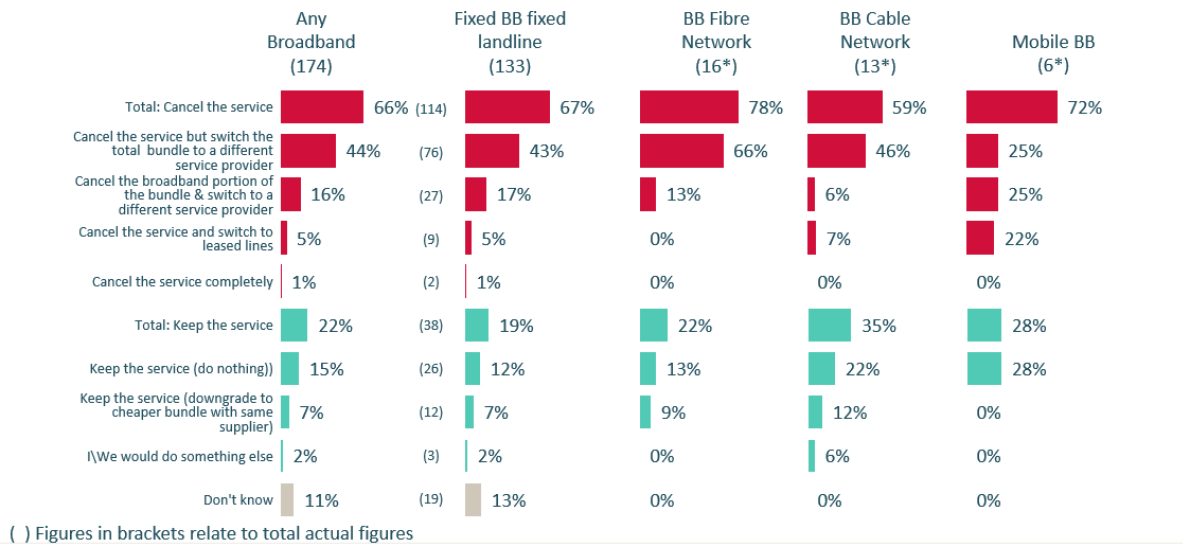
⁶⁹ Slide 74, WLA/WCA Business Market Research.

Figure 87: Response to €2 price increases – Broadband Bundle (Slide 74)

Response to €2 price increases – Broadband Bundle

(Base: All broadband bundle who would change behaviour – n=174)

Q.S2 Which of the following would describe what your business would be most likely to do in response to this hypothetical €2 price increase of your broadband service?



A 2.81 Figure 88 outlines the responses of business when subsequently asked if they would follow through on their previously stated responses.⁷⁰ 85% of broadband bundle users state that they are likely to change their behaviour (switch provider, cancel subscription or remain with current provider) in response to a €2 increase in price.

A 2.82 Of those users that are likely to switch provider following the hypothetical price increase, Figure 89 shows that 25% would switch to a fibre Service Provider, 12% would switch to satellite, and 7% would switch to a service provided over a fixed telephone line.⁷¹

⁷⁰ Slide 75, WLA/WCA Business Market Research.

⁷¹ Slide 76, WLA/WCA Business Market Research.

Figure 88: Likelihood To Follow Through With Any Change In Behaviour – Broadband Bundle Owners (Slide 75)

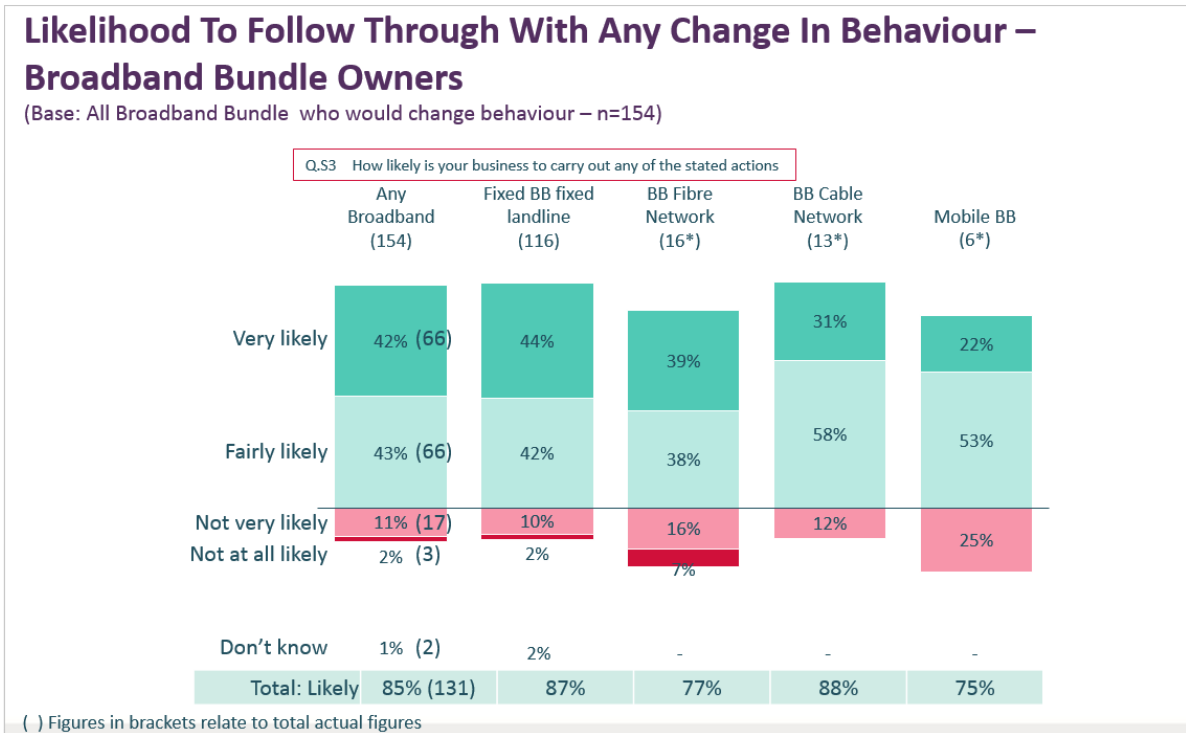
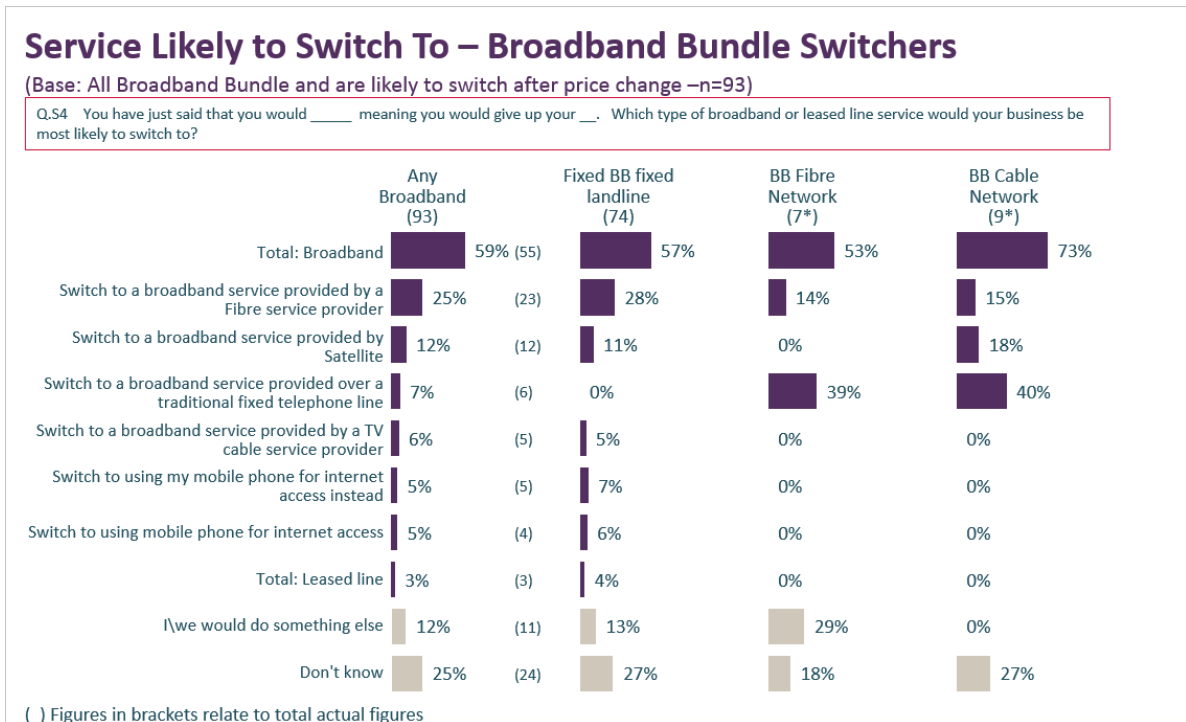


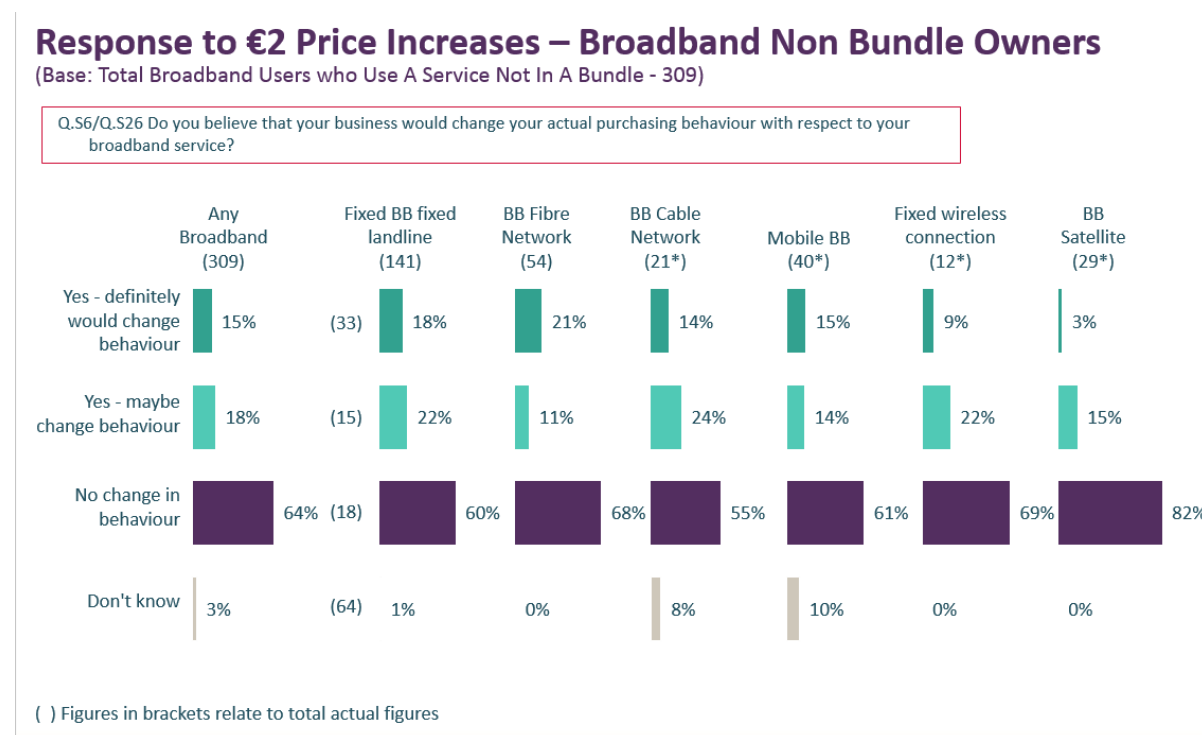
Figure 89: Service Likely to Switch To – Broadband Bundle Switchers (Slide 76)



Responses to Hypothetical Price Increases: Customers not in a Bundle

A 2.83 Businesses whose broadband connection was not part of a bundle were also asked about their response to a hypothetical €2 price increase, the responses to which are illustrated in Figure 90 below.⁷² 33% of all respondents state that they would change their behaviour in the response to the price increase, with 40% on a connection via fixed landline stating that they would change their behaviour and 32% on an FTTC network stating that they will change their behaviour.

Figure 90: Response to €2 Price Increases – Broadband Non Bundle Owners (Slide 78)

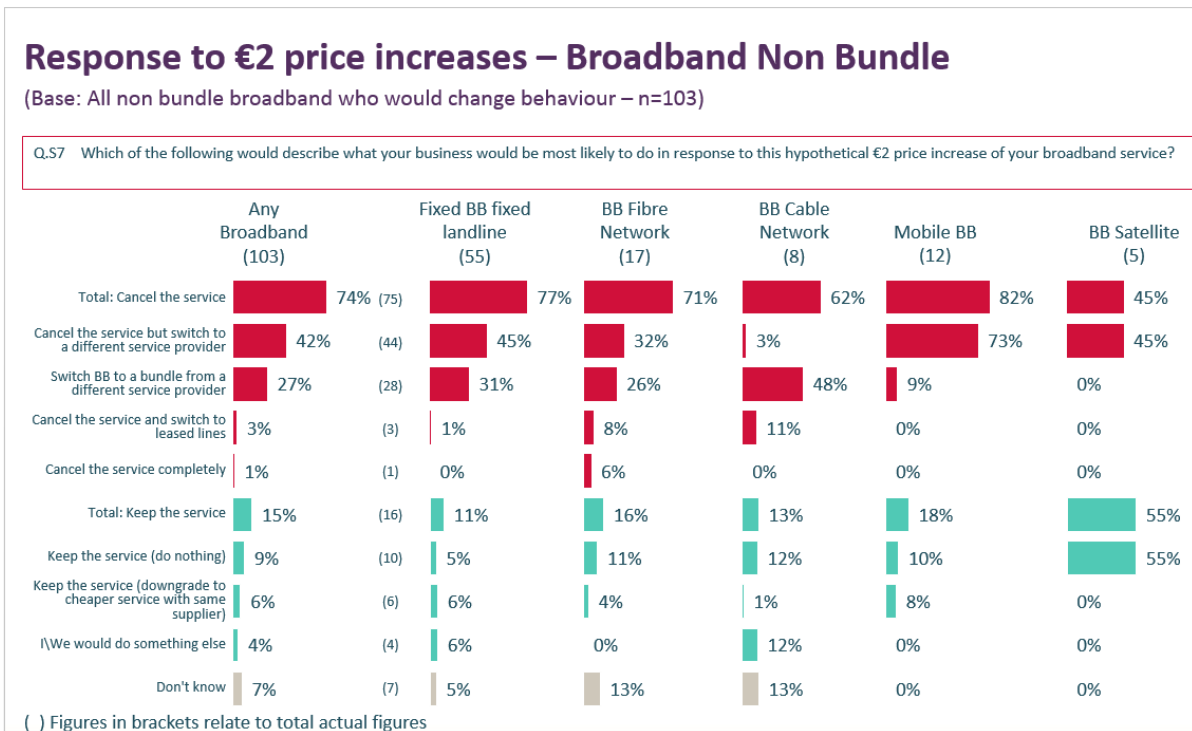


A 2.84 Figure 91 gives the breakdown of likely actions by respondents who would change their behaviour.⁷³ 74% of respondents (non-bundle businesses) state that they would cancel the service, and this includes 42% that would switch to another provider, 27% that would switch to a bundle provided by another provider, and 3% state that they would switch to a leased line.

⁷² Slide 78, WLA/WCA Business Market Research.

⁷³ Slide 79, WLA/WCA Business Market Research.

Figure 91: Response to €2 price increases – Broadband Non Bundle (Slide 79)



A 2.85 When asked about the likelihood that they would follow through with any change in behaviour, 73% of respondents state that they would follow through (Figure 92 overleaf).⁷⁴ This is lower than for bundle users above (85%).

A 2.86 Figure 93 overleaf gives the breakdown of likely actions by those non-bundle users that are likely to change their behaviour.⁷⁵ 37% state that they would switch to a fibre powered broadband service, while 16% would switch to a satellite provider.

⁷⁴ Slide 80, WLA/WCA Business Market Research.

⁷⁵ Slide 81, WLA/WCA Business Market Research.

Figure 92: Likelihood To Follow Through With Any Change In Behaviour – Non Bundle Users (Slide 80)

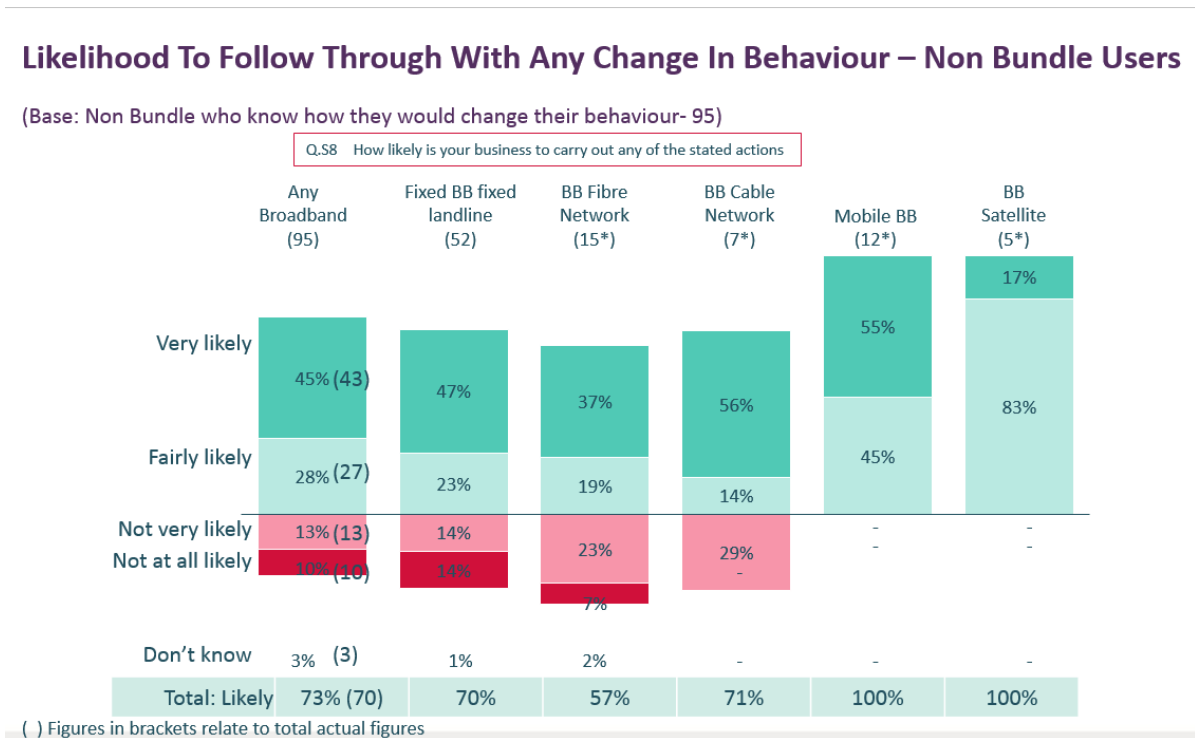
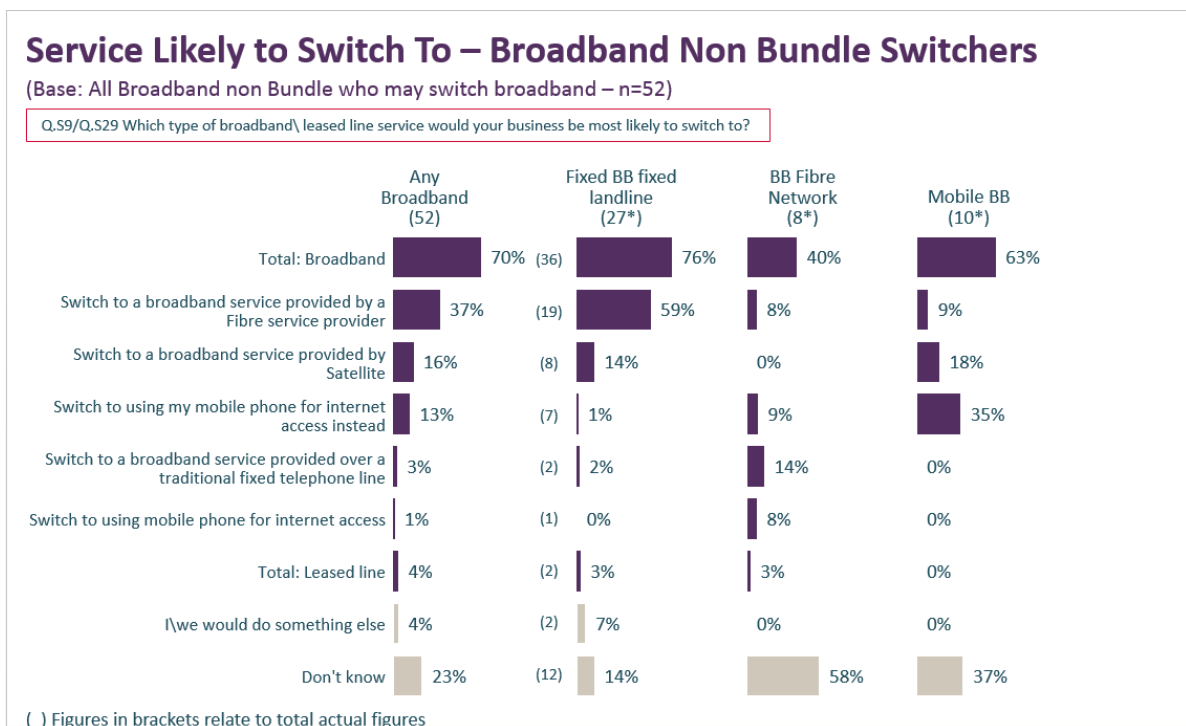


Figure 93: Service Likely to Switch To – Broadband Non Bundle Switchers (Slide 81)



Appendix: 3 Broadband Offerings and Chain of Substitution Analysis

Introduction

- A 3.1 In this Appendix, ComReg sets out the retail broadband packages (fixed and mobile) available on each platform and assesses whether a chain of substitution exists between retail broadband products provided at various speeds.
- A 3.2 ComReg obtained information on broadband tariffs, speeds and prices offered by the main operators (Digiweb, Eircom, Imagine, Magnet, Sky Ireland, Virgin Media, and Vodafone) during June 2016. Information was collected on tariffs aimed at both residential and non-residential broadband users, and the analysis below is undertaken separately for each group.

Fixed Broadband Packages Offered by Main Operators

Digiweb

- A 3.3 Digiweb provides retail broadband packages to both residential and business customers using DSL (via Eircom's Bitstream product and Digiweb's own supply via LLU), VDSL (FTTC), Fixed Wireless Access and Satellite. Digiweb offer a total of 13 residential packages and 7 business packages.

Residential Packages

- A 3.4 Digiweb offer two DSL broadband products to residential customers, varying each package by the download speed offered.

Table 31: Digiweb Residential DSL Tariffs⁷⁶

	DSL Personal & Talk	DSL Unlimited Broadband & Talk
Contract Length	12 months	12 months
Price (incl. VAT) per month	€50.82	€59.95
Download Speed	3 Mb	24 Mb
Upload Speed	384 Kb	384 Kb
Download Allowance	Unlimited	Unlimited
Line Rental	€25.78 additional charge	€25.78 additional charge
Once-off Charges	None	None
Other Services included	Equipment, installation, activation included in plan. Free internet security for 6 months. Unlimited calls to landlines in Ireland & UK/Unlimited calls to mobiles in Ireland & UK.	Equipment, installation, activation included in plan. Free internet security for 6 months. 1500 minutes Anytime Calls to landlines in Ireland and UK. 30 minutes Anytime Calls to mobiles in Ireland & UK.

A 3.5 Digiweb's Fibre Broadband products are based on Eircom's FTTC network. Digiweb currently offers two products, one with a limited download allowance and the other with unlimited download allowances. Both products are part of a bundle that includes fixed and mobile calls.

⁷⁶ Source: Digiweb website (June 2016) – <http://www.digiweb.ie/dsl-broadband/#sthash.O5TgsZoL.dpbs>

Table 32: Digiweb Residential Fibre Broadband Tariffs⁷⁷

	Lite Fibre Broadband	Unlimited Fibre Broadband
Contract Length	18 months	18 months
Price (incl. VAT) per month	€34.95	€49.95
Download Speed	100 Mb	100 Mb
Upload Speed	20 Mb	20 Mb
Download Allowance	40 Gb	Unlimited
Line Rental	Included	Included
Once-off Charges	€49.95 activation fee	None
Other Services included	Off peak calls to Ireland and UK landlines, inclusive calls to mobiles in Ireland and UK, free line rental, free internet security for 6 months, equipment, parental controls.	Off peak calls to Ireland and UK landlines, inclusive calls to mobiles in Ireland and UK, free line rental, free internet security for 6 months, equipment, parental controls.

A 3.6 Digiweb offer a number of NGA broadband packages, as outlined in the table below.

⁷⁷ <http://www.digiweb.ie/fibre-broadband/#sthash.2zxJSkhD.dpbs>

Table 33: Digiweb NGA Tariffs⁷⁸

	Home	Home with VOIP	Home with Line Rental
Contract Length	12 months	12 months	12 months
Price (incl. VAT) per month	€39.95	€39.95	€49.95
Download Speed	24 Mbps	24 Mbps	24 Mbps
Upload Speed	768 Kbps	768 Kbps	768 Kbps
Download Allowance	Unlimited	Unlimited	Unlimited
Line Rental		Included in plan	Included in plan
Once-off Charges	€49 connection fee	€49 connection fee	€49 connection fee
Other Services included	Free wifi modem and internet security for 6 months.	Free wifi modem, parental security, off peak calls to landlines and mobiles in Ireland/UK, free line rental, and internet security for 6 months.	Free wifi modem, unlimited calls to landlines and mobiles in Ireland/UK and internet security for 6 months.

A 3.7 Digiweb also offer a number of satellite based broadband products, varying them by download speed, download allowance and price.

⁷⁸ <http://www.digiweb.ie/nextgen/#sthash.Q63CA72u.dpbs>

Table 34: Digiweb Residential Satellite Tariffs⁷⁹

	Connect 15	Connect 20	Connect 30	Connect 40
Contract Length	24 months	24 months	24 months	24 months
Price (incl. VAT) per month	€39.95	€49.95	€59.95	€69.95
Download Speed	7 Mb	10 Mb	10 Mb	20 Mb
Upload Speed	1 Mb	1 Mb	1 Mb	2 Mb
Download Allowance	15 Gb	20 Gb	30 Gb	40 Gb
Line Rental				
Once-off Charges	€149.95	€149.95	€149.95	€149.95
Other Services included	Night-time traffic discount of 50%, equipment, free internet security for 6 months.	Night-time traffic discount of 50%, equipment, free internet security for 6 months.	Night-time traffic discount of 50%, equipment, free internet security for 6 months.	Night-time traffic discount of 50%, equipment, free internet security for 6 months.

A 3.8 Digiweb currently offers broadband to residential consumers under the brand name 'metro broadband' which is Fixed Wireless Access (FWA) and does not require a phone line for access.

⁷⁹ <http://www.digiweb.ie/satellite-broadband/#sthash.SvaizozU.dpbs>

Table 35: Digiweb Other Residential Broadband packages⁸⁰

	30 GB Metro Starter	Unlimited Metro Freedom
Contract Length	12 months	12 months
Price (incl. VAT) per month	€29.95	€49.95
Download Speed	Up to 5 Mb	Up to 30 Mb
Upload Speed	1 Mb	1 Mb
Download Allowance	30 Gb	Unlimited
Once-off Charges	€29.95 installation and set up	Free installation and set up.
Other Services included	Off peak calls to Ireland UK landlines, 40 off peak mobile minutes to Ireland and UK, free metro to metro calls, equipment, free internet security for 6 months.	Unlimited Ireland and UK landline and mobile calls, equipment, installation, free internet security for 6 months.

Business Packages

A 3.9 Digiweb's business offerings include broadband and phone services. Digiweb currently has seven offerings, two based on DSL and one FTTC product, as well as four satellite based plans.

⁸⁰ <http://www.digiweb.ie/metro-broadband/#sthash.2eXdLgD3.dpbs>

Table 36: Digiweb Business Packages – DSL and Fibre⁸¹

	Business 24	Business Pro	Business Fibre Plan
Contract Length	12 months	12 months	12 months
Price (incl. VAT) per month	€35.67	€47.97	€67.65
Download Speed	Up to 24 Mb	Up to 24 Mb	Up to 100 Mb
Upload Speed	1 MB	1 MB	20 MB
Download Allowance	40 Gb	350 Gb	350 Gb
Line Rental	Included	Included	Included
Once-off Charges	€49 activation fee	€49 activation fee	€49 activation fee
Other Services included	Equipment, installation, free calls to local, national and mobile numbers, free internet security for 6 months.	Equipment, installation, free calls to local, national and mobile numbers, free internet security for 6 months.	Equipment, installation, free calls to local, national and mobile numbers, free internet security for 6 months.

Table 37: Digiweb Business Packages - Satellite

	Tooway Business 25⁸²	Tooway Business 40⁸³	Tooway Business 100⁸⁴	Tooway Business 200⁸⁵
Price (incl. VAT) per month	€88.50	€122.94	€307.44	€487.02
Download Speed	Up to 22 Mb	Up to 22 Mb	Up to 22 Mb	Up to 22 Mb
Upload Speed	Up to 6 Mb	Up to 6 Mb	Up to 6 Mb	Up to 6 Mb
Download Allowance	25 Gb (optional night time unlimited traffic between 12am and 6am)	40 Gb (optional night time unlimited traffic between 12am and 6am)	100 Gb (optional night time unlimited traffic between 12am and 6am)	200 Gb (optional night time unlimited traffic between 12am and 6am)
Once-off Charges	€270.53 activation fee	€270.53 activation fee	€270.53 activation fee	€270.53 activation fee
Other Services included	Free internet security for 6 months.	Free internet security for 6 months.	Free internet security for 6 months.	Free internet security for 6 months.

⁸¹ <http://business.digiweb.ie/compare-plans/>

⁸² <http://business.digiweb.ie/product/tooway-business-25-satellite-plan/>

⁸³ <http://business.digiweb.ie/product/tooway-business-40-satellite-plan/>

⁸⁴ <http://business.digiweb.ie/product/tooway-business-100-satellite-plan/>

⁸⁵ <http://business.digiweb.ie/product/tooway-business-200-satellite-plan/>

Eircom

A 3.10 Eircom offer a range of packages catering for both residential and business broadband users. Broadband services are offered as part of a bundle and on a standalone basis.

Residential Packages

A 3.11 On the residential side, Eircom offers one standalone broadband package, as outlined below.

Table 38: Eircom Standalone Broadband⁸⁶

	Eir Fibre Solo
Contract Length	18 months
Price (incl. VAT) per month	€45.00
Download Speed	100 Mb
Upload Speed	10 Mb
Download Allowance	Unlimited
Other Services included	Free Wi-Fi modem and installation

A 3.12 Eircom offer a range of bundles with broadband as a key component. Broadband is bundled with TV services, fixed phone line and mobile telephony.

⁸⁶ <https://www.eir.ie/broadband-only/>

Table 39: Eircom FTTC Broadband with mobile, TV and Home Phone⁸⁷

	Broadband & mobile	Broadband & TV	Broadband and Home Phone ⁸⁸
Contract Length	24 months	24 months	18 months
Introductory Price (Months)	€45.00 (6 months)	€45.00 (6 months)	€25.00 (3 months)
Price (incl. VAT) per month	€65.00	€60.00	€70.00
Download Speed	100 Mb	100 Mb	100 Mb
Upload Speed	10 Mb	10 Mb	10 Mb
Download Allowance	Unlimited	Unlimited	Unlimited
Other Services included	Free Wi-Fi modem and installation, 100 minutes, unlimited texts, 4G plan with 1GB data.	Free Wi-Fi modem and installation, 55 channels including eir movies.	Free Wi-Fi modem and installation, unlimited home phone calls to all Irish and UK landlines & mobiles.

A 3.13 The table below outlines the features of Eircom's CGA broadband bundles.

⁸⁷ <https://www.eir.ie/broadband-only/>

⁸⁸ <https://www.eir.ie/broadband/>

Table 40: Eircom's CGA broadband and phone bundles

	Eir Base Dual Play	Eir Vision Essential	Eir Talk Off Peak Vision Essential
Contract Length	12 months	12 months	12 months
Price (incl. VAT) per month	€57	€62	€72
Download Speed	24 MB	24 MB	24 MB
Upload Speed	1 MB	1 MB	1 MB
Download Allowance	Unlimited	Unlimited	Unlimited
Line Rental	Included in price	Included in price	Included in price
Other Services included	Phone services; modem/router included	TV services; modem/router included	Phone and TV services; modem/router included

A 3.14 The table below details Eircom's FTTC broadband and phone packages.

Table 41: Eircom Broadband and phone⁸⁹

	Superfast Broadband & Off Peak Mobile calls	Superfast broadband, Unlimited Mobile & UK calls	Superfast broadband & International calls
Contract Length	18 months	18 months	18 months
Introductory Price (Months)	€52 (6 months)	€25 online, €30 offline (3 months)	€30 online, €35 offline (3 months)
Price (incl. VAT) per month	€52	€70	€75
Download Speed	100 Mb	100 Mb	100 Mb
Upload Speed	20 Mb	20 Mb	20 Mb
Download Allowance	Unlimited	Unlimited	Unlimited
Line Rental	Included in price	Included in price	Included in price
Other Services included	Unlimited off peak calls to Irish landlines and mobiles	Unlimited calls to Irish and UK landlines and mobiles.	Unlimited anytime home phone calls to Irish and UK landlines and mobiles and top international landlines and mobiles.

⁸⁹ https://www.eir.ie/bundles/#eir-tab-accordion_selector1

A 3.15 The table below details Eircom's broadband, TV and phone packages.

Table 42: Eircom TV, broadband and phone⁹⁰

	Eir Vision TV Essential & broadband	Eir Vision TV Experience broadband &	Eir Vision TV Experience broadband & international
Contract Length	18 months	18 months	18 months
Introductory Price (Months)	€25 online, €30 offline (6 months)	€35 online, €40 offline (6 months)	€40 online, €45 offline (6 months)
Price (incl. VAT) per month	€85	€95	€100
Download Speed	100 Mb	100 Mb	100 Mb
Upload Speed	10 Mb	10 Mb	10 Mb
Download Allowance	Unlimited	Unlimited	Unlimited
Other Services included	Unlimited anytime home phone calls to Irish and UK landlines and mobiles. 55 top TV channels with pause, rewind & record, eir Movies.	Unlimited anytime calls to Irish and UK landlines and mobiles. 84 top TV channels with pause, rewind & record, eir Movies.	Unlimited anytime calls to Irish landlines, Int'l & UK landlines & mobiles. 84 top TV channels with pause, rewind & record, eir Movies.

A 3.16 The table below details Eircom's broadband, mobile and phone packages.

Table 43: Eircom Mobile, broadband and phone⁹¹

	Mobile 100 + 1GB & broadband	Mobile Unlimited + 10GB & broadband	SIMO Unlimited + 10GB & broadband
Contract Length	18 months	18 months	18 months
Introductory Price (Months)	€25 online, €30 offline (6 months)	€50 online, €55 offline (6 months)	€55 online, €60 offline (6 months)
Price (incl. VAT) per month	€90	€115	€100
Download Speed	100 Mb	100 Mb	100 Mb
Download Allowance	Unlimited	Unlimited	Unlimited
Other Services included	100 Mins. Unlimited texts + calls. 4G plan. 1GB Data. Unlimited anytime home phone calls to Irish and UK landlines and mobiles. Free EU roaming and 1GB EU roaming data.	Unlimited any network calls + texts. 4G plan. 10GB Data. Unlimited anytime home phone calls to Irish and UK landlines and mobiles. Free EU roaming and 1GB EU roaming data.	Unlimited anytime home phone calls to Irish and UK landlines and mobiles. Unlimited Mins + texts. 4G Plan. 10GB Data. Free EU roaming and 1GB EU roaming data.

⁹⁰ https://www.eir.ie/bundles/#eir-tab-accordion_selector2

⁹¹ https://www.eir.ie/bundles/#eir-tab-accordion_selector3

A 3.17 The table below details Eircom's broadband, TV, mobile and phone packages.

Table 44: Eircom TV, mobile, broadband and phone⁹²

	Mobile 100, TV Essential broadband	SIMO Unlimited, TV Essential & broadband	Mobile + SIM, TV Experience & broadband
Contract Length	24 months	18 months/30 days SIM	18 months broadband, TV, home phone/24 months mobile plan/30 days SIM
Introductory Price (Months)	€25 online, €30 offline (6 months)	€45 online, €50 offline (6 months)	€45 online, €50 offline (6 months)
Price (incl. VAT) per month	€100	€110	€120
Download Speed	100 Mb	100 Mb	100 Mb
Download Allowance	Unlimited	Unlimited	Unlimited
Other Services included	FREE 4G phone. 100 Mins. Unlimited texts. 4G plan. 1GB Data. Unlimited anytime home phone calls to Irish and UK landlines and mobiles. 55 top TV channels with pause, rewind & record, eir Movies. Free EU roaming and 1GB EU roaming data.	SIM Only plan. Unlimited Mins + texts. 4G Plan. 10GB Data. Unlimited anytime home phone calls to Irish landlines and mobiles. 55 top TV channels with pause, rewind & record, eir Movies. Free EU roaming and 1GB EU roaming data.	/+2 Mobile plans: phone & SIM Only plan. 100 Mins + texts. 1GB Data. Unlimited anytime home phone calls to Irish landlines and mobiles. 84 top TV channels with pause, rewind & record, eir Movies. Free EU roaming and 1GB EU roaming data.

A 3.18 Finally, Eircom offer a number of bundles that include high speed Fibre to the Home (FTTH) broadband.

⁹² https://www.eir.ie/bundles/#eir-tab-accordion_selector4

Table 45: Eircom bundles with FTTH broadband⁹³

	Eir Base Extreme 1000MB	Eir Play Extreme 1000MB	Eir Go Extreme 1000MB
Contract Length	12 months	12 months	12 months
Introductory Price (Months)	€50 (3 months)	€50 (6 months)	€50 (6 months)
Price (incl. VAT) per month	€95	€110	€115
Download Speed	1000 Mb	1000 Mb	1000 Mb
Upload Speed	200 Mb	100 Mb	100 Mb
Download Allowance	Unlimited	Unlimited	Unlimited
Line Rental			
Once-off Charges			
Other Services included	Unlimited calls to Irish and UK landlines & mobiles.	Unlimited calls to Irish and UK landlines & mobiles, TV.	Unlimited calls to Irish and UK landlines & mobiles, Eir mobile.

Business Packages

A 3.19 On the business side, Eircom offer packages for small and medium sized businesses, large corporations and packages for the public sector.⁹⁴ The table below gives a brief overview of the packages offered to small and medium businesses.

⁹³ <https://www.eir.ie/extreme/>

⁹⁴ <https://business.eir.ie/>

Table 46: Eircom bundles for Small and Medium Businesses¹

	Unlimited Broadband ²	Broadband and Landline 1 ³	Broadband and Landline 2	Broadband and Landline 3	Broadband and Landline 4	Broadband and Landline 5	Broadband and Landline 6	Advantage Wi-Fi ⁴
Introductory Price (Months)	12 months	12 months	12 months	12 months	12 months	12 months	€40 (6 months)	
Price (incl. VAT) per month	€49	€49	€55	€68	€55	€62	€74	€49
Download Speed	100 Mb	Max. speed line permits	Max. speed line permits	Max. speed line permits	Max. speed line permits	Max. speed line permits	Max. speed line permits	100 Mb
Download Allowance	Unlimited	40 Gb	40 Gb	40 Gb	Unlimited	Unlimited	Unlimited	Unlimited
Other Services included	Pay for landline calls as made	200 minutes to landlines, 30 minutes to any mobile network, unlimited calls to Eircom mobiles.	Unlimited calls to landlines, 60 minutes to any mobile network, unlimited calls to Eircom mobiles.	Unlimited landline and mobile calls, and unlimited calls to Eircom mobiles.	200 minutes to landlines, 30 minutes to any mobile network, unlimited calls to Eircom mobiles.	Unlimited calls to landlines, 60 minutes to any mobile network, unlimited calls to Eircom mobiles.	Unlimited landline and mobile calls, and unlimited calls to Eircom mobiles.	Free installation with 24/7 online and phone support.

¹ <https://business.eir.ie/broadband/advantage-bundles/>

² <https://business.eir.ie/broadband/advantage-bundles/#tab-broadband-mobile-bundle>

³ <https://business.eir.ie/broadband/advantage-bundles/#tab-broadband-landline-bundle>

⁴ <https://business.eir.ie/advantage-wifi>

Table 47: Eircom standalone broadband packages for businesses¹

	Business Broadband 40GB (standalone)	Business Broadband Unlimited (standalone)	Business Advantage Boost - 1GB (standalone)	Business Advantage Boost 300MB (standalone)	Business Advantage Boost 150MB (standalone)
Contract Length	12 months	12 months	12 months	12 months	12 months
Introductory Price (Months)					
Price (incl. VAT) per month	€43	€49	€110	€92	€67
Download Speed	100 Mb	100 Mb	1000 Mb	300 Mb	150 Mb
Upload Speed	20 Mb	20 Mb	100 Mb	70 Mb	30 Mb
Download Allowance	40Gb	Unlimited	Unlimited	Unlimited	Unlimited
Line Rental					
Once-off Charges	€131	€131	€131	€131	€131
Other Services included					

¹ <https://www.eir.ie/opencms/export/sites/default/.content/pdf/pricing/Part3.1.pdf>

Imagine

A 3.20 Imagine offer 4 residential broadband packages and 10 business broadband packages.

Residential Packages

A 3.21 The table below outlines the Imagine's fixed wireless residential broadband packages.

Table 48: Imagine FWA Residential Broadband Packages²

	WiMAX Phone & Broadband	Fibre 70 Residential	Fibre Standalone 70	Fibre Connect Smart Broadband
Contract Length	12 months	12 months	12 months	18 months
Price (incl. VAT) per month	€29.99	€45.00	€55.00	€59.99
Download Speed	10 Mb	70 Mb	70 Mb	70 Mb
Upload Speed	512 Kb	20 Mb	20 Mb	20 Mb
Download Allowance	Unlimited	Unlimited	Unlimited	20 Gb per day, approx. 600 Gb per month
Line Rental	No	No	No	No
Once-off Charges	€100 activation fee	€50 activation fee	€50 activation fee	€100 activation fee
Other Services included	Unlimited local and national calls, international call for 3.21c per minute.	Unlimited local and national calls to landlines.	Unlimited local and national calls to landlines.	Unlimited local and national calls to landlines.

Business Packages

A 3.22 For business customers, Imagine offer broadband over a contentionless wireless service, FWA broadband, and DSL broadband. The contentionless wireless broadband packages are outlined in the table below.

² <http://www.imagine.ie/offer/>

Table 49: Imagine Contended Wireless Broadband Packages (Business)³

	4 Mb	6 Mb	6Mb Plus	6 Mb Pro
Contract Length	12 months	12 months	12 months	12 months
Price (incl. VAT) per month	€52.99	€86.11	€165.62	€231.87
Download Speed	4 Mb	6 Mb	6 Mb	6 Mb
Upload Speed	4 Mb	6 Mb	6 Mb	6 Mb
Download Allowance	Unlimited	Unlimited	Unlimited	Unlimited
Once-off Charges	€120 connection fee + €40.65 set up charge	€120 connection fee + €40.65 set up charge	€120 connection fee + €40.65 set up charge	€120 connection fee + €40.65 set up charge
Other Services included				
Contention	24:01:00	24:01:00	12:01	04:01

A 3.23 Imagine's FWA broadband offering for businesses is outlined in the table below.

Table 50: Imagine FWA Broadband Package (Businesses)⁴

	Imagine Fibre 70 (Business)
Contract Length	12 months
Price (incl. VAT) per month	€41.73
Download Speed	70 Mb
Upload Speed	20 Mb
Download Allowance	Unlimited
Once-off Charges	€40.65
Other Services included	Free modem

A 3.24 Finally, Imagine's DSL based broadband packages for businesses are presented in the table below.

³ <http://www.imaginebusiness.ie/wireless-business-broadband/#toggle-id-1>

⁴ <http://www.imaginebusiness.ie/fibre-business-broadband/>

Table 51: Imagine DSL Broadband Packages for Businesses⁵

	DSL (1)	DSL (2)	DSL (3)	DSL (4)	DSL (5)
Contract Length	12 months	12 months	12 months	12 months	12 months
Introductory Price (Months)					
Price (incl. VAT) per month	€21.89	€32.84	€43.79	€87.59	€164.24
Download Speed	3 Mb	7.8 Mb	12 Mb	24 Mb	18 Mb
Upload Speed	384kb	672kb	1 Mb	1Mb	2 Mb
Download Allowance	Unlimited	Unlimited	Unlimited	Unlimited	Unlimited
Line Rental	€20.96	€20.96	€20.96	€20.96	€20.96
Once-off Charges	€49.59, or rent wireless router for €4.13 per month.	€49.59, or rent wireless router for €4.13 per month.	€49.59, or rent wireless router for €4.13 per month.	€49.59, or rent wireless router for €4.13 per month.	€49.59, or rent wireless router for €4.13 per month.
Other Services included					
Contention	48:01:00	12:01	12:01	12:01	12:01

⁵ <http://www.imaginebusiness.ie/dsl-business-broadband/>

Magnet

A 3.25 Magnet offer a range of broadband packages that are tailored individually for residential and business consumers.

Residential Packages

A 3.26 The residential packages are split between FTTC and FTTH.

Table 52: Magnet Residential Broadband Packages (FTTC)

	Fatpipe Fibre 24 ⁶	Fatpipe Fibre 100 ⁷	Fatpipe Stream ⁸
Contract Length	1 month	1 month	1 month
Price (incl. VAT) per month	€41.99	€57.99	€49.99
Download Speed	24 Mb	100 Mb	24 Mb
Upload Speed	1 Mb	20 Mb	
Download Allowance	Unlimited	Unlimited	Unlimited
Once-off Charges	€58	€58	

A 3.27 The table below outlines the FTTH packages that Magnet offer residential customers.

Table 53: Magnet Residential Broadband Packages (FTTH)⁹

	Fibre Broadband 60	Fibre Broadband 100	Choice 30	Choice 60	Choice 100
Contract Length			12 months	12 months	12 months
Price (incl. VAT) per month	€40	€50	€39.99	€53.99	€63.99
Download Speed	60 Mb	100 Mb	30 Mb	60 Mb	100 Mb
Upload Speed	8 Mb	10 Mb	5 Mb	8 Mb	10 Mb
Download Allowance			Unlimited	Unlimited	Unlimited
Line Rental	Included		Included	Included	Included
Other Services included			Off peak local and national calls	Off peak local and national calls, 100 minutes for international calls	Off peak local and national calls, 100 minutes for international calls, 30 minutes for mobile calls

⁶ <https://www.magnet.ie/products/fatpipe-24/>

⁷ <http://www.magnet.ie/products/fatpipe-100/>

⁸ <https://www.magnet.ie/products/fatpipe-stream/>

⁹ <http://www.magnet.ie/ftth/>

Business Packages

A 3.28 For business consumers, Magnet offer packages tailored toward small, medium and large businesses, with packages for large businesses being custom designed based on specified requirements.

Table 54: Magnet Broadband Packages for Small Businesses¹⁰

	Small Office Fibre 100¹¹	Office in a Box (Voice, BB, Domain)¹²	Business Fibre 100¹³	Bespoke Fibre Broadband¹⁴
Introductory Price (Months)	€44.27 (6 months)			€53
Price (incl. VAT) per month	€86.09	€204.17	€52.89	
Download Speed	100 Mb	100 Mb	100 Mb	100 Mb
Upload Speed	20 Mb		20 Mb	20 Mb
Download Allowance	Unlimited			Unlimited
Line Rental	Yes			
Other Services included	Unlimited calls to Irish, UK, USA landlines and mobiles, and 18 other top countries.	Unlimited calls to Irish, UK, USA landlines and mobiles, and 18 other top countries.		

¹⁰ <http://www.magnet.ie/business/business-type/small-business/>

¹¹ <https://www.magnet.ie/business/products/small-office-fibre-100/>

¹² <https://www.magnet.ie/business/products/office-box/>

¹³ <https://www.magnet.ie/business/products/business-fibre-100/>

¹⁴ <https://www.magnet.ie/business/products/medium-large-business-broadband/>

Sky

A 3.29 Sky offer a number of packages for residential and business customers, both as standalone products and as bundles. Business broadband packages are offered on a customised basis.

Residential Packages

A 3.30 The standalone broadband products for residential customers are detailed in the table below.

Table 55: Sky Standalone Residential Broadband Packages¹⁵

	Sky Fibre Unlimited	Sky Fibre	Sky Broadband Unlimited	Sky Broadband Lite ¹⁶	Sky Fibre Unlimited with Phone and Sky TV
Contract Length	12 months	12 months	12 months	12 months	12 months
Introductory Price (Months)	€40 (12 months)		€40 (12 months)		
Price (incl. VAT) per month	€55	€45	€45	€35	€80
Download Speed	100 Mb	100 Mb	24 Mb	24 Mb	100 Mb
Upload Speed	20 Mb			1 Mb	20 Mb
Download Allowance	Unlimited	25 Gb	Unlimited	2 Gb	Unlimited
Line Rental	€30	€30	€30	Included	
Other Services included	Sky Talk Freetime (free off peak calls to Irish landlines), 3 months free internet security	Sky Talk Freetime (free off peak calls to Irish landlines), 3 months free internet security	Sky Talk Freetime (free off peak calls to Irish landlines), 3 months free internet security		

A 3.31 Sky also offer broadband as part of a bundle with TV and fixed landline, each of which are custom designed.

A 3.32 For business customers, Sky offer packages for certain types of businesses, e.g. pubs, bars, restaurants, hotels, offices.¹⁷

¹⁵ <http://www.sky.com/ireland/broadband-talk/>

¹⁶ <http://www.sky.com/ireland/broadband-talk/broadband-unlimited/>

¹⁷ <https://business.sky.com/>

Virgin Media

A 3.33 Virgin Media offer a range of broadband services both as part of a bundle and as a standalone product.

Residential Packages

A 3.34 The table below outlines the standalone broadband packages for residential customers which are provided over Virgin Media's DOCSIS 3 cable network.

A 3.35 Virgin Media bundle broadband with TV, fixed phone line and mobile services. The table below outlines some of these basic bundles.

Table 56: Virgin Media Residential Broadband Bundles

	240Mb and Anytime World¹⁸	360Mb and Mobile World¹⁹	240Mb Anytime World and Horizon TV²⁰	240Mb Anytime World and Horizon Max TV²¹	360 Mb Mobile World and Horizon Max TV²²
Contract	12 months	12 months	12 months	12 months	12 months
Introductory Price Months)	€30 (4 months)	€40 (4 months)	€30 (6 months)	€35 (6 months)	€45 (6 months)
Price (incl. VAT) / month	€50	€60	€80	€85	€95
Download Speed	240 Mb	360 Mb	240 Mb	240 Mb	360 Mb
Upload Speed	20 Mb	20 Mb	20 Mb	20 Mb	20 Mb
Allowance	Unlimited	Unlimited	Unlimited	Unlimited	Unlimited
Once-off Charges	€60 (unless qualify for free connection)	€60 (unless qualify for free connection)	€60 (unless qualify for free connection)	€60 (unless qualify for free connection)	€60 (unless qualify for free connection)
Other Services included	Unlimited calls to Irish landlines, 400 minutes to landlines in 22 international countries.	Unlimited calls to Irish landlines and mobiles, unlimited minutes to landlines and mobiles in 22 international countries.	Unlimited calls to Irish landlines, 400 minutes to landlines in 22 international countries, 50+ channels.	Unlimited calls to Irish landlines and 400mins to 22 countries, 100+ channels	Unlimited calls to Irish mobiles and landlines, anytime calls to mobiles and landlines in 22 international countries, 50+ channels.

¹⁸ <https://www.virginmedia.ie/broadband/buy-a-broadband-package/240-mb-anytime-world.html>

¹⁹ <https://www.virginmedia.ie/broadband/buy-a-broadband-package/360-mb-mobile-world.html>

²⁰ <https://www.virginmedia.ie/bundles/broadband-tv-phone/anytime-world-and-horizon-tv.html>

²¹ <https://www.virginmedia.ie/bundles/broadband-tv-phone/anytime-world-horizon-max-tv.html>

²² <https://www.virginmedia.ie/bundles/broadband-tv-phone/mobile-world-and-horizon-max-tv.html>

Business Packages

A 3.36 Virgin Media also provide broadband packages to business customers, including standalone broadband services and office packages that also include phone services.²³

Table 57: Virgin Media Broadband for Businesses

	Business 100²⁴	Business 200²⁵	Business 300²⁶	Business 400²⁷
Contract Length	12 months	12 months	12 months	12 months
Price (incl. VAT) per month	€55	€68	€80	€92
Download Speed	100 Mb	200 Mb	300 Mb	400 Mb
Upload Speed	10 Mb	20 Mb	30 Mb	40 Mb
Download Allowance	Unlimited	Unlimited	Unlimited	Unlimited
Once-off Charges	€80 installation fee	€80 installation fee	€80 installation fee	€80 installation fee
Other Services included	Phone lines included, unlimited minutes for local, national and UK fixed lines plus 200 mobile minutes.	Phone lines included, unlimited minutes for local, national and UK fixed lines plus 200 mobile minutes.	Phone lines included, unlimited minutes for local, national and UK fixed lines plus 200 mobile minutes.	Phone lines included, unlimited minutes for local, national and UK fixed lines plus 200 mobile minutes.

²³ <https://www.virginmedia.ie/business/>

²⁴ <https://www.virginmedia.ie/business/products-solutions/business-broadband-phone/business-100/>

²⁵ <https://www.virginmedia.ie/business/products-solutions/business-broadband-phone/business-200/>

²⁶ <https://www.virginmedia.ie/business/products-solutions/business-broadband-phone/business-300/>

²⁷ <https://www.virginmedia.ie/business/products-solutions/business-broadband-phone/business-400/>

Vodafone

Residential Packages

A 3.37 Vodafone offer a number of residential as well as business broadband packages. Vodafone's broadband and phone packages are outlined in the table below.

Table 58: Vodafone Standalone/Phone Broadband Packages²⁸

	Simply Broadband	Home Essentials	Home Unlimited
Contract Length	18 months	18 months	18 months
Introductory Price (Months)		€40 (6 months)	€40 (6 months)
Price (incl. VAT) per month	€40	€45	€55
Download Speed	100 Mb	100 Mb	100 Mb
Upload Speed	20 Mb	20 Mb	20 Mb
Download Allowance	Unlimited	Unlimited	Unlimited
Line Rental		Included in price	Included in price
Other Services included		Unlimited anytime calls to Irish landlines and mobiles	Unlimited anytime calls to Irish landlines and mobiles

A 3.38 The table below details Vodafone's Fibre to the Home (FTTH) broadband packages.

²⁸ <https://www.vodafone.ie/home/broadband/>

Table 59: Vodafone FTTH Broadband Packages²⁹

	LightSpeed Broadband 350Mbps	LightSpeed Broadband 1000Mbps	LightSpeed Broadband 350Mbps + Vodafone TV	LightSpeed Broadband 1000Mbps + Vodafone TV	LightSpeed Broadband 350Mbps + Vodafone TV Plus	LightSpeed Broadband 1000Mbps + Vodafone TV Plus
Contract	12 months	12 months	12 months	12 months	12 months	12 months
Introductory Price	€40 (6 months)	€40 (6 months)	€40 (6 months)	€40 (6 months)	€40 (6 months)	€40 (6 months)
Price (incl. VAT) / month	€55	€90	€80	€105	€90	€110
Download Speed	350 Mb	1000Mb	350 Mb	1000 Mb	350 Mb	1000 Mb
Upload Speed	20 Mb	20 Mb	20 Mb	20 Mb	20 Mb	20 Mb
Download Allowance	Unlimited	Unlimited	Unlimited	Unlimited	Unlimited	Unlimited
Other Services included	Free modem and installation. Unlimited Irish landline and/or mobile calls (+€15 per month)	Free modem and installation. Unlimited Irish landline and/or mobile calls (+€15 per month)	Free modem and installation. Unlimited Irish landline and/or mobile calls (+€15 per month), Vodafone TV.	Free modem and installation. Unlimited Irish landline and/or mobile calls (+€15 per month), Vodafone TV.	Free modem and installation. Unlimited Irish landline and/or mobile calls (+€15 per month), Vodafone TV.	Free modem and installation. Unlimited Irish landline and/or mobile calls (+€15 per month), Vodafone TV.

²⁹ <https://www.vodafone.ie/home/broadband/lightspeed-broadband>

Business Packages

A 3.39 On the business side, Vodafone cater for small, medium and large businesses, public sector organisations.³⁰

A 3.40 The table below details Vodafone's business broadband packages, including a standalone broadband package for businesses.

Table 60: Vodafone Business Broadband Packages³¹

	Simply broadband for business	Office Essentials	Office Professional	Office Unlimited
Contract Length	18 months	18 month	18 month	18 month
Introductory Price (Months)	€43	€49	€55	€68
Download Speed	Max. that line permits (1000 Mb, 100 Mb, 24 Mb)	Max. that line permits (1000 Mb, 100 Mb, 24 Mb)	Max. that line permits (1000 Mb, 100 Mb, 24 Mb)	Max. that line permits (1000 Mb, 100 Mb, 24 Mb)
Upload Speed	20 Mb	20 Mb	20 Mb	20 Mb
Download Allowance	Unlimited	Unlimited	40 Gb	Unlimited
Line Rental		Included in price	Included in price	Included in price
Once-off Charges	€41	€41	€41	€41
Other Services included	1 TB cloud storage with OneDrive for Business	Unlimited calls to Irish landlines, 200 minutes to Vodafone mobiles.	Unlimited calls to Irish landlines and mobiles	Unlimited calls to Irish and UK landlines and mobiles, 1 TB of Cloud storage

Table 61: Vodafone Business Broadband – Phone and Broadband Packages (Multiline) – Broadband component only³²

	Standard	Unlimited
Contract Length	18 months	18 months
Price (incl. VAT) per month	€31	€37
Download Speed	24Mb/100Mb	24Mb/100Mb
Upload Speed	20 Mb	20 Mb
Download Allowance	40 Gb	Unlimited
Once-off Charges	€29.99	

³⁰ <https://www.vodafone.ie/index.jsp?site=business>

³¹ <http://www.vodafone.ie/small-business/fixed/single-line/>

³² <http://www.vodafone.ie/small-business/fixed/multi-line/>

Mobile Broadband Packages Offered by Main Operators

A 3.41 This section gives a brief outline of the mobile broadband packages on offer to retail consumers. Mobile broadband packages are offered by Three, Meteor, Vodafone, Tesco, iD Mobile and Eircom. As outlined in Table 62 below, a total of 72 packages are available.

Table 62: Mobile Broadband Packages offered by Operator³³

Provider	Number of Packages Offered
Meteor	15
Three	25
Tesco	6
iD mobile	6
Eircom mobile	4
Vodafone	16
Total	72

Meteor

A 3.42 Meteor offer a total of 15 mobile broadband packages to retail consumers as outlined in Table 63 and Table 64.

A 3.43 Table 63 below details the prepay packages including those that come with a device (incurring a monthly rental charge) and those packages that are SIM only. Download speeds offered are 60 Mbps and download allowances vary by package. The packages are generally free of contract except where the product is for a duration of 30 days. Where the device is included in the price, there is a price differential based on the type of device.

³³ Latest data as at June 2016.

Table 63: Meteor Prepay Mobile Broadband Packages¹

	Broadband To Go Day Pass	Broadband To Go 7 Days Pass	Broadband To Go 30 Days Pass	Broadband To Go Day Pass	Broadband To Go 7 Days Pass	Broadband To Go 30 Days Pass	Broadband To Go Day Pass SIM Only	Broadband To Go 7 Days Pass SIM Only	Broadband To Go 30 Days Pass SIM Only
Contract Length							1 months	1 months	1 months
Introductory Price (Months)	-	-	-	-	-	-	-	-	-
Price (incl. VAT) per month	€2.99	€7.99	€19.99	€2.99	€7.99	€19.99	€2.99	€7.99	€19.99
Download Speed (MB)	60 Mbps	60 Mbps	60 Mbps	21 Mbps	21 Mbps	21 Mbps	60 Mbps	60 Mbps	60 Mbps
Upload Speed (MB)									
Download Allowance (GB)	Unlimited	Unlimited	Unlimited	Unlimited	Unlimited	Unlimited	Unlimited	Unlimited	Unlimited
3G/4G	4G	4G	4G	3G	3G	3G	4G	4G	4G
Prepay/Billpay	Prepay	Prepay	Prepay	Prepay	Prepay	Prepay	Prepay	Prepay	Prepay
Once-off Charges	€59	€59	€59	€39	€39	€39			
Other Services included	Device included	Device included	Device included	Device included	Device included	Device included			
Device	Huawei E3272 4G	Huawei E3272 4G	Huawei E3272 4G	Huawei E5330 3G	Huawei E5330 3G	Huawei E5330 3G			

¹ <https://store.meteor.ie/mobile-broadband-plans/pay-as-you-go/>

A 3.44 Table 64 below details the bill pay mobile broadband packages, one of which is SIM only.

Table 64: Meteor Billpay Mobile Broadband Packages¹

	Mobile Broadband 15GB Sim Only	Mobile Broadband 25GB Sim Only	Mobile Broadband 50GB Sim Only	Mobile Broadband 15GB	Mobile Broadband 25GB	Mobile Broadband 50GB
Contract Length						
Introductory Price (Months)	-	-	-	-	-	-
Price (incl. VAT) per month	€14.99	€19.99	€29.99	€14.99	€29.99	€14.99
Download Speed (MB)	60 Mbps	21 Mbps	21 Mbps	60 Mbps	60 Mbps	60 Mbps
Upload Speed (MB)						
Download Allowance (GB)	15	30	50	15	25	50
3G/4G	4G	3G	3G	4G	4G	4G
Prepay/Billpay	Bill pay	Bill pay	Bill pay	Bill pay	Bill pay	Bill pay
Once-off Charges				€29		
Other Services included				Device included	Device included	Device included
Device				Huawei E3272 4G	Huawei E3272 4G	Huawei E3272 4G

¹ <https://store.meteor.ie/mobile-broadband-plans/bill-pay>

Three

A 3.45 Three offer a total of 25 mobile broadband packages and these are outlined in the tables below. Contract lengths vary from no contract to contracts of between 12 and 18 months. No packages offer introductory prices and the monthly price is based on usage per month.

A 3.46 Table 65 outlines the prepay plans offered by Three (SIM only).

Table 65: Three Prepay Mobile Broadband Packages¹

	Pre Pay Broadband 1 day SIM-Only	Pre Pay Broadband 1 week SIM-Only	Pre Pay Broadband 1GB 30 days SIM-Only	Pre Pay Broadband 7.5GB 30 days SIM-Only	Pre Pay Broadband 20GB 30 days SIM-Only	Pre Pay Broadband 1 day
Contract Length	5 months	5 months	5 months	5 months	5 months	
Introductory Price (Months)	-	-	-	-	-	-
Price (incl. VAT) per month	€3	€10	€15	€25	€35	€3
Download Speed (MB)	7.2 Mbps	7.2 Mbps	7.2 Mbps	7.2 Mbps	7.2 Mbps	7.2 Mbps
Upload Speed (MB)						
Download Allowance (GB)	Unlimited	Unlimited	Unlimited	Unlimited	Unlimited	Unlimited
3G/4G	3G	3G	3G	3G	3G	3G
Prepay/Billpay	Prepay	Prepay	Prepay	Prepay	Prepay	Prepay
Once-off Charges						€49.99
Other Services included						Device included
Device						Huawei E5330

¹ <http://www.three.ie/eshop/broadband-plans/prepay-broadband/>

A 3.47 Table 66 outlines the pre pay plans offered by Three above where there is an additional monthly rental charge for a 4G enabled broadband device.

Table 66: Three Mobile Prepay Broadband Packages

	Pre Pay Broadband 1 week	Pre Pay Broadband 1GB 30 days	Pre Pay Broadband 7.5GB 30 days	Pre Pay Broadband 20GB 30 days
Price (incl. VAT) per month	€10	€15	€25	€35
Download Speed (MB)	7.2 Mbps	7.2 Mbps	7.2 Mbps	7.2 Mbps
Download Allowance (GB)	Unlimited	Unlimited	Unlimited	Unlimited
3G/4G	3G	3G	3G	3G
Prepay/Billpay	Prepay	Prepay	Prepay	Prepay
Once-off Charges	€49.99	€49.99	€49.99	€49.99
Other Services included	Device included	Device included	Device included	Device included
Device	Huawei E5330	Huawei E5330	Huawei E5330	Huawei E5330

A 3.48 Table 67 and Table 68 outlines the bill pay plans offered by Three which vary in contract length from between 12 to 18 months. Some packages offer an introductory price for 6 months and all packages offer download speeds of 60 Mbps.

Table 67: Three Bill pay Mobile Broadband Packages – SIM Only¹

	Broadband One SIM-Only	Broadband Two SIM-Only	Broadband Three SIM-Only	Broadband Four SIM-Only	Broadband Five SIM-Only
Price (incl. VAT) per month	€12.99	€26.99	€39.99	€54.99	€69.99
Download Speed (MB)	60 Mbps	60 Mbps	60 Mbps	60 Mbps	60 Mbps
Download Allowance (GB)	3	20	60	100	250
3G/4G	4G	4G	4G	4G	4G
Prepay/Billpay	Bill pay	Bill pay	Bill pay	Bill pay	Bill pay

¹ <http://www.three.ie/eshop/broadband-plans/bill-pay-broadband/>

Table 68: Three Bill pay Mobile Broadband Packages²

	Broadband One	Broadband Two	Broadband Three	Broadband Four	Broadband Five
Price (incl. VAT) per month	€12.99	€26.99	€39.99	€54.99	€69.99
Download Speed (MB)	60 Mbps	60 Mbps	60 Mbps	60 Mbps	60 Mbps
Download Allowance (GB)	3	20	60	100	250
3G/4G	4G	4G	4G	4G	4G
Prepay/Billpay	Bill pay	Bill pay	Bill pay	Bill pay	Bill pay
Other Services included	Device included	Device included	Device included	Device included	Device included
Device	Huawei E5330	Huawei E5330	Huawei E5330	Huawei E5330	Huawei E5330

A 3.49 Three also offer mobile broadband packages for businesses, as outlined in A 3.50 Table 69 below.

Table 69: Three Business Mobile Broadband Packages³

	4G Three Broadband 3GB	4G Three Broadband 20GB	4G Three Broadband 60GB	4G Three Broadband 100GB	4G Three Broadband 250GB
Price (incl. VAT) per month	€13.52	€27.05	€40.58	€54.11	€67.64
Download Speed (MB)	42 Mbps	42 Mbps	42 Mbps	42 Mbps	42 Mbps
Download Allowance (GB)	3	20	60	100	250
3G/4G	4G	4G	4G	4G	4G
Prepay/Billpay	Bill pay	Bill pay	Bill pay	Bill pay	Bill pay

² <http://www.three.ie/eshop/broadband-plans/bill-pay-broadband/>

³ <http://www.three.ie/business/solutions/mobile-plans/#mobile-broadband>

Tesco Mobile

A 3.51 Tesco Mobile offer 6 mobile broadband packages to retail consumers, some of which are outlined in Table 70 and Table 71.

A 3.52 Table 70 below outlines the prepay mobile broadband packages.

Table 70: Tesco Prepay Mobile Broadband Packages⁴

	Pre pay data bundles 50 MB	Pre pay data bundles 350 MB	Pre pay data bundles 1 GB	Pre pay data bundles 5 GB
Price (incl. VAT) per month	€0.79	€2.99	€5	€10
Download Speed (MB)	21 Mbps	21 Mbps	21 Mbps	21 Mbps
Download Allowance (GB)	Unlimited	Unlimited	Unlimited	Unlimited
3G/4G	3G	3G	3G	3G
Prepay/Billpay	Prepay	Prepay	Prepay	Prepay

A 3.53 Table 71 below outlines the bill pay mobile broadband packages.

Table 71: Tesco Bill pay Mobile Broadband Packages⁵

	Bill pay data bundles 1 GB	Bill pay data bundles 5 GB
Price (incl. VAT) per month	€5	€10
Download Speed (MB)	21 Mbps	21 Mbps
Download Allowance (GB)	1	5
3G/4G	3G	3G
Prepay/Billpay	Bill pay	Bill pay

⁴ <http://www.tescomobile.ie/broadbandandinternet/>

⁵ <http://www.tescomobile.ie/broadbandandinternet/>

iD Mobile (Carphone Warehouse)

A 3.54 iD Mobile offer 6 mobile broadband packages to retail consumers, some of which are outlined in Table 72 and Table 71.

A 3.55 Table 72 below outlines the prepay mobile broadband packages. The contract period for each package is 1 month and speeds are higher on 4G compared to 3G.

Table 72: iD Mobile Prepay Broadband Packages⁶

	Prepay 4G 25GB	Prepay 4G 40GB	Prepay 4G 60GB
Price (incl. VAT) month	€15	€25	€30
Download Speed	42 Mbps	42 Mbps	42 Mbps
Download Allowance (GB)	25	40	60
3G/4G	4G	4G	4G
Prepay/Billpay	Prepay	Prepay	Prepay
Once-off Charges	€69	€69	€69
Other Services included	Device included	Device included	Device included
Device	(Device type unspecified)	(Device type unspecified)	(Device type unspecified)

A 3.56 Table 73 below outlines the billpay mobile broadband packages. The contract period for each package is 24 months and speeds are higher on 4G compared to 3G.

Table 73: iD Mobile Billpay Broadband Packages⁷

	Postpay 4G 25GB	Postpay 4G 40GB	Postpay 4G 60GB
Price (incl. VAT) month	€15	€25	€30
Download Speed (MB)	42 Mbps	42 Mbps	42 Mbps
Download Allowance GB	25	40	60
3G/4G	4G	4G	4G
Prepay/Billpay	Bill pay	Bill pay	Bill pay
Other Services included	Device included	Device included	Device included
Device	(Device type unspecified)	(Device type unspecified)	(Device type unspecified)

⁶ <http://www.idmobile.ie/shop/accessories/meet-mobile-broadband>

⁷ <http://www.idmobile.ie/shop/accessories/meet-mobile-broadband>

Eircom Mobile

A 3.57 Eircom Mobile offer 4 mobile broadband packages to retail consumers, some of which are outlined in Table 74. These packages are geared towards business consumers as they are advertised only on the Eir business website.

A 3.58 Table 74 below outlines the billpay mobile broadband packages.

Table 74: Eircom Billpay and Billpay SIM only Mobile Broadband Packages¹

	Broadband 2GB	Broadband 10GB	Broadband 2GB SIM-Only	Broadband 10GB
Price (incl. VAT) per month	€9.22	€20.32	€9.22	€29.52
Download Speed (MB)	42 Mbps	42 Mbps	42 Mbps	42 Mbps
Download Allowance (GB)	2	10	2	10
3G/4G	4G	4G	4G	4G
Prepay/Billpay	Bill pay	Bill pay	Bill pay	Bill pay
Once-off Charges	€25			€99
Other Services included	Device included	Device included		Device included
Device	Huawei E3272	Huawei E3272		Sony Xperia Z2

¹ <https://business.eir.ie/mobile-broadband>

Vodafone

A 3.59 Vodafone offer 16 mobile broadband packages to retail consumers, some of which are outlined in Table 75 to Table 77.

A 3.60 Table 75 below outlines the prepay mobile broadband packages. Download allowances vary by package and the download speed is 7.2 Mbps.

Table 75: Vodafone Prepay Mobile Broadband Packages¹¹⁷⁶

	Pay As You Use Mobile Broadband Daily	Pay As You Use Mobile Broadband Weekly	Pay As You Use Mobile Broadband Monthly
Price (incl. VAT) per month	€3	€10	€20
Download Speed MB	7.2 Mbps	7.2 Mbps	7.2 Mbps
Download Allowance GB	Unlimited	Unlimited	Unlimited
3G/4G	3G	3G	3G
Prepay/Billpay	Prepay	Prepay	Prepay
Once-off Charges	€39.99	€39.99	€39.99
Other Services included	Device included	Device included	Device included
Device	Vodafone Mobile WiFi R209	Vodafone Mobile WiFi R209	Vodafone Mobile WiFi R209

A 3.61 Table 76 below outlines the billpay mobile broadband packages.

Table 76: Vodafone Billpay Mobile Broadband Packages¹¹⁷⁷

	Red Plus Only	Red MBB SIM-Super Only	Red MBB SIM-Ultra Only	Red Plus	Red MBB Super	Red MBB Ultra
Price (incl. VAT) per month	€21.99	€29.99	€49.99	€21.99	€29.99	€49.99
Download Speed MB	65 Mbps	65 Mbps	150 Mbps	65 Mbps	65 Mbps	150 Mbps
Download Allowance GB	15	30	50	15	30	50
3G/4G	4G	4G	4G	4G	4G	4G
Prepay/Billpay	Bill pay	Bill pay	Bill pay	Bill pay	Bill pay	Bill pay
Other Services included				Device included	Device included	Device included
Device				Vodafone Mobile WiFi R216	Vodafone Mobile WiFi R216	Vodafone Mobile WiFi R216

¹¹⁷⁶ <http://www.vodafone.ie/mobile-broadband/>

¹¹⁷⁷ <http://shop.vodafone.ie/shop/mobile-broadband/standard-mobile-broadband-sim>

Table 77: Vodafone Billpay Mobile Broadband Packages (continued)¹¹⁷⁸

	Red MBB Ultra	Performance 4G (Stick Modem)	Simply 4G (Stick Modem)	Performance (Stick Modem)	Performance 4G (Mobile WiFi)	Simply 4G (Mobile WiFi)	Performance (Mobile WiFi)
Contract Length							
Introductory Price (Months)	-	-	-	-	-	-	-
Price (incl. VAT) per month	€49.99	€29.99	€24.99	€19.99	€29.99	€24.99	€19.99
Download Speed (MB)	150 Mbps	75 Mbps	75 Mbps	7.2 Mbps	75 Mbps	75 Mbps	7.2 Mbps
Upload Speed (MB)							
Download Allowance (GB)	50	20	15	10	20	15	10
3G/4G	4G	4G	4G	3G	4G	4G	3G
Prepay/Billpay	Bill pay	Bill pay	Bill pay	Bill pay	Bill pay	Bill pay	Bill pay
Once-off Charges	€149.99						€19.99
Other Services included	Device included	Device included	Device included	Device included	Device included	Device included	Device included
Device	Samsung Galaxy Tab 4 8.0	Stick modem	Stick modem	Stick modem	Vodafone Mobile WiFi R216	Vodafone Mobile WiFi R216	Vodafone Mobile WiFi R216

¹¹⁷⁸ <http://shop.vodafone.ie/shop/mobile-broadband/standard-mobile-broadband-sim>

Chain of Substitution

- A 3.62 A chain of substitution refers to the substitutability between a number of similar products, which could lead to each of these products being part of the same market. A chain of substitution implies that a product at one end of the chain can potentially exert an indirect constraint on a product at the other end of the chain.¹¹⁷⁹
- A 3.63 For example, if product B is a substitute for products A and C, while A and C may not be direct substitutes, they may be considered to be in the same product market since their respective pricing may be constrained by substitution to B.¹¹⁸⁰
- A 3.64 Broadband can be delivered over several platforms including a fixed phone line, CATV network, fibre network, fixed wireless connection, satellite broadband, mobile broadband (3G/4G), and broadband on a mobile phone. Platforms that are similar in nature are likely to be close substitutes, e.g. broadband delivered over a phone line versus CATV network, while products that are less similar in nature are considered to be weak substitutes, e.g. fibre broadband and mobile broadband (3G/4G).
- A 3.65 While each of these products may be substitutes (they each provide a broadband connection), it is not necessarily the case that the whole chain is the relevant market. However, it is possible that an increase in price of one of the products in the chain could lead to a rise in the demand for a product further up the chain, in which case the associated products would be considered part of the same market for the competitive assessment.

Chain of Substitution - Methodology

- A 3.66 This section gives an overview of the methodology used to inform ComReg's assessment of the retail broadband product market, as set out in Section 4 of the Consultation.
- A 3.67 The methodology applied in calculating the monthly cost of broadband (both residential and non-residential tariffs) is outlined below.
- **Tariff Duration:** Use a tariff duration specified by operators - typically 12 or 18 months.
 - **Relevant Bundle:** Determine what the relevant bundle or product is. This could be broadband, broadband plus line rental etc. Isolate the broadband

¹¹⁷⁹ Aproskie, J. and S. Lynch (2012) 'The Chain of Substitution in Market Definition: Pitfalls in Application' <http://www.compcom.co.za/wp-content/uploads/2014/09/Aproskie-and-Lynch-Chain-of-substitution-in-market-definition-Competition-Conference-2012.pdf>

¹¹⁸⁰ Commission Notice on the definition of relevant market for the purposes of Community competition law 97/C 373/03.

only component, or use a set fixed price to account for other items in a bundle (e.g. line rental, basic calls).

- **Installation/Connection Fees:** Only include standard installation/connection fees.
- **Promotions/Introductory Offers:** Only include discounted tariff costs and exclude other promo offers.
- **Excess charges:** Assume the majority of broadband users will not exceed data allowances.

A 3.68 Operators typically offer broadband services with 12 or 18 month contracts. Of the tariffs analysed, there were 4 different contract lengths ranging from 0 to 24 months. To allow tariffs to be compared accurately, ComReg computed the average broadband cost on the basis of an 18 month contract length. Over the 18 months, a broadband consumer would typically incur installation/connection fees (if applicable), receive any promotional price for a set period (if offered), pay for line rental (if charged) and pay the standard tariff price for the remainder of the contract length.

A 3.69 As broadband services are typically packaged with a phone service or line rental charge, we account for this in the pricing analysis. Where packages include other services such as TV or mobile telephony services, ComReg seeks to use the most basic bundle. As such, the cost of other services in the bundle are excluded to isolate the cost of the broadband service.

A 3.70 For installation and connection fees, we assume that the majority of customers will incur standard charges. Many operators do not charge for standard installation or connection. We therefore exclude any non-standard charges involving installing new cabling or where an engineer is required. Furthermore, we assume the majority of consumers will use the standard equipment offered by the operator, such as a wireless router.

A 3.71 To encourage customer switching, many operators offer discounts and promotions to new customers. Typically these promotions are a discounted price for a number of months and/or a reduction in installation/connection fees. These promotional prices are accounted for in the assessment below. Other promotions or offers that do not relate to the headline broadband price are not accounted for. Examples of such promotions include access to over-the-top services or cashback offers.

A 3.72 ComReg notes that many broadband services are offered with unlimited download allowances or a fair-usage data allowance. However operators typically have charges for excess usage. ComReg assumes that the majority of customers do not exceed their download allowance and so excess charges are not considered within the methodology below.

Calculation of Monthly Cost

A 3.73 ComReg computes the cost of Broadband by adding the following:

- The recurring tariff cost for the first 18 months, accounting for:
 - Any promotional or introductory price offered; and
 - The recurring monthly cost after any promotional or introductory period;
- The recurring cost of Line rental (if applicable) for the first 18 months; and
- Any one-off or non-recurring charges relating to standard installation or connection.

A 3.74 The above figure is then divided by 18 to give an average cost of the broadband service.

A 3.75 Consider the following example: Operator X sells a Broadband service at €30 a month, with a minimum contract of 12 months. Operator X has a promotional offer whereby the first 3 months of service are offered for €10 a month. Operator X charges €20 a month for its standard line rental and has an installation fee of €79. The total cost of the broadband service over 18 months is as follows:

- Recurring Tariff Cost = $(3 \times €10) + (15 \times 30) = €480$
- Line Rental Charges = $(18 \times €20) = €360$
- Installation Charges = €79

A 3.76 The total cost of the broadband service for 18 months is €919, or an average cost of €51 per month.

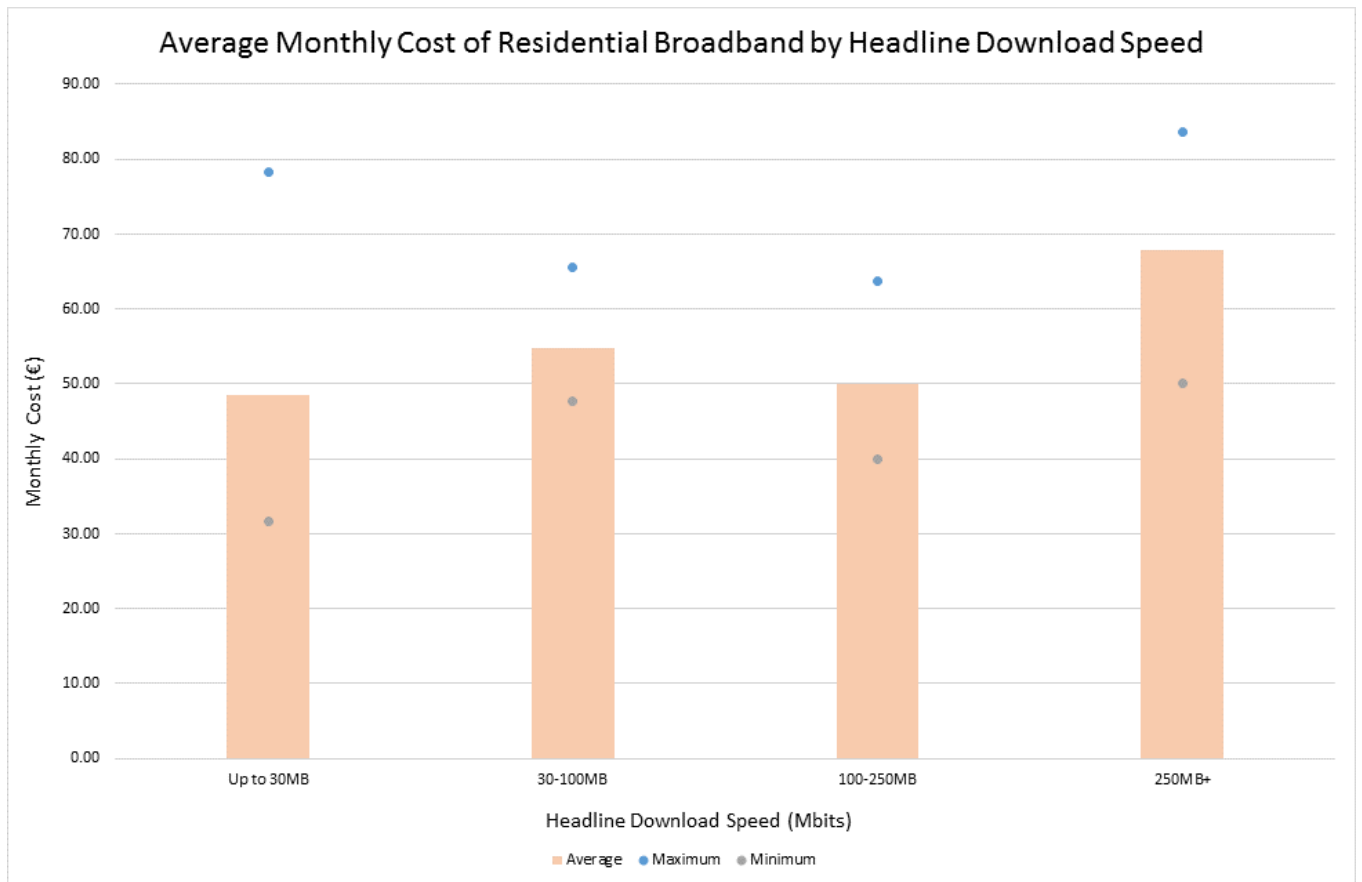
Residential broadband pricing

A 3.77 ComReg analysed the residential broadband tariffs offered by 6 operators and identified 74 tariffs or bundles that included a broadband service aimed at residential broadband users. Of these 74 tariffs, 62 offered an unlimited download allowance.

A 3.78 As noted above, broadband services aimed at residential subscribers are typically sold with a 'headline' or 'up-to' speed, which varies depending on the package and the technology the service is based on. Of the 70 tariffs examined, the download speeds ranged from 3 Mbits to 1000 Mbits.

A 3.79 Figure 94 below shows the average monthly cost of broadband for these 70 tariffs by 'headline' download speed, using the methodology outlined above.

Figure 94 – Average Monthly Cost of Residential Broadband by Headline Download Speed

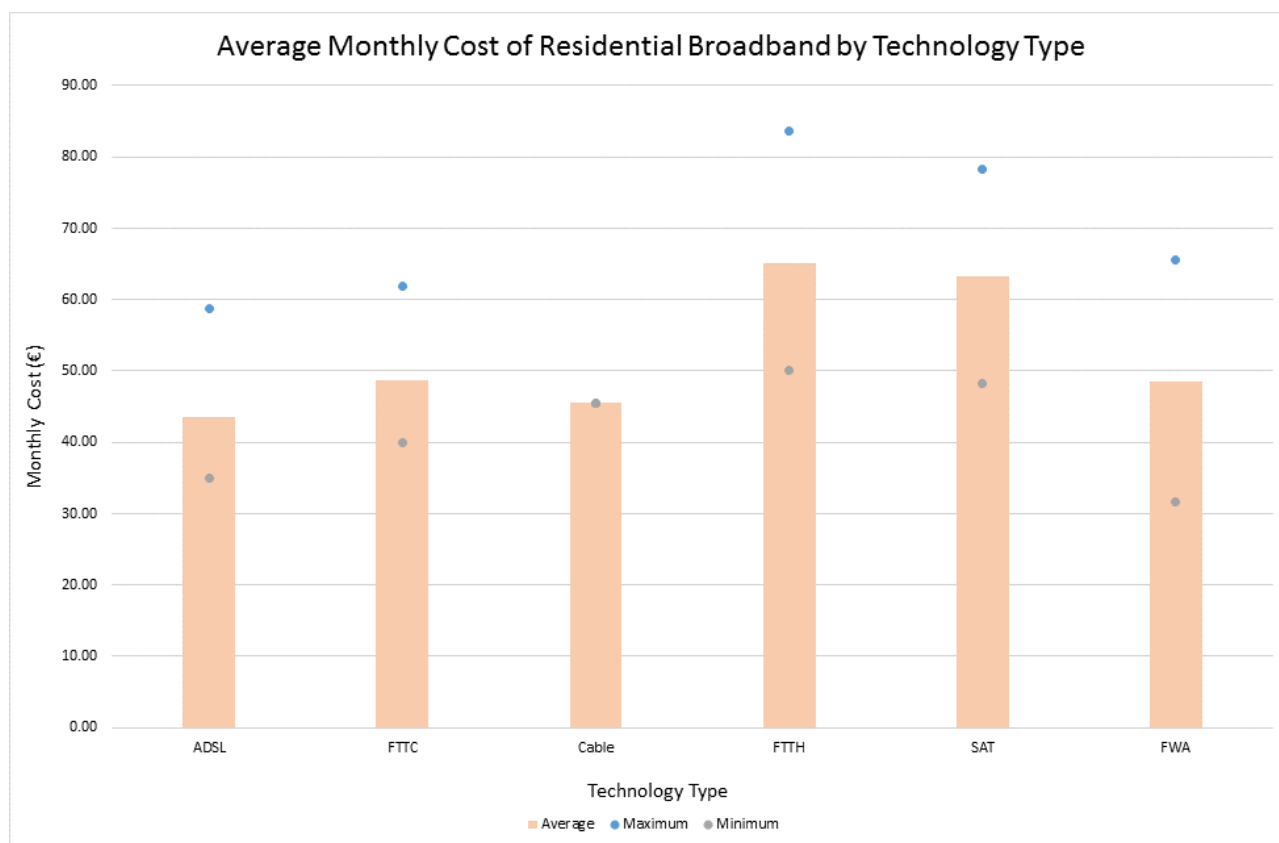


Source: ComReg calculations based on tariff data from operators’ websites. Accessed June 2016.

A 3.80 Figure 94 also shows the range of the monthly costs for residential broadband tariffs, for each headline speed.

- A 3.81 Figure 94 shows that for each broadband speed, there is an overlap with the range of costs associated with other similar headline speeds. For example, the monthly cost of broadband offered at speed 'up to 30MB' falls within the range of the average cost of broadband offered at speeds 30-100MB and 100-250MB. This result indicates that it is possible for a subscriber to switch to a faster broadband service for a similar or cheaper price¹¹⁸¹. There is also a positive relationship between speed and price, meaning broadband services offering higher speeds have a higher average cost per month. These factors also indicate that if the price of a broadband product offered at one speed was to increase by a small but significant amount, customers would be able to switch to an alternative product to retain the original price, or switch to an alternative product to receive a higher broadband speed at the same (higher) price.
- A 3.82 As well as price variation, ComReg also considers how prices vary by technology. Figure 95, below, shows the range of speeds offered over each technology (ADSL, VDSL, Cable, Satellite, Fixed Wireless Access). The analysis presented in Figure 95 shows that the monthly cost of broadband offered over each technologies overlaps, allowing people to move between these technologies to achieve faster download speeds, while maintaining the average monthly cost of their broadband service.

¹¹⁸¹ While switching to a broadband service with a higher speed may be possible and affordable, consumers may be required to sign up to a new contract or may have to take up other services bundled with a new broadband service.

Figure 95 – Average Monthly Cost of Residential Broadband by Technology

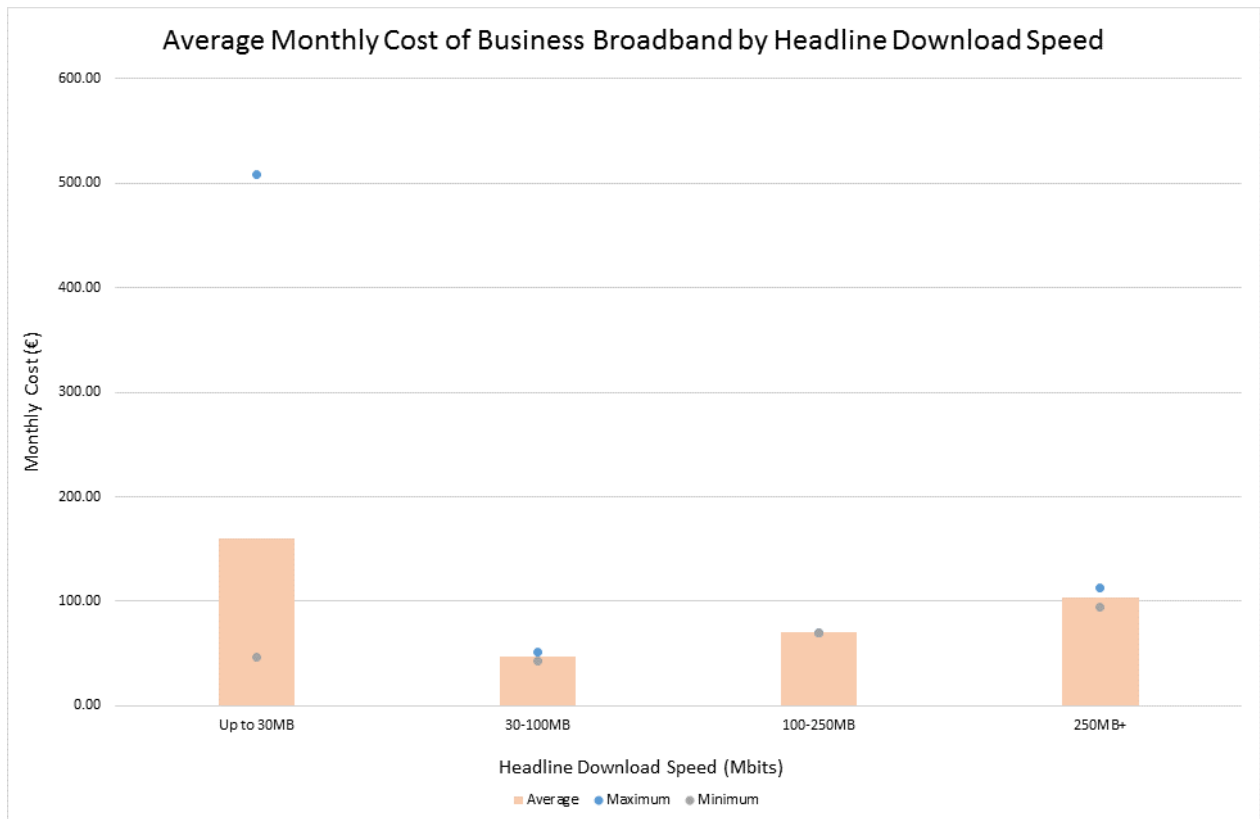
Source: ComReg calculations based on tariff data from operators' websites. Accessed June 2016.

Business broadband pricing

A 3.83 ComReg analysed the broadband tariffs offered by 5 operators and identified 40 tariffs or bundles that included a broadband service aimed at business broadband users. The 28 tariffs examined offered speeds ranging from 3 Mbits to 1000 Mbits, with most offering an unlimited download allowance.

A 3.84 Figure 96 below shows the average monthly cost of broadband for these 28 tariffs, by 'headline' download speed, using the methodology outlined above. Figure 96 also shows the range of the monthly costs for business broadband tariffs, for each headline speed.

Figure 96 – Average Monthly Cost of Business Broadband by Headline Download Speed

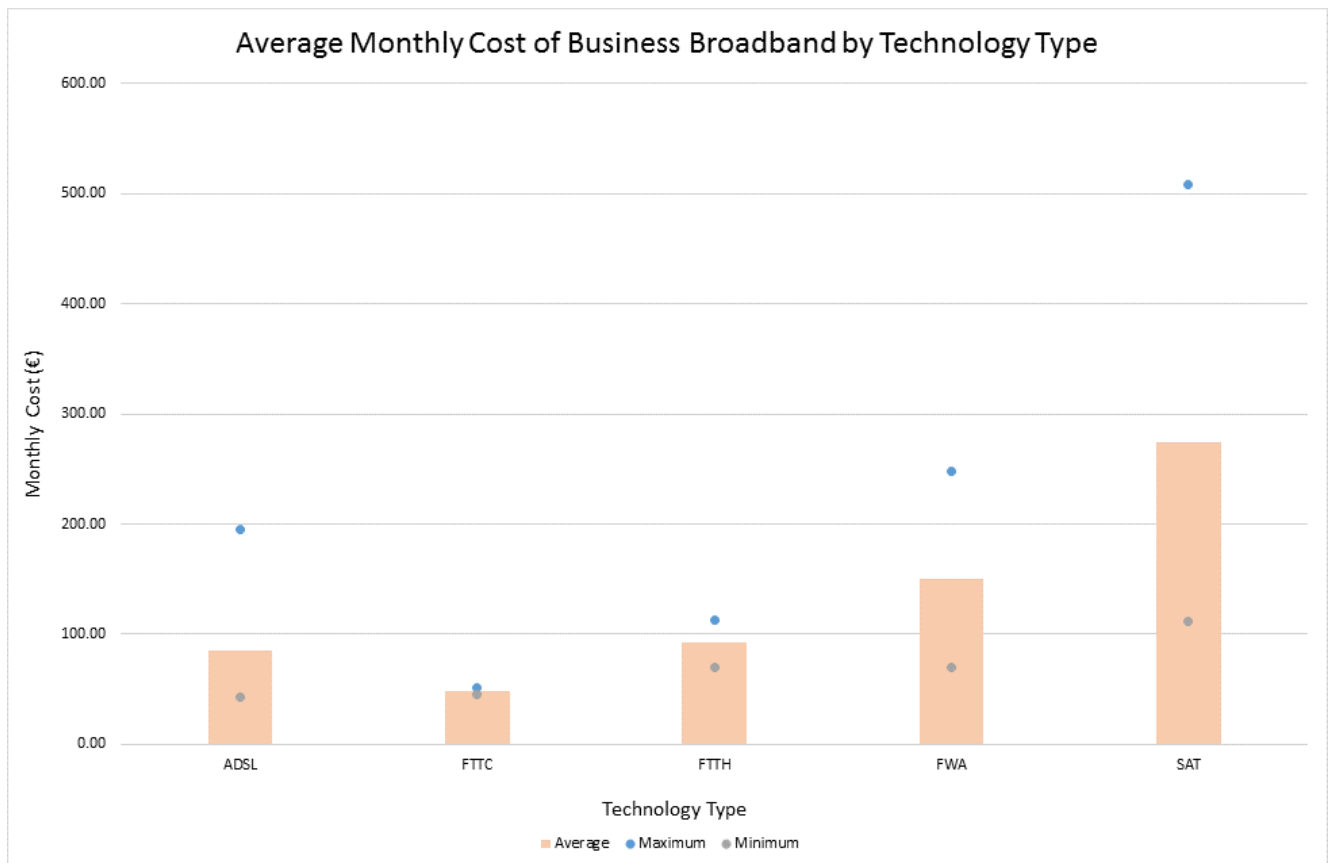


Source: ComReg calculations based on tariff data from operators' websites. Accessed June 2016.

A 3.85 Figure 96 shows that for each broadband speed, there is an overlap with the range of costs associated with other similar headline speeds. For example the monthly cost of broadband offered at speed 'up to 24MB' falls within the range of the average cost of broadband offered at speeds 24-100MB and 100-250MB. This result indicates that it is possible for a subscriber to switch to a faster broadband service for a similar or cheaper price¹¹⁸².

A 3.86 As well as price variation, ComReg also considers how prices vary by technology. Figure 97, below, shows the range of speeds offered over each technology (ADSL, VDSL, SAT, FWA). The analysis presented in Figure 97 shows that the monthly cost of broadband offered over each technologies overlaps, allowing businesses to move between these technologies to achieve faster download speeds, while maintaining the average monthly cost of their broadband service.

¹¹⁸² While switching to a broadband service with a higher speed may be possible and affordable, businesses may be required to sign up to a new contract or may have to take up other services bundled with a new broadband service.

Figure 97 – Average Monthly Cost of Business Broadband by Technology

Source: ComReg calculations based on tariff data from operators' websites. Accessed June 2016.

Conclusions

- A 3.87 In the above paragraphs, ComReg set out its analysis of whether there was a chain of substitution between retail broadband products provided at various speeds, and whether broadband products provided at speeds that were sufficiently similar, faced a common pricing constraint.
- A 3.88 ComReg's preliminary view is that there is a chain of substitution between retail broadband products, at all speeds, provided over copper, FTTC, FTTH and CATV networks.
- A 3.89 This conclusion is supported by the WLA/WCA Market Research, as set out in Appendix 1.

Appendix: 4 Pricing of Retail Products that use LLU/VUA inputs

A 4.1 As outlined in Section 5 paragraph 5.120, to estimate average residential retail prices, ComReg looks at bundles that include broadband and fixed telephony for LLU based products, and at bundles that include broadband, fixed telephony and TV for VULA based products. The operators included are Eircom retail, Sky, Digiweb, Vodafone and Imagine.

A 4.2 Table 78 below outlines the packages that are included in computing these average prices.

Table 78 – Bundles underlying estimation of residential retail prices for products based on LLU and VULA inputs

SP	Package	Bundle/Standalone	Connection	Price incl. VAT	Price excl. VAT
Eircom	eir Broadband Solo Essential (standalone)(NGB)	S	ADSL	€35.00	€26.95
Eircom	eir Broadband Solo Advanced (standalone)(NGB)	S	ADSL	€40.00	€30.80
Eircom	eir Broadband Solo Advanced Unlimited (standalone)(NGB)	S	ADSL	€45.00	€34.65
Eircom	eir Base Dual Play - Broadband Unlimited - Talk Off Peak	B	ADSL	€57.00	€43.89
Eircom	eir Play - Broadband Unlimited - eir Vision Essential	B	FTTC	€62.00	€47.74
Eircom	eir Play - Broadband Unlimited - Talk Off Peak - Vision Essential	B	FTTC	€72.00	€55.44
Eircom	eir Fibre (standalone)	S	FTTC	€40.00	€30.80
Eircom	eir Fibre Unlimited (standalone)	S	FTTC	€45.00	€34.65
Eircom	eir Fibre Extreme 150Mb (standalone)	S	FTTH	€50.00	€38.50
Eircom	eir Fibre Extreme 300Mb (standalone)	S	FTTH	€58.00	€44.66
Eircom	eir Fibre Extreme 1000Mb (standalone)	S	FTTH	€70.00	€53.90
Eircom	eir Base Dual Play - Fibre Unlimited - Talk Off Peak	B	FTTC	€57.00	€43.89
Eircom	eir Base Dual Play - Fibre Extreme 150MB - Talk Off Peak	B	FTTH	€62.00	€47.74
Eircom	eir Base Dual Play - Fibre Extreme 300MB - Talk Off Peak	B	FTTH	€70.00	€53.90
Eircom	eir Base Dual Play - Fibre Extreme 1000MB - Talk Off Peak	B	FTTH	€82.00	€63.14
Eircom	eir Play - Fibre Unlimited - Vision Essential	B	FTTC	€62.00	€47.74
Eircom	eir Play - Fibre Extreme 150MB - eir Vision Essential	B	FTTH	€67.00	€51.59
Eircom	eir Play - Fibre Extreme 300MB - eir Vision Essential	B	FTTH	€75.00	€57.75

Eircom	eir Play - Fibre Extreme 1000MB - eir Vision Essential	B	FTTH	€87.00	€66.99
Eircom	eir Play - Fibre Unlimited - Talk Off Peak - Vision Essential	B	FTTC	€72.00	€55.44
Eircom	eir Play - Fibre Extreme 150MB - Talk Off Peak - Vision Essential	B	FTTH	€77.00	€59.29
Eircom	eir Play - Fibre Extreme 300MB - Talk Off Peak - Vision Essential	B	FTTH	€85.00	€65.45
Eircom	eir Play - Fibre Extreme 1000MB - Talk Off Peak - Vision Essential	B	FTTH	€97.00	€74.69
Eircom	Web offer - Unlimited Fibre Broadband Only	S	FTTC	€45.00	€34.65
Eircom	Web offer - Unlimited Fibre Broadband & Mobile	S	FTTC	€65.00	€50.05
Eircom	Web offer - Unlimited Fibre Broadband & TV	B	FTTC	€62.00	€47.74
Eircom	Web offer - Unlimited Fibre Broadband & Home Phone	B	FTTC	€62.00	€47.74
Eircom	Web offer - Unlimited Fibre Broadband & Home Phone with Int calls	B	FTTC	€68.00	€52.36
Eircom	Web offer - eir Vision TV Essential, Phone & Broadband	B	FTTC	€77.00	€59.29
Eircom	Web offer - eir Vision TV Experience Phone & Broadband with Int calls	B	FTTC	€91.00	€70.07
Eircom	Web offer - eir Go Mobile 100 +1GB & Broadband	B	FTTC	€82.00	€63.14
Eircom	Web offer - eir Go Mobile Unlimited + 10GB & Broadband	B	FTTC	€107.00	€82.39
Eircom	Web offer - eir Go SIMO Unlimited + 10GB & Broadband	B	FTTC	€92.00	€70.84
Eircom	Web offer - eir Power Mobile 100, TV Essential & Broadband	B	FTTC	€92.00	€70.84
Eircom	Web offer - eir Power SIMO Unlimited, TV Essential & Broadband	B	FTTC	€102.00	€78.54
Eircom	Web offer - eir Power Mobile + SIM, TV Experience & Broadband	B	FTTC	€112.00	€86.24
Eircom	Web offer - eir Base Extreme & Home phone	B	FTTH	€87.00	€66.99
Eircom	Web offer - eir Play Extreme Phone & TV	B	FTTH	€102.00	€78.54
Eircom	Web offer - eir Go Extreme Phone & eir Mobile	B	FTTH	€107.00	€82.39
Vodafone	Simply Broadband	S	FTTC	€40.00	€30.80
Vodafone	Home Unlimited	B	FTTC	€55.00	€42.35
Vodafone	Home Essentials	B	FTTC	€45.00	€34.65
Digiweb	Unlimited DSL Broadband & Talk	B	ADSL	€59.95	€46.16
Digiweb	Unlimited DSL Personal & Talk	B	ADSL	€50.82	€39.13
Digiweb	Fibre Broadband Lite (with landline)	B	FTTC	€34.95	€26.91
Digiweb	Fibre Broadband Unlimited (with landline)	B	FTTC	€49.95	€38.46
Digiweb	NextGen Home Broadband	S	ADSL	€39.95	€30.76
Digiweb	NextGen Home Broadband with VoIP	B	ADSL	€39.95	€30.76
Digiweb	NextGen Unlimited Broadband with VoIP	B	ADSL	€49.95	€38.46
Sky	Sky Lite Broadband	B	ADSL	€35.00	€26.95
Sky	Sky Fibre (with Talk Freetime)	B	FTTC	€45.00	€34.65
Sky	Sky Fibre Unlimited w Talk Freetime	B	FTTC	€55.00	€42.35

Sky	Sky Broadband Unlimited (with Talk Freetime)	B	FTTC	€45.00	€34.65
Sky	Sky Fibre Unlimited with Phone + Sky TV	B	FTTC	€79.50	€61.22
Vodafone	LightSpeed Broadband 350Mbps	S	FTTH	€55.00	€42.35
Vodafone	LightSpeed Broadband 1000Mbps	S	FTTH	€90.00	€69.30
Vodafone	LightSpeed Broadband 350Mbps + Vodafone TV	B	FTTH	€80.00	€61.60
Vodafone	LightSpeed Broadband 1000Mbps + Vodafone TV	B	FTTH	€105.00	€80.85
Vodafone	LightSpeed Broadband 350Mbps + Calls + Vodafone TV	B	FTTH	€85.00	€65.45
Vodafone	LightSpeed Broadband 1000Mbps + Calls + Vodafone TV	B	FTTH	€110.00	€84.70

Table 79 – Estimation of residential retail prices for products based on LLU and VULA inputs – excluding VAT

		Standalone broadband	Broadband and Fixed Telephony	Broadband, Fixed Telephony and TV (excl. Sky)	Combined Average Price
LLU	Min	€26.95	€26.95	N/A	€26.95
	Average	€30.79	€37.56	N/A	€34.17
	Max	€34.65	€46.16	N/A	€40.41
VUA	Min	€30.80	€26.91	€55.44	€37.72
	Average	€42.97	€44.42	€65.78	€51.05
	Max	€69.30	€66.99	€84.70	€73.66

A 4.3 Table 80 below outlines the packages included in computing average business retail prices.

Table 80 – Bundles underlying estimation of business retail prices for products based on LLU and VULA inputs

ISP	Package	Bundle/ Standalone	Connection	Price incl. VAT	Price excl. VAT
Eircom	Business Broadband 40GB (standalone)	S	FTTC	€42.79	€34.79
Eircom	Business Broadband Unlimited (standalone)	S	FTTC	€48.94	€39.79
Eircom	Business Advantage Boost - 1GB (standalone)	S	FTTH	€110.44	€89.79
Eircom	Business Advantage Boost 300MB (standalone)	S	FTTH	€91.99	€74.79
Eircom	Business Advantage Boost 150MB (standalone)	S	FTTH	€67.39	€54.79
Eircom	Web offer - 40GB Advantage Broadband + Talk Value	B	FTTC	€49.20	€40.00
Eircom	Web offer - Unlimited Advantage Broadband + Talk Value	B	FTTC	€55.35	€45.00
Vodafone	Simply Broadband For Business	S	ADSL	€43.05	€35.00
Vodafone	Office Essentials	B	ADSL	€49.20	€40.00
Vodafone	Office Professional	B	ADSL	€55.35	€45.00
Vodafone	Office Unlimited	B	FTTC	€67.65	€55.00
Vodafone	Simply Broadband For Business	S	ADSL	€43.05	€35.00
Vodafone	Office Essentials	B	ADSL	€49.20	€40.00
Vodafone	Office Professional	B	ADSL	€55.35	€45.00
Vodafone	Office Unlimited	B	FTTC	€67.65	€55.00
Imagine	Business DSL 1	S	ADSL	€21.89	€17.80
Imagine	Business DSL 2	S	ADSL	€32.84	€26.70
Imagine	Business DSL 3	S	ADSL	€43.79	€35.60
Imagine	Business DSL 4	S	ADSL	€87.59	€71.21
Imagine	Business DSL 5	S	ADSL	€164.24	€133.53
Imagine	Fibre 70 (Business)	S	FTTC	€41.73	€33.93
Digiweb	Business 24 Plan	B	ADSL	€35.67	€29.00
Digiweb	Business Pro Plan	B	ADSL	€47.97	€39.00
Digiweb	Business Fibre Plan	B	FTTC	€67.65	€55.00

Table 81 – Estimation of business retail prices for products based on LLU and VULA inputs – excluding VAT

		Standalone broadband	Broadband and Fixed Telephony	Combined Price	Average
LLU	Min	€17.80	€29.00	€23.40	
	Average	€50.69	€39.67	€45.18	

	Max	€133.53	€45.00	€89.27
VUA	Min	€44.36	€40.00	€42.18
	Average	€54.65	€50.00	€52.32
	Max	€64.79	€55.00	€59.90

Appendix: 5 WCA Geographic Market Assessment

Introduction

- A 5.1 In general, the process of defining the geographic boundaries of markets involves identifying any geographic areas where a distinct break in competitive conditions can be observed. This approach places weight on the underlying structural and behavioural factors that are relevant in determining the competitiveness of a market.
- A 5.2 In formulating its approach to WCA geographic market definition, ComReg has regard to the 2014 Recommendation and the accompanying Explanatory Note, as well as the European Commission's SMP Guidelines and the BEREC 2014 Common Position on Geographic Aspects of Market Analysis¹¹⁸³ (the '**BEREC Common Position on Geographic Aspects of Market Analysis**'). As noted in paragraph 5.176, ComReg also has regard to the European Commission's comments on other NRAs' measures as notified pursuant to Article 7 of the Framework Directive.
- A 5.3 The European Commission's Notice on Market Definition states that the relevant geographic market is:
- “... an area in which the undertakings concerned are involved in the supply and demand of the relevant products or services, in which area the conditions of competition are similar or sufficiently homogeneous and which can be distinguished from neighbouring areas in which the prevailing conditions of competition are appreciably different.”¹¹⁸⁴*
- A 5.4 The European Commission's Notice on Market Definition notes¹¹⁸⁵ further that it:

¹¹⁸³ BEREC Document BoR (14) 73, available at http://berec.europa.eu/eng/document_register/subject_matter/berec/regulatory_best_practices/common_approaches_positions/4439-berec-common-position-on-geographic-aspects-of-market-analysis-definition-and-remedies.

¹¹⁸⁴ European Commission Notice on Market Definition, paragraph 8.

¹¹⁸⁵ European Commission Notice on Market Definition, paragraph 28.

“... will take a preliminary view of the scope of the geographic market on the basis of broad indications as to the distribution of market shares between the parties and their competitors, as well as a preliminary analysis of pricing and price differences at national and Community or EEA level. This initial view is used basically as a working hypothesis to focus the Commission’s enquiries for the purpose of arriving at a precise geographic market definition”.

- A 5.5 In assessing the geographic scope of the WCA market, ComReg assesses whether or not the conditions of competition across the country are sufficiently homogenous. If they are it suggests that ComReg can define a national WCA market. Where there are significant and stable differences in the competitive conditions between different geographic areas it may warrant defining separate sub-national geographic WCA markets.
- A 5.6 In this assessment, ComReg considers existing market conditions and any relatively foreseeable market developments that are likely to occur over the review period. In general, when assessing the geographic scope of markets that involve products provided to fixed locations, demand-side and supply-side substitution assessments (through the application of the HM test) could lead to an overly narrow geographic market definition. This is because End Users are unlikely to move home/premises in order to benefit from alternative products that may only be available in other geographic areas. Demand-side substitution between different geographic areas is not, therefore, a likely outcome. Similarly, supplying a new geographic area, either through having access to regulated wholesale products or building a new or extending an existing network, can involve significant upfront sunk costs, thereby dampening supply-side substitution effects. These issues reinforce the need for ComReg’s assessment to take account of reasonable foreseeable market developments, rather than speculative outcomes.
- A 5.7 As noted in paragraph 2.22, ComReg applies the Modified Greenfield Approach (**‘MGA’**) when carrying out the geographic (and product) market definition exercise.
- A 5.8 This means that the WCA geographic market definition exercise is conducted in relation to a hypothetical scenario in which there is no *ex ante* SMP regulation in either the WCA Market or downstream retail or wholesale (and related) markets. ComReg’s preliminary assessment of the Retail Market (absent regulation in the WLA and WCA Markets) is set out in Section 4 of this Consultation. ComReg’s preliminary assessment of the WLA geographic market is set out in Section 5¹¹⁸⁶ of this Consultation.

¹¹⁸⁶ See paragraphs 5.174 to 5.199.

- A 5.9 ComReg's preliminary assessment of the Modified Retail Broadband Market (assuming regulation of the WLA Market but absent regulation in the WCA market) is set out in Section 9.
- A 5.10 The WCA geographic market definition exercise is conducted in relation to a hypothetical scenario in which there is no *ex ante* SMP regulation in either the WCA market or downstream retail broadband access (and related) markets. Upstream regulation, in the WLA Market, is however factored into the analysis of the WCA market.
- A 5.11 This Appendix sets out ComReg's preliminary views on the geographic scope of the WCA market(s) and should be read in conjunction with the analysis set out in Section 10¹¹⁸⁷.
- A 5.12 Having regard to the above, in assessing the WCA Market ComReg has regard to the Modified Retail Broadband Market, which is assessed in the presence of regulation in the WLA Market.
- A 5.13 ComReg assesses the geographic scope of the retail and WCA Markets having regard to the following:
- geographic differences in entry conditions over time;
 - variation in the number and size of potential competitors;
 - distribution of market shares; and
 - evidence of differentiated pricing strategies or marketing.

Geographic Assessment of the WCA Market

- A 5.14 In Section 4, ComReg set out its preliminary views on the Retail Market, absent regulation in the WLA and WCA Markets. ComReg set out its preliminary view that the retail market was unlikely to be national in scope. However, as noted in paragraph 4.295 it is not ComReg's intention, in this Consultation, to conclude on the precise geographic scope of retail market(s).
- A 5.15 In Section 9, ComReg assessed the Modified Retail Broadband Market, having regard to upstream regulation in the WLA Market. In the paragraphs below, ComReg assesses the geographic scope of the WCA Markets according to the list of items set out in paragraph A 5.13, above and having regard to the assessment of the Modified Retail Broadband Market in Section 9.

¹¹⁸⁷ See paragraphs 10.137 to 10.174.

Geographic Differences in Entry Conditions and Number of Potential Competitors

A 5.16 As noted in paragraph 3.18, Eircom is a vertically integrated operator, providing a range of retail services to End Users and wholesale services to other SPs. Eircom operates a near ubiquitous copper network over which it provides its current generation copper based WCA Bitstream product. Eircom also offers a next generation FTTx based WBA Bitstream product. Its FTTx network is being rolled out at present and currently reaches 1.6 million premises in Ireland (as of Q3 2016). Eircom is required to provide WCA product, services and facilities pursuant to the 2011 WBA Decision, 2013 NGA Decision and related decisions.

A 5.17 In Section 10¹¹⁸⁸ ComReg examined whether there were differences in entry conditions over time and any variations in the number of competitors. ComReg's preliminary conclusion is that there appears to be clear differences in the number of competitors and markets shares between certain geographic areas.

A 5.18 As noted in Section 10 BT Ireland also offers copper and FTTx based Bitstream WCA services using inputs it purchases from Eircom in the upstream WLA Market (including LLU, Line Share and VULA services). BT Ireland has unbundled a number of Eircom's larger exchanges, allowing it provide wholesale services at these exchanges using its own network infrastructure (e.g. backhaul). While BT Ireland does not provide retail broadband access to residential customers, it does provide wholesale services, including WCA, to a number of other SPs¹¹⁸⁹. Through SIRs, ComReg sought information from BT Ireland¹¹⁹⁰ regarding any rollout plans it may have to increase its utilisation of WLA products in areas where it does not currently have the necessary infrastructure in place. BT Ireland indicated to ComReg that [REDACTED]

¹¹⁸⁸ See paragraphs 10.158 to 10.164.

¹¹⁸⁹ BT Ireland supplies wholesale services to a number of SPs, including Sky Ireland and Vodafone.

¹¹⁹⁰ February 2015 Statutory Information Requirement and February 2016 Statutory Information Requirement.

- A 5.19 As noted in paragraph 3.11(b), a number of other SPs (e.g. Digiweb, Magnet) purchase WLA inputs (including LLU, Line Share and VULA services) to self-supply downstream retail services, including retail broadband access. These SPs do not supply WCA services to other SPs and their coverage is very localised. As such, in Section 10 ComReg's preliminary view is that such localised VULA based self-supply should not be included in the WCA market.
- A 5.20 As set out in Section 10, Vodafone has indicated that it intends to increase its utilisation of Eircom's VUA products¹¹⁹¹ to self-supply its own retail broadband access (and other) services, thereby reducing its need for WCA products from either Eircom or BT Ireland in this VULA footprint. ComReg also noted that Vodafone uses SIRO's VULA products to provided retail services. In Section 10 ComReg's preliminary view is that VULA based self-supply of WCA by Vodafone should be included in the WCA market on the basis of the strength of indirect constraints (in those areas where its VULA 'footprint' exists).
- A 5.21 ComReg also noted in Section 10 that Virgin Media, which self-supplies retail broadband (and other) services over its own DOCSIS 3 cable network which is largely confined to urban areas that have higher premises densities. ComReg also noted that Virgin Media predominantly supplies residential rather than business customers. Virgin Media has a significant retail presence in areas where its network is present. Further analysis of the Virgin Media network coverage is contained in paragraphs A 5.40 to A 5.48 below. Virgin Media does not provide WCA services. In Section 10, ComReg's preliminary view is that self-supply of WCA by Virgin Media should be included in the WCA market on the basis of the strength of indirect constraints (in those areas where its footprint exists).
- A 5.22 In Section 10 ComReg noted that the SIRO network, which currently has a limited network footprint, does not offer WCA services. ComReg noted that it had some reservations regarding the degree to which Access Seekers currently purchasing Bitstream services from Eircom or BT Ireland would be in a position to readily switch their services to an alternative hypothetical WCA product provided over the SIRO network¹¹⁹². However, ComReg's preliminary view is that it would appear that any such hypothetical WCA products offered by SIRO would be likely, from a functional and technical perspective, to be relatively similar to those offered by Eircom and BT Ireland, although the download speeds could be higher given SIRO's network is based on a FTTH architecture. Overall, ComReg's considered that such hypothetical WCA products would, on the basis of supply-side substitutability considerations, fall within the WCA market.

¹¹⁹¹ Vodafone began migrating customers to Eircom's VUA product set in August 2016.

¹¹⁹² Access Seekers switching services from Eircom (or BT Ireland) to SIRO would likely incur significant switching costs, including costs associated with new backhaul, new CPE and marketing costs.

- A 5.23 Given the above, while a number of SPs have invested in network assets in urban areas, to provide faster broadband access (and related services), broadband subscribers in rural areas, absent regulation in the WCA market, would have a more limited number of options available to them.
- A 5.24 In Section 10 ComReg noted that the NBP, aims to deliver a high speed broadband connection to every home in the State. Depending on which SP(s) is awarded the NBP contract, this may have implications for the availability of WCA over alternative networks in rural areas. However, there remains too much uncertainty at this time regarding the eventual contract award and successful tenderers to draw any firm conclusions at this stage.
- A 5.25 In rural areas, apart from the NBP, there is little evidence of planned network rollout (or rollout plans) by SIRO or Virgin. Similarly, SPs purchasing WLA services from Eircom are less likely to invest in backhaul and other assets in Eircom's (smaller) rural exchanges, where the potential to recover any investment costs is likely to be reduced.

Distribution of market shares

- A 5.26 In Section 10¹¹⁹³ ComReg examined the distribution of market shares and noted that Eircom's market share falls as the number of competitors present in an Exchange Area (absent regulation in the WCA Market) increases.
- A 5.27 Further analysis of market shares by geographic area is contained in paragraphs A 5.70 to A 5.74 below.

Evidence of differentiated pricing strategies or marketing

- A 5.28 In Section 10¹¹⁹⁴ ComReg examined pricing strategies and marketing and noted that there is little evidence of differentiated pricing or marketing that might indicate the presence of different regional or local competitive conditions, in particular, geographically de-averaged or differentiated WCA pricing. However, we noted that Eircom's pricing has been subject to regulation to date and that this therefore may not be
- A 5.29 ComReg sought information from SPs in the February 2015 Statutory Information Requirement. No SP indicated that it varied retail pricing by geographic area. In addition, there was limited information provided regarding differentiated marketing strategies by SPs.

¹¹⁹³ See paragraphs 10.165 to 10.170. See also Figure 99, pg. 757.

¹¹⁹⁴ See paragraphs 10.171 to 10.172.

A 5.30 The extent to which SPs vary prices appears to depend largely on the network technology available in an area. In this respect, Eircom has different regulated prices for its current generation and next generation wholesale broadband access products.

Framework for WCA Geographic Market Assessment

A 5.31 Having regard to the previous section, and the analysis presented in Section 9, ComReg is of the preliminary view that there are separate WCA geographic markets in Ireland. This section sets out the framework according to which ComReg proposes to define the geographic boundaries of the WCA market(s). ComReg's framework for assessing the boundaries of the various geographic markets includes the following:

- (a) **Establishing the relevant geographic unit:** ComReg considers the appropriate geographic unit, taking into account the range of services offered by Eircom and other SPs on the Eircom network using own network and upstream inputs from the WLA Market. Geographic units must also take into account the presence of alternative networks (such as Virgin Media and SIRO) and SPs using WLA inputs in the provision of downstream WCA and/or retail services (discussed in paragraphs A 5.33 to A 5.54 below).
- (b) **Establishing criteria for assessing competitive conditions:** ComReg sets out a number of criteria for assessing competitive conditions in the appropriate geographic areas (discussed in paragraphs A 5.55 to A 5.85 below).
- (c) **Assessment of competitive conditions:** ComReg applies the criteria set out in (b) above to establish 'regions' where competitive conditions appear to be sufficiently similar, stable and distinguishable from neighbouring areas (discussed in paragraphs A 5.86 to A 5.92 below).
- (d) **Conclusions on geographic analysis** ComReg presents its overall preliminary conclusions and discusses how/when the geographic analysis may need to be reviewed, taking into account the impact of potential future rollout plans of various Service Providers (discussed in paragraphs A 5.93 to A 5.94 below).

A 5.32 The rationale for the selection of the above criteria is discussed below.

The Relevant Geographic Unit for assessment of competitive conditions in the WCA Market

A 5.33 In this section, ComReg considers the appropriate geographic unit to be employed in undertaking the WCA geographic market assessment.

A 5.34 In forming its view, ComReg takes utmost account of the 2014 Recommendation and the BEREC Common Position on Geographic Market Analysis. The Explanatory Note to the 2014 Recommendation¹¹⁹⁵ indicates that when NRAs are examining the geographic scope of a market that they should ensure that geographic units are:

- (a) of an appropriate size;
- (b) able to reflect the network structure of all relevant Service Providers; and
- (c) have clear and stable boundaries over time.

A 5.35 The BEREC Common Position sets out criteria that geographic units should satisfy, namely:

- (a) They are mutually exclusive and less than national.
- (b) The network structure of all relevant SPs and the services sold on the market can be mapped onto the geographical units.
- (c) They have clear and stable boundaries.
- (d) They are small enough for competitive conditions to be unlikely to vary significantly within the unit but at the same time large enough that the burden on SPs and NRAs with regard to data delivery and analysis is reasonable.

A 5.36 Having regard to the above, ComReg is of the preliminary view that geographic units should be small enough to avoid significant variations in competitive conditions within each chosen unit but also large enough to avoid a resource intensive and burdensome micro-analysis that could lead to an unwarranted fragmentation of a market(s).

¹¹⁹⁵ See page 14 of the Explanatory Note to the 2014 Recommendation.

- A 5.37 The need to adequately reflect the network structure of all relevant SPs could be readily addressed if competition was largely driven by Access Seekers using Eircom's WLA inputs, as these products mirror Eircom's network. However if competition is also driven by alternative independent network operators, then it can become more difficult to map the differing network structures of all the relevant service providers onto one geographical unit (e.g. Eircom's Exchange boundaries). CATV based broadband SPs, such as Virgin Media, typically have their own – often organically grown – network topology that can vary significantly from the (historic) network layout of Eircom. Similarly, SPs rolling out FTTH networks, such as SIRO, tend to develop rollout plans to optimise network coverage and minimise the amount of fibre roll-out required.
- A 5.38 The boundaries of any geographic unit should also be relatively stable and easily understood by SPs. When using a network structure that is not used by or familiar to all Service Providers, it is necessary to ensure that sufficient information is available to all parties who may use the information when considering any future changes to network structure or rollout.
- A 5.39 When assessing geographic market boundaries, ComReg notes that other NRAs have chosen to use administrative units (such as regional boundaries) rather than network based geographic units as used by SPs¹¹⁹⁶. While administrative boundaries (such as county boundaries) are relatively stable over time, they do not necessarily reflect the network structure of any operator in the Irish market. As a result, any SP designated with SMP within a particular administrative area may have to ensure its network structure (which may not be aligned to the administrative area boundaries) was sufficiently flexible to provide for different SMP obligations applying in different administrative areas. ComReg is of the preliminary view that using administrative units in the Irish context would lead to an unnecessary administrative burden on SPs and ComReg and would also not meet the objectives discussed above.

¹¹⁹⁶ For example, FICORA, the Finnish NRA, has used administrative units as (incumbent) networks match these areas well.

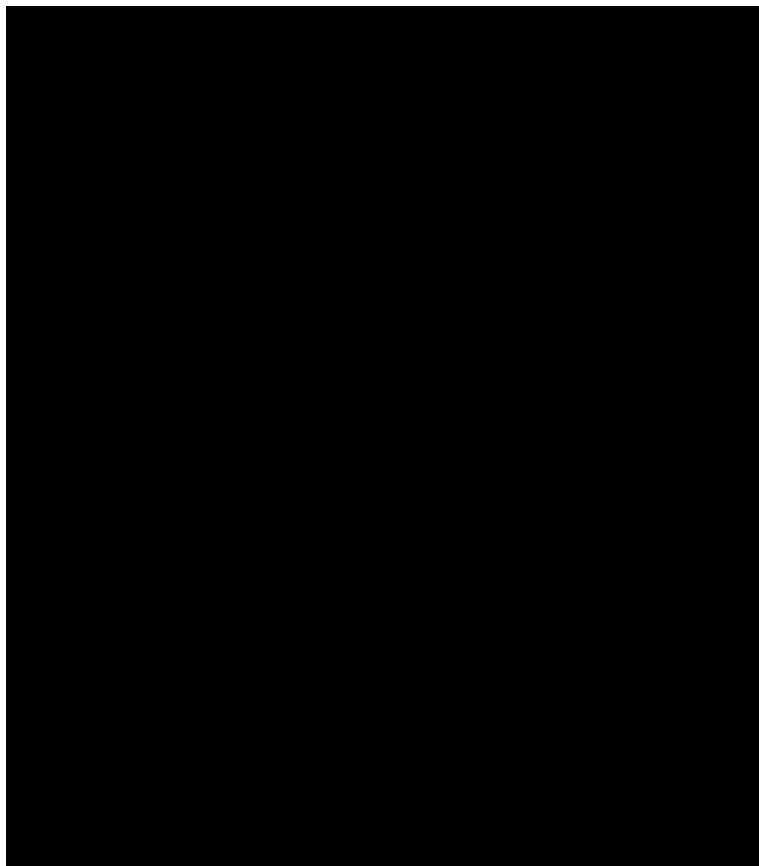
Accounting for Coverage of Alternative Independent Networks

- A 5.40 In this section, ComReg explains how it proposes to account for the presence and competitive impact of alternative independent networks in its geographic market assessment. The alternative networks considered in this analysis are Virgin Media's DOCSIS 3 CATV network and the SIRO FTTH network. Both networks operate independently of the Eircom network.
- A 5.41 Virgin Media's CATV network is entirely independent of Eircom's network and thus the two networks do not necessarily align in either their network topology or precise coverage terms. Virgin Media's network covers 784,400 premises¹¹⁹⁷, largely homes, with approximately 370,000 active broadband subscribers on its network as at the end of Q1 2016.
- A 5.42 In terms of network expansion plans, in response to Statutory Information Requirements¹¹⁹⁸, Virgin Media has indicated to ComReg that [X ██████████ ██████████]. Given the above, ComReg is of the view that Virgin Media's network coverage is unlikely to change significantly during this market review period.
- A 5.43 In response¹¹⁹⁹ to the February 2016 Statutory Information Requirement, Virgin Media provided ComReg with information and maps which detail the location and boundary of each node within its CATV network. As illustrated in Figure 98 below, the Virgin Media network footprint is largely located in urban areas, in particular, around Dublin, Galway, Limerick and Cork.

¹¹⁹⁷ See Liberty Global Q2 2016 Earnings Release, pg. 29. <https://www.libertyglobal.com/pdf/press-release/LG-Earnings-Release-Q2-16-FINAL.pdf>.

¹¹⁹⁸ February 2015 Statutory Information Requirement letter to UPC (now Virgin Media).

¹¹⁹⁹ Virgin Media response to SIR of 14 April 2016.

Figure 98: Virgin Media's Network Coverage [Redacted]

A 5.44 The Virgin Media network has approximately [Redacted] nodes, with each node capable serving approximately [Redacted]¹²⁰⁰ premises on average. By comparison, an average Eircom Exchange within the Virgin Media network footprint contains approximately 2,100 connected lines¹²⁰¹.

¹²⁰⁰ Less than 500 premises.

¹²⁰¹ These connected lines provide a range of services, including fixed telephony and broadband.

- A 5.45 As set out in Section 5¹²⁰² of this Consultation, SIRO is in the process of rolling out a FTTH network in certain geographic areas of the country. The SIRO rollout has been slow to date. As set out in Table 7¹²⁰³, the SIRO network, to the end of September 2016, has passed [x [REDACTED]] premises¹²⁰⁴. At the end of September SIRO's network was available in 7 towns – Carrigaline, Cavan, Drogheda, Dundalk, Letterkenny, Sligo and Tralee. SIRO's rollout plan to the end of 2017 notes the network is expected to pass [x [REDACTED]] premises.¹²⁰⁵ In September 2016, SIRO announced its rollout was gathering pace, with its network rollout now passing 10,000 premises a month across 17 towns.¹²⁰⁶
- A 5.46 While SIRO operates only at a wholesale level supplying a VULA service, Vodafone one of its retail partners launched retail services using the SIRO network in Q1 2016. In addition, as noted in paragraph 11.16, Digiweb also purchases WLA from SIRO as of September 2016.
- A 5.47 As outlined above, ComReg's analysis of the SIRO and Virgin Media network involves obtaining a map of the network assets of these various networks, as well as figures on active and inactive subscriptions for each local network node.
- A 5.48 ComReg is of the preliminary view, that given the lack of national presence of these networks, and the fact that neither the SIRO nor Virgin Media network is dependent on Eircom network inputs or assets to provide services, that the choice of geographic unit should not cause problems for these operators, their network rollout plans or their wholesale or retail customers.

Accounting for Coverage of Service Providers using WLA Inputs

- A 5.49 As noted in paragraph A 5.7, ComReg applies the MGA when carrying out the geographic market definition exercise. The WCA geographic market definition exercise is conducted in relation to a hypothetical scenario in which there is no *ex ante* SMP regulation in either the WCA Market or downstream retail broadband access (and related) markets. Upstream regulation, in the WLA Market is, however, taken into account.

¹²⁰² See paragraph 5.50 and 5.51.

¹²⁰³ Information supplied to ComReg on 18 February 2016.

¹²⁰⁴ The SIRO network has passed less than 50,000 premises at the end of September 2016.

¹²⁰⁵ The SIRO network is expected to pass less than 200,000 premises by the end of 2017.

¹²⁰⁶ SIRO - <http://siro.ie/siro-invest-e40-million-roll-6-new-towns-end-2016/>

- A 5.50 As noted in Section 8, ComReg has set out its preliminary view that Eircom has SMP in the WLA market and has proposed that various obligations are to be imposed on it including requirement to provide access to a range of WLA products, services and associated facilities. In this context and, having regard to the MGA, when carrying out the assessment of the WCA Market ComReg assumes the existence of upstream regulation in the WLA Market. This means that SPs who operate in the downstream WCA Market(s) and retail markets using WLA wholesale inputs would exist absent regulation of the WCA market. In the WCA geographic market assessment, such purchasers of WLA inputs are treated as ‘indirect’ independent networks.
- A 5.51 ComReg notes that Access Seekers have unbundled a number of Eircom’s (larger) Exchanges to date¹²⁰⁷. These Exchanges cover approximately 1.3 million of the 2 million premises in the country¹²⁰⁸. As of Q1 2016, there are approximately 10,676 Full Unbundled lines, 51,847 Line Share services and 31,874 VUA lines supplied by Eircom to a number of Access Seekers¹²⁰⁹. Access Seekers use these WLA inputs to provide a range of downstream wholesale and retail products, including (but not limited to) retail broadband and fixed telephony. LLU products appear to be in decline, with Access Seekers now more likely to utilise Eircom’s VUA products.
- A 5.52 As noted in paragraph 6.117 above, Magnet and Digiweb are the largest purchaser of Full LLU (ULMP and GLUMP), while BT Ireland is by far the largest purchaser of Line Share and VUA lines. Both Magnet and Digiweb operate in the retail market and use (the majority of¹²¹⁰) their purchases of these WLA inputs to supply broadband access to retail subscribers. BT Ireland does not operate in the residential retail market, although it does have some retail business customers. BT Ireland uses these WLA inputs as a wholesale input into its wholesale supply of downstream WCA to other SPs, mainly Sky Ireland and Vodafone.

¹²⁰⁷ In Eircom’s response to the February 2016 Statutory Information Requirement, Eircom noted it had 1,217 Exchanges across its network.

¹²⁰⁸ At the end of Q1 2016, BT Ireland had unbundled exchanges capable of serving up to [x] million premises. In addition, In August 2016, Vodafone Ireland began to avail of VUA at a number of exchanges, allowing it to each customers for FTTC and FTTH based services.

¹²⁰⁹ BT Ireland, Magnet and Digiweb. Colt and 3PlayPlus also purchase LLU or VUA, but have unbundled less than [x] exchanges each. These operators are excluded from this analysis because of their limited network footprint.

¹²¹⁰ These inputs can be used to supply services other than broadband services.

A 5.53 Access Seekers purchasing WLA inputs are well accustomed to and understand the Eircom Exchange Area topology. Eircom provide these Access Seekers with a range of information through various obligations imposed on Eircom by ComReg, such as via its Access Reference Offer documents¹²¹¹, and via the its Unified Gateway. As such, ComReg is of the preliminary view that using the Eircom Exchange boundaries as the geographic unit of choice should not impose any difficulties for these SPs.

Preliminary Conclusion on Relevant Unit for Geographic Assessment

A 5.54 Having considered the above factors, including the prevalence of alternative networks and SPs' use of upstream wholesale inputs, ComReg's preliminary view is that that Eircom Exchange Areas ('**Exchange Areas**') are an appropriate relevant geographical unit for the geographic market assessment.

Establishing criteria for assessing competitive conditions

A 5.55 As noted above, the European Commission's Notice on Market Definition states that the relevant geographic market is:

*"... an area in which the undertakings concerned are involved in the supply and demand of the relevant products or services, in which area the conditions of competition are similar or sufficiently homogeneous and which can be distinguished from neighbouring areas in which the prevailing conditions of competition are appreciably different."*¹²¹²

A 5.56 Having regard to the above analysis and the analysis provided in Section 10, in this section, ComReg now considers what criteria should be used to assess whether the conditions of competition in Exchange Areas are sufficiently homogeneous to warrant inclusion in a single national market, or whether the conditions of competition are appreciably different, such that they can be distinguished from neighbouring Exchange Areas and therefore form separate geographic markets.

¹²¹¹ Such Reference Offers are required in markets where ComReg has designated Eircom with SMP. The Remedies section for the WLA Market (Section 8) and WCA Market (Section 13) of this Consultation contains obligations regarding an Access Reference Offer for the WLA and WCA Markets.

¹²¹² European Commission Notice on Market Definition, paragraph 8.

A 5.57 ComReg is of the preliminary view that market segmentation based solely on one criteria (for example, just based on markets or SP presence) is not considered appropriate. The BEREC Common Position on Geographic Aspects of Market Analysis indicates that although criteria may be closely related, a number of criteria should be adopted when assessing geographic market definition issues. Furthermore, the BEREC Common Position on Geographic Aspects of Market Analysis notes that any criteria should be applied cumulatively and in such a way that differences in competitive conditions between different geographic markets are large while differences in competitive conditions within a geographic market are sufficiently similar.

A 5.58 Having regard to the above, ComReg proposes to set out a range of cumulative criteria, based around the following conditions:

- (a) A minimum number of operators capable of providing services within an Exchange Area;
- (b) Operators' market shares within an Exchange Area;
- (c) Network coverage of alternative networks within an Exchange Area; and
- (d) Forward looking, reasonable additions.

Minimum Number of Operators

A 5.59 As noted above, a number of SPs have unbundled a number of Eircom Exchanges to provide retail and/or wholesale services via LLU and Line Share, and are also availing of VUA at such Exchanges. A number of these SPs are relatively small in terms of their subscriber base, coverage and do not supply wholesale access products¹²¹³.

A 5.60 In some cases, these smaller SPs only provide services in a small geographic area. As noted in Section 10, the competitive constraints imposed by such small SPs are, in ComReg's view, not likely to be sufficiently effective.

¹²¹³ Colt, Digiweb, Magnet and 3PlayPlus purchase LLU and/or from Eircom in the WLA Market. Each of these Service Providers has unbundled a small number of Exchanges and does not supply wholesale broadband (or other) access products.

- A 5.61 In carrying out the assessment of the geographic market, ComReg intends to only include those SPs that have significant presence in the WCA market (either directly or indirectly), absent regulation in the WCA market. ComReg is of the preliminary view that only SPs having a reasonably sized national (or regional) market share are capable of exert an effective competitive constraint on other competitors and thereby potentially contributing to differing competitive conditions. ComReg's assessment is also forward looking as it has also taken into consideration the planned network presence and rollout plans of various SPs. As such, ComReg proposes to limit its assessment of competition in Exchange Areas to only those 'Primary Operators' who can operate in the WCA market absent regulation, and that have a sizable national (or regional) presence.
- A 5.62 Subject to meeting the above criteria, these SPs will, for the purposes of the geographic market analysis, be considered as a Primary Operator.
- A 5.63 Having regard to the consideration of the above criteria, ComReg's preliminary view is that the following operators are primary operators (**'Primary Operators'**):
- BT Ireland;
 - Eircom;
 - SIRO;
 - Virgin Media; and
 - Vodafone.
- A 5.64 Each of these Primary Operators manages a network which is capable (or which ComReg considers is prospectively capable within a reasonable timeframe and without incurring significant sunk costs) of providing WCA and/or retail broadband services using its own network inputs or inputs procured via the WLA market.

Operator Presence

A 5.65 Table 82 below outlines the national market shares, network coverage and exchange presence of each of the Primary Operators.

Table 82: Primary Operator Market Shares

	National Market Share, absent regulation in the WCA Market ¹²¹⁴	Premises Coverage as % of Total National Premises ¹²¹⁵ (as of Q1 2016) ¹²¹⁶	Eircom Exchange Areas where Service Provider is Present is Planning presence (as of March 2016) ¹²¹⁷
BT Ireland	≈ [REDACTED]	≈ [REDACTED]	≈ [REDACTED]
Eircom	≈ [REDACTED]	≈ [REDACTED]	≈ [REDACTED]
SIRO	≈ [REDACTED]	≈ [REDACTED]	≈ [REDACTED]
Virgin Media	≈ [REDACTED]	≈ [REDACTED]	≈ [REDACTED]
Vodafone	≈ [REDACTED]	≈ [REDACTED]	≈ [REDACTED]

Note: Market Share data is based on SP subscription figures, absent regulation in the WCA market. This assumes that only those SPs with an independent network (i.e. self-supply) or SPs using upstream inputs from the WLA market can provide services.

These figures assume that subscribers of Eircom's wholesale purchasers revert to being Eircom customers, absent regulation in the WCA Market. This assumes Eircom will withdraw its wholesale supply of WCA.

A 5.66 It is ComReg's preliminary view that, absent regulation in the WCA Market, only those Primary Operators providing services in the an area are likely to impose an effective constraint on Eircom within the geographic area. ComReg is of the preliminary view that a minimum number of Primary Operators must be present (or have a planned presence) in a geographic area, to act as an effective competitive constraint such that conditions of competition might be impacted.

¹²¹⁴ BT Ireland's Market Share is 5-10%, Eircom Share is 50-60%, SIRO share is less than 1%, Virgin Media share is 25-30%, Vodafone share is 5-10%.

¹²¹⁵ Measured as a percentage of premises passed by the relevant network.

¹²¹⁶ BT Ireland's premises coverage is 60-70%, Eircom coverage is greater than 95%, SIRO coverage is less than 1%, Virgin Media coverage is 35-45%, Vodafone planned coverage is 40-50%.

¹²¹⁷ BT Ireland has an Exchange presence at 400-500 Exchange Areas. Eircom has an Exchange presence at 950-1000 Exchange Areas, SIRO has a presence in less than 10 Exchange Areas, Virgin Media has a presence in 100-150 Exchange Areas, Vodafone plan to have a presence in 300-400 Exchange Areas.

- A 5.67 BEREC note, in the Common Position on Geographic Aspects of Market Analysis¹²¹⁸ that imposing a criterion based on the number of operators present in an area has an advantage over other potential criteria in that it is easily observable. ComReg also note that the competitive conditions in an area may not only differ with the number of operators present, but that differences may relate to the relative size of each operator. ComReg has considered this its approach by setting out its view on the Primary Operators.
- A 5.68 ComReg is of the preliminary view that there should a minimum of three Primary Operators providing services, or capable of providing services, absent regulation in the WCA Market, for an Exchange Area to be considered as potentially having sufficiently different competitive conditions.

Preliminary Conclusion on Primary Operators

- A 5.69 Having regard to the above analysis, ComReg of the preliminary view that the following criteria should be included in the assessment of sub-geographic markets:
- (a) Only those operators who have a reasonably sized market share are capable of exert an effective competitive constraint on other competitors. Such operators are described as “**Primary Operators**”. ComReg is of the preliminary view that the following operators can be described as Primary Operators:
 - (i) BT Ireland;
 - (ii) Eircom;
 - (iii) SIRO;
 - (iv) Virgin Media; and
 - (v) Vodafone.
 - (b) A minimum of three (3) Primary Operators must be present (or plan to be present) within an Exchange Area, absent regulation in the WCA Market.

¹²¹⁸ Page 25 of the BEREC Common Position on Geographic Aspects of Market Analysis.

Operator Market Shares

- A 5.70 For conditions of competition in an Exchange Area to be considered as having sufficiently different competitive conditions, there should not be a single firm with a sizable market share within that Exchange area that would give it the ability and incentive to act independently of rival operators in the Exchange Area. ComReg is of the preliminary view that low market shares in an Exchange Area (relative to high market share Exchange Areas) can be a good proxy for differing competitive conditions.
- A 5.71 However, examining the market share of the incumbent, in the absence of an analysis of the size and scale of competitors is not likely to be sufficient. Any set of criteria must also consider the size of potential competitors within an area. ComReg is of the preliminary view that for a Primary Operator to act as an effective constraint on another operator (and contribute to differing competitive conditions) it must have a minimum presence in an area, such that potential subscribers view it as a sufficiently viable alternative supplier in any switching decision.
- A 5.72 In setting a maximum market share for the incumbent (i.e. Eircom) and a minimum market share for potential competitors, ComReg is seeking to ensure that a sufficient degree of competition exists within an area to be suggestive of potentially differing competitive conditions.
- A 5.73 ComReg's market definition exercise is required to be forward looking, therefore it is important to consider how market shares might evolve over the period of the market review and whether any observed variations in current or historic market shares are likely to increase, decrease or remain relatively stable. In this regard, ComReg must consider whether each Primary Operator's market share within an Exchange Area might change sufficiently over the review period, such that it could acquire or lose the ability to act as a sufficient constraint on another Primary Operator.

Preliminary Conclusion on Operator Market Shares

- A 5.74 Having regard to the above analysis, ComReg of the preliminary view that the following criteria should be included in the geographic market assessment:
- (a) An Exchange Area in which Eircom would provide broadband services at the retail level to less than 50% of End Users¹²¹⁹ within that particular Exchange Area, absent regulation in the WCA Market.

¹²¹⁹ Absent regulation in the WCA Market assumes that customers currently served by an Access Seeker using WCA inputs revert back to Eircom (which, absent regulation is not required to provide WCA products).

- (b) An Exchange Area where one or all of the Primary Operators providing retail broadband services to End Users using inputs from the WLA Market provide a total greater than 10% of End Users within that particular Exchange Area, absent regulation in the WCA market.
- (c) An Exchange Area in which each Primary Operator that is an Alternative Network Operator¹²²⁰ providing retail telecommunication services to End Users provides greater than 10% of End Users within that particular Exchange Area, absent regulation in the WCA Market.

Network Coverage

A 5.75 For an operator using an alternative network to provide WCA (or retail) services to act as an effective competitive constraint on another operator (in the context of potentially driving differing competitive conditions) in an Exchange Area, it must have a network that has a minimum coverage within the Exchange Area.

A 5.76 ComReg assessment of network coverage is undertaken on a forward-looking basis, based on information supplied by SPs and assessed against the timelines provided. BT Ireland, Eircom, SIRO, Virgin Media and Vodafone have supplied information to ComReg indicating whether or not they plan to extend network coverage.

Preliminary Conclusion on Network Coverage

A 5.77 Having regard to the above analysis, ComReg of the preliminary view that the following criteria should be included in the geographic market assessment:

- (a) An Exchange Area in which each Alternative Network Operator¹²²¹ has the network coverage to, within a sufficiently short period, provide retail broadband services to End Users to more than 30% of the premises in that particular Exchange Area (or currently provides greater than 30% of End Users with retail broadband services), absent regulation in the WCA market¹²²².

¹²²⁰ At present, Virgin Media and SIRO are the only two SPs classed as alternative network operators being those SPs that have a network that exists independent of WLA and WCA regulation.

¹²²¹ At present, Virgin Media and SIRO are the only two SPs classed as alternative network operators being those SPs that have a network that exists independent of WLA and WCA regulation.

¹²²² This is to allow for the scenario where a network operator has a lower network coverage, but a high share of the total market within the Exchange Area.

Exceptional Additions

A 5.78 ComReg is of the preliminary view that the above criteria should adequately be used to assess whether or not the conditions of are sufficiently different in an Exchange Area relative to another Exchange Area.

A 5.79 However, in order to ensure the boundary of a geographic market remains sufficiently stable over time, ComReg proposes to include a number Exchange Areas that fail to meet one of the cumulative criteria set out above, but where the competitive conditions appear to be such that the Exchange Area could reasonably and foreseeably be expected to meet the outstanding criteria during the lifetime of the market review.

Preliminary Conclusion on Exceptional Additions

A 5.80 Having regard to the above analysis, ComReg of the preliminary view that the following exceptional criteria should be included in assessing whether or not the conditions of are sufficiently different in an Exchange Area relative to another Exchange Area:

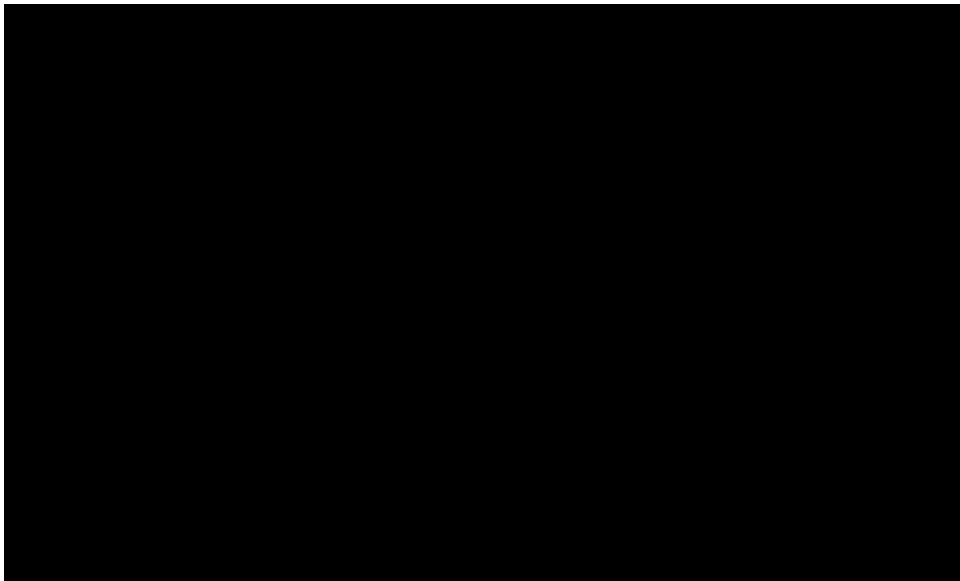
- (a) Exceptionally, on a case-by-case basis, where an Exchange Area:
- i. As of Q1 2016: fails no more than one of criteria set out from (2) to (4) above and fails the criterion by a small margin (i.e. less than 10% percent of the percentage specified)¹²²³; OR
 - ii. As of Q1 2016: fails no more than one of criteria set out from (2) to (4) above and where an Alternative Network Operator provides telecommunication services either at the wholesale level or at the retail level which equates to more than 60% of End Users within that particular Exchange Area; that Exchange Area will be deemed to have satisfied the relevant criterion.

¹²²³ For example, the requirement for Eircom's market share to be less than 50% (Criteria 2) could be altered to 55% under Criteria 5 (i.e. 110% of the requirement set out in Criteria 2).

Analysis of Proposed Criteria

A 5.81 Figure 99 below, presents Eircom's average market share (absent regulation in the WCA Market) for each exchange according to the number of Primary Operators providing services at the exchange (on a forward-looking basis). Eircom is the only operator present at all Exchanges and has a market share of 100% in Exchange Areas where other operators have either not unbundled the exchange or built an alternative network. As can be seen, Eircom's market share falls as the number of competitors present (absent regulation in the WCA market) increases.

Figure 99: Eircom Market Share and Number of Primary Operators ✕[REDACTED]



A 5.82 Table 83 below, provides a breakdown of the number of Exchanges by the number of Primary Operators providing services within each Exchange Area. On average there are 2 Primary Operators in each Exchange Area. From Table 83, it is clear that a number of operators have somewhat overcome the investment barriers to provide services in the WCA market at a number of Exchanges. This information indicates that there are a number of Exchanges where Eircom faces greater competition, either directly in the WCA market or indirectly in the retail market for broadband access.

Table 83: Number of Operators by Number of Exchanges and Premises Covered

Number of Operators	No. of Exchanges (1217 – Total)	Premises Coverage
1	614	447,379
2	287	392,854
3	251	624,419
4	65	547,450

A 5.83 In terms of alternative network coverage, ComReg has sought to establish the extent of the Virgin Media and SIRO networks. The Virgin Media network is present in [REDACTED] Exchange Areas, with a total network coverage of [REDACTED] in these Exchanges¹²²⁴. Table 84 below shows the relationship between Virgin Media’s network coverage and its market share. In Exchange Areas where Virgin Media has a greater network coverage, its share of the market is typically higher.

Table 84: Virgin Media Cable Network Coverage by Exchange Area [REDACTED]

Virgin Media Network Coverage	Less than 25%	25-50%	50-75%	75%+
Number of Exchanges	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
Market Share	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]

¹²²⁴ Network coverage is defined as the total number of premises passed by the VM network divided by the total number of premises in the Exchange Areas.

A 5.84 As noted above, the SIRO network has a limited footprint to date. While ComReg has included the SIRO network in its analysis, it has a limited market share where it is present. ComReg will continue to seek information from SIRO (and other operators) regarding network footprint and subscriber figures. As set out in Table 85 below¹²²⁵, the SIRO network, to the end of September 2016, has passed [x [REDACTED]] premises¹²²⁶. At the end of September 2016 SIRO's network was available in 7 towns – Carrigaline, Cavan, Drogheda, Dundalk, Letterkenny, Sligo and Tralee. SIRO's rollout plan to the end of 2017 notes the network is expected to pass [x [REDACTED]] premises.¹²²⁷ In September 2016, SIRO announced its rollout was gathering pace, with its network rollout now passing 10,000 premises a month across 17 towns.¹²²⁸

¹²²⁵ Information supplied to ComReg on 18 February 2016.

¹²²⁶ The SIRO network has passed less than 50,000 premises at the end of September 2016.

¹²²⁷ The SIRO network is expected to pass less than 200,000 premises by the end of 2017.

¹²²⁸ SIRO - <http://siro.ie/siro-invest-e40-million-roll-6-new-towns-end-2016/>

[REDACTED]				[REDACTED]	[REDACTED]					[REDACTED]
[REDACTED]				[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]			[REDACTED]
[REDACTED]	[REDACTED]									[REDACTED]
[REDACTED]									[REDACTED]	[REDACTED]
[REDACTED]				[REDACTED]						[REDACTED]
[REDACTED]		[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]				[REDACTED]
[REDACTED]										
[REDACTED]						[REDACTED]	[REDACTED]			[REDACTED]
[REDACTED]			[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]			[REDACTED]
[REDACTED]									[REDACTED]	[REDACTED]
[REDACTED]								[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]						[REDACTED]				[REDACTED]
[REDACTED]				[REDACTED]						[REDACTED]
[REDACTED]			[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]				[REDACTED]
[REDACTED]				[REDACTED]	[REDACTED]	[REDACTED]				[REDACTED]

Preliminary Conclusion on Analysis of Proposed Criteria

A 5.85 Having regard the above analysis, ComReg is proposing a set of requirements and cumulative criteria that an Exchange Area must meet, for consideration as to whether there are differences in competitive conditions between Exchange Areas. areas. ComReg’s preliminary view of the cumulative criteria required for this assessment is as follows:

Criteria 1: An Exchange Area in which at least three Primary Operators would be capable, within a sufficiently short period, of providing either broadband services at the retail level to End Users, WCA or WLA in the Exchange Area, absent regulation in the WCA Market; and

Criteria 2: An Exchange Area in which Eircom would provide broadband services at the retail level to less than 50% of End Users¹²³⁰ within that particular Exchange Area, absent regulation in the WCA Market; and

¹²³⁰ Absent regulation in the WCA Market assumes that customers currently served by an Access Seeker using WCA inputs revert back to Eircom (which, absent regulation is not required to provide WCA products).

Criteria 3: An Exchange Area where one or all of the Primary Operators providing retail broadband services to End Users using inputs from the WLA Market provide a total greater than 10% of End Users within that particular Exchange Area, absent regulation in the WCA market; and

Criteria 4A: An Exchange Area in which each Alternative Network Operator¹²³¹ has the network coverage to, within a sufficiently short period, provide retail broadband services to End Users to more than 30% of the premises in that particular Exchange Area (or currently provides greater than 30% of End Users with retail broadband services), absent regulation in the WCA market; and

Criteria 4B: An Exchange Area in which each Alternative Network Operator providing retail telecommunication services to End Users provides greater than 10% of End Users within that particular Exchange Area, absent regulation in the WCA Market.

Criteria 5: Exceptionally, on a case-by-case basis, where an Exchange Area:

- i. As of Q1 2016: fails no more than one of criteria set out from (2) to (4) above and fails the criterion by a small margin (i.e. less than 10% percent of the percentage specified)¹²³²; OR
- ii. As of Q1 2016: fails no more than one of criteria set out from (2) to (4) above and where an Alternative Network Operator provides telecommunication services either at the wholesale level or at the retail level which equates to more than 60% of End Users within that particular Exchange Area; that Exchange Area will be deemed to have satisfied the relevant criterion.

¹²³¹ At present, Virgin Media and SIRO are the only two SPs classed as alternative network operators being those SPs that have a network that exists independent of WLA and WCA regulation.

¹²³² For example, the requirement for Eircom's market share to be less than 50% (Criteria 2) could be altered to 55% under Criteria 5 (i.e. 110% of the requirement set out in Criteria 2).

Assessment of Competitive Conditions in the WCA Market using the proposed criteria

A 5.86 ComReg sought information from BT Ireland, Eircom, SIRO, Virgin Media and Vodafone in 2015¹²³³ and 2016¹²³⁴ relating to the following:

- (a) Network Maps;
- (b) Rollout Plans; and
- (c) Wholesale and retail broadband subscriber figures.

A 5.87 Using this information, ComReg set about applying the criteria set out in paragraph A 5.85 above to each Exchange Area in Ireland. ComReg has mapped the Virgin Media and SIRO footprints onto an Eircom Exchange Area map to allow these operators' subscriber and market share figures be compared to other Primary Operators subscriber and market share figures. The result of this analysis is contained below.

Table 86: Application of Criteria for Assessing Competitive Conditions by Geographic Area

	No. of Exchange Areas	Premises contained in Exchange Area
Exchange Areas meeting Criteria 1-5	88	772,758
Exchange Areas <i>not</i> meeting Criteria 1-5	1,129	1,308,798

¹²³³ Information provided to ComReg in response to the February 2015 Statutory Information Requirement and the November 2015 Statutory Information Requirement.

¹²³⁴ Information provided to ComReg in response to the February 2016 Statutory Information Requirement.

A 5.88 Of the 1,217 Exchanges examined, 88 of these met criteria 1 to 5 and have competitive conditions which are different from the remaining 1,129 Exchange Areas. Table 87 below presents figures for market shares for each of the Primary Operators. Eircom's national market share in the retail market (in the presence of regulation) was 33.9% in Q1 2016¹²³⁵. Absent regulation in the WCA market, this share increases to >[■] % as retail broadband customers who are served by SPs using WCA inputs would be more likely to switch back to Eircom to retain services. Eircom's share of the market varies significantly when Criteria 1-5 are applied.

Table 87: Retail Market Shares (Absent regulation in the WCA Market) for Primary Operators (Q1 2016)

	Eircom	Virgin Media	BT Ireland	Vodafone	SIRO	Total Active Subscriptions	% of Total Active Subscriptions
Market Shares - National ¹²³⁶	[>■] %	[>■] %	[>■] %	[>■] %	[>■] %	1,250,911	100%
Market Shares of Exchanges meeting Criteria 1-5 ¹²³⁷ (88 Exchange Areas) ¹²³⁸	[>■] %	[>■] % ¹²³⁹	[>■] %	[>■] %	[>■] %	592,735	47%
Market Shares of Exchanges not meeting Criteria 1-5 ¹²⁴⁰ (1,129 Exchange Areas) ¹²⁴¹	[>■] %	[>■] %	[>■] %	[>■] %	[>■] %	658,177	53%

¹²³⁵ ComReg QKDR Q1 2016.

¹²³⁶ Market Shares: Eircom (55-65%), Virgin Media (25-35%), BT Ireland (5-10%), Vodafone (5-10%), SIRO (less than 1%).

¹²³⁷ See Appendix: 6, paragraph A 6.1.

¹²³⁸ Market Shares: Eircom (25-35%), Virgin Media (45-55%), BT Ireland (5-10%), Vodafone (5-10%), SIRO (less than 1%).

¹²³⁹ ComReg notes that based on information gathered to inform the geographic assessment of the WCA Markets in Q1 2016, Virgin Media had a large number of retail subscribers in a number of Exchange Areas where it operates its retail CATV network in the Urban WCA Market area. On a forward-looking basis, and having regard to operator rollout plans (including the rollout of FTTC and FTTH networks), ComReg is of the preliminary view that this market share will likely fall as other Primary Operators grow their network rollout. ComReg will continue to monitor the market shares of Primary Operators in Exchange Areas and will present further analysis in the final Decision on the WLA and WCA Markets.

¹²⁴⁰ See Appendix: 6, paragraph A 6.2.

¹²⁴¹ Market Shares: Eircom (80-90%), Virgin Media (5-10%), BT Ireland (less than 5%), Vodafone (5-10%), SIRO (less than 1%).

A 5.89 Relative to the market share figures presented in Table 82, Table 87 is suggestive that there may be differing competitive conditions across two separate geographic areas – those that meet the criteria 1-5 and those that do not meet the criteria 1-5.

A 5.90 Based on ComReg’s assessment, it is therefore proposed to group Exchanges into two areas:

- (a) The **“Urban WCA Market”**: Exchange Areas where Criteria 1 to 5 have been met;¹²⁴² and
- (b) The **“Regional WCA Market”**: Exchange Areas where Criteria 1 to 5 have not been met.¹²⁴³

A 5.91 The Exchange Areas that fall into the Urban WCA Market and Regional WCA Market are contained in Appendix: 6 of this Consultation.

Updating the geographic market definition

A 5.92 ComReg proposes to update the above analysis in the Decision Document that will follow this Consultation, where we will take into account changes in operator rollout plans and subscriber figures. ComReg will recalculate the number of Exchange Areas that meet Criteria 1 to 5 using the most recent information available from operators regarding subscriber figures, market entry, planned exchange unbundling and network rollout maps.

Overall Preliminary Conclusion of WCA Geographic Market Assessment

A 5.93 Having regard to the analysis in Section 10 and this Appendix: 5, ComReg’s overall preliminary conclusion is that there are two separate geographic WCA markets, namely:

- the **‘Urban WCA Geographic Market’** being those 88 Exchange Areas where Criteria 1 to 5 have been met;¹²⁴⁴ and
- the **‘Regional WCA Geographic Market’** being those 1,129 Exchange Areas where Criteria 1 to 5 have not been met.¹²⁴⁵

A 5.94 Table 88 below presents the outcome of applying the criteria for assessing competitive conditions by geographic area (outlined in paragraph 10.157).

¹²⁴² See Appendix: 6, paragraph A 6.1.

¹²⁴³ See Appendix: 6, paragraph A 6.2.

¹²⁴⁴ See Appendix: 6, paragraph A 6.1.

¹²⁴⁵ See Appendix: 6, paragraph A 6.2.

Table 88: Application of Criteria for Assessing Competitive Conditions by Geographic Area

	No. of Exchange Areas	Number of Premises within Exchanges
Urban WCA Market: Exchange Areas meeting Criteria 1-5	88	772,254
Rural WCA Market: Exchange Areas <i>not</i> meeting Criteria 1-5	1,129	1,308,798

Appendix: 6 Boundaries of the Urban WCA Market and Regional WCA Market

A 6.1 In Appendix: 5 ComReg set out its proposed approach to geographic market definition in the WCA market. Based on ComReg's assessment in Appendix: 5, it is proposed to group Exchanges into two areas:

- The “**Urban WCA Market**”: Exchange Areas where Criteria 1 to 5 have been met; and
- The “**Regional WCA Market**”: Exchange Areas where Criteria 1 to 5 have not been met.

A 6.1 The following Exchange Areas are contained within the Urban WCA Market:

ADW, ASG, ASM, ASQ, AUV, BAX, BBH, BDT, BFF, BLB, BLP, BNC, BNN, BRI, CAB, CCE, CEE, CEL, CGI, CHD, CHF, CKC, CLD, CLK, CLM, CLT, CRA, CRL, CRW, CTY, CUS, DBN, DBT, DDM, DGS, DLA, DNU, DYX, EPT, ETY, FLH, FNG, FOX, GAL, HSQ, HYD, KBK, KIH, KMC, KNY, LCN, LKD, LMK, MBT, MGR, MHZ, MVW, NAS, NEP, NMN, NUT, PHB, PMK, PRP, QKR, RMS, ROC, ROM, RSL, SAN, SHP, SKL, SLA, SND, SNH, SRD, SRL, STN, TLH, TLT, TOG, TRE, TYC, WFA, WHI, WPK, WRD, WTD.

A 6.2 The following Exchange Areas are contained within the Regional WCA Market:

AUG, MON, ABE, ABK, ABP, ABX, ABY, ACE, ACF, ACL, ACY, ADA, ADE, ADG, ADH, ADL, ADM, ADN, ADR, ADT, ADY, AFD, AFE, AFN, AGA, AGH, AGL, AGN, AGY, AHA, AHC, AHH, AHM, AHO, AHS, AKW, ALD, ALE, ALS, ALW, AME, ANA, ANN, ANR, ANY, ARA, ARC, ARD, ARL, ARN, ART, ARW, ASD, ASN, ATD, ATE, ATH, ATL, ATN, ATP, ATS, ATY, AVA, AVO, AYL, BAA, BAD, BAE, BAH, BAI, BAK, BAL, BAM, BAN, BAO, BAR, BAS, BAY, BBA, BBE, BBN, BBO, BBS, BBT, BBY, BCA, BCE, BCG, BCH, BCK, BCL, BCN, BCR, BCS, BCY, BDA, BDB, BDN, BDY, BEE, BEG, BEN, BER, BES, BEY, BFD, BFN, BFO, BFR, BFT, BGA, BGE, BGH, BGL, BGN, BGR, BGS, BGT, BGV, BGW, BGY, BHE, BHG, BHH, BHL, BHM, BHN, BHR, BHS, BHT, BHY, BIB, BIE, BIG, BIN, BIR, BIT, BIY, BJD, BKA, BKD, BKG, BKN, BKR, BKS, BKT, BLA, BLC, BLD, BLE, BLF, BLG, BLH, BLI, BLL, BLN, BLO, BLR, BLS, BLT, BLV, BLX, BLY, BMA, BMD, BME

BMH, BML, BMN, BMO, BMT, BMY, BNA, BND, BNE, BNG, BNR, BNS, BNY, BNZ, BOF, BOH, BOK, BOL, BOM, BON, BOY, BPC, BPN, BPO, BRA, BRD, BRE, BRF, BRH, BRM, BRN, BRS, BRT, BRU, BRY, BSA, BSB, BSE, BSH, BSN, BSO, BSP, BSZ, BTA, BTB, BTE, BTH, BTM, BTN, BTR, BTS, BTT, BTW, BTY, BUA, BUB, BUD, BUN, BUO, BUT, BUY, BVN, BVR, BVT, BWG, BWM, BWN, BWR, BXG, BYA, BYB, BYC, BYD, BYE, BYF, BYG, BYH, BYM, BYN, BYO, BYR, BYS, BYV, BYW, BYX, CAA, CAE, CAG, CAH, CAL, CAM, CAN, CAR, CAS, CAT, CAV, CAW, CAY, CBA, CBE, CBM, CBN, CBO, CBR, CBT, CBY, CCG, CCH, CCI, CCL, CCM, CCR, CCS, CDA, CDF, CDH, CDN, CDT, CDU, CDW, CEA, CEN, CER, CFA, CFD, CFG, CFL, CFN, CFO, CFY, CGA, CGB, CGE, CGG, CGH, CGL, CGM, CGN, CGS, CGY, CHA, CHE, CHG, CHH, CHL, CHR, CHT, CHW, CHX, CID, CIG, CIL, CIM, CIN, CIS, CJN, CKA, CKE, CKH, CKN, CKO, CKS, CKW, CKY, CLA, CLB, CLC, CLE, CLG, CLH, CLL, CLN, CLO, CLR, CLS, CLU, CLW, CLX, CLY, CMA, CMK, CML, CMN, CMO, CMP, CMR, CMS, CMY, CNA, CNB, CNE, CNG, CNN, CNP, CNR, CNS, CNV, CNW, CNX, CNY, COG, COL, CON, COO, COS, COT, COU, COV, COY, CPH, CPL, CPM, CPN, CPO, CPT, CPW, CPX, CRC, CRD, CRE, CRF, CRI, CRK, CRM, CRN, CRO, CRR, CRT, CRV, CRX, CRY, CSA, CSB, CSE, CSG, CSH, CSJ, CSK, CSL, CSO, CSP, CSR, CSS, CSW, CSY, CTB, CTD, CTE, CTH, CTL, CTN, CTW, CUA, CUB, CUE, CUR, CUX, CVN, CVW, CWD, CWJ, CWL, CWM, CWN, CWT, CYA, CYE, CYG, CYW, D4C, DAH, DAP, DBC, DBG, DBR, DCE, DCK, DCL, DCN, DCT, DDA, DDK, DDT, DDY, DEZ, DFY, DGE, DGH, DGL, DGN, DGY, DHA, DHL, DHR, DKE, DKN, DLE, DLG, DLK, DLO, DLR, DMD, DME, DMO, DMR, DMW, DNA, DND, DNM, DNN, DNR, DNV, DNX, DOM, DON, DPF, DRA, DRB, DRH, DRI, DRL, DRM, DRS, DRW, DSL, DSN, DUB, DUK, DUN, DUR, DUW, DVA, DVN, DWT, ECT, EDY, EFD, EFI, EFN, EKK, EKY, EMJ, EMN, EMV, EMY, ENS, ERL, ERS, ESK, ETN, ETW, FBD, FBK, FBO, FCA, FDR, FEH, FES, FET, FFD, FFO, FGE, FGH, FHD, FHN, FHX, FIN, FKE, FMH, FML, FMT, FMX, FMY, FNA, FNS, FNT, FPK, FRB, FRS, FVA, FWN, FXD, FXH, FYB, GAR, GBE, GBH, GBY, GCE, GCF, GCK, GCR, GDH, GDN, GEY, GGF, GHL, GIL, GLA, GLC, GLF, GLI, GLN, GLO, GLS, GME, GMH, GMI, GMR, GMY, GNA, GNE, GNG, GNH, GNK, GNO, GNY, GPO, GRD, GRE, GRS, GRT, GRY, GSL, GSN, GSX, GTA, GTN, GTS, GUE, GUN, GVE, GWH, GWN, HBN, HCS, HCX, HDD, HFD, HFT, HKN, HLP, HMT, HOB, HOD, HPD, HPL, HRD, IBF, IBM, IGE, IGH, IHR, INC, INE, ING, INH, INL, INM, INR, INV, INY, ISK, ISL, ISN, JKN, JNN, JSN, JTN, JWJ, KAE, KAP, KAS, KBD, KBE, KBN, KBS, KBY, KCE, KCH, KCK, KCL, KCN, KCO, KCR, KCW, KCY, KDH, KDK, KDN, KDO, KDT, KDY, KEH, KEK, KEL, KEN, KEY, KFA, KFE, KGD, KGL, KGN, KGT, KGV, KGX, KHA, KHE, KHN, KIA, KIC, KIK, KIL, KIM, KIN, KIR, KKE, KKL, KKY, KLA, KLB, KLC, KLE, KLG, KLH, KLK, KLL, KLM, KLN, KLO, KLR, KLS, KLU, KLY, KMA, KMD, KME, KMG, KMK, KML, KMN, KMO, KMS, KMT, KMU, KMW, KMY, KNA, KNC, KND, KNE, KNF, KNG, KNK, KNL, KNM, KNT, KOK, KON, KOR, KQY, KRA, KRG, KRH, KRM, KRN, KRR, KRY, KSA, KSL, KSN,

KSV, KTA, KTH, KTK, KTM, KTN, KTR, KTX, KUC, KVA, KVN, KWH, KYG, KYK, LAG, LAN, LAY, LBN, LBO, LBU, LCY, LDA, LDN, LED, LEG, LEP, LET, LEX, LGA, LGB, LGN, LGW, LHA, LHY, LIF, LIS, LKR, LKY, LMB, LME, LMW, LND, LNE, LNF, LNH, LNW, LNY, LOD, LOS, LPN, LPT, LRH, LRN, LSL, LSN, LSR, LTH, LTM, LTN, LTW, LVA, LVH, LVN, LWD, LWN, LYR, MAH, MAL, MAM, MAN, MBC, MBG, MBP, MBS, MBW, MBY, MCH, MCM, MCN, MDN, MDV, MEE, MEN, MER, MEX, MFD, MFM, MFR, MGE, MGL, MGN, MHL, MHW, MIK, MIL, MLA, MLD, MLE, MLF, MLH, MLN, MLW, MMK, MMT, MNB, MNE, MNH, MNK, MNS, MNT, MNU, MOT, MOY, MPT, MRM, MRN, MRO, MRW, MRY, MSK, MSN, MST, MTH, MTK, MTN, MTP, MUC, MUF, MUG, MUK, MUN, MUS, MVA, MVE, MVN, MVT, MWY, MYL, MYN, MYV, NAL, NAN, NAR, NBE, NBS, NCE, NCM, NCN, NCV, NGO, NHL, NIN, NMK, NMT, NNH, NOF, NOR, NPT, NRS, NRT, NRY, NSM, NTC, NTF, NTW, NWB, NWL, NWN, NWT, OBB, OGO, OGT, OLA, OLD, OLE, OLT, OME, OMH, ORM, OWN, OYG, PAL, PAN, PGN, PGO, PGS, PKW, PKY, PLL, PLT, PME, PML, PNE, PNT, PRE, PRK, PRS, PRT, PSG, PSX, PTN, PTW, PUA, PWC, PWL, PWN, QPT, QUN, QVE, RAN, RAY, RBE, RBK, RBT, RCH, RCL, RCM, RCN, RCR, RCS, RCY, RDE, RDM, RDS, RFN, RFO, RGN, RHS, RIP, RIS, RIV, RKE, RKY, RLC, RLE, RLH, RME, RMK, RMN, RMO, RMT, RNG, RNL, RNV, ROK, ROT, RPT, RPY, RRN, RRX, RSA, RSC, RSK, RSM, RSN, RSP, RST, RSY, RTD, RTH, RTN, RTO, RUN, RUS, RUY, RVD, RVK, RVN, RVY, RWD, RWH, RWN, RWR, RYN, RYX, SAP, SBE, SBH, SBK, SBR, SBY, SCF, SCK, SCL, SCN, SCT, SFN, SGH, SGN, SGO, SHE, SHL, SHN, SHR, SHY, SIL, SJR, SKB, SKN, SKS, SLE, SLS, SML, SNB, SNM, SNO, SON, SPL, STB, STD, STH, STJ, STM, STY, SUF, SWD, TAA, TAN, TBD, TBL, TBT, TCN, TCY, TDY, TEY, TFA, TFN, TGN, TGR, THS, THY, TLA, TLE, TLM, TLN, TLP, TLR, TLW, TMD, TME, TML, TMN, TMO, TMR, TMY, TNE, TNH, TOE, TOO, TOR, TOW, TPN, TPR, TPY, TRM, TRR, TSK, TST, TSW, TTH, TTN, TUM, TUR, TUX, TVN, TWV, UGM, URL, VGA, VIS, VMT, VTY, WAL, WAP, WFD, WGL, WGT, WIS, WKW, WLN, WLW, WMN, WOL, WST, WTB, WTG, WVE, WX5, WXA, WXD, XXX, YHL.

Appendix: 7 Critical Loss Test

Introduction

- A 7.1 In this Appendix, ComReg outlines the computation of the Critical Loss Test (CLT) as set out in paragraphs 5.128 to 5.143. This analysis provides further evidence to inform the definition of the relevant WLA market.
- A 7.2 As noted in 5.128, the CLT seeks to support a SSNIP analysis by providing an estimate of the percentage of customers that would have to divert away from the focal product in response to a SSNIP (in this case the pass-through of a wholesale SSNIP) to make the increase in price of the focal product unprofitable.
- A 7.3 The computation of the CLT utilises data on prices of retail broadband packages (as outlined in Appendix 3), WLA prices and costs, and subscriber numbers.

Deriving the CLT

- A 7.4 The CLT measures the percentage reduction in demand due to a SSNIP that would leave profits unaffected. If the reduction in demand due to a SSNIP is greater than the CLT, then the SSNIP will be unprofitable and vice versa.
- A 7.5 The change in profits following a SSNIP is given by:

$$\pi_1 - \pi_0 = (p_1q_1 - p_0q_0) - c(q_1 - q_0) \quad (1)$$

where π is profit, c is marginal cost, p_0 is the price before the SSNIP, p_1 is the price after the SSNIP, q_0 is the original number of subscribers, and q_1 is the post SSNIP number of subscribers. The equation states that the change in profit equals the change in revenue less the change in costs (i.e. marginal costs), which are assumed to fall if the number of subscribers falls.

- A 7.6 If we specify $p_1 = p_0(1 + s)$, $q_1 = q_0(1 + L)$, $c = (\alpha p_0)$ and $\pi_1 - \pi_0 < 0$ the CLT can be expressed as a function of the SSNIP:

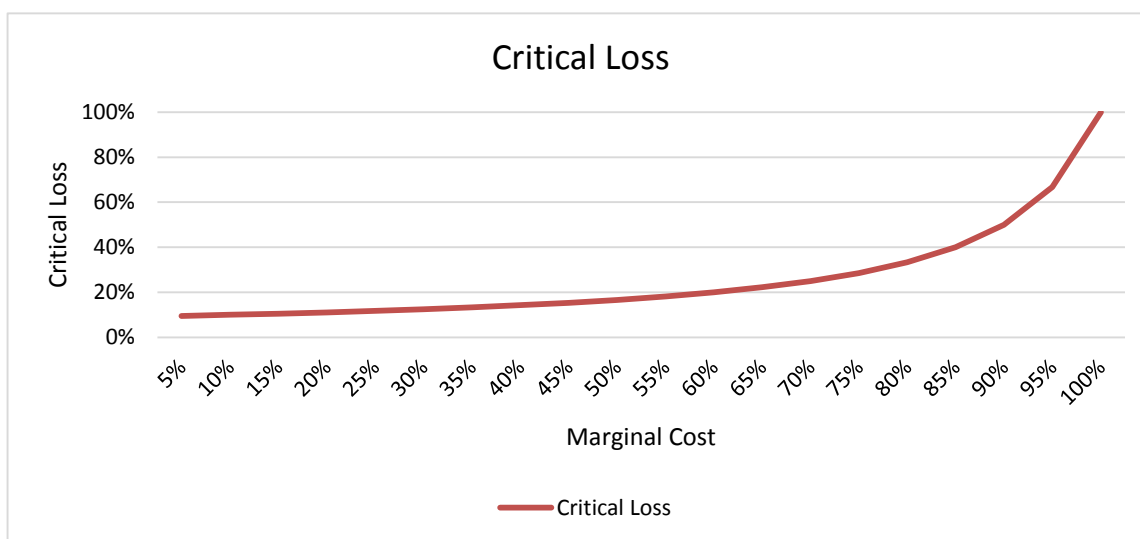
$$L < -\frac{s}{1 + (s - \alpha)} \quad (2)$$

where L is the critical loss, s is the SSNIP, and α is the ratio of marginal cost to the current retail price.

- A 7.7 Thus, to compute the critical loss, we require data on marginal costs and current retail prices.

- A 7.8 Figure 100 below plots the critical loss if we make a number of assumptions for α (i.e. that it is as low as 5% or as high as 100%). If α is 100% (i.e. it is equal to the retail price charged), the lost revenue from customers who switch provider in response to the SSNIP would be offset by the costs saved from not serving those customers. In this case, profits would be the increase in retail prices multiplied by the number of customers who do not switch.
- A 7.9 Conversely, if the marginal costs are as low as 5%, then the lost revenue would come from those who switch, with only a 5% associated cost saving. The lost revenue would be greater than the increase in revenue from customers who don't switch if demand falls by more than 10%.

Figure 100: Critical Loss with assumed values for α



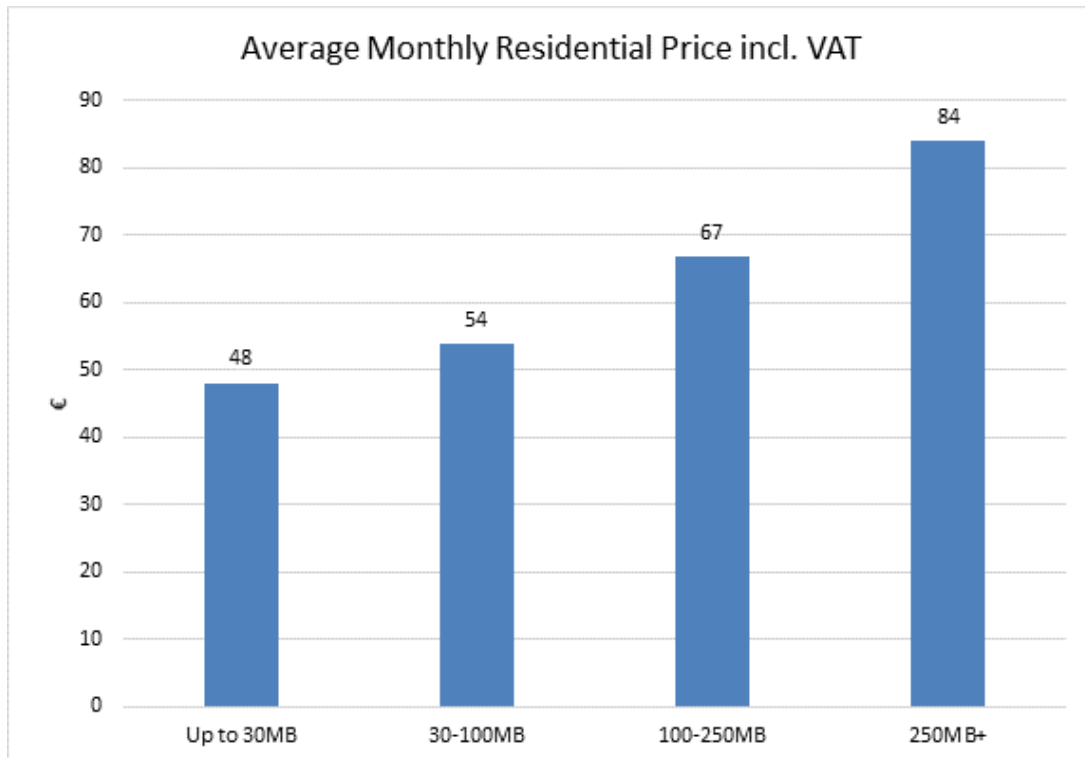
Price and cost data

- A 7.10 The retail broadband prices are outlined in detail in Appendix: 3 by operator and type of package. In Figure 101 and Figure 102 below, we show average residential prices across all operators and offerings by speed and platform for fixed broadband.¹²⁴⁶ The data relates to residential prices only and includes VAT. Overall, the average price per month is €60 and this is consistent with the WLA/WCA Market Research among residential customers that showed the average price paid per month to be €58.¹²⁴⁷

¹²⁴⁶ This is based on data in Appendix: 3 which includes tariff data from operators' websites.

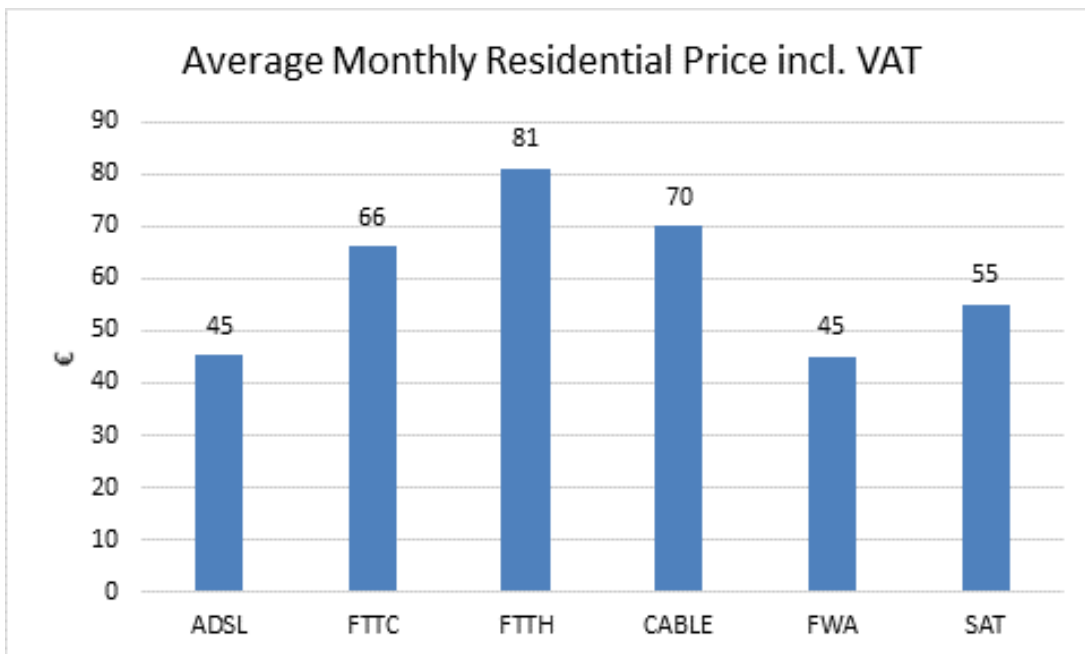
¹²⁴⁷ Figure 38 in Appendix: 2.

Figure 101: Average Monthly Residential Prices by Speed



Source: ComReg calculations based on tariff data from operators' websites. Accessed June 2016.

Figure 102: Average Monthly Residential Prices by Platform



Source: ComReg calculations based on tariff data from operators' websites. Accessed June 2016.

A 7.11 We obtain data on the costs of servicing a residential customer per month including the WLA and WCA prices, customer services costs, billing, equipment, and connection costs. These costs are outlined in Table 89 below.

Table 89: WLA/WCA Prices and Retail Costs

Product	Monthly rental price - €	Monthly usage price - €	Reference¹²⁴⁸	Retail costs (sales, billing, etc.)
Current generation				
LLU	€9.34		ARO price list, page 22	n/a
Bitstream* i.e., Bitstream managed backhaul				€9.88
8MB	€4.90			
24MB	€5.90	Varies (see page 16 of Bitstream price list)		
Next generation				
VUA	€23.00 (FTTC)		Bitstream price list, page 38	€9.50
NGA Bitstream	€23.00 (FTTC)	Varies (see page 32 of Bitstream price list)	Bitstream price list page 26	€9.50

WLA Market

A 7.12 As shown in Table 90 and Table 91 below, the critical loss for residential customers is estimated at 8.5% for a 5% SSNIP and 15.7% for a 10% SSNIP. This implies that if a Hypothetical Monopolist (HM) imposed a SSNIP of 10%, it will be unprofitable if demand falls by more than 15%. There is no significant difference between the critical loss for LLU and VULA products.

¹²⁴⁸ Eircom wholesale prices available at: http://www.openeir.ie/Reference_Offers/.

Table 90: Estimates of Critical Loss for 5% SSNIP of WLA - Residential

	LLU	VUA	Combined¹²⁴⁹
Retail prices (average)(residential incl. VAT)	€45.26	€73.54	€55.23
Marginal costs	€19.22	€32.50	€25.53
Ratio costs to prices (α)	42.5%	44.2%	46.2%
SSNIP (s)	5%	5%	5%
Critical loss	8.0%	8.2%	8.5%

Table 91: Estimates of Critical Loss for 10% SSNIP of WLA - Residential

	LLU	VUA	Combined
Retail prices (average)(residential incl. VAT)	€45.26	€73.54	€55.23
Marginal costs	€19.22	€32.50	€25.53
Ratio costs to prices (α)	42.5%	44.2%	46.2%
SSNIP (s)	10%	10%	10%
Critical loss	14.8%	15.2%	15.7%

A 7.13 Table 92 and Table 93 below present the critical loss for business customers, using the retail prices charged to businesses for LLU and VULA based broadband products. The critical loss for business customers is estimated at 7.8% for a 5% SSNIP and 14.5% for a 10% SSNIP. There is no significant difference between the critical loss for LLU and VULA products.

Table 92: Estimates of Critical Loss for 5% SSNIP of WLA - Business

	LLU	VUA	Combined
Retail prices (average)(business incl. VAT)	€56.09	€72.53	€55.94
Marginal costs	€19.22	€32.50	€22.98
Ratio costs to prices (α)	34.3%	44.8%	41.1%
SSNIP (s)	5%	5%	5%
Critical loss	7.1%	8.3%	7.8%

Table 93: Estimates of Critical Loss for 10% SSNIP of WLA - Business

	LLU	VUA	Combined
Retail prices (average)(business incl. VAT)	€56.09	€72.53	€55.94
Marginal costs	€19.22	€32.50	€22.98
Ratio costs to prices (α)	34.3%	44.8%	41.1%
SSNIP (s)	10%	10%	10%
Critical loss	13.2%	15.3%	14.5%

¹²⁴⁹ This is a weighted average of LLU and VUA based on the numbers of subscribers on ADSL, FTTC and FTTH in Q1 2016.

WCA Market

A 7.14 As with the analysis above of the WLA market, the following tables present the critical loss for the WCA market.

Table 94: Estimates of Critical Loss for 5% SSNIP of WCA - Residential

	CGA Bitstream	NGA Bitstream	Combined
Retail prices (average)(residential)	€45.26	€73.54	€55.23
Marginal costs	€15.28	€32.50	€23.46
Ratio costs to prices (α)	33.8%	44.2%	42.5%
SSNIP (s)	5%	5%	5%
Critical loss	7.0%	8.2%	8.0%

Table 95: Estimates of Critical Loss for 10% SSNIP of WCA - Residential

	CGA Bitstream	NGA Bitstream	Combined
Retail prices (average)(residential)	€45.26	€73.54	€55.23
Marginal costs	€15.28	€32.50	€23.46
Ratio costs to prices (α)	33.8%	44.2%	42.5%
SSNIP (s)	10%	10%	10%
Critical loss	13.1%	15.2%	14.8%

Table 96: Estimates of Critical Loss for 5% SSNIP of WCA - Business

	CGA Bitstream	NGA Bitstream	Combined
Retail prices (average)(business)	€56.09	€72.53	€55.94
Marginal costs	€15.28	€32.50	€20.15
Ratio costs to prices (α)	27.2%	44.8%	36.0%
SSNIP (s)	5%	5%	5%
Critical loss	6.4%	8.3%	7.2%

Table 97: Estimates of Critical Loss for 10% SSNIP of WCA - Business

	CGA Bitstream	NGA Bitstream	Combined
Retail prices (average)(business)	€56.09	€72.53	€55.94
Marginal costs	€15.28	€32.50	€20.15
Ratio costs to prices (α)	27.2%	44.8%	36.0%
SSNIP (s)	10%	10%	10%
Critical loss	12.1%	15.3%	13.5%

Appendix: 8 WIK CATV Report

- A 8.1 ComReg commissioned independent consultants WIK¹²⁵⁰ to undertake a study on the feasibility of offering Wholesale Local Access (WLA) products over Virgin Media's DOCSIS 3 cable network.
- A 8.2 This study, (the '**WIK CATV Report**'), has been published alongside this Consultation in ComReg Document 16/96b.

¹²⁵⁰ <http://www.wik.org/index.php?id=homepage&L=1>

Appendix: 9 **WIK GPON and TWDM GPON Report**

- A 9.1 ComReg commissioned independent consultants WIK¹²⁵¹ to undertake a study on the feasibility of TWDM-GPON as a potential access remedy.
- A 9.2 This study, (the '**WIK GPON and TWDM GPON Report**'), has been published alongside this Consultation in ComReg Document 16/96c.

¹²⁵¹ <http://www.wik.org/index.php?id=homepage&L=1>

Appendix: 10 Cartesian Report

A 10.1 ComReg commissioned independent consultants Cartesian to review Eircom's CEI service delivery processes.

A 10.2 This study, (the '**Cartesian Report**'), has been published alongside this Consultation in ComReg Document 16/96d.

Appendix: 11 Other criteria for SMP assessment

A 11.1 As noted in Sections 6 and 11, ComReg has considered other factors that could be used to indicate the potential market power of an undertaking but which, for the reasons set out below, are considered of little or no relevance for the purposes of the SMP assessment in the Relevant WLA and WCA Markets respectively.

Technological advantages or superiority

A 11.2 Technological advances or superiority can represent a barrier to entry as well as conferring the ability for an undertaking to achieve cost or production advantages/efficiencies over its competitors. However, the technologies being used to provide WLA/WCA have little or no bearing on the assessment of SMP in the Relevant WLA and WCA Markets. While there are multiple technologies available to provide the services offered in each market, it would appear that any technological advantage made by one operator could, from a purely technological point of view be adopted over time by others. For example, fibre or DOCSIS 3 technology used to provide services WLA, WCA or retail broadband services, are not proprietary technologies, and are available to all operators seeking to provide WLA, WCA and/or retail broadband services. This criterion is therefore considered of less relevance in the analysis of SMP in the Relevant WLA and WCA Markets.

Easy or privileged access to capital markets/financial resources

A 11.3 Easy or privileged access to capital markets may act as a barrier to entry in markets where small private companies are competing with a large incumbent in the WLA and/or WCA markets, and are not able to leverage sufficient finance to invest in alternative infrastructure and use it to compete effectively with the incumbent.

A 11.4 ComReg considers that this is unlikely to be a factor in the WLA and/or WCA Markets, considering that the main potential entrants are subsidiaries of large parent companies e.g. BT Ireland, Sky Ireland, SIRO, Vodafone Ireland, and Virgin Media. These SPs are equally able to access capital markets, and are therefore not at a disadvantage relative to the incumbent. The issue of comparing capital/financial advantages vis-à-vis competitors does not therefore arise in the Relevant WLA and WCA Markets and this criterion is therefore considered to be of little or no relevance.

A highly developed distribution and sales network

A 11.5 The need to establish distribution systems might delay short term market entry or expansion given the costs involved and could act as a barrier to entry. However, entry into the WLA and/or WCA Markets is unlikely to involve establishing extensive distribution and sales networks, since there are only a small number of potential wholesale customers. In any case, given that potential entrants to either the WLA or WCA Markets are most likely to operate in the WCA Market (with its existing base of wholesale customers), or existing retail broadband suppliers with a significant existing retail distribution and sales network (for example, Virgin Media, Vodafone or Sky Ireland), a highly developed sales and distribution network is unlikely to represent a significant barrier to entry in the Relevant WLA and WCA Markets.

Appendix: 12 Scope of CEI Access

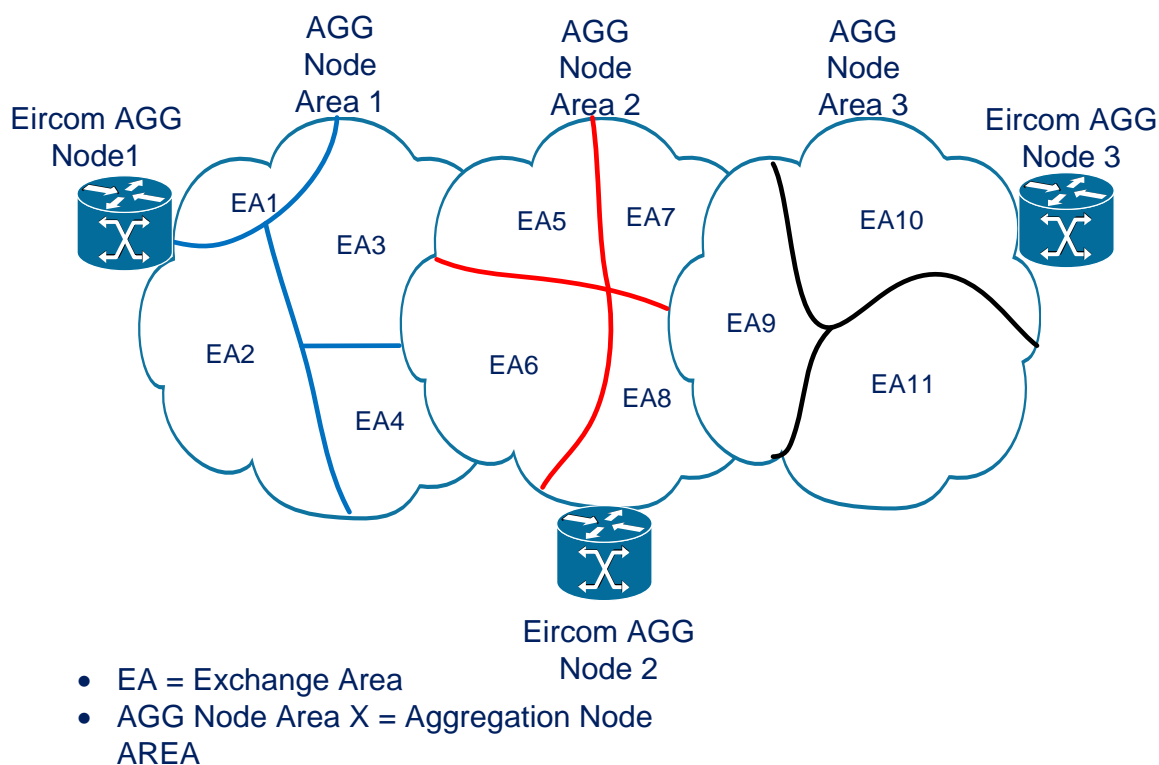
Access Seekers Use of CEI Access

A 12.1 To supplement ComReg's preliminary view with respect to the use of CEI by Access Seekers in the context of Local Access, it is necessary to explain how Eircom's NGA access network is organised in principle, as this will provide a common frame of reference. Once Eircom's local access network topology is described, it will be used to explain ComReg's preliminary view on the acceptable and unacceptable usage scenarios for CEI from a Local Access network perspective.

NGA Geographic Network Description

A 12.2 In general, Eircom's Local Access network is sub-divided into exchange areas. An Exchange Area or a group of Exchange Areas that are served by a single Aggregation Node are referred to as an 'Aggregation Node area' for the purposes of this Consultation.

A 12.3 Figure 103 below, represents the relationship between Aggregation Nodes, Aggregation Node Areas and Exchange Areas. In the diagram, there are three Aggregation Node Areas, eleven Exchange Areas and three Aggregation Nodes depicted. Aggregation Node 1 serves Aggregation Node Area 1, which encompasses Exchange Areas 1 to 4 inclusive, the same structure is repeated for Aggregation Node 2 and 3 respectively.

Figure 103: Aggregation Node Areas, Aggregation Nodes and Exchanges Areas

A 12.4 Each Aggregation Node Area will have CEI to enable the provision of downstream services. When an Access Seeker wants to build out their own Local Access network, they may establish a Point-of-Presence at a physical location within the boundaries of an Aggregation Node Area. The Access Seeker can then build access paths to connect End Users to their Point-of-Presence, using Eircom's CEI Access as an input in order to provide End User services.

A 12.5 ComReg's preliminary view is that the use of CEI access paths to connect End Users (i.e. Access Seekers Customers) to the Access Seekers Point-of-Presence, shall not be restricted by the boundaries of Eircom's Aggregation Node areas. For clarity, ComReg has described three scenarios below to explain ComReg's position regarding the geographic scope of CEI Access.

CEI path Usage Scenarios

A 12.6 For the purpose of this description there are three Eircom Aggregation Node areas, and three Access Seeker's Points-of-Presence; one in each of Eircom's Aggregation Node Areas. There are four End Users (Access Seeker customers), three in Aggregation Node Area 1, and one in Aggregation Node Area 3.

Intra AGG Node Area Scenario (Denoted by the Purple Arrows in Figure 104 below)

A 12.7 An Access Seeker has a Point-of-Presence (AS MPOP1) in Aggregation Node area 1 and connects End Users 1 (AS Customer 1) and End User 2 (AS Customer 2) to the Access Seeker's own Point-of-Presence (AS MPOP1) in Aggregation Node Area 1, using Eircom CEI paths and the Access Seeker's own fibre cable. This Intra Aggregation Node scenario, in ComReg's preliminary view is a valid use of CEI.

Inter AGG Node Area Scenario (Denoted by the Green Arrow in Figure 104 below)

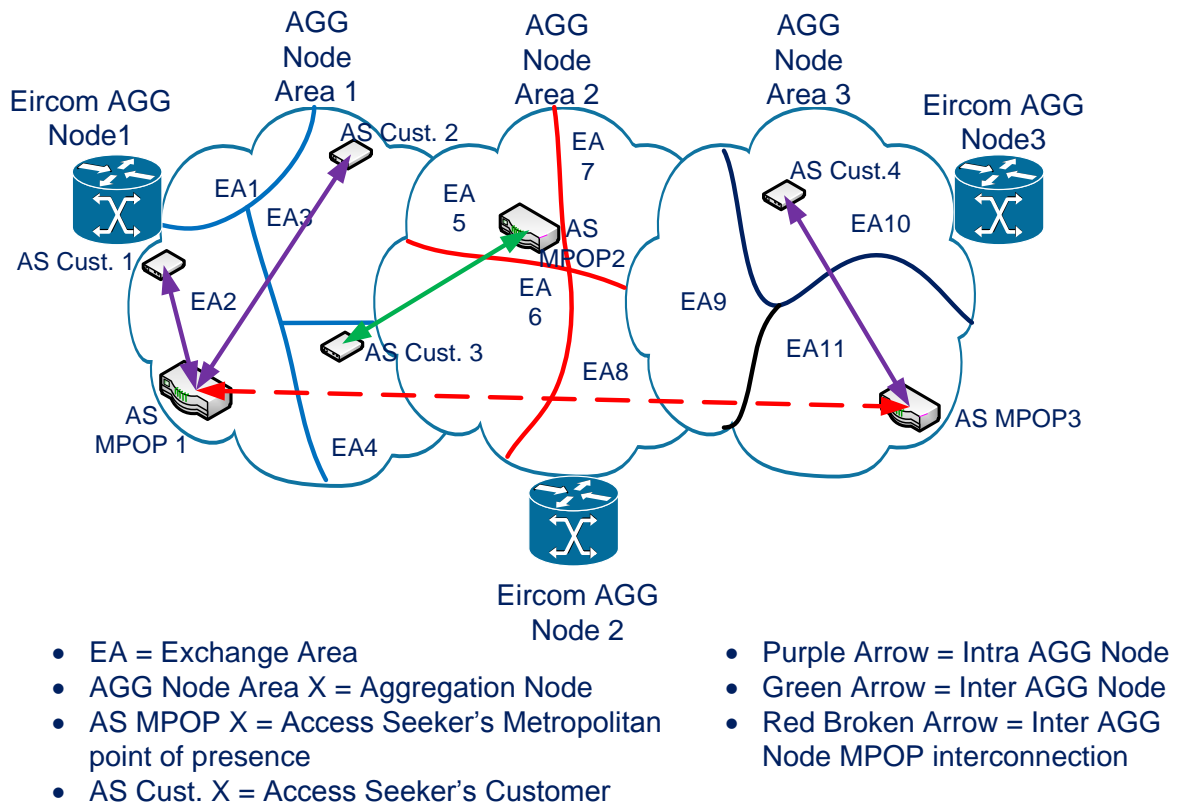
A 12.8 An Access Seeker has a Point-of-Presence (AS MPOP2) in Aggregation Node area 2 and wants to connect End User 3 (AS Customer 3) located in Aggregation Node Area 1 to the Access Seeker's own Point-of-Presence (POP2) in Aggregation Node Area 2 using exclusively Eircom's CEI paths (or a combination of Eircom's CEI paths and the Access Seeker's self-supplied CEI paths), and the Access Seeker's own fibre cable. This Inter Aggregation Node scenario, in ComReg's preliminary view is a valid use of CEI.

Inter AGG Node Area Point-of-Presence Interconnection Scenario (Denoted by the Red Broken Arrow in Figure 104 below)

A 12.9 An Access Seeker has a Point-of-Presence (AS MPOP1) in Aggregation Node area 1 and a Point-of-Presence (AS MPOP3) in Aggregation Node Area 3, and the Access Seeker wants to interconnect the two Points-of-Presence (AS MPOP1 to AS MPOP3) using Eircom CEI access paths and the Access Seeker's own fibre cable. In this scenario, the use of CEI for Aggregation Node interconnection in ComReg's preliminary view would not be a valid use of CEI, because it is not being used to facilitate local access.

A 12.10 To summarise ComReg's preliminary view, the connection of End Users (AS customers) to Access Seekers Points-of-Presence using Eircom's CEI shall not be restricted by Eircom's Aggregation Node or exchange boundaries.

Figure 104: CEI path usage scenarios



Appendix: 13 Consultation Questions

- Question 1:** Do you agree that the main developments identified in the provision of retail services are those most relevant for the assessment of the Relevant Wholesale Markets? Please explain the reasons for your answer, clearly indicating the relevant paragraph numbers to which your comments refer, along with all relevant factual/empirical evidence supporting your views.
- Question 2:** Do you agree with ComReg's preliminary conclusions on the retail product and geographic market assessment to the extent that it informs the analysis of the Relevant WLA and WCA Markets? Please explain the reasons for your answer, clearly indicating the relevant paragraph numbers to which your comments refer, along with all relevant factual/empirical evidence supporting your views.
- Question 3:** Do you agree with ComReg's preliminary conclusions on the WLA Product Market assessment? Please explain the reasons for your answer, clearly indicating the relevant paragraph numbers to which your comments refer, along with all relevant factual evidence supporting your views.
- Question 4:** Do you agree with ComReg's preliminary conclusions on the geographic market assessment for the WLA Market? Please explain the reasons for your answer, clearly indicating the relevant paragraph numbers to which your comments refer, along with all relevant factual evidence supporting your views.
- Question 5:** Do you agree with ComReg's assessment of SMP? Please explain the reasons for your answer, clearly indicating the relevant paragraph numbers to which your comments refer, along with all relevant factual evidence supporting your views.
- Question 6:** Do you agree that the competition problems and the associated impacts on competition End Users identified are those that could potentially arise in the WLA Market? Please explain the reasons for your answer, clearly indicating the relevant paragraph numbers to which your comments refer, along with all relevant factual evidence supporting your views.

- Question 7:** Do you agree with ComReg's proposed remedies in the WLA Market? Please explain the reasons for your answer, clearly indicating the relevant paragraph numbers to which your comments refer, along with all relevant factual evidence supporting your views.
- Question 8:** Do you agree with ComReg's preliminary conclusions on the assessment of the Modified Retail Broadband Market to the extent that it informs the analysis of the WCA Market? Please explain the reasons for your answer, clearly indicating the relevant paragraph numbers to which your comments refer, along with all relevant factual/empirical evidence supporting your views.
- Question 9:** Do you agree with ComReg's preliminary conclusions on the product assessment for the WCA Markets? Please explain the reasons for your answer, clearly indicating the relevant paragraph numbers to which your comments refer, along with all relevant factual evidence supporting your views.
- Question 10:** Do you agree with ComReg's preliminary conclusions on the geographic market assessment for the WCA Markets? Please explain the reasons for your answer, clearly indicating the relevant paragraph numbers to which your comments refer, along with all relevant factual evidence supporting your views.
- Question 11:** Do you agree with ComReg's assessment of SMP in the WCA Markets? Please explain the reasons for your answer, clearly indicating the relevant paragraph numbers to which your comments refer, along with all relevant factual evidence supporting your views.
- Question 12:** Do you agree that the competition problems and the associated impacts on competition consumers identified are those which could potentially arise in the Regional WCA Market (and related markets)? Please explain the reasons for your answer, clearly indicating the relevant paragraph numbers to which your comments refer, along with all relevant factual evidence supporting your views.
- Question 13:** Do you agree with ComReg's proposed remedies in the Regional WCA Market? Please explain the reasons for your answer, clearly indicating the relevant paragraph numbers to which your comments refer, along with all relevant factual evidence supporting your views.

Question 14: Do you agree with the above proposals to maintain requirements upon Eircom to continue to provide existing access at prevailing prices during a six month sunset period? Please explain the reasons for your answer, clearly indicating the relevant paragraph numbers to which your comments refer, along with all relevant factual evidence supporting your views.

Question 15: Do you agree with ComReg's preliminary conclusions on the Regulatory Impact Assessment? Please explain the reasons for your answer, clearly indicating the relevant paragraph numbers to which your comments refer, along with all relevant factual evidence supporting your position.

Appendix: 14 Wholesale Local Access: Draft Decision Instrument

1 STATUTORY POWERS GIVING RISE TO THIS DECISION INSTRUMENT

- 1.1 This Decision Instrument (“Decision Instrument”) is made by the Commission for Communications Regulation (“ComReg”) and relates to the market for wholesale local access provided at a fixed location as identified by the European Commission in the 2014 Recommendation and analysed by ComReg in ComReg Decision [•].
- 1.2 This Decision Instrument is made:
- (i) Pursuant to and having had regard to Sections 10 and 12 of the Communications Regulation Act 2002 (as amended); Regulation 6(1) of the Access Regulations and Regulation 16 of the Framework Regulations;
 - (ii) Having taken the utmost account of the 2014 Recommendation, the Explanatory Note and the SMP Guidelines;
 - (iii) Having, where applicable, pursuant to Section 13 of the Communications Regulation Act 2002 (as amended) complied with Ministerial Policy Directions;
 - (iv) Having had regard to the analysis and reasoning set out in ComReg Document No. [•] and having taken account of the submissions received from interested parties in response thereto following a public consultation pursuant to Regulation 12 of the Framework Regulations;
 - (v) Having consulted with the Competition and Consumer Protection Commission, further to Regulation 27 of the Framework Regulations;
 - (vi) Having notified the draft measure and the reasoning on which the measure is based to the European Commission, BEREC and the national regulatory authorities in other EU Member States pursuant to Regulation 13 and Regulation 14 of the Framework Regulations and having taken account of any comments made by these parties;
 - (vii) Pursuant to Regulations 25, 26 and 27 of the Framework Regulations and Regulations 8, 9, 10, 11, 12, and 13 of the Access Regulations; and
 - (viii) Having regard to the analysis and reasoning set out in ComReg Decision [•].

- 1.3 The provisions of ComReg Document No. [•] and ComReg Decision [•] shall, where appropriate, be construed consistently with this Decision Instrument. For the avoidance of doubt, however, to the extent that there is any conflict between a decision instrument dated prior to the Effective Date (as defined in Section 2.1 of this Decision Instrument) and this Decision Instrument, this Decision Instrument should prevail.

PART I - GENERAL PROVISIONS (SECTIONS 2 TO 5 OF THE DECISION INSTRUMENT)

2 DEFINITIONS

- 2.1 In this Decision Instrument, unless the context otherwise suggests:

“Access” shall have the same meaning as under Regulation 2 of the Access Regulations, as may be amended from time to time;

“Access Path” means the connection from the NTU/ONT in the End User’s premises to the Point-of-Handover. The Points-of-Handover for physical unbundling are the MDF (for metallic) and the ODF (for fibre) in the exchange, and the Point-of-Handover for non-physical unbundling (virtual access) is the Wholesale Ethernet Interconnection Link at the serving Aggregation Node for the End User i.e. at the MPoP;

“Access Reference Offer” or **“ARO”** is the latest version of the offer of contract by Eircom to Undertakings in relation to WLA (but which may from time to time be amended or supplemented). For the avoidance of doubt the ARO includes the documents which are expressly referred to as being part of the ARO. To the extent that there is any conflict between the ARO and Eircom’s obligations now set out herein, it is the latter which shall prevail;

“ARO Change Matrix” means the table of information collated by Eircom which specifies the non-price related amendments made to its ARO, including the date(s) on which such amendments come into effect;

“ARO Price List Change Matrix” means the table of information collated by Eircom which specifies the amendments made to the ARO Price List(s) which are contained in its ARO, including the date(s) on which such amendments come into effect;

“ARO Price List(s)” means the list of charges collated by Eircom for products, services and facilities which are to be provided and specified in its ARO in accordance with the requirements of this Decision Instrument;

“Access Regulations” means the European Communities (Electronic Communications Networks and Services) (Access) Regulations 2011 (S.I. No. 334 of 2011), as may be amended from time to time;

“Additional Financial Information” means the information, as determined by ComReg, that shall be provided by Eircom on an annual basis in accordance with the Decision Instrument annexed to ComReg Decision D08/10 and has the same meaning as set out in Section 2.1 of that decision instrument;

“Aggregation Node” or **“AGG node”** means a network concentration point for Access Paths;

“Ancillary Services” are a subset of Associated Facilities and shall include services such as Migrations, fault repair and access connections, Co-Location, In-Building Handover, In-Span Handover and Customer Sited Handover;

“Ancillary Services Cost Model” means the model, as amended from time to time (subject to approval by ComReg), used by ComReg and Eircom to assess Eircom’s compliance with the obligations contained in Section 12 of this Decision Instrument. The model calculates costs based on no more than the actual incurred costs (adjusted for efficiencies) plus a reasonable rate of return associated with the provision of Ancillary Services. The operation and details of the Ancillary Services Cost Model are more particularly described in Chapter 11 of ComReg Decision D03/16;

“Associated Facilities” shall have the same meaning as under Regulation 2 of the Framework Regulations, as may be amended from time to time;

“Authorisation Regulations” means the European Communities (Electronic Communications Networks and Services) (Authorisation) Regulations 2011 (S.I. No. 335 of 2011), as may be amended from time to time;

“BEREC” means the Body of European Regulators for Electronic Communications, as established pursuant to Regulation (EC) No. 1211/2009 of the European Parliament and of the Council of 25 November 2009;

“Bottom Up Long Run Average Incremental Cost plus” or **“BU-LRAIC+”** means the methodology used to estimate the “LRAIC plus” of an efficient operator which is derived from an economic and/or engineering model of an efficient network. The LRAIC plus costs are the average efficiently incurred directly attributable variable and fixed costs, including an appropriate apportionment of joint and common costs;

“Civil Engineering Infrastructure” or **“CEI”** also known as passive access infrastructure means the physical access path facilities deployed by Eircom to host cables such as copper wires, optical fibre and co-axial cables. It includes but is not limited to, subterranean or above-ground assets such as Sub-ducts, Ducts, chambers and Poles;

“CEI Co-Location” means the Co-location services and facilities that are necessary to support Access to CEI;

“CEI Tie Connection Service” means the fibre connection, provided by Eircom, between an Undertaking’s co-located equipment in their equipment rack or from the Undertaking’s co-located Optical Distribution Frame (ODF) to a Chamber or Pole on an Eircom CEI route usually in close proximity to the exchange building site;

“Chamber” means any underground construction which is built to facilitate access to cables within Eircom’s Duct network for the purposes of splicing, jointing, distribution, fault localisation and repairs;

“Class of Service” or **“COS”** means a network traffic management technique and involves the autonomous treatment of traffic at a single router, switch or equivalent equipment using classes to group and manage traffic that have common forwarding characteristics;

“Co-Location” shall have the same meaning and description as under Part B “Co-location services” of the Schedule to the Access Regulations (as may be amended from time to time), save that it includes for the purposes of this Decision Instrument, access to the main distribution frame (MDF) and/or to the optical distribution frame (ODF), floor space, Alternating Current (A.C.) power, Direct Current (DC) power air conditioning, mast access, roof access, cable trays and trunking as applicable, at an Eircom Exchange;

“Co-Location Rack Interconnection” means Interconnection between two or more of an Undertaking’s co-location equipment racks;

“Co-Location Space Sharing” means the facility whereby an Undertaking is permitted to share the space allocated to that Undertaking by Eircom in an Exchange with another Undertaking that the Undertaking is providing access services to;

“Communications Regulation Act 2002 (as amended)” means the Communications Regulation Act 2002 (No. 20 of 2002), as amended;

“Competition and Consumer Protection Commission” established under section 9 of the Competition and Consumer Protection Act 2014 and formerly the Competition Authority and the National Consumer Agency;

“ComReg” means the Commission for Communications Regulation, established under Section 6 of the Communications Regulation Act 2002 (as amended);

“ComReg Decision D05/10” means ComReg Document No. 10/39, entitled “Market Review: Wholesale (Physical) Network Infrastructure Access (Market 4) Further Response to ComReg Document No. 08/104, Response to ComReg Document No. 09/42 and Decision (the “Decision Document”)”, dated 20 May 2010;

“ComReg Decision D08/10” means ComReg Document No. 10/67 entitled “Response to Consultation Document and Final Direction and Decision, Response to Consultation Document No. 09/75 and Final Direction and Decision: Accounting Separation and Cost Accounting Review of Eircom Limited”, dated 31 August 2010;

“ComReg Decision D05/11” means ComReg Document No. 11/45 entitled “Response to Consultation and Decision on the Introduction of Key Performance Indicators for Regulated Markets”, dated 29 June 2011;

“ComReg Decision D06/11” means ComReg Document No. 11/49 entitled “Response to Consultation and Decision Market Review: Wholesale Broadband Access (Market 5)”, dated 8 July 2011;

“ComReg Decision D03/13” means ComReg Document No. 13/11, entitled “Next Generation Access (‘NGA’): Remedies for Next Generation Access Markets”, dated 31 January 2013;

“ComReg Decision D04/13” means ComReg Document No. 13/14, entitled “Price Regulation of Bundled Offers Further specification of certain price control obligations in Market 1 and Market 4”, dated 8 February 2013;

“ComReg Decision D03/16” means ComReg Document No.16/39, entitled “Pricing of Eir’s Wholesale Fixed Access Services: Response to Consultation Document 15/67 and Final Decision”, dated 18 May 2016;

“ComReg Decision D[●]” means ComReg Document No. [●], entitled “[●]”, dated [●];

“ComReg Document No. 05/24” means ComReg Document No. 05/24 entitled “Response to Consultation, Guidelines on the treatment of confidential information, Final text of Guidelines”, dated 22 March 2005;

“ComReg Document No. [●]” means ComReg Document No. [●], entitled “[●]”, dated [●];

“Copper loop frequency management plan” or **“CLFMP”** means the Eircom document that defines the spectral rules that all Undertakings’ equipment must comply with if such equipment is to be deployed on Eircom’s copper access network;

“CPE” means customer premises equipment;

“Current Generation Wholesale Local Access” or **“Current Generation WLA”** means Wholesale Local Access provided over Eircom’s current generation copper access network infrastructure and its Associated Facilities (including self-supply by Eircom for the purpose of serving its downstream markets) that is copper based;

“Customer Sited Handover” or **“CSH”** means the connection from the Eircom network to the Undertaking’s equipment in the Undertaking’s premises, which includes the installation of an Eircom NTU at the Undertaking’s premises;

“Dark Fibre” is optical fibre that is currently installed in the access network but is not in use. For the purposes of this Decision Instrument, Dark Fibre shall mean unlit Eircom fibre in Eircom’s access network;

“Decision Instrument” means this direction and decision instrument which is made pursuant to *inter alia* Regulations 8, 9, 10,11,12 and 13 of the Access Regulations;

“Direct Duct Access” means direct access to Eircom’s Ducts for the installation of cables without the use of a Sub-duct;

“Downstream Wholesale Service” means a wholesale service which is on offer or on sale by Eircom to Undertakings downstream from the WLA Market and contains a ULMP component (examples of such Downstream Wholesale Services include, for example, SB-WLR and SABB);

“Duct” means an underground pipe or conduit that carries cables that are in turn used to deliver electronic communication services to End Users;

“Duct Access” means the installation of a Sub-Duct into an Eircom Duct to allow an Undertaking to install cables;

“Edge Node Handover” or **“ENH”** means the connection from the Eircom network through a dedicated aggregation node interface to the Undertaking’s equipment;

“Effective Date” means the date set out in Section 17 of this Decision Instrument;

“Egress” means the point on Eircom’s CEI where, in the case of Direct Duct Access, Duct Access and Sub-Duct Access, an Undertaking’s cable or Sub-Duct exits an Eircom owned duct, sub duct or chamber. In the case of pole access, it is the last Eircom pole used by an Undertaking on a particular route;

“Eircom” means Eircom Limited, and its subsidiaries and any related companies, and any Undertaking which it owns or controls, and any Undertaking which owns or controls Eircom Limited, and its successors and assigns. For the purpose of this Decision Instrument, the terms “subsidiary” and “related company” shall have the meaning ascribed to them in the Companies Act 2014 (as may be amended from time to time);

“Electronic Communications Network(s)” or **“ECN(s)”** shall have the same meaning as under Regulation 2 of the Framework Regulations, as may be amended from time to time;

“Electronic Communications Service(s)” or “ECS(s)” shall have the same meaning as under Regulation 2 of the Framework Regulations, as may be amended from time to time;

“End User(s)” shall have the same meaning as under Regulation 2 of the Framework Regulations, as may be amended from time to time. For the avoidance of doubt, End User(s) shall be deemed to include any natural or legal person who facilitates or intends to facilitate the provision of public communications networks or publicly available electronic communications services to other End Users and who is not acting as an Undertaking;

“Engineering Planning and Design Rules” means the engineering and design rules that relate to the management of Duct, Chamber and Pole space;

“Equivalence of Inputs” means the provision of products, services, facilities, and information by the SMP Undertaking to OAOs such that such products, services, facilities, and information are provided to OAOs within the same timescales, at the same price, functionality, service and quality levels and on the same terms and conditions and by means of the same systems and processes as the SMP Undertaking provides to itself. The systems and processes shall operate in the same way and with the same degree of reliability and performance as between OAOs and the SMP Undertaking’s provision to itself;

“Equivalence of Outputs” means the provision of products, services, facilities, and information by the SMP Undertaking to OAOs such that such products, services, facilities, and information are provided to OAOs in a manner which achieves the same standards in terms of functionality, price, terms and conditions, service and quality levels as the SMP Undertaking provides to itself, albeit potentially using different systems and processes;

“Ethernet” means a technology that supports data transfer between network Nodes at Layer 2 of the Open Systems Interconnection (OSI) reference model;

“Exchange” means an Eircom network premises or equivalent facility used to house network and associated equipment and includes a Remote Subscriber Unit (RSU). The Exchange sometimes, but not always, houses the Metropolitan Point of Presence (MPoP);

“Exchange launched VUA” means that the active equipment that is required to provide VUA is housed in an Eircom Exchange building or equivalent;

“(the) Explanatory Note” means the Commission Staff Working Document: Explanatory Note accompanying the 2014 Recommendation (9 October 2014, SWD (2014) 298);

“Fibre Loop Unbundling” or “FLU” means where an Undertaking rents access to the fibre loop and uses it to supply services to its customers either on

a wholesale or retail basis. Fibre Loop Unbundling includes both physical and also non-physical access, such as but not limited to WDM. The Section of Eircom's access network that provides access into the End User premises (whether residential, business or other premises). It runs between the ODF or equivalent and the relevant End User premises;

“Fibre to the Cabinet” or “FTTC” means fibre to the cabinet which is a variant of the FTTN access network architecture where the Node used to house active equipment is the street cabinet;

“FTTC based VUA” means VUA that is based on FTTC;

“Fibre to the Home” or “FTTH” means fibre to the home which is a variant of the FTTN access network architecture where fibre is used to connect the end-user premises to the Exchange;

“FTTH based VUA” means VUA that is based on FTTH;

“FTTH Premises Passed” means a premises where the FTTH service is potentially available and can be made available when the final fibre connection is made from a fibre distribution point to the End User's premises;

“Fibre to the Node” or “FTTN” means an access network architecture whereby active equipment is installed in an access network Node (a street cabinet in the case of FTTC). The active equipment is connected to the Exchange using fibre optic cable. The connection between the Node and the End User premises is by way of a copper sub-loop;

“Framework Regulations” means the European Communities (Electronic Communications Networks and Services) (Framework) Regulations 2011 (S.I. No. 333 of 2011), as may be amended from time to time;

“Full Unbundled Access to the Local Loop” shall have the same meaning as in the Schedule to the Access Regulations, as may be amended from time to time;

“Geographic Number Portability (GNP)” means a facility that allows an End User to retain his/her telephone number when changing or switching service provider and describes the process used for this when the number concerned is a geographic number;

“GLUMP” is the synchronised delivery of ULMP and GNP;

“Historical Cost Accounts” or “HCA” means the historical cost accounts which Eircom is required to publish in accordance with ComReg Decision D08/10;

“In-Building Handover” or **“IBH”** means the connection from the Eircom network to the Undertaking’s equipment within the Exchange, or equivalent facility;

“In-Span Handover” or **“ISH”** means the connection between the Exchange and the Undertaking’s nominated Point of Handover.

“Ingress” means the point on Eircom’s CEI where, in the case of Direct Duct Access, Duct Access and Sub-Duct Access, an Undertaking’s cable enters the Eircom Sub-Duct, duct or chamber, or where an Undertaking’s Sub-Duct physically enters the Eircom duct. In the case of pole access, the ingress point is the first pole used or to be used by the Undertaking on an Eircom aerial route;

“Interconnection” shall have the same meaning as under Regulation 2 of the Access Regulations as may be amended from time to time, and for the purposes of this Decision Instrument includes, but is not limited to, the Eircom WEIL (Wholesale Ethernet Interconnect Link) service;

“IP” means internet protocol;

“Key Performance Indicator(s)” or **“KPI(s)”** means a measure(s) of the standard(s) of product, service or facility provided by Eircom to Undertakings and by Eircom to itself;

“Line Share” see “Shared Access to the Local Loop” below;

“Local Access” means the physical infrastructure or a circuit (metallic, fibre or hybrid metallic-fibre path) that is between the End User’s premises and a point in an Eircom Exchange i.e. for metallic path physical unbundling this point will be at the MDF in an Eircom Exchange, for fibre physical unbundling this point will be the ODF in an Eircom Exchange and for virtual unbundling this point will be at the Aggregation Node in an Eircom Exchange;

“Local Loop” shall have the same meaning as under Regulation 2 of the Access Regulations, as may be amended from time to time;

“Local Loop Unbundling” or **“LLU”** means the final Section of Eircom’s access network that provides access into premises (whether residential, business or other premises). It runs between the local exchange and the relevant End User premises. LLU occurs where an OAO rents access to the Local Loop and uses it to supply services to its End Users either on a wholesale or retail basis;

“MDF” means main distribution frame;

“Migration(s)” means where the upstream wholesale input used to supply a retail service is changed whilst maintaining services to the End User, irrespective of whether or not the supplier at the retail level changes. For the avoidance of doubt, Migrations include but are not limited to migrations:-(i)

between all Next or Current Generation WLA services in any direction; (ii) between Next or Current Generation WLA and Next or Current Generation WCA in any direction; (iii) VUA Soft Migrations; and (iv) Bulk Migration;

“(Bulk) Migration” means the facility whereby an OAO can have multiple Migrations facilitated via a single request;

“Ministerial Policy Directions” for the purposes of this Decision Instrument means the policy directions made by Dermot Ahern TD, then Minister for Communications, Marine and Natural Resources, dated 21 February 2003 and 26 March 2004;

“Metropolitan Point of Presence” or **“MPoP”** means the point of inter-connection between the access and core networks of an Undertaking;

“Modified Larger Exchange Area” or **“Modified LEA”**, means those exchanges listed in Annex 14 of ComReg Decision D03/16;

“Multicast” means a service that accepts a single copy of a designated data streams from the Undertaking and distributes these data streams within the Eircom network to multiple End Users;

“Network Termination Unit” or **“NTU”** means the physical interface which provides the service demarcation or Point of Handover of the wholesale service within the customer premises;

“Next Generation Access” or **“NGA”** means wired access networks which consist wholly or in part of optical elements and which are capable of delivering broadband and other access services with enhanced characteristics (such as higher throughput) as compared to those provided over exclusively copper access networks;

“Next Generation Wholesale Local Access” or **“Next Generation WLA”** means Wholesale Local Access provided over NGA and its Associated Facilities (including self-supply by Eircom for the purpose of serving its downstream markets).

“Node” means any location or concentration point in the access network which houses equipment for the purpose of providing services to End Users;

“Other Authorised Operator(s)” or **“OAO(s)”** means an Undertaking that is not Eircom, providing or intending to provide an ECN or an ECS pursuant to Regulation 4 of the Authorisation Regulations;

“ODF” means optical distribution frame;

“ONT” or **“Optical Network Terminal”** means the device that terminates the fibre Access Path at the End User’s premises;

“**OSI**” means open systems interconnection;

“**OSS**” means operational support systems;

“**Passive Access Records**” means all available physical records for passive access, *inter alia* information relating to (i) physical location of Ducts, Sub-ducts, Poles, chambers, cabinets, and distribution points, including their technical and physical characteristics; (ii) the installed fibre and metallic cable capacity in Ducts and in Sub-duct and on Poles, including their used capacity (iii) the reserved Duct, Pole and Chamber capacity (reservation information includes x.y. co-ordinates of start and the end of the route, requested date of reservation, reservation lapse date); and (iv) the reserved capacity by internal or external Undertakings, per route;

“**Physical Transmission Path(s)**” means a form of copper, fibre or wireless physical infrastructure (including and any combination of these) or its nearest equivalent which may be used to transmit ECS;

“**Point of Handover**” means the physical point at which two networks are interconnected to allow traffic between these networks;

“**Pole Access**” means Access via the installation of a cable(s) on an Eircom pole(s);

“**Pre-Qualification Value**” means the maximum data-rate attainable for an Access Path based on its electrical characteristics;

“**Product Development Roadmap**” means the document required of Eircom in accordance with Section 10.26 of this Decision Instrument;

“**Ready for Order Date**” means the date by which a particular service is available for order by an Undertaking;

“**Reasonably Efficient Operator**” means a reasonably efficient operator which has a different basic cost function to Eircom and does not yet enjoy the same economies of scale and scope as Eircom;

“**(the) Relevant Market**” means the market described in Section 4 of this Decision Instrument;

“**Revised Copper Access Model**” means the model, as amended from time to time (subject to approval by ComReg), used by ComReg and Eircom to assess Eircom’s compliance with the obligations contained in Section 12 of this Decision Instrument. The model calculates costs based on both Top Down HCA and BU-LRAIC+ costing methodologies. The operation and details of the Revised Copper Access Model are more particularly described in Chapter 5 of ComReg Decision D03/16;

“Revision History” means a documented list of changes to the Statement of Compliance as required under Section 13 of this Decision Instrument. The list, which contains the changes from the previous draft of the Statement of Compliance, should be maintained and printed in a dedicated and indexed Section of each Statement of Compliance;

“RSU” means remote subscriber unit;

“SB-WLR” means single billing wholesale line rental;

“Service Credit(s)” a financial credit which is provided by Eircom to an OAO where Eircom has failed to meet the service levels which Eircom commits to from time to time in its SLA;

“Service Level Agreement(s)” or **“SLA(s)”** mean legally binding contracts between Eircom and OAOs in relation to the service levels which Eircom commits to from time to time, as more particularly set out in the ARO. For the avoidance of doubt, however, these service levels must comply with the principles set out in this Decision Instrument and to the extent that there is any conflict between the SLAs and Eircom’s obligations set out in this Decision Instrument, it is the latter which shall prevail;

“SLA Negotiation Period” means the duration of time required by Eircom to close negotiations between it and Undertakings in respect of an amended or new SLA;

“Shared Co-Location” means the facility whereby more than one OAO can share Co-Location facilities;

“Shared Access to the Local Loop” (also known as Line Share) means the product whereby the high frequency capacity of a line is provided to OAOs, described in Annex C, Service Schedule 103 Appendix 1 to Eircom’s ARO, as may be amended from time to time;

“Shared Sub-Loop Unbundling” means the provision to a beneficiary of access to the local Sub-Loops on Eircom’s network, authorising the use of the non-voice band frequency spectrum of the twisted metallic pair; the local Sub-Loops continue to be used by Eircom to provide the telephone service to the public. It includes the provision of access to a tie cable or other connection and appropriate handover for the purposes of making use of Eircom’s Sub Loops from an adjacent cabinet

“Significant Market Power obligation(s)” or **“SMP obligation(s)”** are those obligations as more particularly described in Part II below, as may be amended from time to time;

“Significant Market Power Undertaking” or **“SMP Undertaking”** means the Undertaking designated in Section 5 of this Decision Instrument as having Significant Market Power;

“(the) SMP Guidelines” means the European Commission guidelines of 11 July 2002 on market analysis and the assessment of significant market power under the Community regulatory framework for electronic communications networks and services (2002/C165/03) (OJ C 165, 11.7.2002, p.6);

“Structured information” means information that is documented and managed through an established business process in a formal manner and includes memos, email messages, letters, order forms, invoices, agendas and reports etc.;

“Sub Duct” means the tube inserted in a Duct through which a cable is installed;

“Sub-Duct Access” means Access to Eircom’s Sub-Duct;

“Sub-Loop” means the portion of the Local Loop which runs from a street cabinet to the End User’s premises;

“Sub-Loop Unbundling” also known as **“SLU”** is an implementation of unbundled access to the Sub-Loop. It excludes the portion of the Local Loop between the Exchange and street cabinet. It includes the provision of access to a tie cable or other connection appropriate handover for the purposes of making use of the Sub Loop from an adjacent cabinet;

“Subscriber(s)” shall have the same meaning as under Regulation 2 of the Framework Regulations, as may be amended from time to time;

“Top-Down HCA” means the methodology in which the HCA and network information of the regulated firm are used as the starting point for calculating the costs of relevant services. These inputs may subsequently be adjusted to reflect efficiencies;

“ULMP” or **“Unbundled Local Metallic Path”** is the implementation of Full Unbundled Access to the Local Loop;

“ULMP Cost Stack” means the appropriate monthly cost of the ULMP component, as calculated by ComReg having regard to the ULMP Price Control Model;

“ULMP Price Control Model” means the model referred to in ComReg Decision D03/16 which is used by ComReg to calculate the monthly rental price of ULMP;

“Undertaking(s)” shall have the same meaning as under Regulation 2 of the Framework Regulations, as may be amended from time to time;

“Unified Gateway” is an interface to Eircom’s OSS used by OAOs to avail of regulated wholesale services;

“Unstructured Information” means information that is managed in an informal manner;

“Urban WCA Market” means the market as defined in Section 4 of the Decision Instrument annexed to ComReg Decision [●];

“VDSL” means a very-high-bit-rate digital subscriber line;

“Vectoring” is a technology that is used to reduce interference arising from crosstalk between copper pairs in a cable binder. It is normally deployed at an Exchange or cabinet in order to increase the download and upload speeds attainable on the copper loops serving end users;

“Vectoring Protocol” means the protocol for enabling vectoring on Exchange launched VDSL (EVDSL) as detailed in Eircom’s Access Reference Offer (ARO) Version 7 dated 24 March 2016: ANNEX E Protocol for enabling vectoring on Exchange launched VDSL (EVDSL);

“Version Control” means a standardised regime for the management of changes to documents as it relates to Section 13 of this Decision Instrument. Different versions of the Statement of Compliance should be identified by a number, letter or code, associated with a date and timestamp. Revision History is included as part of the Version control regime. VUA includes VUA provided on a stand-alone basis or VUA provided with SB-WLR;

“Virtual Unbundled Access” or **“VUA”** means the wholesale active access product provided by Eircom. It is an enhanced Layer 2 product which allows the handover or interconnection of aggregate End Users’ connections at the MPoP. It allows a level of control to the Undertaking similar to that afforded to the Undertaking connecting their own equipment to an unbundled Local Loop;

“VUA Soft Migrations” means the facility whereby an End User can be migrated from SB-WLR with VUA to standalone VUA without the need for physical network intervention at the time of provisioning and should include the porting of the End User’s telephone number from the current service provider, if required;

“WDM” means wavelength-division multiplexing;

“Wholesale Central Access” or **“WCA”** means wholesale central access provided at a fixed location for mass market products as defined in Section 4 of the Decision Instrument annexed to ComReg Decision [●];

“Wholesale Ethernet Interconnection Link” or **“WEIL”** is the interconnection service provided by Eircom which provides a handover for various wholesale products including its NGA and Next Generation Network wholesale products;

“**Wholesale Local Access**” or “**WLA**” means wholesale local access provided at a fixed location;

“(the) **2014 Recommendation**” means the European Commission Recommendation of 9 October 2014 on relevant product and service markets within the electronic communications sector susceptible to *ex ante* regulation in accordance with Directive 2002/21/EC of the European Parliament and of the Council on a common regulatory framework for electronic communications networks and services (OJ L 295, 11.10.2014, p. 79).

3 SCOPE AND APPLICATION

- 3.1 This Decision Instrument is binding upon Eircom and Eircom shall comply with it in all respects.
- 3.2 This Decision Instrument applies to Eircom in respect of activities falling within the scope of the Relevant Market defined in Section 4 of this Decision Instrument.
- 3.3 This Decision Instrument, pursuant to Regulation 8 of the Access Regulations, withdraws certain obligations previously imposed upon Eircom, as more particularly set out in Section 16 of this Decision Instrument.

4 MARKET DEFINITION

- 4.1 This Decision Instrument relates to the wholesale market for Wholesale Local Access provided at a fixed location as identified by the European Commission in the 2014 Recommendation and analysed by ComReg in ComReg Decision [•]. For the purposes of this Decision Instrument, ComReg identifies one geographic market as more particularly defined in Section 4.2 below (referred to in this Decision Instrument as the Relevant Market).
- 4.2 Pursuant to Regulation 26 of the Framework Regulations and in accordance with the 2014 Recommendation, the Explanatory Note and taking the utmost account of the SMP Guidelines, in accordance with the principles of competition law, the Relevant Market defined in this Decision Instrument is the:- national market for Wholesale Local Access provided at a fixed location. The Relevant Market is more particularly described in Section 5 of ComReg Decision [•]
- 4.3 It is hereby decided that the Relevant Market is susceptible to *ex ante* regulation.

5 DESIGNATION OF UNDERTAKING WITH SIGNIFICANT MARKET POWER (“SMP”)

- 5.1 Pursuant to Regulation 25 and Regulation 27 of the Framework Regulations and taking the utmost account of the SMP Guidelines, having determined that the Relevant Market is not effectively competitive, Eircom is designated as having SMP in the Relevant Market in which it operates.

PART II - SMP OBLIGATIONS (SECTIONS 6 TO 13 OF THE DECISION INSTRUMENT) IN RELATION TO WHOLESALE LOCAL ACCESS

6 SMP OBLIGATIONS IN RELATION TO WHOLESALE LOCAL ACCESS PRODUCTS, SERVICES AND FACILITIES

6.1 ComReg is imposing certain SMP obligations on Eircom in accordance with and pursuant to Regulations 8, 9, 10, 11, 12 and 13 of the Access Regulations, as detailed further in Sections 7 to 13 below in respect of Wholesale Local Access.

7 OBLIGATIONS TO PROVIDE ACCESS

7.1 Pursuant to Regulation 12(1) of the Access Regulations, Eircom shall meet all reasonable requests from Undertakings for the provision of Access to Wholesale Local Access including Associated Facilities.

7.2 Without prejudice to the generality of Section 7.1 of this Decision Instrument and pursuant to Regulation 12(2) of the Access Regulations, Eircom shall provide and grant Access to Undertakings for the following particular products, services and Associated Facilities:-

- (i) VUA which includes the following;
 - a. FTTC based VUA;
 - b. FTTH based VUA; and
 - c. Exchange launched VUA.
- (ii) VUA, combined with GNP where required;
- (iii) Interconnection Services, to include the following:
 - a. In-Building Handover;
 - b. In-Span Handover;
 - c. Customer-Sited Handover; and
 - d. Edge Node Handover.
- (iv) Associated Facilities related to VUA such as
 - a. Multicast; and
 - b. Class of Service.
- (v) ULMP;
- (vi) GLUMP;
- (vii) Shared Access to the Local Loop;
- (viii) Sub-Loop Unbundling, combined with GNP where required, and Shared Sub-Loop Unbundling in areas which have been identified as susceptible to form part of a state subsidy scheme;
- (ix) Co-Location generally and in particular for the following;

- a. Co-Location for Interconnection services
 - b. Co-Location Resource Sharing;
 - c. Co-Location Rack Interconnection; and
 - d. CEI Co-Location.
- (x) Migration(s);
 - (xi) Rules and Technical Standards for the deployment of Access Network Equipment Approvals and in particular CLFMP;
 - (xii) Vectoring protocol;
 - (xiii) Civil Engineering Infrastructure and in particular the following;
 - a. Duct Access and Pole Access;
 - b. Direct-Duct Access, Sub-Duct Access;
 - c. Appropriate Ingress and Egress points;
 - d. CEI Tie Connection Service;
 - e. Chambers; and
 - f. Passive Access Records.
 - (xiv) Where Civil Engineering Infrastructure is not available, Dark Fibre where Dark Fibre is reasonably available.
- 7.3 Without prejudice to the generality of Sections 7.1 and 7.2 of this Decision Instrument Eircom shall offer and continue to offer and provide Access to the products, services and facilities referred to in Sections 7 and 8 of this Decision Instrument in accordance with the product descriptions and terms and conditions of supply or use, as specified in the current version of the ARO (i.e. [Version 7, dated 24 March 2016], as published on Eircom's wholesale website) as may be amended from time to time, and, in addition, in accordance with Eircom's obligations under this Decision Instrument.
- 7.4 Pursuant to Regulation 12(1) of the Access Regulations, Eircom shall meet all reasonable requests from Undertakings for the provision of Wholesale Local Access.
- 7.5 Pursuant to Regulation 12(1) of the Access Regulations and in accordance with Section 7.2 (xiv) above, Eircom shall provide Dark Fibre three months from the date on which Eircom refuses access to Civil Engineering Infrastructure on the basis of its unavailability.
- 7.6 Without prejudice to the generality of Section 7.4 and pursuant to Regulation 12(1) of the Access Regulations, Eircom shall meet all reasonable requests from Undertakings for the provision of Unbundled Access to the Fibre Loop.

- 7.7 The access obligations set out in this Section 7 shall apply irrespective of the electronic communications service that the requested access product, service or facility shall be used to provide. For the avoidance of doubt, the purpose for which the access request is made is not limited to the provision by the Undertaking of services to End Users.
- 7.8 Without prejudice to the general obligations set out in Sections 7.1 to 7.4, of this Decision Instrument, Eircom shall:
- (i) pursuant to Regulation 12(2)(b) of the Access Regulations, negotiate in good faith with Undertakings requesting Access;
 - (ii) pursuant to Regulation 12(2)(c) of the Access Regulations, not withdraw Access to facilities already granted without the prior approval of ComReg and in accordance with terms and conditions as may be determined by ComReg;
 - (iii) pursuant to Regulation 12(2)(e) of the Access Regulations, grant open access to technical interfaces, protocols or other key technologies that are indispensable for the interoperability of products, services or facilities; and
 - (iv) pursuant to Regulation 12(2)(h) of the Access Regulations, provide Access to OSS or similar software systems necessary to ensure fair competition in the provision of services (including those products, services and facilities described in this Section 7).

8 CONDITIONS ATTACHED TO THE ACCESS OBLIGATION

- 8.1 Pursuant to Regulation 12(3) of the Access Regulations, Eircom shall, in relation to the obligations set out in Section 7 above, grant Undertakings Access in a fair, reasonable and timely manner.
- 8.2 Without prejudice to the generality of Section 8.1 above and pursuant to Regulation 12(3) of the Access Regulations, where Eircom receives a request for Access (including Access to those products, services and facilities referred to in Sections 7 and 8 of this Decision Instrument) in accordance with the requirements of this Decision Instrument at the same point in time as a request for another wholesale access product, service or facility, on foot of another Decision Instrument issued by ComReg, Eircom shall ensure that both access requests are met concurrently.
- 8.3 Without prejudice to the generality of Section 8.1 above, pursuant to Regulation 12(3) of the Access Regulations, Eircom shall in relation to the obligations set out in Section 7 above and in the provision of access to the Unified Gateway:
- (i) conclude, maintain and update, as appropriate, legally binding and fit for purpose SLAs which shall encourage an efficient level of performance;

- (ii) negotiate in good faith with Undertakings in relation to the conclusion of legally binding and fit-for-purpose SLAs (either in the case of a new SLA or an amendment to an existing SLA);
- (iii) provide Undertakings, at the end of the SLA Negotiation Period, with Eircom's best and final offer (BAFO) in respect of the relevant SLA which, for the avoidance of doubt, shall be fit for purpose; include all relevant information that is required under this Section 8.3 and accord with the principles set out in this Section 8.3. The SLA Negotiation Period ends with the closing of negotiations and the making of a BAFO by Eircom to Undertakings with respect to the SLA. When Eircom makes its BAFO, the SLA is deemed by ComReg to be concluded;
- (iv) ensure that the SLA Negotiation Period includes a discussion on the process for suspension of an SLA and the associated terms and conditions; as described in Section 8.3 (ix) below;
- (v) ensure that SLAs include provision for Service Credits which shall be fair and reasonable such that they allow Undertakings to recoup at a minimum the costs that the Undertakings incur as a result of Eircom failing to provide the committed service level;
- (vi) ensure that the SLA specifies the circumstances upon which Service Credits must be paid by Eircom to Undertakings, such as a failure by Eircom to achieve the committed service levels contained in the SLA, the occurrence of specified events or other appropriate criteria;
- (vii) ensure that SLAs specify the methodologies for calculating Service Credits and include an example of how each methodology was applied in the calculation of Service Credits;
- (viii) ensure that circumstances upon which Service Credits must be paid by Eircom to Undertakings and the methodology for calculating the quantum of Service Credits, taken together, are fair and reasonable in that they adequately incentivise Eircom to deliver an efficient level of service quality and allow Undertakings to recoup, at a minimum, the direct costs and any other loss of value that the Undertakings incur as a result of the circumstances that had triggered the payment of Service Credits; and
- (ix) ensure that SLAs include, where appropriate, the comprehensive set of terms and conditions governing the circumstances when the SLA can be suspended, and the process to be applied for the suspension of the SLA. Such terms and conditions should be based on objectively defined and measurable parameters.

- 8.4 In relation to an existing product, service or facility, following a request from an Undertaking (including Eircom), for an amendment to an SLA, Eircom shall within one (1) month of the receipt of such a request inform the Undertaking in writing whether the request for an amendment is accepted or rejected and, if accepted, include details of the SLA Negotiation Period and the associated start date. Negotiations in respect of the amended SLA shall close, unless otherwise agreed with ComReg, within six (6) months of the date the Undertaking makes such a request. Within one (1) month of the date the Undertaking makes such a request Eircom may seek an extension to the six (6) month period from ComReg.
- 8.5 In relation to an amendment to an existing product, service or facility, where Eircom itself initiates the amendment, Eircom shall within one (1) month of the commencement of the product development inform and seek Undertakings' views as to whether the proposed product amendment should result in an amendment to the relevant SLA.
- 8.6 Eircom shall ensure that its obligations set out in Sections 8.3 to 8.5 above have been complied with prior to notifying ComReg of non-pricing amendments or changes to the ARO resulting from the offer of a new or an amendment to an existing product, service or facility which falls within the scope of the Relevant Market.
- 8.7 Eircom shall ensure that the amended or new SLA is implemented and is made available to Undertakings by the date on which:
- (i) any amendment or change to an existing product, service or facility; or
 - (ii) the offer of a new product, service or facility
- comes into effect in accordance with Section 10 below.
- Where the amended SLA does not relate to Section 8.7 (i) or (ii) above, Eircom shall ensure that the amended SLA is implemented and is made available to Undertakings within three months from the end of the SLA Negotiation Period (unless otherwise agreed with ComReg).
- 8.8 Within six months (unless otherwise agreed with ComReg) of the Effective Date of this Decision Instrument Eircom shall update its SLAs to include all relevant information and accord with the principles set out in Sections 8.3 to 8.5 above.
- 8.9 Where a request by an Undertaking for provision of Access (including Access to those products, services and facilities described in Sections 7 and 8 of this Decision Instrument), or a request by an Undertaking for provision of information is refused or met only in part, Eircom shall, at the time of the refusal or partial grant, provide in detail to the Undertaking each of the objective reasons for such refusal or partial grant. Eircom's response shall be provided in a fair, reasonable and timely manner.

- 8.10 Following a request from an Undertaking (including a request from Eircom itself) for a new product, service or facility or a non-pricing amendment to an existing product, service or facility Eircom shall, from the date of receipt of such a request (unless otherwise agreed with ComReg) within:
- (i) three (3) working days confirm in writing that the request has been received;
 - (ii) ten (10) working days inform the Undertaking whether or not the request falls within the scope of Eircom's obligations contained in this Decision Instrument. Eircom shall comply with Section 8.9 above in this regard and provide a unique reference to identify the request;
 - (iii) twenty five (25) working days confirm that the Undertaking has provided it with sufficient information to process the request including the Undertaking's view on the priority of the request relative to other requests pertaining to the Relevant Market that have already been submitted by that Undertaking. During the twenty five (25) day period Eircom may seek clarification from the Undertaking;
 - (iv) fifty five (55) working days confirm in writing to the Undertaking whether it agrees to provide the requested product, service or facility or amendment thereto. Where the request is refused Eircom shall comply with Section 8.9 above in its response to the Undertaking;
 - (v) seventy five (75) working days provide the Undertaking with a detailed description of the relevant product, service or facility and the associated procedures.
- 8.11 For the avoidance of doubt the obligations set out in Section 8.10 are separate and independent to Eircom's transparency obligations in respect of notification and publication as set out in Section 10.9 and 10.10 of this Decision Instrument.
- 8.12 Eircom shall not amend the rules or technical standards for the deployment of equipment in the Access Network including the CLFMP or equivalent without the prior written approval of ComReg and in accordance with terms and conditions as may be determined by ComReg.

9 OBLIGATION OF NON-DISCRIMINATION

- 9.1 Pursuant to Regulation 10 of the Access Regulations, Eircom shall have an obligation of non-discrimination in respect of the provision of Access, including Access as regards those services, products and facilities described in Sections 7 and 8 of this Decision Instrument. Without prejudice to the generality of the foregoing, Eircom shall:

- (i) apply equivalent conditions in equivalent circumstances to other Undertakings requesting, or being provided with Access (including Access to those products, services and facilities described in Sections 7 and 8 of this Decision Instrument) or requesting or being provided with information in relation to such Access; and
 - (ii) provide Access (including Access to those products, services and facilities described in Sections 7 and 8 of this Decision Instrument) and information in relation to such Access to all other Undertakings under the same conditions and of the same quality as Eircom provides to itself or to its subsidiaries, affiliates or partners.
- 9.2 Without prejudice to the generality of Section 9.1 above, Eircom shall (unless otherwise specified in this Decision Instrument) provide Access, including Associated Facilities, to those products, services and facilities required in accordance with Sections 7 and 8 of this Decision Instrument on, at least, an Equivalence of Outputs basis.
- 9.3 Without prejudice to the generality of Section 9.1, Eircom shall provide pre-ordering, ordering, provisioning, fault reporting and repair for VUA and the Associated Facilities to VUA on an Equivalence of Inputs basis.
- 9.4 Without prejudice to the generality of Section 9.1, Eircom shall, within ten months of the Effective Date or as otherwise agreed with ComReg, provide pre-ordering, ordering, provisioning, fault reporting and repair for CEI on an Equivalence of Inputs basis.
- 9.5 For the avoidance of doubt, the obligations set out in this Section 9 apply irrespective of whether or not a specific request for products, services, facilities or information has been made by an Undertaking to Eircom.

10 OBLIGATION OF TRANSPARENCY

- 10.1 Pursuant to Regulation 9 of the Access Regulations, Eircom shall be subject to an obligation of transparency in relation to Access (including Access to those products, services and facilities described in Sections 7 and 8 of this Decision Instrument).
- 10.2 Without prejudice to the generality of Section 10.1 of this Decision Instrument, pursuant to Regulation 9(2) of the Access Regulations, Eircom shall make publicly available and keep updated on its website, an ARO. Within six months (unless otherwise specified in this Decision Instrument or as agreed with ComReg) of the Effective Date of this Decision Instrument Eircom shall update the ARO to include information relating to any amendment to an existing obligation or new obligation imposed in this Decision Instrument. Eircom shall, within ten months of the Effective Date (or as otherwise agreed with ComReg) update the ARO to reflect the obligation contained in Section 9.4 above.

- 10.3 Without prejudice of the generality of Section 10.2 above Eircom shall ensure that, within three months of the Effective Date, the ARO is updated to (i) remove any restrictions on the usage of CEI; and (ii) Access to Ingress and Egress points.
- 10.4 The ARO shall be sufficiently unbundled so as to ensure that Undertakings availing of Access (including Access to those products, services and facilities described in Sections 7 and 8 of this Decision Instrument) are not required to pay for products, services or facilities which are not necessary for the Access requested. Eircom shall ensure that the ARO and related contracts only relate to products, services and facilities which fall within the scope of the Relevant Market.
- 10.5 Without prejudice to the generality of Section 10.3 of this Decision Instrument, and in accordance with the obligations specified elsewhere in this Decision Instrument, Eircom shall ensure that its ARO includes at least the following:
- (i) a description of the offer of contract for Access (including Access to those products, services and facilities described in Section 7 and Section 8 of this Decision Instrument) broken down into components according to market needs;
 - (ii) a description of any associated contractual or other terms and conditions for supply of Access (including Access to those products, services and facilities described in Sections 7 and Section 8 of this Decision Instrument) and use, including prices;
 - (iii) a description of the technical specifications and network characteristics of the Access (including Access to those products, services and facilities described in Section 7 and Section 8 of this Decision Instrument) being offered; and
 - (iv) at least the elements set out in the Schedule to the Access Regulations.
- 10.6 In the event of any conflict between the ARO and associated documentation such as the ARO Price List (including where represented as updated for the purposes of this Decision Instrument), and Eircom's obligations as set out under this Decision Instrument, it is the latter which shall prevail.
- 10.7 Without prejudice to the generality of Sections 10.1 and 10.2 above and pursuant to Regulation 9 of the Access Regulations Eircom shall:
- (i) continue to publish and keep updated on its publicly available website, its ARO in the same form and format as version 7, dated 24 March 2016 including a searchable version, as may be amended from time to time, insofar as those products, services or facilities contained therein relate to the obligations set out in this Decision Instrument;

- (ii) publish and keep updated on its publicly available website both clean (or unmarked) and tracked changed (or marked) versions of its ARO (insofar as it relates to the products, services and facilities to be provided in accordance with the requirements of this Decision Instrument). The tracked change version of the ARO shall be sufficiently clear to allow Undertakings to clearly identify all actual and proposed amendments from the preceding version of its ARO;
 - (iii) publish and keep updated on its publicly available website an accompanying ARO Change Matrix which lists all of the amendments incorporated or to be incorporated in any amended ARO;
 - (iv) publish and keep updated on its publicly available website both clean (unmarked) and tracked changed (marked) versions of the ARO Price List(s) (insofar as it relates to the products, services and facilities to be provided in accordance with the requirements of this Decision Instrument). The tracked change version of the ARO Price List shall be sufficiently clear to allow Undertakings to clearly identify all actual and proposed amendments from the preceding version of its ARO Price List;
 - (v) publish and keep updated on its publicly available website a ARO Price List Change Matrix; and
 - (vi) maintain and make publicly available on its wholesale website a copy of historic versions of its ARO, ARO Price List, ARO Change Matrix and ARO Price List Change Matrix.
- 10.8 Eircom shall ensure that its wholesale invoices are sufficiently disaggregated, detailed and clearly presented such that an Undertaking can reconcile invoices to Eircom's ARO and ARO Price Lists.
- 10.9 In respect of non-pricing amendments or changes to the ARO resulting from the offer of a new product, service or facility which falls within the scope of the Relevant Market, the following obligations will apply:
- (i) Eircom shall, unless otherwise agreed by ComReg, make publicly available and publish on Eircom's publicly available wholesale website at least six (6) months in advance of coming into effect, any proposed amendments or changes to the ARO or the making available of any product, service or facility, pertaining to non-price information in respect of product specification, services, facilities and processes resulting from the offer of a new product, service or facility.
 - (ii) Eircom shall notify ComReg in writing with the information to be published at least one (1) month in advance of any such publication taking place, that is, seven (7) months prior to any amendments or changes coming into effect. The periods referred to in this Section may be varied with the agreement of ComReg or at ComReg's discretion.

10.10 In respect of material non-pricing amendments or changes to the ARO resulting from an amendment or change to an existing product, service or facility which falls within the scope of the Relevant Market, the following obligations will apply:

- (i) Eircom shall, unless otherwise agreed by ComReg, make publicly available and publish on Eircom's publicly available wholesale website at least two (2) months in advance of coming into effect, any proposed amendments or changes to the ARO pertaining to non-price information in respect of product specification, services, facilities and processes resulting from an amendment or change to an existing product, service or facility (including details of any amendment or change in the functional characteristics of an existing product, service or facility); and
- (ii) Eircom shall notify ComReg in writing with the information to be published at least one (1) month in advance of any such publication taking place, that is, three (3) months prior to any amendments or changes coming into effect. The periods referred to in this Section may be varied with the agreement of ComReg or at ComReg's discretion. Notwithstanding this Section 10.9, material changes or material amendments shall, however, be notified and published in accordance with Section 10.8 above or as otherwise agreed with ComReg or at ComReg's discretion.

10.11 In respect of pricing amendments or changes pertaining to prices in the ARO and/or ARO Price List, Eircom shall make publicly available and publish on its publicly available wholesale website information relating to:

- (i) proposed changes to the prices of existing products, services or facilities set out in the ARO Price Lists and which are offered or provided in accordance with the obligations set out in this Decision Instrument, for price decreases at least one (2) month in advance of such changes coming into effect and for price increases at least two (3) months in advance, unless otherwise determined by ComReg; and
- (ii) the pricing of a new product, service, or facility that will be offered or provided in accordance with the obligations set out in this Decision Instrument at least two (2) months in advance of the commercial launch of a new retail service by Eircom, unless otherwise determined by ComReg.

10.12 For the purpose of Section 10.11 above, Eircom shall, unless otherwise agreed with ComReg, notify ComReg in writing with the information to be published at least one (1) month in advance of any such publication taking place.

10.13 Eircom shall in respect of any proposed trials, whether such trials are for the purposes of testing operational or technical issues:

- (i) notify ComReg in writing at least one (1) month in advance of any proposed trials;
- (ii) notify Undertakings at least three months in advance of the commencement of the trials, unless otherwise agreed with ComReg;

- (iii) notify the process or facility no earlier than one month after the cessation of the trial.
- 10.14 Eircom shall, as specified by ComReg in writing from time to time, make publicly available on its wholesale website, information such as accounting information, technical specifications, network characteristics, terms and conditions for supply and use, and prices, in respect of the products, services and facilities referred to in Sections 7 and 8 above.
- 10.15 Pursuant to Regulation 9(3) of the Access Regulations, ComReg may issue directions requiring Eircom to make changes or amendments to its SLAs, the ARO (and its associated documents), ARO Price List, ARO Change Matrix or ARO Price List Change Matrix to give effect to obligations imposed by this Decision Instrument and to publish such documents with such changes. In accordance with Regulation 18 of the Access Regulations, ComReg may issue directions to Eircom from time to time requiring it to publish information, such as accounting information, technical specifications, network characteristics, terms and conditions for supply and use and prices.
- 10.16 Eircom shall publish Key Performance Indicators (KPIs) on its publicly available wholesale website. The specification of the content of the KPIs shall be in accordance with the obligations set out in ComReg Decision D05/11 (as may be amended from time to time).
- 10.17 Eircom shall on a quarterly basis, publish on its publicly available wholesale website, a report that evidences actual performance achieved in respect of all Undertakings on an aggregate basis compared to the committed service levels contained in the relevant SLA for the products, services and facilities referred to in Sections 7 and 8 of this Decision Instrument. Eircom shall also include in the report the methodology and a description of the source data used to determine the actual performance achieved. The report shall also describe how the source data was processed by Eircom and include worked examples as to how the processed source data relates to the actual performance achieved.
- 10.18 Eircom shall make publicly available on its wholesale website all SLAs (and any updates thereto) relating to the provision of the products, services and facilities that are to be provided in accordance with Sections 7 and 8 of this Decision Instrument.
- 10.19 Where Eircom considers certain aspects of information to be provided under the obligations set out in this Section 10 to be of a confidential and/or commercially sensitive nature, Eircom shall, without delay, provide ComReg with complete details of such information along with objective reasons justifying why it considers it is confidential and/or commercially sensitive. ComReg will consider the information in accordance with ComReg Document No. 05/24, so far as relevant or otherwise. If ComReg considers that the information is not confidential and/or commercially sensitive, it shall be published by Eircom in accordance with its obligations under this Section.

- 10.20 If ComReg concludes that the information is confidential and/or commercially sensitive, Eircom shall publish general details as to the nature of such information and shall make it available to an OAO that has signed a Non-Disclosure Agreement (“NDA”), the terms and conditions of which shall be fair, reasonable and non-discriminatory. The NDA shall also be published on Eircom’s publicly available website. Any confidential and/or commercially sensitive information referred to in this Section 10 above shall not be made available by Eircom to its downstream operations until such time as it is made available to an OAO, or as otherwise agreed with ComReg.
- 10.21 If and when the commercially sensitive and/or confidential information referred to in this Section 10 above ceases to be commercially sensitive and/or confidential, it shall be made available by Eircom on its publicly available wholesale website without undue delay and without the need for an NDA to be signed.
- 10.22 Pursuant to Sections 9.1 and 10.1 of this Decision Instrument, Eircom shall make available on its publically available wholesale website at least six (6) months in advance of implementation (or such period as may be reasonably agreed with ComReg), information regarding the introduction of, changes to, or technical developments relating to Eircom’s network, infrastructures or new technologies, as well as sufficient information regarding products, services and facilities which could reasonably be expected to support products, services or facilities in respect of Next Generation WLA (or such other information as reasonably required by ComReg), including as regards such products, services or facilities to be offered to Eircom’s retail or downstream division. Eircom shall keep this information updated on its publically available wholesale website; however material amendments and changes to information may not be notified by way of such an update, but shall be notified by at least six (6) months in advance as set out herein, or by agreement with ComReg, or at ComReg’s discretion.
- 10.23 Without prejudice to the generality of the Section 10.1 Eircom shall in particular make available on its publically available wholesale website in advance of implementation, information regarding its NGA roll out plans, and information relating to wholesale products, services, and facilities such as the expected time for service availability, as follows:
- (i) For the Exchange areas included in Eircom’s NGA rollout plan the following details shall also be made available on Eircom’s publically available wholesale website at least six (6) months in advance of implementation:
 - a. a list of cabinets with their associated geographic coordinates;
 - b. the location and name of the exchange which houses the MPOP for each Exchange area;

- c. the expected date of implementation for the provision of Next Generation WLA products, services and facilities; and
 - d. for each Exchange area the number of premises that Eircom forecasts will be passed by FTTH.
- (ii) For the Exchange areas included in Eircom's NGA rollout plan Eircom shall make available on its wholesale website at least three (3) months in advance of implementation an updated list of the premises, as uniquely identified, that will be passed by FTTH;
 - (iii) For the Exchange areas included in Eircom's NGA rollout plan the following details shall also be made available on Eircom's publically available wholesale website at least 28 calendar days in advance of the of the Ready for Order Date a data file which shall include the following information;
 - a. a list of the premises, as uniquely identified, that are capable of receiving FTTC and the associated Pre-Qualification Value for the line; and
 - b. a list of uniquely identified FTTH Premises Passed.
 - (iv) For Exchange areas included in Eircom's NGA rollout plan Eircom shall publish on its publically available wholesale website on a monthly basis, or as reasonably required by ComReg, in advance of particular cabinets becoming enabled or any FTTH fibre routes being completed, to update, reconcile or revise any previous announcements or notifications, projections or plans, regarding NGA roll-out, as matters progress in order that accurate, clear and current information is made available in respect of plans for particular cabinets or plans for particular FTTH fibre routes (however material amendments or changes to information may not be notified by way of such an update but shall be notified in accordance with this Section 10.23 or by agreement with ComReg, or at ComReg's discretion).

10.24 Without prejudice to the generality of the Section 10.1 Eircom shall, in particular, make available on its publically available wholesale website in advance of implementation, information regarding its CEI roll out plans, and information relating to wholesale products, services, and facilities such as the expected time for service availability, as follows;

- (i) For the Exchange areas at least the following details shall be included in Eircom's CEI build plan. Route information listed below shall be added to the CEI build plan when the work order for deployment of CEI is issued.
 - a. a map showing the proposed CEI routes (Pole and Duct), which includes in the case of poles, the x and y co-ordinates of the Poles and in the case of ducts the location of the proposed Ducts;

- b. the proposed number and size of Ducts on each proposed route;
 - c. the proposed Ready for Order Date for the planned infrastructure.
- (ii) Eircom's CEI build plan shall be updated as necessary on Eircom's publically available wholesale website at least every 28 calendar days.
 - (iii) Engineering Planning and Design Rules in relation to CEI for Duct, Pole and Chamber space management.

10.25 For the avoidance of doubt, the obligations set out in this Section 10 apply irrespective of whether or not a specific request for products, services, facilities or information has been made by an Undertaking to Eircom.

10.26 With regard to the obligations set out in Section 8.10 above relating to requests from Undertakings for a new product, service or facility or a non-pricing amendment to an existing product, service or facility Eircom shall publish on its publically available wholesale website the relevant information referred to in that Section 8.10 at the same time as it provides the information to the requesting Undertaking. Eircom shall also publish a Product Development Roadmap on its publically available wholesale website at the earliest possible time but no later than ten (10) working days after the request from the Undertaking. The Product Development Roadmap shall contain the following detail in relation to each request:

- (i) the unique reference to identify the request;
- (ii) a description of the request and copies of all relevant documentation;
- (iii) the date by which Undertakings can propose amendments to the development of the request;
- (iv) the date by which Undertakings can submit their view on the priority of the request relative to other requests pertaining to the Relevant Market that have already been submitted by that Undertaking;
- (v) the priority given by Eircom to the development of each request relative to other requests pertaining to the Relevant Market. Eircom shall include a description of the prioritisation process and the criteria used by it in this regard; and
- (vi) the milestones and expected dates required to develop and launch the product, service or facility to meet the access request. Eircom shall also include a method for tracking the actual development of the product, service or facility against the expected dates.

11 OBLIGATION OF ACCOUNTING SEPARATION

11.1 Pursuant to Regulation 11 of the Access Regulations, Eircom shall have an obligation to maintain separated accounts in respect of the products, services and facilities falling within the scope of this Decision Instrument and the Relevant Market. All of the obligations in relation to accounting separation, set out at Annexes 1 and 2 of ComReg Decision D08/10, applying to Eircom and in force immediately prior to the Effective Date of this Decision Instrument, and relating to products, services and facilities falling within the scope of this Decision Instrument and the Relevant Market, shall be maintained in their entirety.

12 OBLIGATIONS RELATING TO PRICE CONTROL AND COST ACCOUNTING

- 12.1 Pursuant to Regulation 13(1) of the Access Regulations, Eircom shall maintain appropriate cost accounting systems in respect of products, services or facilities in the Relevant Market.
- 12.2 Pursuant to Regulation 13(1) of the Access Regulations prices charged by Eircom to any other Undertaking for Access to or use of those products, services or facilities referred to in Section 7 above shall, unless otherwise specified, be subject to a cost orientation obligation.
- 12.3 Eircom shall have an obligation not to cause a margin/price squeeze against downstream wholesale services.
- 12.4 Eircom shall have an obligation not to cause a margin/squeeze against downstream retail services in areas corresponding to the footprint of the Urban Wholesale Central Access market.

ULMP and SLU

- 12.5 Pursuant to Regulations 8 and 13 of the Access Regulations, Eircom shall ensure that the monthly rental charge offered or charged by Eircom to any other Undertaking in relation to ULMP shall be the lower of:
- (i) a price equal to the average costs incurred by an efficient operator providing ULMP within the Modified LEA which shall be calculated using the Revised Copper Access Model. Such costs shall be based on a combination of a BU-LRAIC+ costing methodology and Top-Down HCA costing methodology; or
 - (ii) the LLU monthly rental charge as amended based on changes made by Eircom to the main parameter(s) of the Revised Copper Access Model as set out in ComReg Decision D03/16. Any such amendment or changes would be subject to prior approval by ComReg.

- 12.6 Pursuant to Regulations 8 and 13 of the Access Regulations, Eircom shall ensure that the price offered or charged by Eircom to any other Undertaking in relation to SLU shall be the lower of:
- (i) a price equal to the average costs incurred by an efficient operator providing SLU nationally which shall be calculated using the Revised Copper Access Model. Such costs shall be based on a combination of a BU-LRAIC+ costing methodology and Top-Down HCA costing methodology; or
 - (ii) the SLU monthly rental charge as amended based on changes made by Eircom to the main parameter(s) of the Revised Copper Access Model as set out in ComReg Decision D03/16. Any such amendment or changes to be subject to prior approval by ComReg.

LINE SHARE

- 12.7 For the purposes of further specifying requirements to be complied with relating to the cost orientation obligation set out in Section 12.2 above and pursuant to Regulations 8 and 13 of the Access Regulations, Eircom shall ensure that the monthly rental charge offered or charged by it to any other Undertaking in relation to Line Share recovers no more than the incremental costs associated with the provision of Line Share, which shall be calculated using the Revised Copper Access Model.

CEI AND DARK FIBRE

- 12.8 Pursuant to Regulations 8 and 13 of the Access Regulations, Eircom shall ensure that the rental charge offered or charged by Eircom to any other Undertaking in relation to Civil Engineering Infrastructure shall, unless otherwise specified, be no more than a price equal to the costs incurred by an efficient operator providing Civil Engineering Infrastructure, which shall be calculated using the Revised Copper Access Model. Such costs shall be based on a combination of a BU-LRAIC+ costing methodology and a Top-Down HCA costing methodology.
- 12.9 Pursuant to Regulations 8 and 13 of the Access Regulations, Eircom shall ensure that the rental charge offered or charged by Eircom to any other Undertaking in relation to Dark Fibre shall be no more than a price equal to the costs incurred by an efficient operator providing Dark Fibre, which shall be calculated using the Revised Copper Access Model. Such costs shall be based on a combination of a BU-LRAIC+ costing methodology and a Top-Down HCA costing methodology.

12.10 Pursuant to Regulations 8, 9 and 13 of the Access Regulations and without prejudice to Section 12.8 of this Decision Instrument and Eircom's obligations contained in the Decision Instrument attached to ComReg Decision D08/10, Eircom shall submit annually to ComReg a reconciliation of Eircom's actual investment in Poles for the preceding financial year as well as the forecasted Pole investment consistent with the template contained in Annex 13 of ComReg Decision D03/16. The reconciliation statement referred to in this Section 12.10 shall be provided to ComReg in accordance with the procedure which governs the provision of Additional Financial Information contained in the Decision Instrument annexed to ComReg Decision D08/10 and shall be provided no later than seven months after the end of Eircom's financial year.

VUA

12.11 For the purposes of further specifying requirements to be complied with relating to the cost orientation obligation set out in Section 12.2 above and pursuant to Regulations 8 and 13 of the Access Regulations, Eircom shall ensure that the monthly rental charge offered or charged by it to any other Undertaking in relation to FTTC based VUA is cost orientated.

12.12 For the purposes of further specifying requirements to be complied with relating to the obligation not to cause a margin/price squeeze set out in Section 12.3 above and pursuant to Regulations 8 and 13 of the Access Regulations, Eircom shall ensure that the monthly rental charge offered or charged by it to any other Undertaking in relation to FTTH based VUA shall not cause a margin squeeze between (i) FTTH based VUA; and (ii) FTTH based NGA Bitstream in WCA markets.

ANCILLARY SERVICES

12.13 Pursuant to Regulations 8 and 13 of the Access Regulations, for the purposes of further specifying requirements to be complied with relating to the cost orientation obligation set out in Section 12.2 of this Decision Instrument Eircom shall ensure that it recovers no more than its actual incurred costs (adjusted for efficiencies) plus a reasonable rate of return associated with the provision of Ancillary Services to Current Generation WLA products, services or facilities and Ancillary Services to Next Generation WLA products, services or facilities, which shall be calculated using the Ancillary Services Cost Model.

12.14 Pursuant to Regulations 8 and 13 of the Access Regulations Eircom shall ensure that the price offered or charged by Eircom to any other Undertaking in relation to fault repair charges associated with Current Generation WLA products, services and facilities and Next Generation WLA products, services or facilities shall include an option of either:

- (i) a monthly fault repair charge of not more than €0.96 cent per End-user line; or
- (ii) a one off per event fault repair charge of not more than €110 (excluding line test) or €117 (including line test).

In the event that the fault is on the Undertaking's network then Eircom shall charge the Undertaking a one-off fault charge of no more than €100.

MARGIN / PRICE SQUEEZE

- 12.15 For the purposes of further specifying requirements to be complied with relating to the obligation not to cause a margin/price squeeze set out in Section 12.3 above and pursuant to Regulations 8 and 13 of the Access Regulations, Eircom shall ensure that the monthly rental charge offered or charged by it to any other Undertaking in relation to WLA shall not cause a margin squeeze between (i) WLA services provided in WLA Market; and (ii) WCA services provided in the WCA markets.
- 12.16 For the purposes of further specifying requirements to be complied with relating to the obligation not to cause a margin/price squeeze set out in Section 12.3 above and pursuant to Regulations 8 and 13 of the Access Regulations, Eircom is hereby directed to ensure that the monthly rental charge offered or charged by it to any other Undertaking in relation to WLA (including the wholesale price for products, services, facilities, promotions, discounts and bundles) provided in Urban WCA Market shall not cause a margin squeeze between (i) WLA services provided in the footprint corresponding to the Urban WCA Market; and (ii) the retail price of a Retail Product or products delivered by WLA either on a standalone basis or in a bundle in the footprint corresponding to the Urban WCA Market.
- 12.17 For the purposes of further specifying requirements to be complied with relating to the obligation not to cause a margin/price squeeze set out in Section 12.3 above and pursuant to Regulations 8 and 13 of the Access Regulations, the price at which Eircom sells or offers a Downstream Wholesale Service must be greater than the sum of: (i) the ULMP Cost Stack and (ii) the unavoidable costs of a Reasonably Efficient Operator that must be incurred in order to provide a service equivalent to the relevant Downstream Wholesale Service.

13 STATEMENT OF COMPLIANCE

- 13.1 Pursuant to Regulations 8, 9, 10, 11, 12 and 13 of the Access Regulations Eircom shall submit to ComReg a written Statement of Compliance that adequately demonstrates its compliance with its regulatory obligations in the WLA Market, to include the following:
- (i) a full and true written statement, signed by a person of appropriate expertise and authority within Eircom, acknowledging that Eircom is

responsible for securing compliance with its obligations and confirming to the best of their knowledge that Eircom is in compliance with the obligations set out in this Decision Instrument;

- (ii) the information relied upon, and the process followed, by the signatory in order to be satisfied that to the best of their knowledge that Eircom is in compliance with the obligations set out in this Decision Instrument;
- (iii) a description and explanation of the governance measures implemented by Eircom to ensure that it is, and remains, in compliance with the obligations set out in this Decision Instrument, in particular:
 - a. a description and explanation of the relevant reporting structures and reporting processes implemented by Eircom; and
 - b. the information relied upon and the process followed by Eircom's management to assess the operation and effectiveness of the processes used to identify and mitigate risks of non-compliance in their areas of responsibility.
- (iv) a description of the risks identified and the controls developed to mitigate potential risks of non-compliance with Eircom's regulatory obligations, as they relate to the categories of activities in Section 13.2 below and shall include the following in particular:
 - a. a description of the purpose of each process which was analysed for risks of non-compliance;
 - b. a detailed description of the risk analysis process, to include the following:
 - a description of the expertise employed by Eircom;
 - a list of all material including all relevant documentation;
 - a description of how the material and expertise was used.
 - c. a detailed description of the control development process to include the following:
 - a description of the expertise employed by Eircom;
 - a list of all material including all relevant documentation used;
 - a description of how the material and expertise was used;
 - a description of the process used to assess the effectiveness of the controls.

- 13.2 The obligations set out in this Section 13 shall apply, but for the avoidance of doubt, are not limited to, the following categories of activities:
- (i) Pre-provisioning, provisioning and service assurance for WLA products services and facilities.
 - (ii) Product development including product enhancements, and pre product development screening of Access requests.
 - (iii) Product prioritisation and investment decisions.
 - (iv) Access to shared resources including IT and product development resources.
 - (v) The management of information, both Structured information and Unstructured information in conformance with regulatory requirements.
 - (vi) Other categories as reasonably required by ComReg.
- 13.3 The documentation referred to in this Section 13 shall be of sufficient clarity and detail to enable ComReg, or a third party as determined by ComReg, to review the Statement of Compliance for completeness and accuracy. Such documentation and information shall also enable ComReg, or a third party as determined by ComReg, to assess whether Eircom has taken all reasonable steps to ensure that the risk assessment and control and governance measures referred to in this Section 13 provide reasonable assurance to ComReg that Eircom is compliant with the obligations set out in this Decision Instrument.
- 13.4 Eircom shall clearly identify, explain, document and demonstrate the following in particular:
- (i) In respect of the standard of Equivalence of Inputs, any and all differences as between systems and processes used to supply OAOs and Eircom's downstream arm setting out why it believes that any such differences are very minor and insignificant and can be objectively justified; and
 - (ii) In respect of the standard of Equivalence of Outputs, any and all differences as between systems and processes used to supply OAOs and Eircom's downstream arm. The explanation shall include a description as to how and what controls are in place to ensure an Equivalence of Outputs standard notwithstanding the differences in systems and processes used.
- 13.5 Eircom shall ensure that the Statements of Compliance will be kept updated as required to reflect material changes to the documentation and information detailed in this Section 13. These updates will be provided to ComReg within one (1) month of the update being made by Eircom.
- 13.6 Updates or changes to any Statement of Compliance provided to ComReg will be presented such that the changes are highlighted and the Statement of Compliance documents include a Version Control and Revision History.

- 13.7 Eircom shall publish the Statement of Compliance, and updates to the Statement of Compliance, on its publically available website within one (1) month of providing it to ComReg, unless otherwise agreed with ComReg.
- 13.8 Eircom shall provide a Statement of Compliance, as referred to in this Section 13, to ComReg within six (6) months of the Effective Date of this Decision or:
- (i) in the case of any offer of a new WLA product, service or facility, seven (7) months in advance of its being made available;
 - (ii) in the case of any change to an existing WLA product, service or facility, three (3) months in advance of it being made available;
 - (iii) as otherwise may be required by ComReg.

PART V - OPERATION AND EFFECTIVE DATE (SECTIONS 14 TO 17 OF THE DECISION INSTRUMENT)

14 STATUTORY POWERS NOT AFFECTED

- 14.1 Nothing in this Decision Instrument shall operate to limit ComReg in the exercise and performance of its statutory powers or duties conferred on it under any primary or secondary legislation (in force prior to or after the Effective Date of this Decision Instrument).

15 MAINTENANCE OF OBLIGATIONS

- 15.1 Unless expressly stated otherwise in this Decision Instrument, all obligations and requirements contained in Decision Notices and Directions made by ComReg, applying to Eircom, and in force immediately prior to the Effective Date of this Decision Instrument, continue in force and Eircom shall comply with the same.
- 15.2 For the avoidance of doubt, to the extent that there is any conflict between a Decision Instrument dated prior to the Effective Date and Eircom's obligations set out herein, it is the latter which shall prevail.
- 15.3 If any Section(s), clause(s), or provision(s), or portion(s) thereof, contained in this Decision Instrument is(are) found to be invalid or prohibited by the Constitution, by any other law or judged by a court to be unlawful, void or unenforceable, that(those) Section(s), clause(s), or provision(s), or portion(s) thereof shall, to the extent required, be severed from this Decision Instrument and rendered ineffective as far as possible without modifying the remaining Section(s), clause(s), or provision(s), or portion(s) thereof, of this Decision Instrument, and shall not in any way affect the validity or enforcement of this Decision Instrument or other Decision Instruments.

16 IMPOSITION OF NEW OBLIGATIONS AND WITHDRAWAL OF SMP OBLIGATIONS

16.1 Pursuant to Regulations 8, 9, 10, 11, 12 and 13 of the Access Regulations, the following Decision Instruments, and/or ComReg Documents and/or Decisions shall be withdrawn when Sections 4 to 13 (inclusive) of this Decision Instrument come into effect:

- (i) The Decision Instrument contained in Appendix C of ComReg Decision 05/10;
- (ii) The Decision Instrument contained in Annex of ComReg Decision D03/13;
- (iii) The Decision Instrument contained in Annex 4 of ComReg Decision D04/13;
- (iv) The Decision Instrument contained in Annex 1 of ComReg Decision 03/16; and
- (v) The obligations pertaining to VUA that were included in (a) the Decision Instrument contained in Annex 2 (entitled "*Annex: 2 Decision Instrument - WBA Market*") of ComReg Decision D03/13 and (b) the Decision Instrument contained in Chapter 8 of ComReg Decision 06/11.

17 EFFECTIVE DATE

17.1 The Effective Date of this Decision Instrument shall be the date of its notification to Eircom and it shall remain in force until further notice by ComReg.

JEREMY GODFREY
CHAIRPERSON
THE COMMISSION FOR COMMUNICATIONS REGULATION
THE [] DAY OF [] 2016

Appendix: 15 Wholesale Central Access: Draft Decision Instrument

1 STATUTORY POWERS GIVING RISE TO THIS DECISION INSTRUMENT

- 1.1 This Decision Instrument (“Decision Instrument”) is made by the Commission for Communications Regulation (“ComReg”) and relates to the market for wholesale central access provided at a fixed location as identified by the European Commission in the 2014 Recommendation and analysed by ComReg in ComReg Decision [•].
- 1.2 This Decision Instrument is made:
- (i) Pursuant to and having had regard to Sections 10 and 12 of the Communications Regulation Act 2002 (as amended); Regulation 6(1) of the Access Regulations and Regulation 16 of the Framework Regulations;
 - (ii) Having taken the utmost account of the 2014 Recommendation, the Explanatory Note and the SMP Guidelines;
 - (iii) Having, where applicable, pursuant to Section 13 of the Communications Regulation Act 2002 (as amended) complied with Ministerial Policy Directions;
 - (iv) Having had regard to the analysis and reasoning set out in ComReg Document No. [•] and having taken account of the submissions received from interested parties in response thereto following a public consultation pursuant to Regulation 12 of the Framework Regulations;
 - (v) Having consulted with the Competition and Consumer Protection Commission, further to Regulation 27 of the Framework Regulations;
 - (vi) Having notified the draft measure and the reasoning on which the measure is based to the European Commission, BEREC and the national regulatory authorities in other EU Member States pursuant to Regulation 13 and Regulation 14 of the Framework Regulations and having taken account of any comments made by these parties;
 - (vii) Pursuant to Regulations 25, 26 and 27 of the Framework Regulations and Regulations 8, 9, 10, 11, 12, 13 and 18 of the Access Regulations; and
 - (viii) Having regard to the analysis and reasoning set out in ComReg Decision [•].

- 1.3 The provisions of ComReg Document No. [•] and ComReg Decision [•] shall, where appropriate, be construed consistently with this Decision Instrument. For the avoidance of doubt, however, to the extent that there is any conflict between a decision instrument dated prior to the Effective Date (as defined in Section 2.1 of this Decision Instrument) and this Decision Instrument, this Decision Instrument should prevail.

PART I - GENERAL PROVISIONS (SECTIONS 2 TO 5 OF THE DECISION INSTRUMENT)

2 DEFINITIONS

- 2.1 In this Decision Instrument, unless the context otherwise suggests:

“Access” shall have the same meaning as under Regulation 2 of the Access Regulations, as may be amended from time to time;

“Access Path” means the connection from the NTU/ONT in the End User’s premises to the Point-of-Handover. The Points-of-Handover for physical unbundling are the MDF (for metallic) and the ODF (for fibre) in the exchange, and the Point-of-Handover for non-physical unbundling (virtual access) is the Wholesale Ethernet Interconnection Link at the serving Aggregation Node for the End User i.e. at the MPoP;

“Access Regulations” means the European Communities (Electronic Communications Networks and Services) (Access) Regulations 2011 (S.I. No. 334 of 2011), as may be amended from time to time;

“Aggregation Node” or “AGG node” means a network concentration point for Access Paths;

“Ancillary Services” are a subset of Associated Facilities and shall include services such as Migrations, fault repair and access connections, Co-Location, In-Building Handover, In-Span Handover and Customer Sited Handover;

“Authorisation Regulations” means the European Communities (Electronic Communications Networks and Services) (Authorisation) Regulations 2011 (S.I. No. 335 of 2011), as may be amended from time to time;

“Backhaul” means the provision of dedicated transmission capacity (contended or uncontended in accordance with an OAO’s requirement) by Eircom at various bandwidths, using an appropriate mechanism (e.g. Ethernet or fibre) between an OAO’s equipment at the Co-Location site and the OAO’s nominated Point of Handover or between an OAO’s equipment at the Co-Location site and the Eircom Exchange;

“BEREC” means the Body of European Regulators for Electronic Communications, as established pursuant to Regulation (EC) No. 1211/2009 of the European Parliament and of the Council of 25 November 2009;

“Bitstream” means a wholesale product provided in the Relevant Market;

“Bitstream Internet Protocol” means a form of Bitstream provided in the Relevant Market;

“Bitstream Managed Backhaul” means a form of Bitstream provided in the Relevant Market;

“Bitstream Soft Migration” means the facility whereby an End User can migrate from SB-WLR with Current Generation Bitstream or Next Generation Bitstream to standalone Current Generation Bitstream or Next Generation Bitstream and without the need for physical network intervention at the time of provisioning and should include the porting of their telephone number from the current service provider, if required;

“Bottom Up Long Run Average Incremental Cost plus” or **“BU-LRAIC +”** means the methodology used to estimate the “LRAIC plus” of an efficient operator which is derived from an economic and/or engineering model of an efficient network. The LRAIC plus costs are the average efficiently incurred directly attributable variable and fixed costs, including an appropriate apportionment of joint and common costs;

“Bundle” for the purpose of this Decision Instrument means a package of retail products or retail services, consisting of more than one service, which is on offer or on sale by Eircom;

“Class of Service” or **“COS”** means a network traffic management technique and involves the autonomous treatment of traffic at a single router, switch or equivalent equipment using classes to group and manage traffic that have common forwarding characteristics;

“Co-Location” shall have the same meaning and description as under Part B “Co-location services” of the Schedule to the Access Regulations (as may be amended from time to time) but shall also for the purposes of this Decision Instrument include access to services and facilities (at Eircom Exchange(s) or their equivalent) to facilitate access to Next Generation Bitstream and Current Generation Bitstream products;

“Communications Regulation Act 2002 (as amended)” means the Communications Regulation Act 2002 (No. 20 of 2002), as amended;

“Competition and Consumer Protection Commission” established under section 9 of the Competition and Consumer Protection Act 2014 and formerly the Competition Authority and the National Consumer Agency;

“ComReg” means the Commission for Communications Regulation, established under Section 6 of the Communications Regulation Act 2002 (as amended);

“ComReg Decision D08/10” means ComReg Document No. 10/67 entitled “Response to Consultation Document and Final Direction and Decision, Response to Consultation Document No. 09/75 and Final Direction and Decision: Accounting Separation and Cost Accounting Review of Eircom Limited”, dated 31 August 2010;

“ComReg Decision D05/11” means ComReg Document No. 11/45 entitled “Response to Consultation and Decision on the Introduction of Key Performance Indicators for Regulated Markets”, dated 29 June 2011;

“ComReg Decision D06/11” means ComReg Document No. 11/49 entitled “Response to Consultation and Decision Market Review: Wholesale Broadband Access (Market 5)”, dated 8 July 2011;

“ComReg Decision D06/12” means ComReg Document No. 12/32 entitled “Wholesale Broadband Access: Further specification to the price control obligation and an amendment to the transparency obligation”, dated 5 April 2012;

“ComReg Decision D03/13” means ComReg Document No. 13/11, entitled “Next Generation Access (‘NGA’): Remedies for Next Generation Access Markets”, dated 31 January 2013;

“ComReg Decision D11/14” means ComReg Document No. 14/73R, entitled “Wholesale Broadband Access: Price control obligation in relation to current generation Bitstream”, dated 09 July 2014;

“ComReg Decision D03/16” means ComReg Document No.16/39, entitled “Pricing of Eir’s Wholesale Fixed Access Services: Response to Consultation Document 15/67 and Final Decision”, dated 18 May 2016;

“ComReg Document No. 05/24” means ComReg Document No. 05/24 entitled “Response to Consultation, Guidelines on the treatment of confidential information, Final text of Guidelines”, dated 22 March 2005;

“ComReg Document No. [●]” means ComReg Document No. [●], entitled “[●]”, dated [●];

“Consumer” shall have the same meaning as under Regulation 2 of the Access Regulations, as may be amended from time to time;

“Current Generation Bitstream” or **“Current Generation Wholesale Broadband Access”** or **“Current Generation WBA”** means Wholesale Central Access provided over Eircom’s current generation copper access

network infrastructure and its Associated Facilities (including self-supply by Eircom for the purpose of serving its downstream markets) that is copper based;

“Customer Sited Handover” or “CSH” means the connection from the Eircom network to the Undertaking’s equipment in the Undertaking’s premises, which includes the installation of an Eircom NTU at the Undertaking’s premises

“Decision Instrument” means this direction and decision instrument which is made pursuant to *inter alia* Regulations 8, 9, 10,11,12, 13 and 18 of the Access Regulations;

“Discount” means an offer or sale of a product at less than its standard price, for example, a price reduction, including a volume related price reduction, a rebate, a reimbursement, a refund, a set-off and any other similar words or expressions

“Edge Node Handover” or “ENH” means the connection from the Eircom network through a dedicated aggregation node interface to the Undertaking’s equipment;

“Effective Date” means the date set out in Section 17 of this Decision Instrument;

“Eircom” means Eircom Limited, and its subsidiaries and any related companies, and any Undertaking which it owns or controls, and any Undertaking which owns or controls Eircom Limited, and its successors and assigns. For the purpose of this Decision Instrument, the terms “subsidiary” and “related company” shall have the meaning ascribed to them in the Companies Act 2014 (as may be amended from time to time);

“Electronic Communications Network(s)” or “ECN(s)” shall have the same meaning as under Regulation 2 of the Framework Regulations, as may be amended from time to time;

“Electronic Communications Service(s)” or “ECS(s)” shall have the same meaning as under Regulation 2 of the Framework Regulations, as may be amended from time to time;

“End-to-End Current Generation Bitstream” means the end-to-end resale of Current Generation Bitstream which allows the Undertaking to purchase Current Generation WBA without the need to have its own infrastructure;

“End-to-End Next Generation Bitstream” means the end-to-end resale of Next Generation Bitstream which allows the Undertaking to purchase Next Generation WBA without the need to have its own infrastructure;

“End User(s)” shall have the same meaning as under Regulation 2 of the Framework Regulations, as may be amended from time to time. For the avoidance of doubt, End User(s) shall be deemed to include any natural or legal person who facilitates or intends to facilitate the provision of public communications networks or publicly available electronic communications services to other End Users and who is not acting as an Undertaking;

“Equivalence of Inputs” means the provision of products, services, facilities, and information by the SMP Undertaking to OAOs such that such products, services, facilities, and information are provided to OAOs within the same timescales, at the same price, functionality, service and quality levels and on the same terms and conditions and by means of the same systems and processes as the SMP Undertaking provides to itself. The systems and processes shall operate in the same way and with the same degree of reliability and performance as between OAOs and the SMP Undertaking’s provision to itself;

“Equivalence of Outputs” means the provision of products, services, facilities, and information by the SMP Undertaking to OAOs such that such products, services, facilities, and information are provided to OAOs in a manner which achieves the same standards in terms of functionality, price, terms and conditions, service and quality levels as the SMP Undertaking provides to itself, albeit potentially using different systems and processes;

“Ethernet” means a technology that supports data transfer between network Nodes at Layer 2 of the Open Systems Interconnection (OSI) reference model;

“Exchange” means an Eircom network premises or equivalent facility used to house network and associated equipment and includes a Remote Subscriber Unit (RSU). The Exchange sometimes, but not always, houses the Metropolitan Point of Presence (MPoP);

“Exchange Area(s)” means the geographic area(s) that is/are served by the relevant Exchange;

“Exchange launched Bitstream” means that the active equipment required to provide the service is housed in an Eircom exchange building or equivalent;

“(the) Explanatory Note” means the Commission Staff Working Document: Explanatory Note accompanying the 2014 Recommendation (9 October 2014, SWD (2014) 298);

“Fibre to the Cabinet” or **“FTTC”** means fibre to the cabinet which is a variant of the FTTC access network architecture where the Node used to house active equipment is the street cabinet;

“FTTC based Bitstream” means Bitstream provided over FTTC;

“FTTH based Bitstream” means Bitstream provided over FTTH;

“Fibre to the Home” or **“FTTH”** means fibre to the home which is a variant of the FTTN access network architecture where fibre is used to connect the end-user premises to the Exchange;

“Fibre to the Node” or **“FTTN”** means an access network architecture whereby active equipment is installed in an access network Node (a street cabinet in the case of FTTC). The active equipment is connected to the Exchange using fibre optic cable. The connection between the Node and the End User premises is by way of a copper sub-loop;

“Flexible Interconnection Services” means the use of Interconnection Services at any technically feasible point in the network hierarchy;

“Framework Regulations” means the European Communities (Electronic Communications Networks and Services) (Framework) Regulations 2011 (S.I. No. 333 of 2011), as may be amended from time to time;

“Historical Cost Accounts” or **“HCA”** means the historical cost accounts which Eircom is required to publish in accordance with ComReg Decision D08/10;

“In-Building Handover” or **“IBH”** means the connection from the Eircom network to the Undertaking’s equipment within the Exchange, or equivalent facility;

“In-Span Handover” or **“ISH”** means the connection between the Eircom Exchange and the Undertaking’s nominated Point of Handover;

“Interconnection” shall have the same meaning as under Regulation 2 of the Access Regulations as may be amended from time to time, and for the purposes of this Decision Instrument includes, but is not limited to, the Eircom WEIL (Wholesale Ethernet Interconnect Link) service;

“Key Performance Indicator(s)” or **“KPI(s)”** means a measure(s) of the standard(s) of product, service or facility provided by Eircom to Undertakings and by Eircom to itself;

“MDF” means main distribution frame;

“Metropolitan Point of Presence” or **“MPoP”** means the point of interconnection between the access and core networks of an Undertaking;

“Migration(s)” means where the upstream wholesale input used to supply a retail service is changed whilst maintaining services to the End User,

irrespective of whether or not the supplier at the retail level changes. For the avoidance of doubt, Migrations include but are not limited to migrations:-(i) between all Next or Current Generation WCA services in any direction; (ii) between Next or Current Generation WLA and Next or Current Generation WCA in any direction; (iii) Bitstream Soft Migrations; and (iv) Bulk Migration;

“(Bulk) Migration” means the facility whereby an OAO can have multiple Migrations facilitated via a single request;

“Ministerial Policy Directions” for the purposes of this Decision Instrument means the policy directions made by Dermot Ahern TD, then Minister for Communications, Marine and Natural Resources, dated 21 February 2003 and 26 March 2004;

“Multicast” means a service that accepts a single copy of a designated data stream from the Undertaking and distributes that data stream within the Eircom network to multiple End Users;

“Network Termination Unit” or **“NTU”** means the physical interface which provides the service demarcation or Point of Handover of the wholesale service within the customer premises;

“Next Generation Access” or **“NGA”** means wired access networks which consist wholly or in part of optical elements and which are capable of delivering broadband and other access services with enhanced characteristics (such as higher throughput) as compared to those provided over exclusively copper access networks;

“Next Generation Bitstream” or **“Next Generation Wholesale Broadband Access”** or **“Next Generation WBA”** means Wholesale Central Access provided over NGA and its Associated Facilities (including self-supply by Eircom for the purpose of serving its downstream markets);

“Node” means any location or concentration point in the access network which houses equipment for the purpose of providing services to End-Users;

“Non-Disclosure Agreement” means the non-disclosure agreement contained within the WBARO;

“ODF” means the optical distribution frame;

“ONT” or **“Optical Network Terminal”** means the device that terminates the fibre Access Path at the End User’s premises;

“OSI” means open systems interconnection;

“OSS” means operational support systems;

“Other Authorised Operator(s)” or “OAO(s)” means an Undertaking that is not Eircom, providing or intending to provide an ECN or an ECS pursuant to Regulation 4 of the Authorisation Regulations;

“Point of Handover” means the physical point at which two networks are interconnected to allow traffic between those networks;

“Product Development Roadmap” means the document required of Eircom in accordance with Section 10.20 of this Decision Instrument;

“Promotion” means an offer in respect of a product which is available for a finite period of time and which offers a tariff reduction;

“Regional WCA Market” means the market as defined in Section 4.2ii of this Decision Instrument;

“(the) Relevant Market(s)” means the markets described in Section 4 of this Decision Instrument and comprise the Urban WCA Market and the Regional WCA Market;

“Revised Copper Access Model” means the model, as amended from time to time (subject to approval by ComReg), used by ComReg and Eircom to assess Eircom’s compliance with the obligations contained in this Decision Instrument. The model calculates costs based on both Top Down HCA and BU-LRAIC+ costing methodologies. The operation and details of the Revised Copper Access Model are more particularly described in Chapter 5 of ComReg Decision D03/16;

“Revision History” means a documented list of changes to the Statement of Compliance as required under Section 13 of this Decision Instrument. The list, which contains the changes from the previous draft of the Statement of Compliance, should be maintained and printed in a dedicated and indexed Section of each Statement of Compliance;

“SB-WLR” means single billing wholesale line rental;

“Service Assurance Systems Interface” means the system or systems to which OAOs connect to allow them to log faults relating to regulated services, in this case WCA services. This includes OAOs logging faults by submission of service assurance orders on an order handling system for example the Unified Gateway or by directly logging faults on to Eircom’s Fault Handling system (FHS);

“Service Credit(s)” a financial credit which is provided by Eircom to an OAO where Eircom has failed to meet the service levels which Eircom commits to from time to time in its SLA;

“Service Level Agreement(s)” or **“SLA(s)”** mean legally binding contracts between Eircom and OAOs in relation to the service levels which Eircom commits to from time to time, as more particularly set out in the ARO. For the avoidance of doubt, however, these service levels must comply with the principles set out in this Decision Instrument and to the extent that there is any conflict between the SLAs and Eircom’s obligations set out in this Decision Instrument, it is the latter which shall prevail;

“SLA Negotiation Period” means the duration of time required by Eircom to close negotiations between it and Undertakings in respect of an amended or new SLA;

“Significant Market Power obligation(s)” or **“SMP obligation(s)”** are those obligations as more particularly described in Part II below, as may be amended from time to time;

“(the) SMP Guidelines” means the European Commission guidelines of 11 July 2002 on market analysis and the assessment of significant market power under the Community regulatory framework for electronic communications networks and services (2002/C165/03) (OJ C 165, 11.7.2002, p.6);

“Significant Market Power Undertaking” or **“SMP Undertaking”** means the Undertaking designated in Section 5 of this Decision Instrument as having Significant Market Power;

“Standalone Broadband” means broadband service delivered without a PSTN voice telephony service;

“Structured information” means information that is documented and managed through an established business process in a formal manner and includes memos, email messages, letters, order forms, invoices, agendas and reports etc.

“Top-Down HCA” means the methodology in which the HCA and network information of the regulated firm are used as the starting point for calculating the costs of relevant services. These inputs may subsequently be adjusted to reflect efficiencies;

“Undertaking(s)” shall have the same meaning as under Regulation 2 of the Framework Regulations, as may be amended from time to time;

“Unified Gateway” is an interface to Eircom’s OSS used by OAOs to avail of regulated wholesale services;

“Unstructured information” means information that is managed in an informal manner;

“Urban WCA Market” means the market as defined in Section 4.2i of this Decision Instrument;

“Version Control” means a standardised regime for the management of changes to documents as it relates to Section 13 of this Decision Instrument. Different versions of the Statement of Compliance should be identified by a number, letter or code, associated with a date and timestamp. Revision History is included as part of the Version control regime;

“Wholesale Bitstream Access Reference Offer” or **“WBARO”** is the offer of contract by Eircom to OAOs in relation to Current and Next Generation WCA as may be amended from time to time. For the avoidance of doubt the WBARO includes the documents which are expressly referred to as being part of the WBARO. To the extent that there is any conflict between the WBARO and Eircom’s obligations now set out herein, it is the latter which shall prevail;

“WBARO Change Matrix” means the table of information collated by Eircom which specifies the non-price related amendments made to its WBARO, including the date(s) on which such amendments come into effect;

“WBARO Price List Change Matrix” means the table of information collated by Eircom which specifies the amendments made to the WBARO Price List(s) which are contained in its WBARO, including the date(s) on which such amendments come into effect;

“WBARO Price List(s)” means the list of charges collated by Eircom for products, services and facilities which are to be provided and specified in its WBARO in accordance with the requirements of this Decision Instrument;

“WCA” means wholesale central access;

“Wholesale Ethernet Interconnection Link” or **“WEIL”** is the interconnection service provided by Eircom which provides a handover for various wholesale products including its NGA and Next Generation Network wholesale products;

“(the) 2014 Recommendation” means the European Commission Recommendation of 9 October 2014 on relevant product and service markets within the electronic communications sector susceptible to *ex ante* regulation in accordance with Directive 2002/21/EC of the European Parliament and of the Council on a common regulatory framework for electronic communications networks and services (OJ L 295, 11.10.2014, p. 79).

3 SCOPE AND APPLICATION

- 3.1 This Decision Instrument is binding upon Eircom and Eircom shall comply with it in all respects.

- 3.2 This Decision Instrument applies to Eircom in respect of activities falling within the scope of the Relevant Markets referred to in Section 4 of this Decision Instrument.
- 3.3 This Decision Instrument, pursuant to Regulation 8 of the Access Regulations, withdraws certain obligations previously imposed upon Eircom, as more particularly set out in Section 16 of this Decision Instrument.

4 MARKET DEFINITION

- 4.1 This Decision Instrument relates to the market for Wholesale Central Access provided at a fixed location as identified by the European Commission in the 2014 Recommendation and analysed by ComReg in ComReg Decision [●]. For the purposes of this Decision Instrument, ComReg identifies two markets as more particularly defined in Section 4.2 below.
- 4.2 Pursuant to Regulation 26 of the Framework Regulations and in accordance with the 2014 Recommendation, the Explanatory Note and taking the utmost account of the SMP Guidelines, in accordance with the principles of competition law, the Relevant Markets defined in this Decision Instrument are:-
- i. the wholesale market for central access in urban areas as more particularly defined in accordance with the criteria set out in Section 10, paragraph 10.158 of ComReg Decision [●] and includes those Exchange Areas as listed in Appendix 6 of ComReg Decision [●] which is referred to in this Decision Instrument as the Urban Wholesale Central Access market or the 'Urban WCA Market';
 - ii. the wholesale market for central access in regional areas as more particularly defined in accordance with the criteria set out in Section 10, paragraph 10.158 of ComReg Decision [●] and includes those Exchange Areas as listed in Appendix 6 of ComReg Decision [●] which is referred to in this Decision Instrument as the Regional Wholesale Central Access market or the 'Regional WCA Market';
- 4.3 The Regional WCA Market and Urban WCA Market are more particularly defined in Section 10 of ComReg Decision [●]. It is hereby decided that the Regional WCA Market is susceptible to *ex ante* regulation and that the Urban WCA Market is not susceptible to *ex ante* regulation.

5 DESIGNATION OF UNDERTAKING WITH SIGNIFICANT MARKET POWER ("SMP")

- 5.1 Pursuant to Regulation 25 and Regulation 27 of the Framework Regulations and taking the utmost account of the SMP Guidelines, having determined that the Regional WCA Market is not effectively competitive, Eircom is designated as having SMP in the Regional WCA Market in which it operates.

PART II - SMP OBLIGATIONS (SECTIONS 6 TO 13 OF THE DECISION INSTRUMENT) IN RELATION TO WHOLESALE CENTRAL ACCESS

6 SMP OBLIGATIONS IN RELATION TO WHOLESALE CENTRAL ACCESS PRODUCTS, SERVICES AND FACILITIES

6.1 ComReg is imposing certain SMP obligations on Eircom in accordance with and pursuant to Regulations 8, 9, 10, 11, 12, 13 and 18 of the Access Regulations, as detailed further in Sections 7 to 13 below in respect of Wholesale Central Access.

7 OBLIGATIONS TO PROVIDE ACCESS

7.1 Pursuant to Regulation 12(1) of the Access Regulations, Eircom shall meet all reasonable requests from Undertakings for the provision of Access to Wholesale Central Access including Associated Facilities.

7.2 Without prejudice to the generality of Section 7.1 of this Decision Instrument and pursuant to Regulation 12(2) of the Access Regulations, Eircom shall provide and grant Access to Undertakings for the following particular products, services and Associated Facilities:-

- (i) Current Generation Bitstream which includes the following:
 - a. Bitstream
 - b. Bitstream Managed Backhaul; and
 - c. Bitstream Internet Protocol (IP);
- (i) Next Generation Bitstream;
 - a. FTTC based Bitstream;
 - b. FTTH based Bitstream; and
 - c. Exchange launched Bitstream;
- (ii) Standalone Broadband (Current Generation and Next Generation);
- (iii) Backhaul;
- (iv) Associated Facilities to Next Generation Bitstream such as Multicast and Class of Service;
- (v) Interconnection services, to include the following:
 - a. In-Building Handover;
 - b. In-Span Handover;
 - c. Customer-Sited Handover;
 - d. Edge Node Handover; and
 - e. Flexible Interconnection services;

- (vi) Co-location for Interconnection services;
 - (vii) Migration(s).
- 7.3 Without prejudice to the generality of Sections 7.1 and 7.2 of this Decision Instrument Eircom shall offer and continue to offer and provide Access to the products, services and facilities referred to in Sections 7 and 8 of this Decision Instrument in accordance with the product descriptions and terms and conditions of supply or use, as specified in the current version of the WBARO (i.e. WBARO version [3.4b dated 13 November 2015] as published on Eircom's wholesale website) as may be amended from time to time, and, in addition, in accordance with Eircom's obligations under this Decision Instrument.
- 7.4 Pursuant to Regulation 12(1) of the Access Regulations, Eircom shall meet all reasonable requests from Undertakings for the provision of Wholesale Central Access.
- 7.5 The access obligations set out in this Section 7 shall apply irrespective of the electronic communications service that the requested access product, service or facility shall be used to provide. For the avoidance of doubt, the purpose for which the access request is made is not limited to the provision by the Undertakings of services to End Users.
- 7.6 Without prejudice to the general obligations set out in Sections 7.1 to 7.4, of this Decision Instrument, Eircom shall:
- (i) pursuant to Regulation 12(2)(b) of the Access Regulations, negotiate in good faith with Undertakings requesting Access;
 - (ii) pursuant to Regulation 12(2)(c) of the Access Regulations, not withdraw Access to facilities already granted without the prior approval of ComReg and in accordance with terms and conditions as may be determined by ComReg;
 - (iii) pursuant to Regulation 12(2)(e) of the Access Regulations, grant open access to technical interfaces, protocols or other key technologies that are indispensable for the interoperability of products, services or facilities; and
 - (iv) pursuant to Regulation 12(2)(h) of the Access Regulations, provide Access to OSS or similar software systems necessary to ensure fair competition in the provision of services (including those products, services and facilities described in this Section 7).

8 CONDITIONS ATTACHED TO THE ACCESS OBLIGATION

- 8.1 Pursuant to Regulation 12(3) of the Access Regulations, Eircom shall, in relation to the obligations set out in Section 7 above, grant Undertakings Access in a fair, reasonable and timely manner.

- 8.2 Without prejudice to the generality of Section 8.1 above and pursuant to Regulation 12(3) of the Access Regulations, where Eircom receives a request for Access (including Access to those products, services and facilities referred to in Sections 7 and 8 of this Decision Instrument) in accordance with the requirements of this Decision Instrument at the same point in time as a request for another wholesale access product, service or facility, on foot of another Decision Instrument issued by ComReg, Eircom shall ensure that both access requests are met concurrently.
- 8.3 Without prejudice to the generality of Section 8.1 above, pursuant to Regulation 12(3) of the Access Regulations, Eircom shall in relation to the obligations set out in Section 7 above and in the provision of access to the Unified Gateway:
- (i) conclude, maintain and update, as appropriate, legally binding and fit for purpose SLAs which shall encourage an efficient level of performance;
 - (ii) negotiate in good faith with Undertakings in relation to the conclusion of legally binding and fit-for-purpose SLAs (either in the case of a new SLA or an amendment to an existing SLA);
 - (iii) provide Undertakings, at the end of the SLA Negotiation Period, with Eircom's best and final offer (BAFO) in respect of the relevant SLA which, for the avoidance of doubt, shall be fit for purpose; include all relevant information that is required under this Section 8.3 and accord with the principles set out in this Section 8.3. The SLA Negotiation Period ends with the closing of negotiations and the making of a BAFO by Eircom to Undertakings with respect to the SLA. When Eircom makes its BAFO, the SLA is deemed by ComReg to be concluded;
 - (iv) ensure that the SLA Negotiation Period includes a discussion on the process for suspension of an SLA and the associated terms and conditions; as described in Section 8.3 (ix) below;
 - (v) ensure that SLAs include provision for Service Credits which shall be fair and reasonable such that they allow Undertakings to recoup at a minimum the costs that the Undertakings incur as a result of Eircom failing to provide the committed service level;
 - (vi) ensure that the SLA specifies the circumstances upon which Service Credits must be paid by Eircom to Undertakings, such as a failure by Eircom to achieve the committed service levels contained in the SLA, the occurrence of specified events or other appropriate criteria;
 - (vii) ensure that SLAs specify the methodologies for calculating Service Credits and include an example of how each methodology was applied in the calculation of Service Credits;

- (viii) ensure that the circumstances upon which Service Credits must be paid by Eircom to Undertakings and the methodology for calculating the quantum of Service Credits, taken together, are fair and reasonable in that they adequately incentivise Eircom to deliver an efficient level of service quality and allow Undertakings to recoup, at a minimum, the direct costs and any other loss of value that the Undertakings incur as a result of the circumstances that had triggered the payment of Service Credits;
 - (ix) ensure that SLAs include, where appropriate, the comprehensive set of terms and conditions governing the circumstances when the SLA can be suspended, and the process to be applied for the suspension of the SLA. Such terms and conditions should be based on objectively defined and measurable parameters.
- 8.4 In relation to an existing product, service or facility, following a request from an Undertaking (including Eircom), for an amendment to an SLA, Eircom shall within one (1) month of the receipt of such a request inform the Undertaking in writing whether the request for an amendment is accepted or rejected and, if accepted, include details of the SLA Negotiation Period and the associated start date. Negotiations in respect of the amended SLA shall close, unless otherwise agreed with ComReg, within six (6) months of the date the Undertaking makes such a request. Within one (1) month of the date the Undertaking makes such a request Eircom may seek an extension to the six (6) month period from ComReg.
- 8.5 In relation to an amendment to an existing product, service or facility, where Eircom itself initiates the amendment, Eircom shall within one (1) month of the commencement of the product development inform and seek Undertakings' views as to whether the proposed product amendment should result in an amendment to the relevant SLA.
- 8.6 Eircom shall ensure that its obligations set out in Sections 8.3 to 8.5 above have been complied with prior to notifying ComReg of non-pricing amendments or changes to the ARO resulting from the offer of a new or an amendment to an existing product, service or facility which falls within the scope of the Relevant Market.
- 8.7 Eircom shall ensure that the amended or new SLA is implemented and is made available to Undertakings by the date on which:
- (i) any amendment or change to an existing product, service or facility; or
 - (ii) the offer of a new product, service or facility
- comes into effect in accordance with Section 10 below.

- Where the amended SLA does not relate to Section 8.7 (i) or (ii) above, Eircom shall ensure that the amended SLA is implemented and is made available to Undertakings within three months from the end of the SLA Negotiation Period (unless otherwise agreed with ComReg).
- 8.8 Within six months (unless otherwise agreed with ComReg) of the Effective Date of this Decision Instrument Eircom shall update its SLAs to include all relevant information and accord with the principles set out in Sections 8.3 to 8.5 above.
- 8.9 Where a request by an Undertaking for provision of Access (including Access to those products, services and facilities described in Sections 7 and 8 of this Decision Instrument), or a request by an Undertaking for provision of information is refused or met only in part, Eircom shall, at the time of the refusal or partial grant, provide in detail to the Undertaking each of the objective reasons for such refusal or partial grant. Eircom's response shall be provided in a fair, reasonable and timely manner.
- 8.10 Following a request from an Undertaking (including a request from Eircom itself) for a new product, service or facility or a non-pricing amendment to an existing product, service or facility Eircom shall, from the date of receipt of such a request (unless otherwise agreed with ComReg) within:
- (i) three (3) working days confirm in writing that the request has been received;
 - (ii) ten (10) working days inform the Undertaking whether or not the request falls within the scope of Eircom's obligations contained in this Decision Instrument. Eircom shall comply with Section 8.9 above in this regard and provide a unique reference to identify the request;
 - (iii) twenty five (25) working days confirm that the Undertaking has provided it with sufficient information to process the request including the Undertaking's view on the priority of the request relative to other requests pertaining to the Relevant Market that have already been submitted by that Undertaking. During the twenty five (25) day period Eircom may seek clarification from the Undertaking;
 - (iv) fifty five (55) working days confirm in writing to the Undertaking whether it agrees to provide the requested product, service or facility or amendment thereto. Where the request is refused Eircom shall comply with Section 8.9 above in its response to the Undertaking;
 - (v) seventy five (75) working days provide the Undertaking with a detailed description of the relevant product, service or facility and the associated procedures.
- 8.11 For the avoidance of doubt the obligations set out in Section 8.10 are separate and independent to Eircom's transparency obligations in respect of notification and publication as set out in Section 10.8 and 10.9 of this Decision Instrument.

9 OBLIGATION OF NON-DISCRIMINATION

- 9.1 Pursuant to Regulation 10 of the Access Regulations, Eircom shall have an obligation of non-discrimination in respect of the provision of Access, including Access as regards those services, products and facilities described in Sections 7 and 8 of this Decision Instrument. Without prejudice to the generality of the foregoing, Eircom shall:
- (i) apply equivalent conditions in equivalent circumstances to other Undertakings requesting, or being provided with Access (including Access to those products, services and facilities described in Sections 7 and 8 of this Decision Instrument) or requesting or being provided with information in relation to such Access; and
 - (ii) provide Access (including Access to those products, services and facilities described in Sections 7 and 8 of this Decision Instrument) and information in relation to such Access to all other Undertakings under the same conditions and of the same quality as Eircom provides to itself or to its subsidiaries, affiliates or partners.
- 9.2 Without prejudice to the generality of Section 9.1 above, Eircom shall (unless otherwise specified in this Decision Instrument) provide Access, including Associated Facilities, to those products, services and facilities required in accordance with Sections 7 and 8 of this Decision Instrument on, at least, an Equivalence of Outputs basis.
- 9.3 Without prejudice to the generality of Section 9.1, in relation to new access requests from Eircom's downstream arm for Current Generation WCA and its Associated Facilities, where such Access is to be used by Eircom to deliver services to Consumers Eircom shall deliver pre-provisioning, provisioning, fault reporting and fault repair to its downstream arm and OAOs on an Equivalence of Inputs basis.
- 9.4 Without prejudice to the generality of Section 9.1 and Section 9.2, save as for otherwise provided, Eircom shall provide fault reporting and fault repair for the Current Generation WCA and its Associated Facilities on an Equivalence of Inputs basis. On an exceptional basis and until the date specified in Section 9.5 below, Eircom may provide fault reporting and fault repair for the Current Generation WCA and its Associated Facilities through Service Assurance Systems Interface other than the Service Assurance Systems Interface that is used to provide services to OAOs. Notwithstanding that different interfaces can be used for fault reporting and fault repair, all service assurance processes which are executed after a fault is first reported on the Service Assurance Systems Interface shall be the same. Eircom shall ensure that the obligation set out in this Section 9.4 is implemented within six months of the Effective Date of this Decision Instrument.

- 9.5 Without prejudice to the generality of Sections 9.1 to 9.4, Eircom shall provide pre-ordering, ordering, provisioning, fault reporting and repair for Current Generation WCA and its Associated Facilities on an Equivalence of Inputs basis by no later than 1 November 2018 unless otherwise agreed with ComReg.
- 9.6 Without prejudice to the generality of Section 9.1, Eircom shall provide pre-ordering, ordering, provisioning fault reporting and repair for Next Generation WCA and its Associated Facilities on an Equivalence of Inputs basis.
- 9.7 For the avoidance of doubt, the obligations set out in this Section 9 apply irrespective of whether or not a specific request for products, services, facilities or information has been made by an Undertaking to Eircom.

10 OBLIGATION OF TRANSPARENCY

- 10.1 Pursuant to Regulation 9 of the Access Regulations, Eircom shall be subject to an obligation of transparency in relation to Access (including Access to those products, services and facilities described in Sections 7 and 8 of this Decision Instrument).
- 10.2 Without prejudice to the generality of Section 10.1 of this Decision Instrument, pursuant to Regulation 9(2) of the Access Regulations, Eircom shall make publicly available and keep updated on its website, an WBARO. Within six months (unless otherwise agreed with ComReg) of the Effective Date of this Decision Instrument Eircom shall update the WBARO to include information relating to any amendment to an existing obligation or new obligation imposed in this Decision Instrument.
- 10.3 The WBARO shall be sufficiently unbundled so as to ensure that Undertakings availing of Access (including Access to those products, services and facilities described in Sections 7 and 8 of this Decision Instrument) are not required to pay for products, services or facilities which are not necessary for the Access requested. Eircom shall ensure that the ARO and related contracts only relate to products, services and facilities which fall within the scope of the Relevant Market.
- 10.4 Without prejudice to the generality of Section 10.3 of this Decision Instrument, and in accordance with the obligations specified elsewhere in this Decision Instrument, Eircom shall ensure that its WBARO includes at least the following:
- (i) a description of the offer of contract for Access (including Access to those products, services and facilities described in Section 7 and Section 8 of this Decision Instrument) broken down into components according to market needs;
 - (ii) a description of any associated contractual or other terms and conditions for supply of Access (including Access to those products, services and facilities described in Sections 7 and Section 8 of this Decision Instrument) and use, including prices; and

- (iii) a description of the technical specifications and network characteristics of the Access (including Access to those products, services and facilities described in Section 7 and Section 8 of this Decision Instrument) being offered.
- 10.5 In the event of any conflict between the WBARO and associated documentation such as the WBARO Price List (including where represented as updated for the purposes of this Decision Instrument), and Eircom's obligations as set out under this Decision Instrument, it is the latter which shall prevail.
- 10.6 Without prejudice to the generality of Sections 10.1 and 10.2 above and pursuant to Regulation 9 of the Access Regulations Eircom shall:
- (i) continue to publish and keep updated on its publicly available website, its WBARO in the same form and format as [3.4b dated 13 November 2015], as may be amended from time to time, insofar as those products, services or facilities contained therein relate to the obligations set out in this Decision Instrument;
 - (ii) publish and keep updated on its publicly available website both clean (or unmarked) and tracked changed (or marked) versions of its WBARO (insofar as it relates to the products, services and facilities to be provided in accordance with the requirements of this Decision Instrument). The tracked change version of the WBARO shall be sufficiently clear to allow Undertakings to clearly identify all actual and proposed amendments from the preceding version of its WBARO;
 - (iii) publish and keep updated on its publicly available website an accompanying WBARO Change Matrix, which lists all of the amendments incorporated or to be incorporated in any amended WBARO;
 - (iv) publish and keep updated on its publicly available website both clean (unmarked) and tracked changed (marked) versions of the WBARO Price List(s) (insofar as it relates to the products, services and facilities to be provided in accordance with the requirements of this Decision Instrument). The tracked change version of the WBARO Price List shall be sufficiently clear to allow Undertakings to clearly identify all actual and proposed amendments from the preceding version of its WBARO Price List;
 - (v) publish and keep updated on its publicly available website a WBARO Price List Change Matrix; and
 - (vi) maintain and make publicly available on its wholesale website a copy of historic versions of its WBARO, WBARO Price List, WBARO Change Matrix and WBARO Price List Change Matrix.
- 10.7 Eircom shall ensure that its wholesale invoices are sufficiently disaggregated, detailed and clearly presented such that an Undertaking can reconcile invoices to Eircom's WBARO and WBARO Price Lists.

- 10.8 In respect of non-pricing amendments or changes to the WBARO resulting from the offer of a new product, service or facility which falls within the scope of the Regional WCA Market, the following obligations will apply:
- (i) Eircom shall, unless otherwise agreed by ComReg, make publicly available and publish on Eircom's publicly available wholesale website at least six (6) months in advance of coming into effect, any proposed amendments or changes to the WBARO or the making available of any product, service or facility, pertaining to non-price information in respect of product specification, services, facilities and processes resulting from the offer of a new product, service or facility.
 - (ii) Eircom shall notify ComReg in writing with the information to be published at least one (1) month in advance of any such publication taking place, that is, seven (7) months prior to any amendments or changes coming into effect. The periods referred to in this Section may be varied with the agreement of ComReg or at ComReg's discretion.
- 10.9 In respect of material non-pricing amendments or changes to the WBARO resulting from an amendment or change to an existing product, service or facility which falls within the scope of the Regional WCA Market, the following obligations will apply:
- (i) Eircom shall, unless otherwise agreed by ComReg, make publicly available and publish on Eircom's publicly available wholesale website at least two (2) months in advance of coming into effect, any proposed amendments or changes to the WBARO pertaining to non-price information in respect of product specification, services, facilities and processes resulting from an amendment or change to an existing product, service or facility (including details of any amendment or change in the functional characteristics of an existing product, service or facility).
 - (ii) Eircom shall notify ComReg in writing with the information to be published at least one (1) month in advance of any such publication taking place, that is, three (3) months prior to any amendments or changes coming into effect. The periods referred to in this Section may be varied with the agreement of ComReg or at ComReg's discretion. Notwithstanding this Section 10.9, material changes or material amendments shall, however, be notified and published in accordance with Section 10.8 above or as otherwise agreed with ComReg or at ComReg's discretion.
- 10.10 In respect of pricing amendments or changes pertaining to prices in the WBARO and/or WBARO Price List, Eircom shall make publicly available and publish on its publicly available wholesale website information relating to:

- (i) proposed changes to the prices of existing products, services or facilities set out in the WBARO Price Lists and which are offered or provided in accordance with the obligations set out in this Decision Instrument, for price decreases at least one (2) month in advance of such changes coming into effect and for price increases at least two (3) months in advance, unless otherwise determined by ComReg; and
 - (ii) the pricing of a new product, service, or facility that will be offered or provided in accordance with the obligations set out in this Decision Instrument at least two (2) months in advance of the commercial launch of a new retail service by Eircom, unless otherwise determined by ComReg.
- 10.11 For the purpose of Section 10.10 above, Eircom shall, unless otherwise agreed with ComReg, notify ComReg in writing with the information to be published at least one (1) month in advance of any such publication taking place.
- 17.2 Eircom shall in respect of any proposed trials, whether such trials are for the purposes of testing operational or technical issues:
- (i) notify ComReg in writing at least one (1) month in advance of any proposed trials;
 - (ii) notify Undertakings at least three months in advance of the commencement of the trials, unless otherwise agreed with ComReg;
 - (iii) notify the process or facility no earlier than one month after the cessation of the trial
- 10.12 Eircom shall, as specified by ComReg in writing from time to time, make publicly available on its wholesale website, information such as accounting information, technical specifications, network characteristics, terms and conditions for supply and use, and prices, in respect of the products, services and facilities referred to in Sections 7 and 8 above.
- 10.13 Pursuant to Regulation 9(3) of the Access Regulations, ComReg may issue directions requiring Eircom to make changes or amendments to its SLAs, the WBARO (and its associated documents), WBARO Price List, WBARO Change Matrix or WBARO Price List Change Matrix to give effect to obligations imposed by this Decision Instrument and to publish such documents with such changes. In accordance with Regulation 18 of the Access Regulations, ComReg may issue directions to Eircom from time to time requiring it to publish information, such as accounting information, technical specifications, network characteristics, terms and conditions for supply and use and prices.
- 10.14 Eircom shall publish Key Performance Indicators (KPIs) on its publicly available wholesale website. The specification of the content of the KPIs shall be in accordance with the obligations set out in ComReg Decision D05/11 (as may be amended from time to time).

- 10.15 Eircom shall on a quarterly basis, publish on its publicly available wholesale website, a report that evidences actual performance achieved in respect of all Undertakings on an aggregate basis compared to the committed service levels contained in the relevant SLA for the products, services and facilities referred to in Sections 7 and 8 of this Decision Instrument. Eircom shall also include in the report the methodology and a description of the source data used to determine the actual performance achieved. The report shall also describe how the source data was processed by Eircom and include worked examples as to how the processed source data relates to the actual performance achieved.
- 10.16 Eircom shall make publicly available on its wholesale website all SLAs (and any updates thereto) relating to the provision of the products, services and facilities that are to be provided in accordance with Sections 7 and 8 of this Decision Instrument.
- 10.17 Where Eircom considers certain aspects of information to be provided under the obligations set out in this Section 10 to be of a confidential and/or commercially sensitive nature, Eircom shall, without delay, provide ComReg with complete details of such information along with objective reasons justifying why it considers it is confidential and/or commercially sensitive. ComReg will consider the information in accordance with ComReg Document No. 05/24, so far as relevant or otherwise. If ComReg considers that the information is not confidential and/or commercially sensitive, it shall be published by Eircom in accordance with its obligations under this Section.
- 10.18 If ComReg concludes that the information is confidential and/or commercially sensitive, Eircom shall publish general details as to the nature of such information and shall make it available to an OAO that has signed a Non-Disclosure Agreement (“NDA”), the terms and conditions of which shall be fair, reasonable and non-discriminatory. The NDA shall also be published on Eircom’s publicly available website. Any confidential and/or commercially sensitive information referred to in this Section 10 above shall not be made available by Eircom to its downstream operations until such time as it is made available to an OAO, or as otherwise agreed with ComReg.
- 10.19 If and when the commercially sensitive and/or confidential information referred to in this Section 10 above ceases to be commercially sensitive and/or confidential, it shall be made available by Eircom on its publicly available wholesale website without undue delay and without the need for an NDA to be signed.

10.20 With regard to the obligations set out in Section 8.10 above relating to requests from Undertakings for a new product, service or facility or a non-pricing amendment to an existing product, service or facility Eircom shall publish on its publically available wholesale website the relevant information referred to in that Section 8.10 at the same time as it provides the information to the requesting Undertaking. Eircom shall also publish a Product Development Roadmap on its publically available wholesale website at the earliest possible time but no later than ten (10) working days after the request from the Undertaking. The Product Development Roadmap shall contain the following detail in relation to each request:

- (i) the unique reference to identify the request;
- (ii) a description of the request and copies of all relevant documentation;
- (iii) the date by which Undertakings can propose amendments to the development of the request;
- (iv) the date by which Undertakings can submit their view on the priority of the request relative to other requests pertaining to the Relevant Market that have already been submitted by that Undertaking;
- (v) the priority given by Eircom to the development of each request relative to other requests pertaining to the Relevant Market. Eircom shall include a description of the prioritisation process and the criteria used by it in this regard; and
- (vi) the milestones and expected dates required to develop and launch the product, service or facility to meet the access request. Eircom shall also include a method for tracking the actual development of the product, service or facility against the expected dates.

11 OBLIGATION OF ACCOUNTING SEPARATION

11.1 Pursuant to Regulation 11 of the Access Regulations, Eircom shall have an obligation to maintain separated accounts in respect of the products, services and facilities falling within the scope of this Decision Instrument and the Regional WCA Market. All of the obligations in relation to accounting separation, set out at Annexes 1 and 2 of ComReg Decision D08/10, applying to Eircom and in force immediately prior to the Effective Date of this Decision Instrument, and relating to products, services and facilities falling within the scope of this Decision Instrument and the Regional WCA Market shall be maintained in their entirety.

12 OBLIGATIONS RELATING TO PRICE CONTROL AND COST ACCOUNTING

- 12.1 Pursuant to Regulation 13(1) of the Access Regulations, Eircom shall maintain appropriate cost accounting systems in respect of products, services or facilities in the Regional WCA Market.
- 12.2 Pursuant to Regulation 13(1) of the Access Regulations prices charged by Eircom to any other Undertaking for Access to or use of those products, services or facilities referred to in Section 7 above, unless otherwise specified, shall be subject to a cost orientation obligation.
- 12.3 Eircom shall have an obligation not to cause a margin/price squeeze against downstream wholesale services.
- 12.4 Eircom shall have an obligation not to cause a margin/squeeze against downstream retail services.

Cost orientation

- 12.5 For the purposes of further specifying requirements to be complied with relating to the cost orientation obligation set out in Section 12.2 above and pursuant to Regulations 8 and 13 of the Access Regulations, Eircom shall ensure that the monthly rental charge offered or charged by it to any other Undertaking in relation to FTTC based Bitstream provided in the Regional WCA Market is cost orientated.
- 12.6 For the purposes of further specifying requirements to be complied with relating to the cost orientation obligation set out in Section 12.2 above and pursuant to Regulations 8 and 13 of the Access Regulations, Eircom shall ensure that the monthly rental charge offered or charged by it to any other Undertaking in relation Current Generation Bitstream and Bitstream Managed Backhaul provided in the Regional WCA Market is cost orientated.

Standalone Broadband

- 12.7 For the purposes of further specifying requirements to be complied with relating to the cost orientation obligation set out in section 12.2 and pursuant to Regulations 8 and 13 of the Access Regulations, Eircom shall ensure, where appropriate, that the monthly rental charge offered or charged by Eircom to any other Undertaking for Standalone Broadband in Area 2 of the Regional WCA Market shall be no more than Eircom's total actual incurred costs in Area 2 of the Regional WCA Market (adjusted for efficiency) plus a reasonable rate of return associated with the provision of Standalone Broadband, which shall be calculated in line with the Revised Copper Access Model. Such costs shall be based on a Top Down HCA costing methodology except for Active Assets the costs of which shall be calculated using a BU-LRAIC+ methodology.

Ancillary Services to WCA products

- 12.8 For the purposes of further specifying requirements to be complied with relating to the cost orientation obligation set out in Section 12.2 and pursuant to Regulations 8 and 13 of the Access Regulations, Eircom shall ensure, where appropriate, that it recovers no more than its actual incurred costs (adjusted for efficiencies) plus a reasonable rate of return associated with the provision of Ancillary Services to WCA products, services or facilities offered or charged in the Regional WCA Market. For avoidance of doubt this obligation applies to both Current and Next Generation WCA.

Margin Squeeze Obligation***Wholesale Margin Squeeze Obligations***

- 12.9 For the purposes of further specifying requirements to be complied with relating to the obligation not to cause a margin/price squeeze set out in Section 12.3 above and pursuant to Regulations 8 and 13 of the Access Regulations, Eircom shall ensure that it does not create a Wholesale Margin Squeeze between End-to-End Bitstream and Bitstream, that is between:- (i) the price for End-to-End Bitstream; and (ii) the price for Bitstream. For avoidance of doubt this obligation applies to both Current and Next Generation Bitstream (both FTTC and FTTH based) provided in the Regional WCA Market.

Retail Margin Squeeze Obligations

- 12.10 For the purposes of further specifying requirements to be complied with relating to the obligation not to cause a margin/price squeeze set out in Section 12.4 above and pursuant to Regulations 8 and 13 of the Access Regulations, Eircom shall ensure that the monthly rental charge offered or charged by it to any other Undertaking in relation to WCA (including the wholesale price for products, services, facilities, Promotions, Discounts and Bundles) provided in the Regional WCA Market shall not cause a margin squeeze between (i) FTTC based Bitstream provided in the Regional WCA Market; and (ii) the retail price of a single Retail Product delivered by FTTC based Bitstream or the weighted average (by number of subscribers) of Retail Products' individual prices where more than one Retail Product is supported by a single offering. This is to apply regardless of whether the retail product(s) is/are sold singly or in a bundle.

- 12.11 For the purposes of further specifying requirements to be complied with relating to the obligation not to cause a margin/price squeeze set out in Section 12.4 above and pursuant to Regulations 8 and 13 of the Access Regulations, Eircom shall ensure that the monthly rental charge offered or charged by it to any other Undertaking in relation to WCA (including the wholesale price for products, services, facilities, Promotions, Discounts and Bundles) provided in the Regional WCA Market shall not cause a margin squeeze between (i) FTTH based Bitstream provided in the Regional WCA Market; and (ii) the retail price of a single Retail Product delivered by FTTH based Bitstream or the weighted average (by number of subscribers) of Retail Products' individual prices where more than one Retail Product is supported by a single offering. This is to apply regardless of whether the retail product(s) is/are sold singly or in a bundle.
- 12.12 For the purposes of further specifying requirements to be complied with relating to the obligation not to cause a margin/price squeeze set out in Section 12.4 above and pursuant to Regulations 8 and 13 of the Access Regulations, Eircom shall ensure that the monthly rental charge offered or charged by it to any other Undertaking in relation to WCA (including the wholesale price for products, services, facilities, Promotions, Discounts and Bundles) provided in Area 1 of the Regional WCA Market shall not cause a margin squeeze between (i) Current Generation Bitstream provided in the Area 1 of the Regional WCA Market; and (ii) the retail price of a single Retail Product delivered by Current Generation Bitstream or the weighted average (by number of subscribers) of Retail Products' individual prices where more than one Retail Product is supported by a single offering. This is to apply regardless of whether the retail product(s) is/are sold singly or in a bundle.
- 12.13 For the purposes of further specifying requirements to be complied with relating to the obligation not to cause a margin/price squeeze set out in Section 12.4 above and pursuant to Regulations 8 and 13 of the Access Regulations, Eircom shall ensure that the monthly rental charge offered or charged by it to any other Undertaking in relation to WCA (including the wholesale price for products, services, facilities, Promotions, Discounts and Bundles) provided in Area 2 of the Regional WCA Market shall not cause a margin squeeze between (i) Current Generation Bitstream provided in the Area 2 of the Regional WCA Market; and (ii) the retail price of a single Retail Product delivered by Current Generation Bitstream or the weighted average (by number of subscribers) of Retail Products' individual prices where more than one Retail Product is supported by a single offering. This is to apply regardless of whether the retail product(s) is/are sold singly or in a bundle.

13 STATEMENT OF COMPLIANCE

13.1 Pursuant to Regulations 8, 9, 10, 11, 12 and 13 of the Access Regulations Eircom shall submit to ComReg a written Statement of Compliance that adequately demonstrates its compliance with its regulatory obligations in the Regional WCA Market, to include the following:

- (i) a full and true written statement, signed by a person of appropriate expertise and authority within Eircom, acknowledging that Eircom is responsible for securing compliance with its obligations and confirming to the best of their knowledge that Eircom is in compliance with the obligations set out in this Decision Instrument;
- (ii) the information relied upon, and the process followed, by the signatory in order to be satisfied that to the best of their knowledge that Eircom is in compliance with the obligations set out in this Decision Instrument;
- (iii) a description and explanation of the governance measures implemented by Eircom to ensure that it is, and remains, in compliance with the obligations set out in this Decision Instrument, in particular:
 - a. a description and explanation of the relevant reporting structures and reporting processes implemented by Eircom; and
 - b. the information relied upon and the process followed by Eircom's management to assess the operation and effectiveness of the processes used to identify and mitigate risks of non-compliance in their areas of responsibility.
- (iv) a description of the risks identified and the controls developed to mitigate potential risks of non-compliance with Eircom's regulatory obligations, as they relate to the categories of activities in Section 13.2 below and shall include the following, in particular:
 - a. a description of the purpose of each process which was analysed for risks of non-compliance;
 - b. a detailed description of the risk analysis process, to include the following:
 - a description of the expertise employed by Eircom;
 - a list of all material including all relevant documentation;
 - a description of how the material and expertise was used;
 - c. a detailed description of the control development process to include the following:

- a description of the expertise employed by Eircom;
- a list of all material including all relevant documentation used;
- a description of how the material and expertise was used;
- a description of the process used to assess the effectiveness of the controls.

13.2 The obligations set out in this Section 13 shall apply, but for the avoidance of doubt, are not limited to, the following categories of activities:

- (i) Pre-provisioning, provisioning and service assurance for WCA products services and facilities.
- (ii) Product development including product enhancements, and pre product development screening of Access requests.
- (iii) Product prioritisation and investment decisions.
- (iv) Access to shared resources including IT and product development resources.
- (v) The management of information, both Structured information and Unstructured information in conformance with regulatory requirements.
- (vi) Other categories as reasonably required by ComReg.

13.3 The documentation referred to in this Section 13 shall be of sufficient clarity and detail to enable ComReg, or a third party as determined by ComReg, to review the Statement of Compliance for completeness and accuracy. Such documentation and information shall also enable ComReg, or a third party as determined by ComReg, to assess whether Eircom has taken all reasonable steps to ensure that the risk assessment and control and governance measures referred to in this Section 13 provide reasonable assurance to ComReg that Eircom is compliant with the obligations set out in this Decision Instrument.

13.4 Eircom shall clearly identify, explain, document and demonstrate the following in particular:

- (i) In respect of the standard of Equivalence of Inputs, any and all differences as between systems and processes used to supply OAOs and Eircom's downstream arm setting out why it believes that any such differences are very minor and insignificant and can be objectively justified; and
- (ii) In respect of the standard of Equivalence of Outputs, any and all differences as between systems and processes used to supply OAOs and Eircom's downstream arm. The explanation shall include a description as to how and what controls are in place to ensure an Equivalence of Outputs standard notwithstanding the differences in systems and processes used.

- 13.5 Eircom shall ensure that the Statements of Compliance will be kept updated as required to reflect material changes to the documentation and information detailed in this Section 13. These updates will be provided to ComReg within one (1) month of the update being made by Eircom.
- 13.6 Updates or changes to any Statement of Compliance provided to ComReg will be presented such that the changes are highlighted and the Statement of Compliance documents include a Version Control and Revision History.
- 13.7 Eircom shall publish the Statement of Compliance, and updates to the Statement of Compliance, on its publically available website within one month of providing it to ComReg, unless otherwise agreed with ComReg.
- 13.8 Eircom shall provide a Statement of Compliance, as referred to in this Section 13, to ComReg within six (6) months of the Effective Date of this Decision or:
- (i) in the case of any offer of a new WCA product, service or facility, seven (7) months in advance of its being made available;
 - (ii) in the case of any change to an existing WCA product, service or facility, three (3) months in advance of it being made available;
 - (iii) as otherwise may be required by ComReg.

PART V - OPERATION AND EFFECTIVE DATE (SECTIONS 14 TO 17 OF THE DECISION INSTRUMENT)

14 STATUTORY POWERS NOT AFFECTED

- 14.1 Nothing in this Decision Instrument shall operate to limit ComReg in the exercise and performance of its statutory powers or duties conferred on it under any primary or secondary legislation (in force prior to or after the Effective Date of this Decision Instrument).

15 MAINTENANCE OF OBLIGATIONS

- 15.1 Unless expressly stated otherwise in this Decision Instrument, all obligations and requirements contained in Decision Notices and Directions made by ComReg, applying to Eircom, and in force immediately prior to the Effective Date of this Decision Instrument, continue in force and Eircom shall comply with the same.
- 15.2 For the avoidance of doubt, to the extent that there is any conflict between a Decision Instrument dated prior to the Effective Date and Eircom's obligations set out herein, it is the latter which shall prevail.

- 15.3 If any Section(s), clause(s), or provision(s), or portion(s) thereof, contained in this Decision Instrument is(are) found to be invalid or prohibited by the Constitution, by any other law or judged by a court to be unlawful, void or unenforceable, that(those) Section(s), clause(s), or provision(s), or portion(s) thereof shall, to the extent required, be severed from this Decision Instrument and rendered ineffective as far as possible without modifying the remaining Section(s), clause(s), or provision(s), or portion(s) thereof, of this Decision Instrument, and shall not in any way affect the validity or enforcement of this Decision Instrument or other Decision Instruments.
- 15.4 Pursuant to Regulation 18 of the Access Regulations and Regulation 27(3) of the Framework Regulations an appropriate notice period of [six] months from the Effective Date shall be provided to affected parties and during that period Eircom shall continue to provide access to Current and Next Generation Bitstream in the Urban WCA market at prices consistent with the current draft of the WBARO [3.4b dated 13 November 2015].

16 IMPOSITION OF NEW OBLIGATIONS AND WITHDRAWAL OF SMP OBLIGATIONS

- 16.1 Pursuant to Regulations 8, 9, 10, 11, 12 and 13 of the Access Regulations, the obligations set out in Sections 4 to 13 (inclusive) of this Decision Instrument shall only come into effect when all of the obligations set out in Sections 4 to 13 (inclusive) of the Decision Instrument contained in Annex [●] of ComReg Decision [●] (i.e. the WLA Decision Instrument) come into effect.
- 16.2 Pursuant to Regulations 8, 9, 10, 11, 12 and 13 of the Access Regulations, the following Decision Instruments, and/or ComReg Documents and/or Decisions shall be withdrawn when Sections 4 to 13 of this Decision Instrument come into effect:
- a) The Decision Instrument contained in Chapter 8 of ComReg Decision 06/11;
 - b) The Decision Instrument contained in Chapter 5 of ComReg Decision 06/12;
 - c) The Decision Instrument contained in Annex 2 of ComReg Decision D03/13;
 - d) The Decision Instrument contained in Chapter 11 of ComReg Decision 11/14;
 - e) The Decision Instrument contained in Annex 2 of ComReg Decision 03/16;

17 EFFECTIVE DATE

17.1 The Effective Date of this Decision Instrument shall be the date of its notification to Eircom and it shall remain in force until further notice by ComReg.

JEREMY GODFREY

CHAIRPERSON

THE COMMISSION FOR COMMUNICATIONS REGULATION

THE [] DAY OF [] 2016