



Commission for
Communications Regulation

Consultation and Draft Decision

Market Review:

Wholesale Broadband Access (Market 5)

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All responses to this consultation should be clearly marked:-
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Please note ComReg will publish all respondents submissions with the
Response to this Consultation, subject to the provisions of ComReg’s
guidelines on the treatment of confidential information – ComReg 05/24

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1 Executive Summary

Background

- 1.1 Wholesale Broadband Access (WBA) is a non-physical or virtual wholesale input used in the provision of retail broadband. Services provided in this market are commonly described as “Bitstream” services. Essentially, Bitstream is where an operator provides wholesale broadband services which include access to broadband capacity over its local loop, the use of its broadband equipment and some element of backhaul and handover.
- 1.2 The WBA market is currently regulated, as recommended by the European Commission¹, and was last reviewed during the period 2004-2006.² Since the time of the last review, the total number of retail broadband subscribers has increased from just over 45,000 (end of Q1 2004) to around 1.5 million (end of Q2 2010). Consumers have benefited from increasing competition in the provision of retail broadband services. Prices are lower than at the time of the last review, and consumers are also benefiting from technological advances which allow faster broadband speeds enabling the use of new applications such as music and movie downloading. In many parts of the country, consumers now have a choice of provider offering services on different platforms such as cable and wireless-based platforms. However, the predominant means of retail broadband access in Ireland is still based on DSL infrastructure, accounting for almost 50% of all retail broadband subscriptions by mid 2010³.
- 1.3 Competition in retail broadband depends on operators offering services either using their own infrastructure, or by purchasing a wholesale input provided on another operator’s network. Access to another operator’s infrastructure can be done in several ways. One is by means of Bitstream services, which are the subject of this consultation. Another is by means of Wholesale Physical Network Infrastructure Access (WPNIA) such as local loop unbundling (LLU), where an operator rents only access to the local loop and supplies its own equipment.
- 1.4 In conducting this review, ComReg informs its view as to the need for regulation in the context of retail market conditions and also in the context of wholesale conditions including the potential impact of other infrastructures and also bitstream services provided over WPNIA. Specifically, ComReg takes a three stage process, whereby it

¹ 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 Recommendation). The European Commission refers to the WBA market as follows: *“This market comprises non-physical or virtual network access including ‘bit-stream’ access at a fixed location. This market is situated downstream from the physical access covered by market 4 [WPNIA] listed above, in that wholesale broadband access can be constructed using this input combined with other elements.”*

² ComReg, “Market Analysis: Wholesale Broadband Access”, Document 05/11r (amended), Decision 03/05, 24 February 2005.

³ This includes retail broadband provided over all platforms, irrespective of whether they may be considered to fall within the same market.

defines the precise scope of the market under consideration, assesses if it is effectively competitive and, if it is not, describes what regulatory remedies are required.

Market Definition

Retail broadband market

1.5 An assessment of the retail market logically precedes the analysis of the wholesale market because wholesale demand is to a large extent derived from retail demand. ComReg has focused on the extent to which different retail broadband products can be considered to be effective substitutes for retail broadband provided over DSL networks, in terms of product 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:

- All retail broadband products offered at a fixed location over DSL, cable, fixed wireless access (FWA), and alternative fibre-based networks are provisionally considered substitutes for the purposes of this broad retail assessment because they share general similarities in terms of functionality, pricing, and customer use.
- Retail mobile broadband is not considered an effective substitute for retail broadband offered over DSL, due primarily to functional differences, differences in pricing, and in customer usage.
- Retail broadband and retail narrowband internet access are considered to fall into separate markets. Retail broadband offered over DSL is also considered to be in a separate market to satellite-based broadband and to internet access via leased lines.
- It is provisionally considered that the retail broadband market should neither be segmented 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.
- The retail broadband market is likely to be national in scope. It is proposed however to monitor any relevant retail broadband developments (e.g. from cable) emerging in distinct geographic areas over the period of this review.

WBA market

1.6 ComReg has assessed possible competitive constraints from a wide range of platforms at both the retail and wholesale levels. Taking into account that WBA inputs with a widespread geographic reach have been identified as a key ingredient for operators supplying the retail broadband market, regardless of whether copper or fibre is used to deliver such inputs, the WBA market is provisionally considered to consist of:

- Wholesale broadband access provided over an extensive or ubiquitous current generation DSL/copper network infrastructure.
- Wholesale broadband access provided over an extensive or ubiquitous next generation fibre network infrastructure.

- 1.7 This would include, for example, the WBA products currently and prospectively offered by Eircom. This could also potentially include WBA products supplied by BT using its purchased LLU/WPNIA inputs should this service become fully developed.
- 1.8 Direct wholesale competition from other purchasers of WPNIA inputs as well as from other alternative networks (such as those based on cable, FWA, fibre, and mobile technologies) is not considered strong enough to form part of the relevant wholesale market. This is because there are no effective WBA products currently being supplied over these networks and it is unlikely that a sufficiently comprehensive WBA product could be developed and offered within a short period and at negligible cost.
- 1.9 In line with EU guidance⁴, self-supply is only included in the relevant market where:
- Operators have relevant capacity/ubiquity and could readily switch to directly supplying a WBA product to third parties, or
 - In the event of no wholesale supply, indirect constraints from retail competition are strong enough to constrain wholesale pricing.
- 1.10 ComReg provisionally considers that Eircom's self-supply falls for consideration within the WBA product market. Self supply of WBA over alternative platforms is not considered to meet the above criteria and therefore is not considered part of the relevant WBA market.
- 1.11 Taking account of the low development of alternative WBA supply and an absence of national differences in behavioural factors such as pricing, the relevant geographic market is still considered to be national. However, ComReg is also mindful of BT's plans for wholesale provisioning based on an expanded WPNIA footprint. ComReg thus proposes to monitor any material wholesale developments capable of driving sustainable competitive differences in distinct geographic areas over the period of this review.

Competition and Significant Market Power (SMP) analysis

- 1.12 ComReg has carefully assessed the WBA market in terms of the strength of existing competition, potential competition, and any countervailing buyer power in order to determine whether any undertaking has SMP. In summary, ComReg's overall preliminary conclusions are as follows:
- Eircom's current market share⁵ is at least 98%. This is the case even if the market is considered to include WBA offered by alternative operators over purchased WPNIA inputs. The relative strength of existing alternative providers is thus limited.

⁴ Commission Staff Working Document, Explanatory Note, Accompanying document to the Recommendation, SEC(2007) 1483, dated 13/11/2007 (the Explanatory Note), p. 15.

⁵ The market for wholesale broadband services, i.e WBA or bistream.

- Barriers to entry and expansion persist, including sunk costs, economies of scale, scope and density, control of infrastructure not easily replicated, and vertical integration.
- In assessing the scope for potential competition, ComReg has in particular considered two key possible sources of competitive constraint – first, the commencement of BT’s provisioning of WBA services to Vodafone, and second, the possible increase in the retail market presence of the cable operator UPC. Neither development is individually anticipated to have a material effect on the competitive structure of the national WBA market over the timeframe of this review. However, should BT and UPC significantly expand their operations, particularly in overlapping areas, taken together this market development could potentially lead to an increasing differentiation in competitive conditions between particular areas which ComReg proposes to monitor.
- Countervailing buyer power is also not considered strong enough to constrain Eircom’s market power in the WBA market over the period of this review.

1.13 ComReg’s preliminary view is that Eircom should be designated as having SMP in the WBA market.

Proposed remedies

1.14 In recognition of the persistent risk of competition problems which has been identified in the WBA market, ComReg proposes regulatory remedies, as follows:

- Obligation to provide access
- Obligation of transparency
- Obligation of non-discrimination
- Obligation of accounting separation
- Obligations relating to price control and cost accounting

1.15 ComReg proposes to further develop certain elements of these existing obligations for current generation infrastructure and services. These proposed developments are considered appropriate to reinforce their effectiveness and to clarify Eircom’s specific duties under each obligation.

1.16 As ComReg expects the conditions of competition to remain the same (i.e. Eircom’s SMP would prevail) in instances where Eircom overlays or replicates its existing copper access network with fibre infrastructure, it is also proposed to apply the above remedies to next generation WBA. However, the nature and timing of next generation WBA developments and evolution of services is still uncertain. Therefore, while current generation remedies are specified in detail, next generation WBA remedies are proposed in principle, pending a focussed consultation on their detailed implementation, with sufficient transparency to enable wholesale customers to prepare for any relevant changeover to NGA-based access in the interim period. ComReg’s proposed approach to WBA in an NGA environment, seeks to balance the need to provide a level of regulatory certainty to market participants, against the need to maintain a flexible approach which will accommodate the actual implementation of NGA in Ireland.

2 Introduction

2.1 This Consultation Paper presents ComReg's preliminary views regarding its review of Wholesale Broadband Access (WBA). The structure of this Consultation Paper follows the market analysis approach recommended by the European Commission, taking utmost account of the Recommendation on relevant product and service markets within the electronic communications sector susceptible to *ex ante* regulation⁶ and the Guidelines on market analysis and the assessment of significant market power.⁷ It begins by defining the relevant market, then assesses competition within the market, finally it assesses potential competition problems and considers appropriate regulatory remedies.

2.2 ComReg seeks feedback from all interested parties on these preliminary views.

The regulatory framework

Legal basis

2.3 This market review is being undertaken by ComReg in accordance with the obligation that National Regulatory Authorities (NRAs) should analyse the WBA market as soon as possible after the adoption of the Recommendation or any updating thereof.⁸ Regulation 26 of the Framework Regulations⁹ requires that ComReg, taking utmost account of the Recommendation and of the SMP Guidelines, defines relevant markets appropriate to national circumstances, in accordance with the market definition procedure outlined in the Framework Regulations.

2.4 The European Commission refers to the WBA market as follows:

“This market comprises non-physical or virtual network access including ‘bit-stream’ access at a fixed location. This market is situated downstream from the physical access covered by market 4¹⁰ listed above, in that wholesale broadband access can be constructed using this input combined with other elements.”¹¹

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 Recommendation).

⁷ 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).

⁸ Directive 2002/21/EC of the European Parliament and of the Council on a common regulatory framework for electronic communications networks and services, (the Framework Directive), OJ 2002 L 108/33, 16(1).

⁹ The European Communities (Electronic Communications Networks and Services) (Framework) Regulations 2003 (S.I. No. 307 of 2003), (the Framework Regulations).

¹⁰ Wholesale (physical) network infrastructure access (including shared or fully unbundled access) at a fixed location (WPNIA).

¹¹ The Recommendation, point 5 of Annex.

- 2.5 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 significant market power (SMP) in that market and impose on such undertaking(s) such specific obligations as it considers appropriate.
- 2.6 Where an operator is designated as having SMP in a relevant market, ComReg is obliged, under Regulation 9(1) of the Access Regulations, to impose on such an operator some of the wholesale obligations set out in Regulations 10 to 14 of the Access Regulations.¹²
- 2.7 In preparing this Consultation Paper, ComReg has taken account of its functions and objectives under the Communications Regulation Act 2002,¹³ in addition to requirements under the Framework Regulations and the Access Regulations. ComReg has taken the utmost account of the European Commission's Recommendation and its accompanying Explanatory Note on relevant product and service markets within the electronic communications sector,¹⁴ as well as the SMP Guidelines. ComReg has further taken account of the European Commission's Notice on the definition of relevant market for the purposes of Community competition law.¹⁵

Background to WBA market review

Previous review of the market for WBA

- 2.8 On 5 March 2004, ComReg published a national consultation on WBA.¹⁶ The Response to Consultation and Draft Decision was notified to the European Commission and published on 29 July 2004.¹⁷ The Decision Notice regarding the analysis of the WBA market (the Decision Notice) was published on 24 February 2005.¹⁸

¹² European Communities (Electronic Communications) Access Regulations 2003 (S.I. No. 305 of 2003) (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".

¹³ Communications Regulation Act 2002, No. 20 of 2002, as amended by Communications Regulation (Amendment) Act 2007, No. 22 of 2007 and Communications Regulation (Premium Rate Services and Electronic Communications Infrastructure) Act 2010, No. 2 of 2010 (the Communications Regulation Act 2002).

¹⁴ Commission Staff Working Document, Explanatory Note, Accompanying document to the Recommendation, SEC(2007) 1483, dated 13/11/2007 (the Explanatory Note).

¹⁵ European Commission, Notice on the Definition of Relevant Market for the Purposes of Community Competition Law, OJ [1997] C372/5 (Commission Notice on Market Definition).

¹⁶ ComReg, "Market Analysis: Wholesale Broadband Access", Document 04/25, 5 March 2004.

¹⁷ ComReg, "Market Analysis: Wholesale Broadband Access: Response to Consultation Document 04/25 and Draft Decision", Document 04/83, 29 July 2004.

¹⁸ ComReg, "Market Analysis: Wholesale Broadband Access", Document 05/11r (amended), Decision 03/05, 24 February 2005.

- 2.9 In the previous review, ComReg defined a market for WBA which included wholesale broadband access via cable, Fixed Wireless Access (FWA) and Asymmetric Digital Subscriber Line (ADSL).¹⁹ In relation to the inclusion of cable and FWA, this was based on the perceived presence of an indirect competitive constraint resulting from demand substitution at the retail level. The market included self-supply on all platforms. With the inclusion of FWA and cable in the WBA product market, Eircom's market share was measured at 85%. There was judged to be no significant competitive pressure on Eircom in the WBA market to constrain it from acting independently of its competitors, customers and ultimately consumers.²⁰ Eircom was therefore designated as holding a position of SMP.
- 2.10 ComReg imposed a full suite of remedies under the Decision Notice in relation to access, transparency, non-discrimination, price control, accounting separation and cost accounting. As a consequence, Eircom is currently required to provide access to WBA products and associated facilities in accordance with these remedies.
- 2.11 A subsequent consultation on the WBA price control was launched on 19 August 2005,²¹ and the Draft Direction was published on 23 November 2005.²² A Decision Notice on a "Retail minus wholesale price control for the WBA market" was published on 13 January 2006.²³ Since the completion of the original (first-round) market review in 2005 and as the WBA market is no longer in the early stages of development, ComReg and Eircom have held discussions about a possible move from the current price control remedy, which is based on a 'retail minus' approach (imposed as part of Decision Notice D1/06, ComReg Document 06/01), to cost orientation based on a 'cost plus' model. ComReg is of the preliminary view that it may be appropriate at this time to consider a cost-oriented price control for WBA. Therefore, over the past year, ComReg has requested data from Eircom and Other Authorised Operators (OAOs) to develop a draft 'cost plus' price control model which will form the basis for a wider consultation with industry and other stakeholders on the appropriate price control for WBA. This price control consultation is taking place in parallel with the consultation process in relation to this WBA market analysis review.²⁴

¹⁹ DSL refers to Digital Subscriber Line (DSL) technologies which use traditional copper telephony networks to deliver digital broadband signals.

²⁰ According to the test set out in the SMP Guidelines, paragraph 34.

²¹ ComReg, "Consultation on Retail Minus Wholesale Price Control for the WBA market", Document 05/67, 19 August 2005.

²² ComReg, "Response to consultation and draft direction on retail minus wholesale price control for the WBA market", Document 05/88, 23 November 2005.

²³ ComReg, "Retail minus wholesale price control for the WBA market", Document 06/01, Decision D01/06, 13 January 2006.

²⁴ ComReg, "Wholesale Broadband Access: Consultation and draft decision on the appropriate price control", Document 10/56, 15 July 2010.

Current review of the market for WBA

- 2.12 Because of the time that has elapsed since ComReg’s first-round WBA market analysis, and taking account of the Recommendation, ComReg is now undertaking a new second-round review of WBA.
- 2.13 As part of this market review, ComReg has obtained qualitative and quantitative information through a series of information requests issued to operators on non-physical WBA and Wholesale Physical Network Infrastructure Access (WPNIA) between 2007 and 2010. In addition, meetings were held with operators, where clarification on issues was considered necessary.
- 2.14 This material obtained through information requests and industry meetings 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 Report)). ComReg has also reviewed, in detail, the experience of regulating broadband access markets in other jurisdictions and has carefully analysed guidance available from the European Commission, the Body of European Regulators for Electronic Communications (BEREC)²⁵ and other relevant commentators before arriving at its preliminary view in this Consultation Paper.

The consultation process

- 2.15 As noted above, the purpose of this Consultation Paper is to set out ComReg’s preliminary views on the nature of the relevant market definition, competition analysis and proposed remedies. ComReg invites all interested parties to respond to the questions set out in this document, and/or to comment on any other aspect of the document.
- 2.16 Respondents should submit views in accordance with the instructions set out on the cover of this Consultation Paper. Respondents should also be aware that all non-confidential responses to this Consultation Paper will be published subject to the provisions of ComReg’s guidelines on the treatment of confidential information.²⁶
- 2.17 All responses should be forwarded to the following address by 17.00 on 25 November 2010. Any responses received after this date may not be considered.

Structure of consultation paper

- 2.18 This document is structured as follows:
- Section 1: Executive Summary
 - Section 2: Introduction

²⁵ Previously known as the European Regulators Group (ERG).

²⁶ See ComReg document “Guidelines on the treatment of confidential information”, March 2005.

- Section 3: Trends in Broadband Provision
- Section 4: Assessment of the Retail Broadband Market
- Section 5: WBA Market Definition
- Section 6: Competition Analysis and Assessment of Significant Market Power (SMP)
- Section 7: Competition Problems
- Section 8: Regulatory Impact Assessment
- Section 9: Remedies
- Section 10: Draft Decision Instrument
- Annex A: Retail Broadband Product Information
- Annex B: Glossary
- Annex C: Consultation Questions

Question 1: Do respondents have any general comments in relation to this Consultation Paper? If so, please explain your views, clearly indicating the relevant paragraph numbers to which your comments refer, along with all relevant factual evidence supporting your position.

3 Trends in Broadband Provision

Relationship between retail and wholesale broadband provision

- 3.1 WBA is a non-physical or virtual wholesale input used in the provision of a range of retail products, which are typically used by consumers for broadband access. The focus of this review is on WBA as an upstream input to retail broadband services. Competition in the retail market depends on the ability of Internet Service Providers (ISPs) to secure a transmission channel to end-users. ComReg therefore considers that competition in the WBA market will assist in driving the development and growth of the retail broadband market.
- 3.2 The objective of this review is to define and analyse the WBA market. However, as wholesale demand is largely derived from retail demand, it is essential to consider the dynamics of the retail market as a means of understanding the dynamics of the wholesale market.

Retail broadband provision: changes since previous WBA review

- 3.3 The retail broadband environment has changed considerably since the last WBA review. At the time of the last review, in 2004/05, the overall level of internet use was low, and the predominant means of accessing the internet was over a narrowband dial-up connection.
- 3.4 The key changes over the last few years are:
- Overall expansion in internet access and use,
 - Shift away from narrowband access to broadband access, and from lower to higher broadband speeds,
 - Development and growth of alternative forms of broadband access.

Expansion in internet access and use

- 3.5 Consumer survey data indicates that, at the time of the last WBA review in 2004/05, 42% of consumers surveyed used the internet from any location, and by Q4 2009, this proportion had increased to 72% of those surveyed.²⁷ While there are some regional variations, internet usage in all regions increased significantly over the last six years.²⁸
- 3.6 Business internet usage was already high at the time of the last review and has increased slightly since then. According to recent ComReg survey data, there is almost ubiquitous internet usage among businesses in Ireland with 98% of corporates and 93% of SMEs recorded as having an internet connection as of H2 2009.²⁹

²⁷ ComReg, "Residential ICT Services Survey, Q4 2009", Document 10/22, 24 March 2010.

²⁸ ComReg, "Residential and Business Internet Connectivity – Irish and European Experience", Document 09/84, 30 October 2009, p. 8.

²⁹ ComReg, "SME and Corporate ICT Research H2 2009", Document 09/92, 9 December 2009.

- 3.7 ComReg's Quarterly Report³⁰ indicates that at the end of June 2010, there were almost 1.6 million³¹ active internet subscriptions in Ireland with approximately 1.5 million of these attributable to broadband subscriptions. The European Commission's latest Progress Report on the Single European Electronic Communications Market³² notes that, in January 2010, fixed broadband penetration based on population reached approximately 22.2% compared to around 20.2% in January 2009, while the EU average stood at 24.8%. According to the Progress Report, Ireland has performed better than the EU average on mobile broadband where penetration now stands at 10.5%³³ of the population compared to the EU average of 5.2%.
- 3.8 Despite the increase in penetration, however, not all consumers have access to broadband. There are some areas where broadband is not available, due to technical and/or commercial reasons. While DSL coverage is currently at 90%³⁴ of homes passed nationally,³⁵ it may not be available in some areas due to the individual consumer's distance from the local exchange, or because the exchange itself has not been enabled for broadband.
- 3.9 In recognition of the importance of broadband for economic development and social inclusion, the Government in 2007 announced a scheme to deliver broadband to certain target areas where it was not yet available. In December 2008, the contract for the National Broadband Scheme (NBS) was awarded to the mobile broadband provider 3 Ireland, which is now responsible for providing services via its mobile broadband platform to all premises in the NBS area which request it. The deployment of the first services under the NBS commenced in Spring 2009 and roll-out is continuing.³⁶

³⁰ ComReg, "Irish Communications Market: Quarterly Key Data Report", Document 10/73, 20 September 2010.

³¹ Including broadband and narrowband connections.

³² European Commission, 15th Progress Report on the Single European Electronic Communications Market 2009, SEC(2010)253, 25 May 2010.

³³ It should be noted that Hutchison 3G Ireland (3 Ireland) has informed ComReg that due to an error on their part, data they have provided to ComReg for the number of active prepay users has been incorrectly stated since 2006. The impact of this is that information published by ComReg in its Quarterly Reports prior to Q2 2010 has incorrectly overstated the numbers of active prepay mobile subscribers in Ireland and also incorrectly overstated H3GI's active prepay customer base and market share of subscribers. Revised data will be published in due course: further details on this matter are set out in information note 10/75.

See ComReg, "Quarterly Key Data Report Information Notice", Document 10/65, 19 August 2010.

³⁴ Source: Data supplied by Eircom, September 2010. Eircom calculated this figure through the number of testable paths in the DSL-enabled exchanges divided by the number of testable paths in all exchanges.

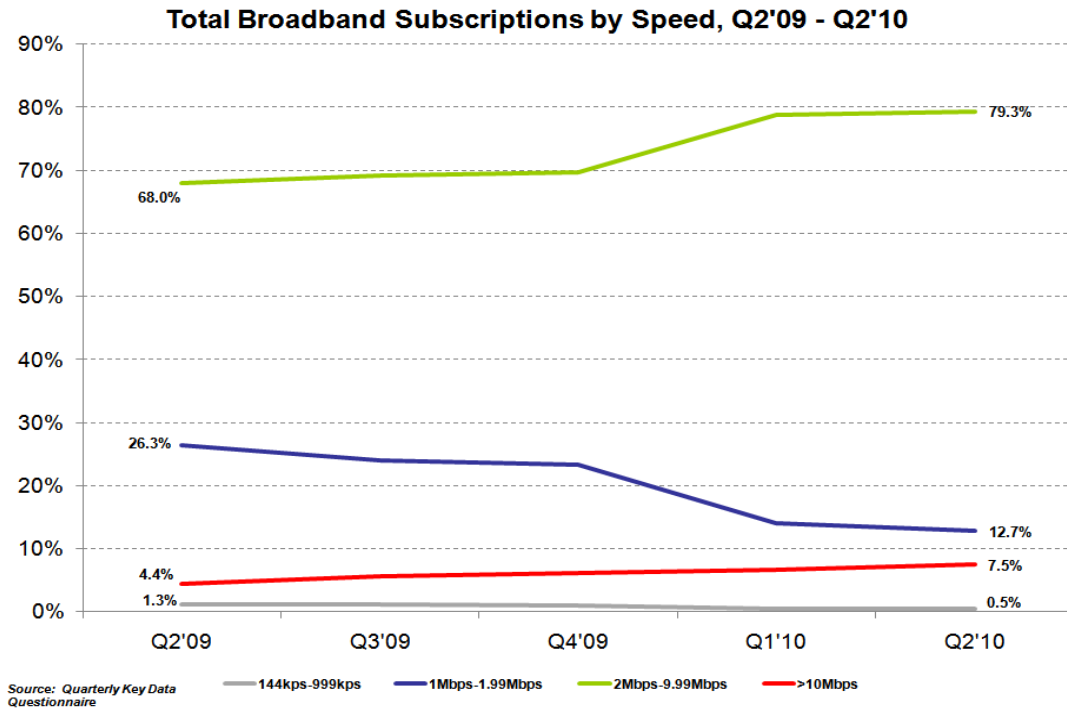
³⁵ DSL coverage may also be measured per population. On this basis the DSL network covers 92% of the population of Ireland. See European Commission, Europe's Digital Competitiveness Report, Commission Staff Working Document, SEC(2010)627, 17 May 2010, Figure 2.15.

³⁶ State aid approval has also been granted by the European Commission for a Rural Development Plan to provide funding to address the issue of broadband availability in remaining un-served rural premises outside of the NBS areas which cannot be served by

Shift away from narrowband access to broadband access, and from lower to higher broadband speeds

- 3.10 According to ComReg’s Quarterly Report, metered narrowband and flat rate narrowband’s combined market share of all internet subscriptions in Ireland has fallen by almost 17 percentage points between Q2 2008 and Q2 2010, from 21.5% down to just under 5% of all internet subscriptions in Ireland as of Q2 2010³⁷ representing a dramatic and continuing shift away from slower dial-up technologies.
- 3.11 ComReg’s Quarterly Report for Q2 2010 also shows a trend of end-users moving towards higher speed broadband products. Figure 1 below shows increasing demand for higher speed broadband over the last year.

Figure 1: Total broadband subscriptions by contracted download speed³⁸ Q2’09 – Q2’10



existing providers. ComReg understands the scheme is due to commence before the end of this year. (<http://www.kildarestreet.com/wrans/?id=2010-06-01.428.0>).

³⁷ ComReg, “Irish Communications Market: Quarterly Key Data Report”, Document 10/73, 20 September 2010.

³⁸ This graph concerns all available retail broadband platforms. The actual throughput speeds of each platform may vary.

- 3.12 As this graph shows, almost 80% of all broadband subscriptions were in the 2-9.99Mb³⁹ category, while almost a further 7.5% of all broadband subscriptions were in the >10Mb category as of Q2 2010. Most of the gain in higher speed offerings has been at the expense of the previous “entry level” 1-2 Mb packages. This suggests that end-users are moving to higher speed offerings as they become available.
- 3.13 Operators are now launching faster and more comprehensive retail broadband products in order to satisfy demand for more bandwidth intensive applications which facilitate such activities as music and movie downloading and live video streaming. For example, to date in 2010 both Eircom and UPC have launched substantial upgrades to their retail products. On 4 January, UPC launched three new broadband speeds, 30Mb, 15Mb, 5Mb. The 30Mb and 15Mb products have unlimited monthly usage allowances while the 5Mb product has a usage allowance of 40GB.⁴⁰ On 27 January, Eircom announced details of its latest broadband product, which offers download speeds of up to 24Mb and an increased download allowance of 75GB per month. Both operators have recently announced details concerning plans for further network upgrades which will allow for faster retail broadband products.

Development and growth of alternative forms of broadband access

- 3.14 At the time of the last WBA review (end of Q1 2004), there were only 45,200 retail broadband subscribers.⁴¹ Of these, 5,200 were on cable networks, 1,400 on FWA, and 38,600 were connected using DSL technology, via Eircom or an OAO. At that time Eircom supplied 31,100 broadband customers at the retail level via DSL, representing 80% of all DSL connections.
- 3.15 The intervening period has seen rapid growth in all platforms, and the development of new platforms which did not exist at the time of the last review. The coverage of DSL has increased steadily.⁴² Cable operators (now merged as UPC), after a slow start, have invested substantially in network upgrades and can now offer broadband at up to 30Mb in some areas. UPC has also recently announced plans to offer customers a 100Mb product using the next generation cable broadband standard DOCSIS 3.0.⁴³ FWA initially grew rapidly to provide a potential alternative to DSL. However subscriber numbers have now been declining in recent quarters despite the launch in October 2009

³⁹ The abbreviation ‘Mb’ refers to megabit. Download speeds are often referred to in bits per second and one megabit per second is a unit of data transfer rate equal to 1,000,000 bits per second.

⁴⁰ The abbreviation ‘GB’ refers to Gigabyte. Digital information storage capacity is often referred to in terms of gigabytes. Gigabytes are used to store large amounts of information (1 GB = 1,024 megabytes).

⁴¹ ComReg, “Market Analysis: Wholesale Broadband Access Response to Consultation Document 04/25 & Draft Decision”, Document 04/83, 29 July 2004.

⁴² According to the European Commission’s “Europe’s Digital Competitiveness Report”, Commission Staff Working Document, SEC(2010)627, 17 May 2010, the national coverage of DSL stands at 92% of population, this compares to 82% in 2005 (source: DG INFSO, “Broadband Coverage in Europe”, IDATE Consulting, October 2007).

⁴³ UPC Press Release, “UPC unveils Fibre Power internet with up to 100Mbps”, 4 May 2010.

of high speed WiMax (Worldwide Interoperability for Microwave Access) offerings.⁴⁴ Mobile broadband services, which can be accessed using a data card or modem, were launched in early 2007 and are now offered by all four mobile operators.⁴⁵ There has been some (limited) deployment of fibre access networks by alternative operators, including fibre to the home (FTTH) in some new-build estates. Eircom has announced plans for two FTTH trials for up to 10,000 customers in early 2011 with a view to providing broadband speeds of up to 150 Mb, although concrete plans for broader commercial deployment are as yet unknown.⁴⁶

- 3.16 Figure 2 below shows the distribution of retail broadband subscriptions by platform, since 2005. At the end of June 2010, there were 1,481,364 broadband subscriptions in Ireland. Growth in retail broadband subscriptions for the 12 months to June 2010 was just over 16%. DSL, mobile⁴⁷ and cable broadband accounted for the largest platforms with subscriptions standing at 729,892, 471,635 and 173,146 respectively. During this 12 month period, mobile,⁴⁸ DSL and cable subscriptions grew by 137,142 (up 41%), 42,022 (up 6.1%) and 48,837 (up 39.3%) respectively. FWA subscriptions accounted for 96,759 as of Q2 2010 with retail subscriptions having declined by 16% from Q2 2009, while at the end of June 2010 satellite broadband and optical fibre broadband supplied by alternative fibre operators accounted for just 3,529 and 6,403 retail subscriptions respectively or cumulatively almost 0.7% of all active retail broadband subscriptions, having remained relatively flat since Q2 2009.

⁴⁴ Imagine Press Release, 14 October 2009 *"Imagine Launches Global 4G WiMAX Network in Ireland"*.

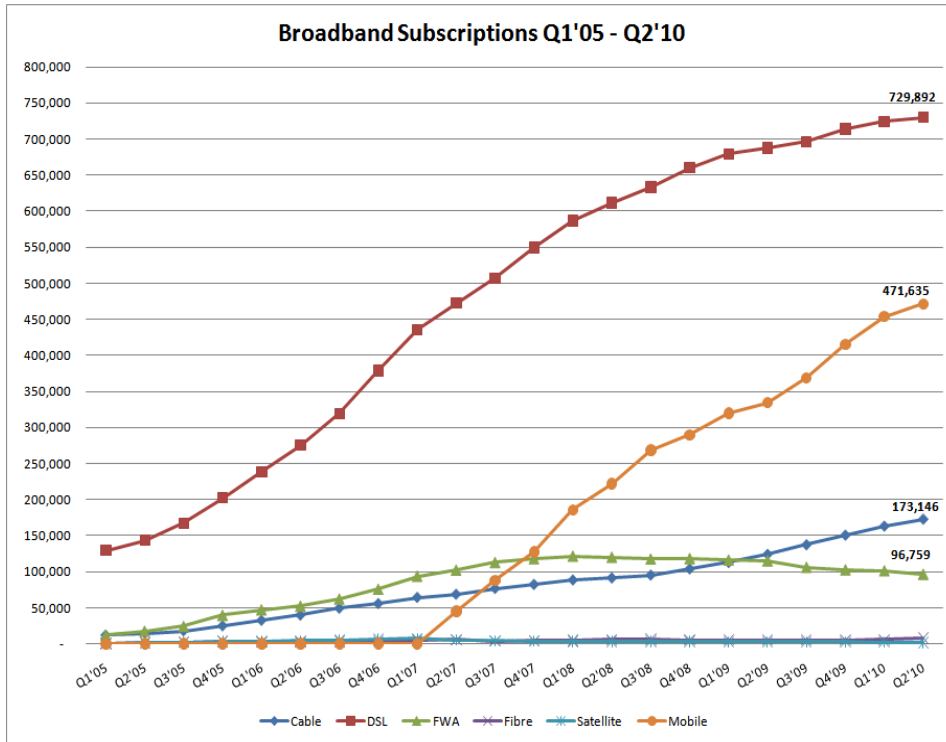
⁴⁵ Eircom also offers a mobile broadband service.

⁴⁶ Eircom Press Release, 15 June 2010 *"eircom Announces Ultra-Fast Fibre Broadband Trials"*.

⁴⁷ See footnote 33 above.

⁴⁸ See footnote 33 above.

Figure 2: Broadband Subscriptions by Platform Q1 2005 – Q2 2010



Source: Quarterly Key Data Questionnaire, June 2010.

3.17 DSL remains the principal means of broadband access, accounting for 49% of all retail broadband subscriptions. DSL may be provided directly to the customer by Eircom, using direct access to its network (i.e. via its own retail arm). This accounted for 68% of all DSL subscriptions in June 2010.⁴⁹ The roll-out of ADSL 2+ increases the speeds which can be achieved on the copper network, up to a maximum of 20-24 Mb. Retail DSL may also be provided by OAOs who purchase a wholesale input from Eircom, either a physical input in the form of WPNIA (currently provided as local loop unbundling (LLU)) or a non-physical broadband access product (currently provided as bitstream). At end June 2010, 29% of retail DSL lines were provided by OAOs using bitstream, and just 3% by OAOs using LLU. Eircom’s share of retail provision of broadband via DSL has remained fairly constant, and has declined overall by 1% in the last two years to Q2 2010.

3.18 When all types of retail broadband subscription are included, Eircom’s share of retail broadband subscriptions (taking only its direct access into account) was just over 33%

⁴⁹ ComReg, “Irish Communications Market: Quarterly Key Data Report”, Document 10/73, 20 September 2010

at the end of Q2, 2010. This figure reflects a year on year decrease of almost 4%⁵⁰ (although their subscriber numbers increased by approximately 4% in absolute terms in the same period). The four mobile operators jointly accounted for 32%⁵¹ of subscriptions. UPC (cable operator) provided almost 12% of total broadband subscriptions, and the FWA operators together accounted for 6.5%. OAOs, including fibre operators, satellite operators and other operators providing services using Eircom's network (either via LLU or WBA), accounted for the remaining 16.5% of the market.

- 3.19 According to the data received for Q2 2010, Eircom accounted for 49.1% of total fixed broadband subscriptions (excluding mobile broadband subscriptions) with OAOs (including operators using indirect DSL-based access inputs, and alternative access technologies such as cable, FWA, satellite, and fibre broadband) accounting for the remaining 50.9% of fixed broadband subscriptions.
- 3.20 The last few years have seen several operators beginning to offer both fixed and mobile broadband options. For example, Vodafone's acquisition of Perlico Communications allows it to offer customers a choice of fixed and mobile packages.⁵² In August 2009, Vodafone announced plans⁵³ to expand its fixed broadband customer base further through a merger arrangement whereby it acquired BT's retail residential and SME customers. Similarly, Eircom offers fixed retail broadband and mobile broadband to its customers through Meteor. In addition to its mobile broadband product, O2 offers a DSL service (using WBA inputs) to serve its business customers.
- 3.21 A key development in retail broadband provision since the time of the last review is the development of bundled packages.⁵⁴ Retail broadband services are often bundled together with other products, such as fixed or mobile voice calls, and/or cable television in order to benefit from economies of scope in the supply of those services. Customers often benefit from discounts when they purchase services in a bundle, and may prefer a single point of contact and single bill for services supplied together. Broadband bundles are less common in the provision of mobile broadband, where broadband is more often sold as a stand-alone service.⁵⁵

⁵⁰ Eircom's market share for the corresponding period in 2009 was 37.5%.

⁵¹ See footnote 33 above.

⁵² Irish Independent, "Vodafone set for expansion with €80m Perlico deal", 14 November 2007.

⁵³ The Competition Authority Press Release, "Competition Authority Clears Acquisition of Certain Fixed-line Customers of BT Ireland by Vodafone Ireland", 21 August 2009.

⁵⁴ According to consumer survey research, 27% of residential respondents subscribed to a bundled package in Q4 2008, increasing to 40% of respondents in Q4 2009, with internet access comprising part of the bundled offering in the majority of cases. ComReg, "Residential ICT Services Survey Quarter 4, 2009: A review of findings by Millward Browne Lansdowne", Document 10/22, March 2010.

⁵⁵ Responses to ComReg's information requests.

Summary conclusion on retail provision

- 3.22 In summary, key changes in retail provision since the last WBA review include:
- a dramatic increase in internet penetration and usage;
 - a shift from narrowband to broadband access, to the point where narrowband access may be seen as a legacy product, and a shift in consumer usage from lower to higher broadband speeds;
 - the development of applications which require faster speeds, such as music and movie downloads, and online gaming;
 - the development of products which meet these needs, particularly in the shift towards higher broadband speeds and increased download allowances;
 - substantial increases in the geographic reach and penetration of existing broadband platforms, such as DSL, cable and FWA (albeit with the market share of the latter declining in recent quarters), and limited developments of alternative FTTx operators;⁵⁶
 - the launch and notable expansion of mobile broadband services;
 - mobile operators entering the fixed market and, to a limited extent, the converse;
 - the development of bundled offerings of voice, data and entertainment.

Wholesale broadband provision: changes since previous WBA review

- 3.23 Suppliers of retail broadband, for example cable or FWA operators, may use their own networks to provide retail broadband services to their customers. An operator which does not have its own access network may provide retail services using a wholesale input provided by a third party operator. At present, wholesale inputs are predominantly DSL-based, and offered by Eircom. An operator wishing to offer retail broadband may purchase Eircom's wholesale bitstream product, which is a non-physical (WBA) input, or may purchase wholesale physical access (WPNIA), for example, Eircom's LLU product. An operator which purchases WPNIA could use this to provide other operators with a non-physical WBA product, as well as using this input as the basis for delivering its own retail services.
- 3.24 As regards wholesale supply since the time of the last WBA review, Eircom remains the main operator in Ireland offering a WBA product, and it does so pursuant to a regulatory obligation.⁵⁷ While the provision of retail broadband on alternative platforms has increased since the last review, there has been no mass-market introduction of a wholesale product on other platforms.

⁵⁶ Fibre to the x (FTTx) is a generic term used to refer to any broadband network architecture that uses fibre in the access part of the network, including fibre to the home (FTTH), fibre to the building (FTTB), fibre to the cabinet (FTTC), fibre to the node (FTTN), etc.

⁵⁷ ComReg, "Market Analysis – Wholesale Broadband Access", Document 05/11r, Decision Notice 03/05, 24 February 2005.

- 3.25 There is provision for a wholesale product to be offered as part of the contractual arrangements in the Government's National Broadband Scheme (NBS). While the mobile broadband provider 3 Ireland has had a contractual obligation to offer a wholesale non-physical product in the NBS area since March 2009, there had been no take-up as of July 2010⁵⁸.
- 3.26 BT has entered into a strategic partnership with Vodafone, whereby it has transferred its retail residential and SME customer base to Vodafone and intends to offer a WBA product to Vodafone based on its WPNIA inputs in a set of defined exchanges.
- 3.27 Another alternative operator also supplies a wholesale broadband product using WPNIA inputs on a very limited basis to a single customer, although this offer appears to be more akin to a resale product with similar specifications/parameters to the services of the host operator.
- 3.28 In response to ComReg's information requests, and apart from the cases noted above, no further operator has supplied concrete plans for further WBA provisioning over the timeframe of this review. Reasons cited by some operators included lack of a viable business case, technical difficulties, limited reach of their networks, and costs associated with making the required network and systems upgrades.
- 3.29 As regards wholesale demand, certain wholesale customers noted a willingness to consider WPNIA-based providers for their WBA needs. However, concerns were also raised about the level of availability/coverage of alternative WBA providers, as well as potential switching barriers associated with the cost of developing multiple automated order handling and service assurance systems and with establishing separate administrative and technical relationships with each supplier.
- 3.30 These wholesale trends are discussed further in the context of defining the wholesale market and in the competition analysis section of this Consultation Paper.

Summary conclusion on wholesale provision

- 3.31 Since the time of the last WBA review, key observations arising in respect of wholesale provision can be summarised as follows:
- Eircom remains the main provider of WBA, and is subject to a regulatory obligation to supply WBA;
 - BT announced plans to supply a WBA product to Vodafone based on WPNIA inputs in a defined set of exchanges;
 - Contractual obligation for a wholesale product to be made available by 3 Ireland in the NBS area, but no take-up to date;
 - Another alternative operator supplies a resale-type wholesale access product using WPNIA inputs on a very small scale;
 - No concrete plans supplied by operators for further WBA provisioning.

⁵⁸ ComReg is aware that this may be due to supply and/or demand considerations.

4 Assessment of the Retail Broadband Market

Relationship between the retail broadband and WBA markets

- 4.1 Article 15(3) of the EU Framework Directive notes that “NRAs shall, taking the utmost account of the [Commission’s] recommendation and the guidelines, define relevant markets appropriate to national circumstances...”
- 4.2 In this respect, the Recommendation identifies “wholesale broadband access” as a relevant market at point 5 of the Annex. According to the Recommendation: “*This market comprises non-physical or virtual network access including ‘bitstream’ access at a fixed location. This market is situated downstream from the physical access covered by market 4 listed above, in that wholesale broadband access can be constructed using this input combined with other elements.*”
- 4.3 In identifying relevant wholesale markets susceptible to ex-ante regulation, the Commission’s Explanatory Note (section 4) states that the starting point is a characterisation of retail markets, followed by a description and definition of related wholesale markets, thus indicating that ComReg is not obliged *per se* to conclude on a precise definition of the retail market for the purposes of its present WBA assessment.
- 4.4 It is ComReg’s view that an analysis of the retail market logically precedes the definition of the wholesale market. ComReg’s ultimate objective in undertaking this review is to provide choice and competitive prices for consumers of retail broadband services through the promotion of effective competition at the wholesale level. While the focus of the present review is on WBA, ComReg is also analysing the retail market because demand at a wholesale level is largely derived from demand at a retail level. In addition, it needs to be considered whether any competitive constraints arising at the retail level are strong enough to offset any potential market power at the wholesale level.
- 4.5 The characterisation of a retail market should therefore be carried out to the extent that it informs the definition and subsequent analysis of the recommended wholesale market. Where, for example, the inclusion/exclusion of particular products/services at retail market level would have a material impact on the wholesale market definition and subsequent SMP analysis, it is important to obtain a clear view of whether those particular products/services fall within the boundaries of the relevant retail market. In such instances, a detailed assessment of those critical products/services will be necessary.

Analysing the retail broadband market

- 4.6 In line with the methodology recommended by the European Commission,⁵⁹ ComReg begins its analysis by considering a narrow set of retail broadband access services and

⁵⁹ See para. 41 of the SMP Guidelines and para. 16 of the Commission’s Notice on Market Definition.

examining whether the narrow product set should be broadened to include other products or services, taking account of demand- and supply-side substitutability considerations.⁶⁰ In the current market environment in Ireland, the predominant means of retail broadband access is based on DSL, accounting for almost 50% of all retail broadband subscriptions.⁶¹ DSL is therefore taken as the appropriate starting point for the current retail market assessment, and we consider whether this retail product set should be expanded to include the following retail internet access services:

- Narrowband internet access
- Cable-based broadband access
- FWA-based broadband access
- Alternative FTTx broadband access
- Satellite broadband access
- Broadband access via leased lines
- Mobile broadband access

4.7 These potential substitutes are considered across the range of relevant substitutability criteria set out in the Commission’s Notice on Market Definition, according to which a relevant product market “*comprises all those products and/or services which are regarded as interchangeable or substitutable by the consumer, by reason of the products’ characteristics, their prices and their intended use*”. This retail market analysis therefore covers an assessment of the technical characteristics (such as advertised speed, actual throughput, coverage, download limits, reliability, and latency⁶²), price, and any available data regarding consumer usage trends/behaviour.

⁶⁰ As noted in paragraph 13 of the 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 consumer*”. 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. The Small but Significant and Non-transitory Increase in Price (SSNIP) test provides a useful conceptual framework within which to identify the existence of close demand substitutes (see footnote 68 for a description of the SSNIP test). 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.

⁶¹ See section 3 above. For the purpose of this estimate, all retail broadband subscriptions were taken into account, including those availing of broadband services provided over cable, copper (typically DSL), fibre, Fixed Wireless Access (FWA), mobile broadband and satellite technology platforms, irrespective of whether such services can be considered to be substitutes in market analysis terms.

⁶² Latency (one way latency) typically refers to the length of time it takes to send a data packet from a source (computer) to the destination receiving it (say a webpage hosted on a data

ComReg has taken account of consumer research in coming to its preliminary conclusions, and also requested operators to provide all available data on actual consumer switching between retail broadband products. Because of limitations in the availability and scope of the data provided, ComReg has used this information to inform its analysis, rather than acting as a definitive source for the definition of a relevant retail market. In addition to the above demand-side analysis, supply-side considerations are taken into account in the following assessment where “*its effects are equivalent to those of demand substitution in terms of effectiveness and immediacy*”.⁶³

- 4.8 As noted above, the retail market assessment is undertaken to the extent that it informs and materially affects the wholesale market definition. Given that the focus of the present market review is WBA, ComReg has thus taken a somewhat conservative approach to analysing the retail market such that it results in the broadest possible retail market on which to base the analysis of the relevant wholesale market. According to this approach, which draws on key functionality, price and usage indicators, ComReg has come to a preliminary conclusion on whether the potential substitute may be considered to be an effective substitute for DSL-based broadband.
- 4.9 In the absence of a more detailed assessment of the likely *sufficiency* of actual substitution and associated influencing factors, such as the coverage/availability of the products in question, there may be a risk of over-stating the size of the retail market and the degree of competition within. However, by ensuring the broadest possible retail broadband access market, such an approach will help to minimise the risk of over-regulation at the wholesale level and ensure that any regulation which may be imposed following subsequent stages of the analysis is limited and targeted to only where it is genuinely needed to ensure that consumers are adequately protected.
- 4.10 The following considers each potential retail substitute to DSL-based retail broadband services.

Is dial-up narrowband access an effective substitute for DSL-based retail broadband access?

Product characteristics

- 4.11 In line with guidance given by the European Commission,⁶⁴ it is ComReg’s view that from the demand-side perspective, substitutability between narrowband and broadband internet access is limited. Taking account of the technical characteristics of broadband, the European Commission notes that narrowband would be in a separate market “*because the services and/or the quality features of those services (including their uplink and downlink speed) which can be offered over a narrowband connection would not be seen as viable substitutes from the point of view of an end-user making use of a broadband connection*”.

server). Round Trip Latency is length of time it takes to send a data packet from a source to the destination receiving it and the latency from the destination back to the source.

⁶³ See para. 20 of the Commission’s Notice on Market Definition.

⁶⁴ Explanatory Note, section 4.2.2, pp. 29-31

- 4.12 Broadband internet access offers significantly higher speeds than narrowband access and allows the user access to a greater range of internet-based services (including video streaming and IP telephony), typically at a higher quality of service.⁶⁵ Narrowband access generally allows dial-up access at up to 56kb⁶⁶ on a traditional phone line, or up to 128kb when using an ISDN line.⁶⁷
- 4.13 Broadband internet access also has a broader functionality capability than narrowband internet access. Broadband internet access is “always on”, as unlike narrowband it does not require the user to “dial up” every time access to the internet is required.
- 4.14 A broadband connection also allows the retail customer to use voice and data services simultaneously, whereas a narrowband user using a standard phone line is not able to make or receive a voice call while accessing the internet, and an ISDN user would receive lower speed access if using the line to access the internet and make a voice call simultaneously.

Pricing

- 4.15 When broadband was first launched as a retail product in Ireland the entry level service was priced at a premium compared with the typical dial-up internet service. Despite the higher price of broadband, a considerable number of consumers were willing to pay the premium, thus demonstrating the perceived value associated with these features from the outset.
- 4.16 This migration from narrowband to broadband services could not be likened to effective substitution, since switching was primarily in one direction and it is not clear that such substitution took place in response to a relative change in the prices of both products, as opposed to customers upgrading to a higher quality product that was not previously available.
- 4.17 Over time the pricing of broadband and dial-up internet connections has converged and dial-up narrowband access is increasingly seen as a legacy product. Furthermore, a hypothetical monopolist (HM) of DSL-based retail broadband services could likely sustain a small but significant non-transitory increase in price (SSNIP)⁶⁸ in the range of

⁶⁵ According to UPC’s website as at 24 July 2010, while UPC’s 5Mb broadband product is advertised as being suitable for “light users who use the internet to email friends, book flights and maybe even do a bit of shopping”, its higher-level (15Mb and 30 Mb) products are recommended for users who wish to upload and download music and movie clips and to do online gaming.

⁶⁶ The abbreviation ‘kb’ refers to kilobit per second and is a unit of data transfer rate equal to 1,000 bits per second.

⁶⁷ According to Eircom’s website as at 12 July 2010, ISDN offers internet speeds of up to 128kb only when access is internet only – if the access is used for phone and internet simultaneously, or by more than one PC, then the maximum speed is 64kb.

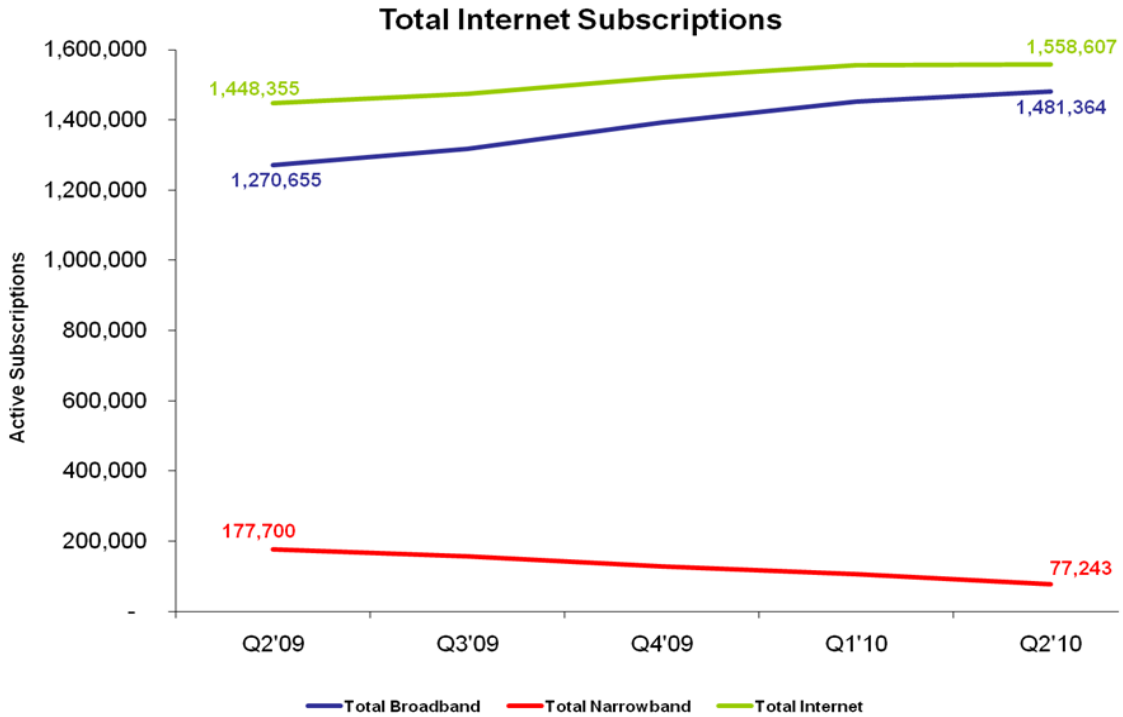
⁶⁸ The Small but Significant Non-transitory Increase in Price (SSNIP) test provides a conceptual framework within which to identify the existence of close substitutes. The SSNIP test examines whether, in response to a permanent price increase in the range of 5% to 10% by a hypothetical monopolist (HM) of a given product set, sufficient customers would switch to readily available alternative substitute products such that it would render the price increase unprofitable. If the level of switching to alternative products is sufficient to render the price increase unprofitable (say

5-10% above the competitive level without a substantial number of customers switching back to narrowband internet access given its more restrictive functionality, e.g. in terms of speed and the dial-up nature of the access. This is reflected in the customer usage/migration figures set out below. This lack of effective substitutability between narrowband and broadband access has also been noted in the European Commission’s Explanatory Note where it observes that “*once customers have migrated from narrowband to broadband access, they are unlikely to switch back, even in response to a small but non-transitory increase in price. Substitutability is therefore primarily in one direction, from narrowband to broadband*”.

Customer use

4.18 As discussed in section 3, narrowband internet access accounted for just 5% of all internet subscriptions in Ireland as of Q2 2010, down from 65% in Q1 2006.⁶⁹ This downward trend in narrowband internet subscriptions is evidenced in Figure 3 below.

Figure 3: Development of narrowband and broadband internet subscriptions



Source: Quarterly Key Data Questionnaire

Source: Quarterly Key Data Questionnaire, June 2010.

because of the resulting loss of sales) then the alternative products are included in the relevant product market.

⁶⁹ ComReg, “Irish Communications Market: Quarterly Key Data Report”, Document 06/28, 29 June 2006.

4.19 This one-way movement of consumers towards broadband access suggests that broadband access has superseded dial-up access as a means of accessing the internet. ComReg expects that this trend will continue, as the functionality and quality of broadband services advances. ComReg considers therefore that narrowband internet access is not an effective demand-side substitute for DSL broadband.

Supply-side considerations

4.20 ComReg has considered whether a retail narrowband internet access provider, not currently active in the provision of retail broadband internet access services, could provide a competitive constraint on a HM supplier of retail broadband access through supply-side substitution to the provision of broadband services in response to a small but significant price change.

4.21 ComReg considers that effective supply-side substitution through own network build is unlikely in response to a 5 to 10% increase in the price of broadband internet access due to the substantial sunk costs involved in building an access network, such as in digging and ducting. 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.

4.22 Similarly, ComReg considers that effective supply-side substitution through the use of upstream wholesale inputs, such as WPNIA inputs, would be constrained by the upfront investment costs needed for co-locating infrastructure at the exchange and implementing relevant backhaul which is still likely to be costly and take time to install.

Preliminary conclusion

4.23 Considering product characteristics and pricing, ComReg considers that consumers would not find narrowband dial-up internet access to be a good 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 sufficiently immediate or effective enough for narrowband internet access to be included in the same relevant market as broadband internet access.

Is cable-based retail broadband access an effective substitute for DSL-based retail broadband access?

Product characteristics

4.24 According to the evidence presented below, product specifications for retail broadband services offered by DSL-based and cable-based retail broadband access are broadly similar.

4.25 Cable-based retail broadband is available to retail residential customers in Ireland as a 5Mb, 15Mb and 30Mb product and to business customers as a 10Mb, 20Mb and 30 Mb product.⁷⁰ DSL-based retail broadband is generally available as a 1Mb, 3Mb, 7 Mb and

⁷⁰ According to UPC website, as at 13 July 2010. UPC also offers a 1Mb residential broadband and home phone service package in the "Made To Measure" section of its website.

24 Mb product. In March 2010, Eircom announced plans to upgrade its entry-level 1Mb, 3Mb and 7 Mb retail offerings up to 8Mb for all customers in Next Generation Broadband (NGB) exchange areas.⁷¹

- 4.26 As noted in section 3, over three-quarters of all retail broadband subscribers are now on packages with advertised speeds greater than 2Mb, and most of the gain in higher-speed offerings has been at the expense of the previous “entry-level” packages. Cable-based and DSL-based retail networks both serve a range of entry-level and higher bandwidth offerings to address changing consumer preferences.
- 4.27 Upload speeds are also comparable, as UPC’s upload speed for its 5Mb product is advertised as 512 kb, while Eircom’s 3Mb product has an upload speed of 384kb. There is greater divergence in higher speed products, where Eircom’s 24Mb product advertises an upload speed of 768kb, compared with UPC’s 30Mb product which offers an upload speed of 3Mb. The download caps⁷² are broadly similar. Eircom’s 3Mb product has a cap of 30GB, and its 7 Mb product has a cap of 50GB. Vodafone’s DSL-based 3Mb product has a download cap of 40GB, and its 7Mb product has a cap of 60GB. Similarly, UPC’s 5Mb product has a cap of 40GB. UPC has no download cap on its 15Mb and 30Mb products, while Eircom’s 24Mb product has a cap of 75GB, and Vodafone’s 24Mb product has a cap of 100 GB.⁷³
- 4.28 ComReg commissioned consultancy work on the technical and functional differences of different broadband platforms. With DSL technologies, there is no contention⁷⁴ on the dedicated copper line to the local exchange (access link); however, contention generally occurs on the backhaul from the DSLAM⁷⁵ and/or on the central connections controlled by the customer’s internet service provider (ISP). While the cable broadband network relies on a shared network architecture, the high network capacity and the ability to effectively manage this capacity means contention is currently not a major issue in terms of product performance. As regards latency for DSL broadband connections, ComReg’s analysis, which is consistent with submissions by fixed operators, has found that DSL broadband connections typically experience between 40 and 60 milliseconds of latency. According to an Ofcom report on UK broadband speeds

⁷¹ Eircom Press Release, March 29 2010, “*eircom Launches Next Generation Broadband for Ireland*”. This NGB upgrade is discussed further in the section on the geographic scope of the retail market below.

⁷² A download cap or allowance refers to a cap or an upper limit on the amount of data which can be downloaded by an individual consumer across a given network. The purpose is to manage the (shared) transmission capacity of the network and avoid it being entirely consumed by a few ‘heavy’ users. Once a fixed download cap/allowance has been reached by the end user, there may be a reduction in the user’s download speeds and/or they may be charged for excess data usage.

⁷³ According to Eircom, Vodafone and UPC websites as at 13 July 2010. See Annex A for comparison of selected broadband product/price offerings.

⁷⁴ Contention can be considered to be the simultaneous sharing of the available bandwidth on a network by users.

⁷⁵ A Digital Subscriber Line Access Multiplexer (DSLAM) is a network device located in the local telephone exchange which aggregates/combines end user traffic coming from multiple DSL connections for onward routing to the Internet backbone.

2009,⁷⁶ latency on cable broadband networks follows a broadly similar pattern for much of the day but shows a much more marked slowdown during the peak evening hours. However, the report notes that even during these peak periods round-trip latency is less than 120 milliseconds (0.12 seconds), a level satisfactory for most internet activities.

- 4.29 As can be seen from the above, certain parallels can be drawn between DSL and cable-based broadband offerings in terms of their advertised product speeds and download caps thereby contributing to their interchangeability from an end-user perspective. Furthermore, there are broad similarities in the technical performance of DSL and cable-based broadband products in terms of the contention and latency experienced by the end user.
- 4.30 UPC has publicly announced plans to upgrade its network and to introduce DOCSIS 3.0 with plans to offer its customers high speed internet with download speeds of up to 100 Mb.⁷⁷ More detailed information is however not yet available on the precise scope, location and timing of this product launch. Similarly, Eircom has recently announced two Next Generation Access (NGA) fibre trials for up to 10,000 residential and business customers in communities in Wexford town and Sandyford, Co. Dublin with a view to providing FTTH with broadband speeds of up to 150 Mb.⁷⁸ These anticipated product developments are discussed further in the geographic definition of the retail market below.

Pricing

- 4.31 Prices of DSL-based and cable-based retail broadband are broadly comparable, as can be seen in Figure 4 below. For instance, UPC’s 5Mb product is available for €29.75 per month with a 40GB download allowance⁷⁹ and Eircom’s Next Generation Regular (8Mb) product is available for €29.99 per month with a 30 GB download allowance.⁸⁰ These similarities likely further contribute to the general substitutability of these products in the eyes of the consumer.

Figure 4: Examples of DSL and Cable Products⁸¹

Eircom Broadband

	Broadband Home Plus	Broadband Home Advanced	Broadband Home Turbo
Platform	DSL		

⁷⁶ Ofcom, UK Broadband Speeds, Consumers’ experience of fixed-line broadband performance, Research Report, 28 July 2009.

⁷⁷ UPC Press Release, 4 May 2010. “UPC unveils Fibre Power internet with up to 100Mbps”

⁷⁸ Eircom Press Release, 15 June 2010 “eircom Announces Ultra-Fast Fibre Broadband Trials”

⁷⁹ UPC website, as at 13 July 2010. Example is for standalone broadband product offered without TV.

⁸⁰ Excludes line rental. Eircom website, as at 13 July 2010.

⁸¹ As per Eircom and UPC websites, 13 July 2010.

Standard Monthly Rental	€29.99	€39.82	€47.99
Download Speed	3Mb	7Mb	24Mb
Monthly Usage	30GB	50GB	75GB
Line Rental	€25.36	€25.36	€25.36
Connection Fees ⁸²	€9	€9	€9

Eircom NGB

	Next Generation Basic	Next Generation Regular	Next Generation Advanced
Platform	DSL		
Standard Monthly Rental	€24.99	€29.99	€39.82
Download Speed	8Mb	8Mb	8Mb
Monthly Usage	10GB	30GB	Unlimited
Line Rental	€25.36	€25.36	€25.36
Connection Fees ⁸³	€9	€9	€9

UPC

	Fibre Power	Fibre Power	Fibre Power
Platform	Cable		
Standard Monthly Rental ⁸⁴	€29.75	€39.75	€49.75
Download Speed	5Mb	15Mb	30Mb
Monthly Usage	40GB	Unlimited	Unlimited
Line Rental	-	-	-
Connection Fees ⁸⁵	€20	€20	€20

Customer use

4.32 As noted in section 3, at the end of June 2010 cable broadband accounted for 173,146 broadband subscriptions (up by 39.3% on the 12 months prior to June 2010), while DSL subscriptions were still comparatively larger standing at 729,892. At present, cable has a national coverage of approximately 38% of households and a share of all active broadband subscriptions of almost 12% as of 30 June 2010, by comparison to 90% household coverage for DSL and a 49% share of all broadband subscriptions.⁸⁶

⁸² Eircom currently offers free broadband connection when ordered online.

⁸³ Eircom currently offers free broadband connection when ordered online.

⁸⁴ Includes monthly charge of €7.75 for standalone broadband service.

⁸⁵ UPC currently offers free broadband connection when ordered online.

⁸⁶ ComReg, "Irish Communications Market: Quarterly Key Data Report", Document 10/73, 20 September 2010.

- 4.33 Notwithstanding these differences in coverage and market penetration, the underlying product and pricing characteristics of DSL broadband and cable broadband are identified as broadly similar in the above sections, suggesting that if cable availability were to increase and if customer switching costs were low, customers could view DSL and cable-based broadband offerings as suitable substitutes.
- 4.34 In terms of the intended use of the product, ComReg notes that Eircom provides a free WiFi connection with its consumer broadband products, thus allowing it to be used by multiple users simultaneously. This suggests that it is primarily intended for use in a fixed location, where other users are within WiFi range. UPC also provides a free WiFi connection for its 15Mb and 30Mb products. The marketing information for both also emphasises similar uses with Eircom's website suggesting product options for browsing, uploading photos or downloading movies and music, while UPC suggests a range of uses for its various speed options, ranging from e-mail and Internet shopping to downloading music and movie clips and gaming. This suggests that both products serve similar user needs, in terms of both location of use and the available applications.
- 4.35 ComReg requested switching data from broadband operators in order to assess actual retail switching behaviour across different broadband platforms. This data is also discussed in the later sections of this Consultation Paper. All operators indicated that this information was not routinely collected, and it is therefore difficult to draw definitive conclusions on actual behaviour. However, some operators were able to supply some anecdotal information based on selected surveys. While recognising the limitations of this information, ComReg's assessment of the information made available to it by fixed DSL operators is that switching takes place primarily from one DSL provider to another, followed generally by switching from DSL to cable, suggesting that DSL and cable broadband may increasingly be seen by consumers as being suitable substitutes. However, in view of the lesser availability of cable broadband at this time, it remains to be seen whether a sufficient number of customers would in fact switch from DSL to cable-based broadband in response to a retail SSNIP such as to render such a relative price increase unprofitable.

Supply-side considerations

- 4.36 Further to the above, ComReg provisionally considers that customers would generally view cable and DSL retail broadband to be sufficiently substitutable from the demand side such as to render them in the same relevant market for the purposes of this retail market assessment. Thus, given that cable-based broadband providers are already considered capable of providing services which are technically substitutable with DSL based on their existing cable network inputs, competitive constraints arising from such cable-based providers are already captured in the above assessment of demand-side substitution. It is therefore not considered necessary to assess the scope for additional supply-side constraints from cable broadband access providers in this retail assessment.

Preliminary conclusion

- 4.37 On balance, ComReg agrees with guidance given by the European Commission, which notes that, where alternative means of access are available, the functionality of cable and DSL retail broadband services are likely to be comparable, and where prices are also comparable, then a customer is likely to be indifferent to the technology used.⁸⁷ ComReg considers that the product characteristics, pricing and intended use of DSL-based and cable-based retail broadband services are broadly similar. 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.
- 4.38 ComReg notes, however, that cable-based broadband is available only in certain areas and that this reduces the total number of customers who could choose to buy cable broadband instead of DSL-based broadband. While, based on relevant product and pricing parameters it is conceivable that enough or sufficient switching would take place so that a relative (5-10%) retail price increase would not be profitable, this has not been tested empirically in this market assessment and, as noted above, may be limited by the geographic availability of cable.
- 4.39 However, in line with ComReg's conservative approach to analysing the retail market such that it results in the broadest possible retail market on which to base the analysis of the wholesale market, it is proposed to include cable-based broadband access in the same relevant retail market as DSL-based broadband access for the purposes of this Consultation Paper.

Is FWA-based retail broadband access an effective substitute for DSL-based retail broadband access?**Product characteristics**

- 4.40 FWA enables the delivery of last-mile wireless broadband access and generally offers broadband services at speeds of 1, 2, 3, 5, 7, 8 and 12 Mb which are broadly comparable to the DSL offerings noted above.⁸⁸ In October 2009 Imagine announced the launch of its new WiMAX-based service;⁸⁹ however, while WiMAX can offer theoretical maximum speeds of up to 40Mb per channel for fixed and portable applications, the services advertised on Imagine's website as at 11 July 2010 offered 1Mb, 3Mb and 7Mb speeds and so are similar to the lower/medium range of broadband speeds currently offered by cable and DSL operators. However, the upload speeds are comparable, albeit slightly higher in some cases, to those for retail broadband based on DSL. Download caps are also similar to DSL-based offerings ranging, in the case of Digiweb for its residential offerings, from 12GB for a 1Mb product and 20GB for a 5Mb product to 30GB for an 8Mb product and 50GB for a 12Mb product, with Imagine

⁸⁷ Explanatory Note, pp. 30-31.

⁸⁸ According to Imagine, Clearwire and Digiweb websites as at 11 July 2010.

⁸⁹ Imagine Press Release, 14 October 2009 *"Imagine Launches Global 4G WiMAX Network in Ireland"*.

and Clearwire reporting unlimited download usage for their respective broadband offerings.⁹⁰

4.41 Similar to DSL-based offerings, research carried out for ComReg also indicates that fixed WiMAX can offer comparable latency to DSL of around 50 milliseconds, although this may be higher in practice. Furthermore, comparable contention ratios have been advertised for certain DSL-based and FWA-based business offerings.⁹¹ However, similar to most wireless systems, since available bandwidth for FWA is shared between users in a given radio sector, performance could deteriorate in the case of many active users in a single sector. Contention could affect user experience where a high number of nomadic WiMAX users become active in a single sector (e.g. in the event of a development such as wireless capable smartphones). However, where mobility is less of an issue, this may pose less of a constraint than is the case for mobile broadband networks.

Pricing

4.42 Where operators offer both DSL and FWA retail broadband, their prices are generally similar. For example, Digiweb offers a 7.6Mb DSL product at €39.95/month, and an 8Mb FWA product at the same price.⁹² Figure 5 below indicates that, overall, FWA prices are broadly similar to those of DSL-based retail broadband with similar pricing across Eircom’s 7Mb Broadband Home Advanced and 8Mb Next Generation Advanced products and Digiweb’s 8Mb Metro Home and Imagine’s 7Mb WiMAX offerings respectively. However, for the other sample products shown below, the price per Mb (excluding line rental considerations) tends to be slightly higher for FWA-based products than for comparable DSL offerings.

Figure 5: Examples of DSL and FWA Products⁹³

Eircom Broadband

	Broadband Home Plus	Broadband Home Advanced	Broadband Home Turbo
Platform	DSL		
Standard Monthly Rental	€29.99	€39.82	€47.99
Download Speed	3Mb	7Mb	24Mb
Monthly Usage	30GB	50GB	75GB

⁹⁰ According to Imagine, Clearwire and Digiweb websites on 11 July 2010.

⁹¹ For example, as at 11 July 2010 Eircom advertised a 12Mb business ADSL2+ offering with a stated contention ratio of 24:1 while Digiweb’s wireless Homewave 1Mb offering was being advertised with a contention ratio of 36:1 and its Bizwave 1Mb and 2Mb packages were being advertised with contention ratios of 18:1 (for the 1Mb offerings) and 10:1 (in the case of the 2Mb offerings).

⁹² Digiweb’s website as at 24 July 2010.

⁹³ As per Eircom, Digiweb and Imagine websites, 13 July 2010.

Line Rental	€25.36	€25.36	€25.36
Connection Fees ⁹⁴	€9	€9	€9

Eircom NGB

	Next Generation Basic	Next Generation Regular	Next Generation Advanced
Platform	DSL		
Standard Monthly Rental	€24.99	€29.99	€39.82
Download Speed	8Mb	8Mb	8Mb
Monthly Usage	10GB	30GB	Unlimited
Line Rental	€25.36	€25.36	€25.36
Connection Fees ⁹⁵	€9	€9	€9

Digiweb – FWA

	Metro Value	Metro Home	Metro Xtra
Platform	FWA		
Standard Monthly Rental	€34.95	€39.95	€59.95
Download Speed	5Mb	8Mb	12Mb
Monthly Usage	20GB	30GB	50GB
Line Rental	-	-	-
Connection Fees	€9	-	€9

Imagine – WiMax

	1Mb WiMax	3Mb WiMax	7Mb WiMax
Platform	FWA		
Standard Monthly Rental	€25	€30	€35
Download Speed	1Mb	3Mb	7Mb
Monthly Usage	Unlimited	Unlimited	Unlimited
Line Rental	-	-	-
Connection Fees	€50	€50	€50

Customer use

4.43 As noted in section 3 above, FWA accounted for 96,759 broadband subscriptions at the end of June 2010. This represented a 16.1% overall decline over the 12-month period to Q2 2010. FWA subscriptions peaked in Q1 2008, and declined by 4.4% in the 12-

⁹⁴ Eircom currently offers free broadband connection when ordered online.

⁹⁵ Eircom currently offers free broadband connection when ordered online.

month period to Q2 2009. In contrast, DSL growth has been continuing over the same period. In market share terms as of Q2 2010, FWA holds 6.5% of all active retail broadband subscriptions.

- 4.44 The coverage of FWA is relatively large in terms of territory, and also in terms of population (fixed wireless broadband is available in all major metropolitan areas), although due to the local-area nature of the licences, supply is fragmented across a number of operators.
- 4.45 Similar to DSL and cable broadband, the promotion of FWA tends to emphasise the availability of bundles and the capacity for multiple users at the same time. It should be noted that some operators which offer FWA also offer DSL-based services and so do not promote one at the expense of the other. The fact that no landline is required for FWA is also a feature that is highlighted. Benefits put forward by the operators include uploading or downloading large files, a “rich multimedia experience of video, music and more” and “great for gamers”.⁹⁶ This suggests that FWA aims to serve similar user needs as DSL-based or cable-based broadband.
- 4.46 However, while the underlying product and pricing characteristics of DSL and FWA broadband are identified as broadly similar, recent retail growth trends suggest a more muted retail substitution effect to FWA connections in the event of a SSNIP in the price of DSL-based broadband services.

Supply-side considerations

- 4.47 Notwithstanding possible differences resulting from the different network architecture, ComReg proposes for the purposes of this broad retail market assessment to provisionally consider FWA-based broadband services in the same relevant retail market as DSL-based services on the basis of their key functional and pricing characteristics. It is thus not considered necessary to assess the scope for additional supply-side competitive constraints from FWA broadband providers in this Consultation Paper.

Preliminary conclusion

- 4.48 On balance, ComReg agrees with guidance given by the European Commission, which notes that where alternative means of access are available, the functionality of fixed broadband access services is likely to be comparable, and where prices are also comparable, then a customer is likely to be indifferent to the technology used.⁹⁷ ComReg considers that the product characteristics, pricing and intended use of FWA-based retail broadband services are broadly similar to those of DSL-based and cable-based broadband. This would suggest that in principle customers may find them to be relatively substitutable, although the shared nature of the FWA network could impact on the comparative performance of FWA broadband where a high number of nomadic WiMAX users become active in a single sector.

⁹⁶ Digiweb website, 11 July 2010.

⁹⁷ Explanatory Note, pp. 30-31.

- 4.49 Recent retail market trends indicate that, although subscriptions for some other fixed and mobile broadband platforms have continued to grow, subscription take-up of FWA-based broadband services has declined (by approx. 26%) since its peak in Q1 2008. This raises a question as to whether enough or sufficient customer switching to FWA-based broadband would take place so that a relative (5-10%) retail price increase for DSL-based broadband services would not be profitable.
- 4.50 In line with ComReg's proposed approach to analysing the retail market such that it results in the broadest retail market on which to base the analysis of the wholesale market, and taking account of identified similarities in product and pricing characteristics of both types of access, it is proposed to provisionally include FWA-based broadband in the same relevant retail market as DSL-based broadband access for the purposes of this Consultation Paper.

Is FTTx-based⁹⁸ retail broadband access offered by alternative networks an effective substitute for DSL-based retail broadband access?

Product characteristics

- 4.51 Product speeds offered for retail broadband services supplied over alternative fibre networks) (including fibre to the home, fibre to the curb and fibre to the premises, collectively referred to as FTTx) include 3Mb, 5Mb, 10Mb, and 25Mb where offered as part of a bundle and 50Mb where offered on a bundled or stand-alone basis.⁹⁹ Retail broadband based on FTTx can thus be offered at higher speeds than available via DSL or cable at the time of drafting this Consultation Paper, and in terms of product specifications only, it may be that substitution is one way at the highest end – that is, a customer of FTTx retail broadband using a 50Mb product may not find a lower speed cable or DSL product to be a good substitute, but a customer of the other fixed platforms would find FTTx-based retail broadband to be a good substitute. Products offered are advertised as being uncontended, and so there is no congestion at peak usage times. Similarly, fibre-based product offerings are generally advertised as having unlimited download limits. Where available, retail broadband products provided over alternative FTTx networks would thus appear to provide a viable functional alternative for DSL-based broadband consumers.

⁹⁸ The substitutability of current generation and next generation broadband access products will be addressed more generally in the wholesale market definition section below. The specific question being addressed in this section is whether retail broadband supplied by alternative operators relying on own-build FTTx network inputs should be considered part of the retail market. This more specific focus is considered appropriate for the purposes of the retail market assessment given that, at the time of publishing this Consultation Paper, the only FTTx offerings available at retail level were those offered over alternative networks.

⁹⁹ Magnet advertised 5Mb, 10Mb, 25Mb and 50Mb fibre offerings as part of a bundle incorporating elements of digital TV and telephone, as well as a stand-alone 50Mb fibre-based offering on its website on 24 July 2010, while a website check for Smart Telecom on the same date indicates that it only offers fibre-based broadband as part of a bundle with telephony and/or digital TV where the available download speed is up to 3Mb.

Pricing

4.52 In comparing prices for stand-alone offers over DSL and alternative FTTx networks, it can be observed from Figure 6 below that (excluding line rental considerations) the headline price for the higher end (24Mb) retail broadband product offered over Eircom’s DSL network initially appears similar to the headline price for the fibre-based 50Mb product offered by Magnet. However, given the difference in download speeds, the price per Mb for the 24 Mb DSL product is in fact almost double the price per Mb for the 50Mb fibre product. This suggests that, where broadband products based on alternative FTTx networks are available, customers would be likely to switch to such fibre-based products in the event of a 5-10% increase in the price of DSL-based broadband services.

Figure 6: Examples of DSL and Alternative FTTx Products¹⁰⁰

Eircom Broadband

	Broadband Home Plus	Broadband Home Advanced	Broadband Home Turbo
Platform	DSL		
Standard Monthly Rental	€29.99	€39.82	€47.99
Download Speed	3Mb	7Mb	24Mb
Monthly Usage	30GB	50GB	75GB
Line Rental	€25.36	€25.36	€25.36
Connection Fees ¹⁰¹	€9	€9	€9

Eircom NGB

	Next Generation Basic	Next Generation Regular	Next Generation Advanced
Platform	DSL		
Standard Monthly Rental	€24.99	€29.99	€39.82
Download Speed	8Mb	8Mb	8Mb
Monthly Usage	10GB	30GB	Unlimited
Line Rental	€25.36	€25.36	€25.36
Connection Fees ¹⁰²	€9	€9	€9

¹⁰⁰ As per Eircom and Magnet websites, 13 July 2010. To ensure consistency with preceding platform comparisons, ComReg only considers standalone broadband products above. As noted above, Smart Telecom only offers fibre-based broadband as part of a bundle with telephony and/or digital TV.

¹⁰¹ Eircom currently offers free broadband connection when ordered online.

Magnet – Fibre

	Fibre Broadband
Platform	Fibre
Standard Monthly Rental	€0
Download Speed	50Mb
Monthly Usage	Unlimited
Line Rental	-
Connection Fees	€9

Customer use

- 4.53 The collective coverage of alternative fibre networks (owned by two operators, Magnet and Smart Telecom) in Ireland is extremely limited and dispersed, spread across approximately 30 locations, typically new suburban residential developments). The total number of alternative operator fibre lines connected to such premises is estimated at 15,000.¹⁰³ Of these lines, 6,403 fibre lines were connected to active subscribers as at Q2 2010. This equates to a market share of 0.43% of all active retail broadband subscriptions. Furthermore, the trend observed by ComReg indicates that alternative fibre subscriptions are not showing significant growth.¹⁰⁴
- 4.54 As noted above, the retail broadband products offered by alternative FTTx operators would appear to be geared towards providing an effective alternative, in terms of functionality and price, for DSL-based retail services. This is further confirmed by the available marketing information for FTTx-based retail broadband which encourages bundled offerings, including TV and phone with broadband, and emphasises entertainment and the uncontended nature of the FTTx product offering vis-à-vis DSL-based offerings.
- 4.55 However, the restricted and fragmented geographic availability of such alternative FTTx networks would suggest that the number of customers which could in reality switch to a broadband service offered over alternative FTTx networks in response to a SSNIP in the price of DSL-based services would be limited.

Supply-side considerations

- 4.56 As for FWA above, ComReg proposes for the purposes of this broad retail market assessment to provisionally consider fibre-based broadband services offered over alternative networks in the same relevant retail market as DSL-based services on the basis of their key functional and pricing characteristics. Given that such fibre-based operators are already considered capable of providing services which are technically

¹⁰² Eircom currently offers free broadband connection when ordered online.

¹⁰³ Based on information provided by service providers.

¹⁰⁴ ComReg estimates that the share of fibre subscriptions as a proportion of all fixed broadband platforms in the retail market has consistently fallen short of 1%.

substitutable with DSL based on their existing FTTx network inputs, competitive constraints arising from such fibre-based providers are already captured in the above assessment of demand-side substitution. It is thus not considered necessary to assess the scope for additional supply-side constraints from such alternative fibre-based broadband providers in this retail assessment.

Preliminary conclusion

4.57 ComReg’s preliminary view is that the product characteristics, pricing and intended use of retail broadband offered over alternative FTTx networks would in principle make it a good demand side substitute for a consumer of DSL, cable or FWA-based retail broadband.

4.58 However, the availability of FTTx retail broadband is limited to a small number of new housing developments. The number of consumers who could choose to use FTTx services in response to a relative (5-10%) retail price increase for DSL-based broadband services would thus be extremely limited and likely incapable of rendering such a price increase unprofitable, thereby potentially limiting its substitutability with DSL-based retail broadband over the period of this review.

4.59 A definitive view on the inclusion/exclusion of retail broadband offered over alternative FTTx networks in the relevant retail market is however not required at this stage, as it would not have a material impact on the retail and wholesale market assessment over the period of the current review. Thus, for the purposes of this retail market assessment, it can be assumed that, based on its product characteristics, pricing and consumer use, FTTx retail broadband supplied over alternative networks is provisionally included in the downstream retail market.

Is satellite-based broadband access an effective substitute for DSL-based broadband access?

Product characteristics

4.60 Satellite services in Ireland are available at a headline download speed of up to 4Mb¹⁰⁵ and an upload speed of between 128kb–1Mb.¹⁰⁶ Unlike DSL, cable or FWA-based services, the packages are frequently differentiated by the size of the download cap, rather than by download speed, with these caps, where they exist, being more restrictive than for the other forms of broadband considered above. For example, as at 11 July 2010 Digiweb and Satellite Broadband Ireland both offered four different satellite-based broadband services all with an advertised download speed of 3.6Mb but with

¹⁰⁵ Although advertised download speeds can vary from operator to operator. As at 17 July 2010, Pure Telecom advertised download speeds of between 512kb and 2Mb for its satellite-based offerings. Digiweb and Satellite Broadband Ireland advertised download speeds of up to 3.6Mb, while Eircom advertised download speeds for its satellite broadband options of between 512kb and up to 4Mb.

¹⁰⁶ Providers of satellite broadband services in Ireland include Eircom, Digiweb, Pure Telecom and Satellite Broadband Ireland

different data caps of 2.4GB, 4GB, 6GB and 12GB respectively.¹⁰⁷ 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, also makes it unsuitable for certain applications.

Pricing

- 4.61 While the headline monthly charges for some satellite packages with low data caps may not initially appear too dissimilar to those of DSL-based broadband, with two operators offering a 3.6Mb broadband package with a 2.4GB download cap at a monthly rental fee of €34.99,¹⁰⁸ the advertised monthly charges for 3.6Mb broadband packages with larger data caps are much higher, e.g. in excess of €100 for a 12GB data cap in some cases.¹⁰⁹
- 4.62 By contrast, offers for ‘entry-level’ DSL-based broadband services include much higher data caps for comparably lower monthly rental prices. For example, as at 17 July 2010, Digiweb’s 1Mb ‘DSL Lite’ offering had an inclusive download cap of 10GB for a monthly rental fee of €24.95 and its 3Mb ‘DSL’ offer included a download cap of 20GB for €29.95 per month while Vodafone’s DSL-based 8Mb product had a download cap of 40GB for €40.¹¹⁰
- 4.63 Furthermore, the initial fees for installation and hardware are much higher than for DSL-based broadband with the cost of satellite equipment installation and hardware typically exceeding €500 as at July 2010.¹¹¹ Comparable offers for DSL broadband often include free connection, either unconditionally or as an incentive to sign up online. Where such connection fees are charged they appear to be around €30 to €50.¹¹²

¹⁰⁷ However, Eircom’s broadband satellite “one-way” (the plus and enhanced options) and its broadband satellite “two-way” offerings were advertised, as at 17 July 2010, as carrying no download limit.

¹⁰⁸ As per Digiweb and Satellite Broadband Ireland websites on 17 July 2010. Eircom also advertised monthly rental prices for its one-way satellite broadband product as starting from €24.79.

¹⁰⁹ As per Digiweb and Satellite Broadband Ireland websites on 17 July 2010, monthly rental fees for their up to 3.6Mb offerings with download caps of 12GB were advertised at €132.99 and €109 respectively. On the same date, Eircom advertised monthly rental prices for its two-way satellite broadband product as starting from €127 and Pure Telecom’s monthly rental fees were advertised as starting from €89 (ex VAT) for its (512kb download) business satellite product.

¹¹⁰ Digiweb and Vodafone websites.

¹¹¹ As per Digiweb and Satellite Broadband Ireland websites on 17 July 2010 equipment/installation costs exceeded €500 in both cases. While Eircom’s website on 17 July 2010 noted connection fees for its one-way satellite broadband product as starting from €350 (ex VAT), its two-way satellite product had connection fees starting from €1892 (ex VAT). On the same date, Pure Telecom’s website noted equipment/installation charges in excess of €1000.

¹¹² For example, according to Eircom’s website on 24 July 2010, Eircom waives a connection fee of €29 when customers order DSL products online. According to Digiweb’s website there is an activation fee of €49.95 for its DSL products, although this is waived in the case of annual payment for its ‘DSL’, ‘DSL Xtra’ and ‘DSL Pro’ products.

4.64 As can be seen from Figure 7 below, there is a significant gap between DSL and satellite, even for entry-level broadband services, in terms of the monthly rental fees, available download allowances as well as the substantially different connection/installation fees. These clear differences indicate that end users would be unlikely to switch away from their DSL-based broadband service to a satellite-based broadband service in response to a SSNIP in the former.

Figure 7: Examples of DSL and Satellite Products¹¹³

Eircom Broadband

	Broadband Home Plus	Broadband Home Advanced	Broadband Home Turbo
Platform	DSL		
Standard Monthly Rental	€29.99	€39.82	€47.99
Download Speed	3Mb	7Mb	24Mb
Monthly Usage	30GB	50GB	75GB
Line Rental	€25.36	€25.36	€25.36
Connection Fees ¹¹⁴	€9	€9	€9

Eircom NGB

	Next Generation Basic	Next Generation Regular	Next Generation Advanced
Platform	DSL		
Standard Monthly Rental	€4.99	€9.99	€39.82
Download Speed	8Mb	8Mb	8Mb
Monthly Usage	10GB	30GB	Unlimited
Line Rental	€25.36	€25.36	€25.36
Connection Fees ¹¹⁵	€9	€9	€9

Digiweb - Satellite

	Tooway Value	Tooway Plus	Tooway Extra	Tooway Pro
Platform	Satellite			
Standard Monthly Rental	€34.99	€59.99	€79.99	€132.99
Download Speed	3.6Mb	3.6Mb	3.6Mb	3.6Mb
Monthly Usage	2.4GB	4GB	6GB	12GB
Line Rental	-	-	-	-
Connection Fees	€89	€89	€89	€89

¹¹³ As per Eircom and Digiweb websites, 13 July 2010.

¹¹⁴ Eircom currently offers free broadband connection when ordered online.

¹¹⁵ Eircom currently offers free broadband connection when ordered online.

Customer use

- 4.65 As noted in section 3 above, at the end of June 2010 satellite broadband accounted for just 3,529 retail subscriptions (or just 0.24% of all active retail broadband subscriptions).
- 4.66 The providers of satellite solutions tend to emphasise the coverage or the “anywhere” availability of their broadband offerings. In view of the product and pricing characteristics of this service, it would appear that satellite-based broadband is marketed more as a supplementary service to infill coverage where DSL or other fixed broadband platforms are not available. This complementary or supplementary role would appear to be borne out by the continuing low number of active satellite broadband subscriptions vis-à-vis other fixed broadband platforms noted above.

Supply-side considerations

- 4.67 As for the reasons given in paragraphs 4.20 to 4.22 above, ComReg also considers that effective supply-side substitution by satellite operators to DSL-based broadband services through own network build or through use of upstream wholesale inputs, such as WPNIA inputs, would be constrained by the upfront investment costs and associated time delays for building/installing necessary infrastructure.
- 4.68 Furthermore, the capacity of a satellite broadband operator to develop services over its existing network that would sufficiently reflect the characteristics of DSL broadband services has already been addressed above. For example, key distinctions were noted in the services capable of being delivered over satellite and DSL platforms respectively over the timeframe of this review, e.g. in terms of available speeds and latency.

Preliminary conclusion

- 4.69 ComReg’s preliminary conclusion is that retail broadband offered via satellite is not an effective substitute for DSL-based retail broadband. In its current form, while some product characteristics are similar, and the intended use for some users will be similar, 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 consumers as a complement to, rather than a substitute for, other forms of retail fixed broadband services.

Is broadband access based on leased lines an effective substitute for DSL-based broadband access?

Product characteristics

- 4.70 The functionality of leased line products differs considerably from retail broadband internet access products. Leased lines offer dedicated, transparent transmission capacity between two points, providing bandwidth that is always available.
- 4.71 Leased lines offer a high capacity symmetric link, which is an important feature for customers who have requirements for high upload volumes (such as businesses that require connectivity between separate business branches). For these reasons, leased lines are more expensive than a standard broadband access connection, and are typically targeted at large corporate customers.

Pricing

- 4.72 Retail leased lines are not subject to regulation, and their prices are not quoted by operators. However, wholesale prices are quoted in Eircom's current Network Price List.¹¹⁶ These show that the connection fees for leased lines of 1Mb and 2Mb are €92.94 per end and €1,752.24 per end, respectively. Annual rental fees for a 1Mb leased line are €1,357.40 per local end, €4,738.06 for the main link access charge and €11.43 per kilometre for the main link. The equivalent charges for a 2Mb leased line are €2,102.69, €5,297.60 and €74.52 respectively. These wholesale prices are far in excess of those for even the highest available level of retail broadband access, and it can be assumed that retail prices for leased lines would be higher than the wholesale prices. This price differential indicates that from a cost perspective these products would not be seen as effective substitutes for each other.

Customer use

- 4.73 Leased lines are marketed exclusively to businesses. Characteristics emphasised are security and reliability, exclusive bandwidth, cost management and the ability to combine voice, data and image traffic. While there may be some overlap with usage of broadband, it appears that leased lines address a specific communications need among a specific user segment, while retail broadband access addresses a more general need among a wider market.

Supply-side considerations

- 4.74 While it is technically possible for suppliers of leased line services to switch supply in response to a SSNIP by a HM of DSL-based broadband, ComReg's preliminary view is that a supplier of leased lines would be unlikely to have sufficient economic incentives to do so. This is because switching its existing supply away from retail leased lines to a DSL-based broadband offering which is substantially lower priced would not likely be profitable for DSL price increases of the order of 5-10%. The supplier of leased lines would be unlikely to forgo its existing supply of retail leased lines in favour of DSL-based broadband services as it would not likely be using its capacity as efficiently.

Preliminary conclusion

- 4.75 Given the distinct pricing and functional differences between retail DSL-based broadband and leased line connections, these products would not (in the majority of cases) be considered to be suitable substitutes.¹¹⁷ ComReg is of the preliminary view that a HM of DSL-based retail broadband services could likely sustain a SSNIP in the range of 5-10% above the competitive level without a sufficient number of customers switching to retail leased lines such as to render that price increase unprofitable. The distinct pricing differences between retail DSL-based broadband and leased line connections also render effective supply substitution unlikely.

¹¹⁶ Eircom Network Price List Service Schedule 006, effective 1 April 2010, available at www.eircomwholesale.ie.

¹¹⁷ This is confirmed in ComReg's review of the Leased Line Markets "Market Analysis – Leased Line Market Review and Decision Instrument", Document 08/103, 22 December 2008.

Is mobile-based broadband access an effective substitute for DSL-based broadband access?

4.76 The use of retail mobile broadband has increased very quickly in Ireland since its introduction in 2006.¹¹⁸ However, ComReg considers that growth of mobile broadband does not, in itself, imply a significant or sufficient degree of demand-side substitutability between DSL and mobile broadband for market definition purposes. In some cases strong initial growth may represent the emergence of a new product market altogether. As such, a more in-depth analysis of available evidence concerning the relevant product characteristics, pricing and customer use, as well as relevant supply-side considerations, is required. ComReg acknowledges that, in particular circumstances, there may be some consumers who would switch between DSL and mobile broadband products. The question to be answered however is whether *enough* or *sufficient* switching would occur for these products to be included in the same relevant market.¹¹⁹

Product characteristics

- 4.77 Two forms of internet access are offered by mobile operators. Customers can access the internet from a mobile phone, or alternatively, can attach a mobile data-card or modem¹²⁰ to a computer.
- 4.78 ComReg considers that broadband access on a mobile phone is not functionally equivalent to that provided over a fixed high speed link to a computer. The functionality of mobile phone internet is limited in terms of screen size, resolution, and availability of applications. For these reasons, broadband provided via a mobile phone is unlikely to be considered a substitute for DSL-based retail broadband access, and is not considered further in this analysis.
- 4.79 In the following analysis, ComReg considers specifically whether the product characteristics/functionality of mobile broadband services provided using a data-card or a wireless modem are similar enough to DSL-based retail broadband, e.g. in terms of throughput capability, reliability of service, latency, and contention management, to be considered an effective substitute for DSL-based broadband services.
- 4.80 ComReg's analysis¹²¹ of actual throughput trends over mobile broadband platforms indicates that download speeds over mobile broadband networks are highly variable.¹²²

¹¹⁸ As noted in section 3 above, there were 471,635 mobile broadband subscriptions as at Q2, 2010 (up 41% on the preceding 12-month period), accounting for 32% of all active broadband subscriptions. Also see footnote 33.

¹¹⁹ As noted in the SMP Guidelines, the test of sufficient substitutability or interchangeability was first laid down in Case 6/72, Europemballage and Continental Can v Commission, [1973] ECR215, paragraph 32 and Case 85/76, Hoffmann La-Roche v Commission [1979] ECR461, paragraph 23. As also noted in the SMP Guidelines (para. 44): "*Products or services which are only to a small, or relative degree interchangeable with each other do not form part of the same market*".

¹²⁰ Devices that support wireless connectivity and thus can be used to enable mobile broadband include data cards, USB modems, USB sticks, mobile dongles.

This indicates that, despite having theoretical advertised maximum network download capabilities of typically up to 7.2Mb or up to 14.4Mb (depending on the network capability of the individual mobile broadband operator)¹²³ actual maximum download speeds achieved are in fact 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 end users utilising the broadband services within that area. This issue is further exacerbated given the mobile nature of the broadband service, in particular, the ability for end users to ‘roam’ across the mobile network.

- 4.81 This limitation was also described by Eircom at an appearance before the Oireachtas Joint Committee on Communications, Energy and Natural Resources where it stated that:

“3G wireless is built as a mobile service and its orientation is to provide broadband on the go. However, it has limitations in that, intrinsically, mobile and 3G mobile or HSPA mobile is a shared access medium... There is an effective throughput of approximately 6 Mb to share among the people who are within the coverage sector of the base station...[for base stations with a theoretical maximum throughput of 14.4Mbps] If no one else in the sector wishes to use it, the throughput will be 6 Mb, whereas if ten other people are in there and wish to use it, it will be typically 600 kb.”¹²⁴

- 4.82 In comparison, DSL broadband services are not shared in the access layer¹²⁵ as the broadband services are provided over a dedicated copper path between the end user’s premises and the local telephone exchange.¹²⁶

¹²¹ 3G quality of service drive test programme conducted on behalf of ComReg by Villicom Limited at various times between October 2007 and November 2009.

¹²² This variability is not only between the networks of mobile operators but also within individual networks themselves and across the surveyed locations.

¹²³ For example, as at 25 July 2010, 3 Ireland noted on its website that it currently uses technology to support speeds of up to 7.2Mb, upgrading to 14.4Mb at the end of 2010. O2 has also reported plans to introduce download speeds of up to 21Mb in specified urban locations later in 2010. O2 Ireland, “O2 issues Q1 KPIs and announces mobile broadband upgrade”, 13 May 2010. This is discussed further below.

¹²⁴ This is an extract from a presentation made by the Chief Technical Officer of Eircom to the Joint Committee on Communications, Energy and Natural Resources, Next Generation Networks: Discussion with Eircom, Wednesday 11 March 2009. The full presentation, which included a more detailed explanation of the technical differences between fixed and mobile broadband, can be found at - <http://debates.oireachtas.ie/DDebate.aspx?F=MAJ20090311.xml&Page=1&Ex=H2#H2>

¹²⁵ DSL services can be shared higher up within the broadband network: however, this is done on a network where the availability of bandwidth is less of a problem and can be managed more easily.

¹²⁶ Although cable broadband networks are shared in the access network (as typically a number of premises will be served by the same cable ring, with the network having multiple cable rings), the topology of the cable network differs sufficiently such that it does not result in the level of variability experienced by mobile broadband networks. As noted above, FWA also shares broadly similar product characteristics to DSL-based offers. However, its shared access network architecture could impact on its comparative performance relative to other fixed

- 4.83 According to submissions provided by industry participants to ComReg, the average speed achieved on DSL networks is typically close to the theoretical maximum/advertised speed, with average customer throughput approximately 80% of the advertised individual product speed.¹²⁷ ComReg's finding above of an average throughput over mobile broadband platforms of between 607kb and 1.69Mb, despite having theoretical advertised maximum network download capabilities of typically up to 7.2Mb or 14.4Mb, would suggest a gap between mobile and DSL broadband capability in terms of the actual throughput available to end-users.
- 4.84 It is ComReg's view that the network capabilities on both DSL and mobile broadband networks continue to improve, though to date the gap between the capabilities of the network technologies has remained. ComReg thus anticipates that a material gap in performance between DSL and mobile broadband networks will remain over the period of this market review.
- 4.85 This is particularly pertinent given the movement by customers to higher download speed products. According to data published in ComReg's Quarterly Report,¹²⁸ as of Q2 2010 86% of residential customers and almost 90% of business customers were subscribing to broadband services offered at greater than 2Mb. This can be compared with 48% and 68% for residential and business respectively in Q1 2008.¹²⁹ Eircom, in its 2009 annual report,¹³⁰ has similarly commented with respect to broadband speeds that:
- "We continue to see growth in broadband, albeit at a slower rate. Fixed Line DSL customers increased by 72,000 in the year, to 665,000. Over 61% of our retail DSL customers are now on speeds of 3Mbs or greater, up from 12% a year ago, and we are planning to increase our basic product speed to 8Mbs during the current year."*
- 4.86 In comparing the latency of DSL versus mobile retail broadband products, ComReg's analysis, which is consistent with submissions provided by fixed operators, has found that DSL broadband connections typically experience between 40 and 60 milliseconds of latency, whilst according to data provided by operators, mobile broadband networks experience approximately 120 to 140 milliseconds of latency. Thus the latency on mobile networks is higher than that experienced on a fixed DSL network and, as a result, mobile networks' ability to support certain applications will be less effective than that offered by the fixed DSL broadband platform.

broadband technologies in the case of a significant increase in nomadic/active users in a single sector.

¹²⁷ Based on information provided in response to information requests.

¹²⁸ ComReg, "Irish Communications Market: Quarterly Key Data Report", Document 10/73, 20 September 2010.

¹²⁹ ComReg, "Irish Communications Market: Quarterly Key Data Report", Document 08/43, 17 June 2008

¹³⁰ ERC Ireland Finance Limited (formerly BCM Ireland Finance Limited), Fourth quarter and twelve month results announcement, 30 June 2009. Available online at: http://investorrelations.eircom.net/pdf/ERCIF_4th_quarter_and_twelve_mths_to_Jun_09.pdf

4.87 Future developments could lead to mobile broadband becoming a more viable substitute for DSL broadband products. While upgrades to the capabilities of different mobile broadband networks are ongoing, information regarding exact pricing, functionality and coverage of any prospective mobile broadband products which will be delivered via such upgrades is not yet available. According to 3 Ireland's website (July 2010) it plans to upgrade its technology at the end of 2010 to support speeds up to 14.4Mb. O2 has also recently announced plans to make download speeds of up to 21Mb available in specified urban locations in Ireland during the course of the year (starting with Dublin, and followed by Cork, Limerick, Galway and Waterford), although the specific timelines, scope, expected actual throughput speeds, pricing etc. for any new products based on such upgraded technology are as yet unclear.¹³¹ There are no public statements on the precise timing or scope of any future adoption of Long Term Evolution (LTE/4G) technology in Ireland to date. Where such network developments become available on a more widespread basis, this could bring the functional characteristics of DSL and mobile broadband products closer. However, the fact that mobile broadband access remains a shared resource, even under an LTE scenario, could still imply capacity limitations in the face of such factors as spectrum constraints and significant increase in network usage. Furthermore, fixed broadband products and functionality may also evolve over the corresponding period to such an extent that the existing functionality differences between DSL (or its future equivalent) and mobile broadband products persist.

Pricing

- 4.88 ComReg notes that while the advertised monthly rental prices of mobile broadband products may initially appear cheaper than those of broadband products offered over DSL networks, the actual price per MB¹³² that can be downloaded on mobile broadband networks is significantly higher on average than that of fixed broadband (particularly when factoring in the charges for data in excess of inclusive monthly download limits).
- 4.89 ComReg observes from Figure 8 below that inclusive monthly download allowances for Irish mobile broadband products are typically smaller than those offered by DSL broadband providers, and that charges for exceeding these inclusive monthly limits are significantly higher for mobile broadband than for DSL.¹³³
- 4.90 For example, considering the bill pay (i.e. not pre-pay) mobile broadband products offered by the four mobile broadband providers as at 13 July 2010, Meteor offers an inclusive download allowance of up to 15GB per month, O2 offers up to 15GB per

¹³¹ O2 Ireland, "O2 issues Q1 KPIs and announces mobile broadband upgrade", 13 May 2010. <http://www.o2online.ie/wps/wcm/connect/O2/About+O2/Press/2010/May/O2+issues+Q1+KPIs+and+announces+mobile+broadband+upgrade>

¹³² The abbreviation 'MB' refers to Megabyte and means a unit of data storage capacity equal to one million bytes.

¹³³ Additional charges for data downloaded in excess of the monthly allowance range between €0.02 and €0.05 per MB on mobile networks (or between €20 and €50 per GB), meaning that the price of mobile broadband increases significantly (almost doubles) if the customer exceeds the monthly download limit by even 1GB.

month, Vodafone typically offers 10GB per month, however it also has an unlimited download option, while 3 Ireland allows up to 30GB per month for its latest offer. However, mobile broadband providers also offer packages with much lower download allowances.¹³⁴ Figure 8 below shows that monthly prices for mobile broadband retail products range from €9.99 to €34.99 according to the relevant download cap, and that the charge applied for exceeding inclusive download allowances ranges from between €0.02 (Vodafone, O2 and Meteor) to €0.05 (3 Ireland) per MB.¹³⁵ In contrast, fixed broadband products have inclusive monthly download allowances starting at 10GB for a DSL entry level product or 40GB for a cable broadband entry level product, with significantly greater download allowances being offered for higher specification products (also offering unlimited download allowances, such as in the case of UPC's 15Mb and 30Mb products). Furthermore, in contrast to mobile broadband products, fixed broadband products typically levy a lower charge for any data downloaded in excess of the products' inclusive download limit.¹³⁶

¹³⁴ For example, as can be seen from Figure 8, Meteor also offered bill pay packages with 5GB and 10GB download allowances respectively, while 3 Ireland's "3Broadband Light" product had a download allowance of just 1GB.

¹³⁵ See Annex A for further details of selected mobile broadband products.

¹³⁶ According to Eircom's website on 13 July 2010, Eircom's 1Mb download entry level product has a monthly download limit of 10GB for €24.99, but, as can be seen from Figure 8 below, the customer can upgrade to a 3Mb download product with a 30GB download limit for an additional €5 (i.e. €29.99), to a 7Mb download product with a 50GB download limit at a cost of €39.82 and a 24Mb download product with a 75GB download limit at a cost of €47.99. The charge for exceeding the inclusive monthly download allowances on these Eircom's products is €2 per GB and is between 10 and 25 times cheaper than the excess download charges that apply on mobile broadband networks.

Figure 8: Examples of DSL and Mobile Products¹³⁷

Eircom Broadband

	Broadband Home Plus	Broadband Home Advanced	Broadband Home Turbo
Platform	DSL		
Standard Monthly Rental	€29.99	€39.82	€47.99
Download Speed	3Mb	7Mb	24Mb
Monthly Usage	30GB	50GB	75GB
Line Rental	€25.36	€25.36	€25.36
Connection Fees	€9	€9	€9

Eircom NGB

	Next Generation Basic	Next Generation Regular	Next Generation Advanced
Platform	DSL		
Standard Monthly Rental	€4.99	€9.99	€39.82
Download Speed	8Mb	8Mb	8Mb
Monthly Usage	10GB	30GB	Unlimited
Line Rental	€25.36	€25.36	€25.36
Connection Fees	€9	€9	€9

Meteor

	Meteor 5GB	Meteor 10GB	Meteor 15GB
Platform	Mobile		
Standard Monthly Rental	€6.99	€19.99	€4.99
Monthly Usage	5GB	10GB	15GB
Modem Costs	€9	€9	-
Additional Charges ¹³⁸	2c per MB		
Coverage	53% ¹³⁹		

O2

	O2
Platform	Mobile
Standard Monthly Rental	€19.99
Monthly Usage	15GB

¹³⁷ As per Eircom, Meteor, O2, Three and Vodafone websites, 13 July 2010.

¹³⁸ Charge applied for exceeding inclusive data allowances.

¹³⁹ Eircom 3rd Quarter Results, 27 May 2010. Population coverage as of September 2009.

Modem Costs	€9
Additional Charges	2c per MB
Coverage	90.5%

Three

	3Broadband Light	3Broadband Active	3Broadband Pro
Platform	Mobile		
Standard Monthly Rental	€9.99	€19.99	€34.99 ¹⁴⁰
Monthly Usage	1GB	15GB	30GB
Modem Costs	€9	€19	-
Additional Charges	5c per MB		
Coverage	94%		

Vodafone

	Vodafone Mobile Broadband	Vodafone Mobile Broadband
Platform	Mobile	
Standard Monthly Rental	€19.90	€24.99
Monthly Usage	10GB	Unlimited
Modem Costs	-	-
Additional Charges	2c per MB	
Coverage	>90%	

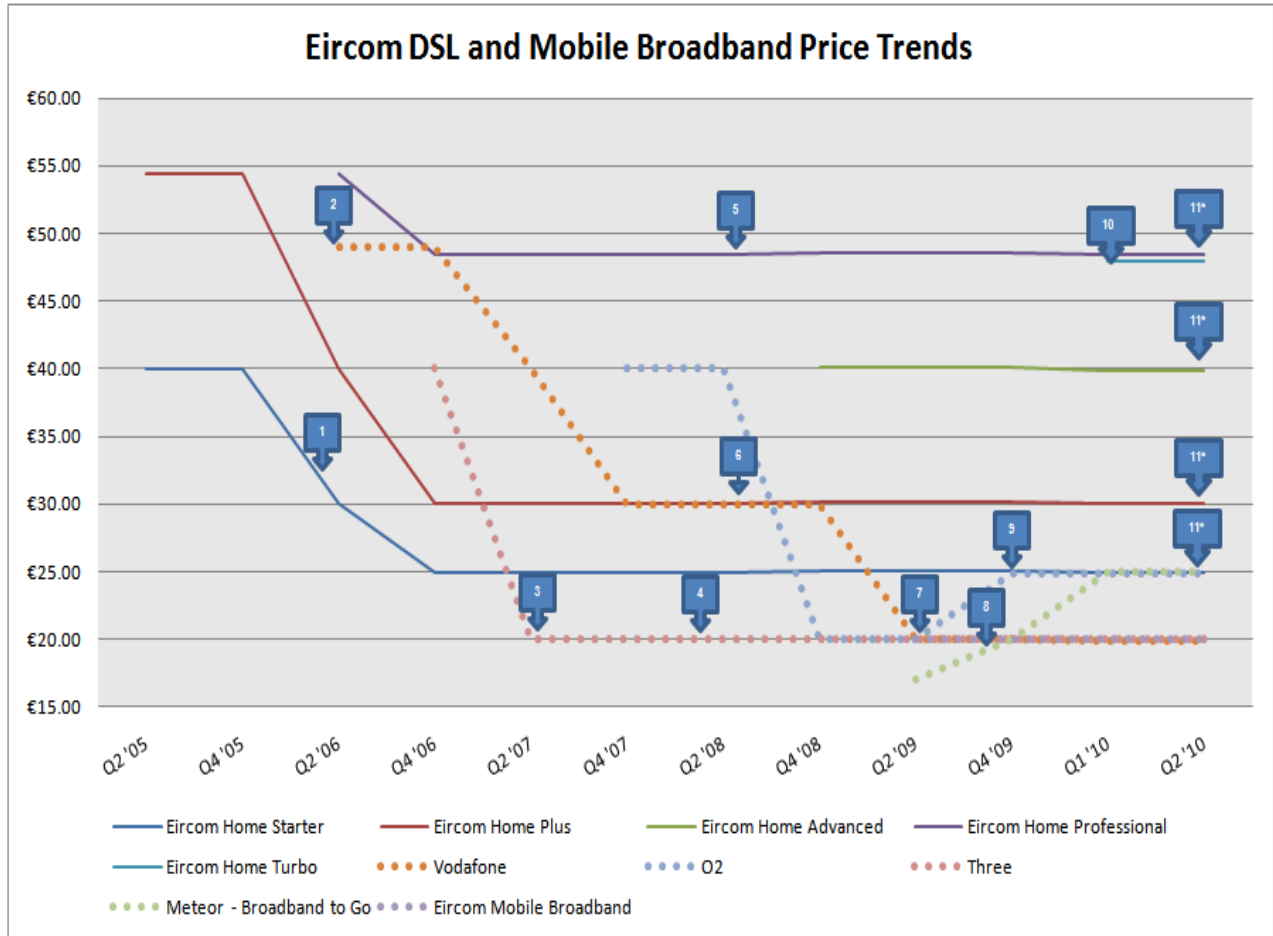
4.91 Figure 8 above shows clear differences in the pricing structure of DSL and mobile broadband offerings respectively, with more restrictive download caps and a higher price per MB generally applying in the case of the latter. Furthermore, it appears from the above, that unlike the DSL broadband offerings, mobile broadband products tend not to be differentiated by product speeds. As noted in the product characteristics section above, this may be linked to the difficulty in guaranteeing a reliable speed throughput given the shared nature of the mobile access network.

4.92 It is also interesting to observe how the prices of DSL and mobile broadband products have evolved over time. ComReg has reviewed the changes that have occurred across Eircom’s DSL and mobile operators’ mobile broadband products in the period September 2006 to February 2010. A summary of this comparative evaluation can be seen in Figure 9 below. ComReg considers that the pricing behaviour demonstrated in the below graph indicates that the entry and growth of mobile broadband did not elicit a

¹⁴⁰ According to 3 Ireland’s website on 25 July 2010, its “3Broadband Pro” product is priced at €26.24 as an introductory promotional offer until 30 September 2010.

notable response from Eircom in terms of its pricing, suggesting that mobile broadband does not exert an effective competitive constraint on the price of DSL broadband.

Figure 9: Eircom DSL and Mobile Broadband Price Trends (Sept '06 – Feb '10)¹⁴¹



Source: Operator information supplied to ComReg and operators' websites

¹⁴¹ The following assumptions should also be noted with respect to the presentation of the data:

- All prices inclusive of VAT, but excluding additional costs such as line rental or modem costs.
- To ensure consistency in comparing products ComReg has analysed only products available on 12 month contracts.
- Slight deviations in price may be evident as a result of changes to the VAT rate in Ireland during the measurement period. The VAT rate stood at 21% at Q2 2005. It was increased to 21.5% in December 2008 and was changed to 21% in January 2010.
- Download speed refers to maximum download speed. Other product or network characteristics may affect the actual download speed achieved.

Guide to Figure 9: Eircom DSL and Mobile Broadband Price Trends

1. **Eircom Home starter** - 24 Jan 2006: download allowance increased from 8GB to 10GB. Download speed of 1Mb.
2. **Vodafone** – Q2 2006: launch of mobile broadband. Download speed of up to 3.6Mb and download allowance of 5GB.
3. **Three** – 7 May 2007: Three’s original 3000 product (€39.99 for €3GB) was effectively replaced by the launch of a superior product offering 3.6 download speeds and 10GB download allowance.
4. **Three** - 1 April 2008: usage allowance increased to 15GB and on 1 June 2008 download speed increased to 7.2Mb.
5. **Eircom Home professional** - 25 Aug 2008: download speed increased from 3Mb to 7.6Mb. Download Limit also increased from 30GB to 50GB. In the second half of 2009 the download speed was increased to 8Mb.
6. **Eircom Home Plus** - 25 Aug 2008: download speed increased from 2Mb to 3Mb. Download Limit also increased from 20GB to 30GB
7. **Vodafone** – Q2 2009: Download speeds increased from 3.6Mb to 7.2 Mb. Download limit increased from 5GB to 10 GB in Q4 2009
8. **Meteor** – 28 October 09: download limit increased from 5GB to 10GB/15GB and the price increased from 16.99 to 19.99/24.99 for the respective download allowances.
9. **O2** – Q4 2009: download speed upgraded to 7.2 Mb. However this applied to only those who signed up to an 18-month contract. The speeds for 12-month contracts remained at 3.6Mb. Download limit decreased from 10GB to 7.5GB for those on 12 month contracts.
10. **Eircom Home Turbo** - January 27 2010: Eircom launched Home Turbo product. Download speeds of 24MB and download limit of 75GB.
11. **Eircom Home Starter/Plus/Advanced/Professional** – March 29 2010: Eircom announced that for all customers in NGB exchange areas its entry level products for broadband will move from 1/3/7Mb to up to 8Mb with varying download allowances of 10/30/unlimited GB (called NGB Basic, NGB Regular, and NGB Advanced respectively). These upgraded products will initially be available in Dublin, while further Next Generation Broadband rollout will be expanded to all major urban areas including Cork, Limerick, Galway and Waterford by the end of the year.

4.93 In the two and a half year period following the introduction¹⁴² of mobile broadband in Ireland, Eircom’s pricing for products comparable in speed and price to mobile broadband has remained unchanged. While UPC (formerly Chorus NTL) was upgrading its cable broadband network and growing its subscriber base, Eircom upgraded its 2Mb products¹⁴³ to 3Mb (€24.79), and its 3Mb products¹⁴⁴ to 7.6Mb (€40.00) whilst maintaining the price point. Eircom also made several other changes to higher specification products, such as reducing the price of its 12Mb product¹⁴⁵ from €69 to €9 and announced, in January 2010, its up to 24Mb product offering which is available in certain exchanges.¹⁴⁶ Furthermore, on 29 March 2010, Eircom announced that at certain exchanges (currently mostly in Dublin) that it would be upgrading its existing 1Mb, 3Mb and 7Mb products to a download speed of 8Mb.

¹⁴² The first mobile broadband offering was launched by Vodafone Ireland in Q2 2006.

¹⁴³ Eircom Home Plus upgraded in August 2008.

¹⁴⁴ Eircom Home Professional upgraded in August 2008.

¹⁴⁵ Eircom Business Enhanced product.

¹⁴⁶ Eircom Home Turbo product available in those exchanges which have been upgraded to ADSL2+ technology.

- 4.94 ComReg notes that these product upgrades are consistent with long term trends in the Irish retail broadband market, where product specifications are upgraded along a given price point from time to time. Such upgrades are likely to occur due to technology developments, improvements in economies of scale resulting from the continual growth of fixed broadband subscriber numbers, and the general perceived threat resulting from competitors selling comparator fixed broadband products (in particular broadband provided over cable networks).
- 4.95 ComReg considers, therefore, that Eircom's pricing behaviour over the period noted above cannot be attributed as a direct response to the entry and growth of mobile broadband. When assessing the substitutability of different product offerings, prices do not have to be identical for two products to be regarded as effective substitutes. However, the absence of any obvious response in the product innovations introduced by Eircom vis-à-vis the mobile broadband providers over the past three years suggests that retail mobile broadband cannot be attributed as an effective constraint on the pricing of DSL-based broadband.
- 4.96 Conversely, even if there was similar pricing between two products (which is not the case here) it is not in itself evidence that the products fall within the same markets. Perceived functional and technical differences can also impact on customer behaviour and the degree of substitutability.

Customer use

- 4.97 The marketing strategies of DSL, cable, FWA and FTTx retail broadband operators are typically based on speed, price and availability of bundles, while those of mobile operators are based largely on mobility, convenience and coverage.
- 4.98 In addition to the mobility feature, and its appeal for an individual user who can take it anywhere, some mobile broadband operators have recently introduced Wi-Fi modems/routers as an optional extra. Wi-Fi modems/routers allow a mobile broadband product to be shared between multiple devices (PCs, iPods, etc.) and, similar to fixed broadband offerings, between end users within a household. Notwithstanding this practice, however, the constraining effect of the download caps would be magnified if a download limit had to be shared amongst multiple users and simultaneous use of the shared broadband connection across multiple users could also impact on actual download speeds experienced. This is likely to continue to limit the substitutability of mobile broadband with other fixed broadband connections to the home which have larger download caps as well as faster speeds.
- 4.99 In assessing customer perceptions of DSL and mobile broadband offerings respectively, ComReg also sought to assess whether differences exist in consumers' monthly download usage profiles when using products offered on these platforms¹⁴⁷. To this end, ComReg has assessed data available to it in relation to consumer download profiles for DSL and mobile broadband networks. This data shows that consumers using DSL based broadband products download approximately five times more data than

¹⁴⁷ Data supplied by mobile operators to ComReg between January and March 2010.

consumers on mobile broadband products. This variance in the level of utilisation is suggestive of different underlying consumer preferences in using DSL broadband networks for more bandwidth intensive applications, in particular, due to the differing technical capabilities of the networks.

- 4.100 To further assess anticipated customer switching behaviour in response to relative prices changes between DSL and mobile broadband offerings, ComReg sought evidence from operators of churn between broadband services delivered over different platforms on an historical basis. All operators indicated that this information was not routinely collected, and it is therefore difficult to draw definitive conclusions on actual behaviour. However, some operators were able to supply certain anecdotal information based on selected surveys of their gaining and/or departing customers. While recognising the limitations of this information, ComReg's assessment of the information made available by fixed DSL operators is that movement from DSL to mobile was identified as significantly lower than movement between DSL providers, and between DSL and cable providers respectively.
- 4.101 Recent consumer survey research¹⁴⁸ conducted by ComReg found that, of those consumers using mobile broadband, only 18% stated that it was a substitute for a previous broadband connection, while 72% said it was not a substitute. Of the 18% who viewed it as a substitute, almost one third (28%) said they used mobile broadband because it was cheaper than other forms of broadband. The research also asked those who had previously (but no longer) subscribed to mobile broadband products why they no longer subscribed. The main reasons cited were poor coverage and slow speed of mobile broadband products. The same survey also highlights that there is a relatively low incidence of consumers switching broadband providers with just 15% having done so in the 12 months previous to Q2 2010. Furthermore, a recent business survey¹⁴⁹ similarly indicated that two thirds of businesses with Internet access believed mobile broadband to be a complement to, rather than a substitute for, a fixed type of broadband connection, with only 17% claiming substitutability between fixed and mobile broadband.
- 4.102 Public comments expressed by Eircom do not indicate that customers are switching from fixed DSL to mobile broadband products, suggesting rather a complementary relationship between these platforms. Eircom stated:¹⁵⁰

¹⁴⁸ ComReg, "Residential ICT Services Survey Quarter 2, 2010: A review of findings by Millward Browne Lansdowne July 2010", Document 10/62r, 9 August 2010. It is important to highlight that the results of surveys carried out are not sufficient alone to draw definitive conclusions across all aspects of consumer broadband preferences and frequently indicate stated consumer behavior which may diverge from actual consumer behaviour in practice. Such results should be considered alongside other available evidence.

¹⁴⁹ ComReg, "Business ICT Services Survey H1 2010: A review of findings by Millward Browne Lansdowne", Document 10/33, March 2010).

¹⁵⁰ Eircom investor relations conference call by Eircom's senior management to interested parties on 27 August 2009. The file is available at: http://media.eircom.net/ir/confcall_aug.wma. The comment was made 36mins 32 seconds into the call by Paul Donovan, CEO of Eircom, in

“We [Eircom] don’t actually have any direct evidence of customers switching from DSL to mobile broadband..... what we are seeing is customers who previously did not have DSL, but who own laptops, having mobile broadband and some customers who have laptops but also prefer to use a fixed connection at home actually having both fixed and mobile broadband together. So it’s really very difficult to determine that particular impact. Clearly, mobile broadband is actually trading at something of a discount in certain promotional areas to fixed. And, in areas where there is 3G coverage but no DSL available, that is a natural choice for customers. The critical thing for us [Eircom] is that we are able to offer the full suite of services to customers which, since the launch of our mobile broadband product through Meteor and now Eircom, we’re in a position to do.”

Supply-side considerations

- 4.103 ComReg has assessed whether mobile broadband providers, not currently active in the provision of DSL broadband services, would be capable of delivering services over a mobile broadband platform that would sufficiently reflect the characteristics of DSL-based broadband services such as to constrain a HM provider of fixed DSL broadband from implementing a 5-10% price increase above the competitive level.
- 4.104 The capacity of a mobile broadband platform to develop services over the timeframe of this review that would sufficiently reflect the characteristics of DSL broadband services has already been addressed largely in the earlier sections above, where it was noted *inter alia* that the shared access nature of the mobile broadband network has implications for its ability to offer a comparable performance to DSL networks, in terms of the consistency and reliability of the broadband service offered. While Long Term Evolution (LTE/4G) technology could potentially bring the functional characteristics of DSL and mobile broadband products closer, there have been no concrete announcements in this respect. Furthermore, fixed broadband products and functionality may also evolve over the corresponding period to such an extent that the existing functionality differences between DSL (or its future equivalent) and mobile broadband products remain.
- 4.105 Over time a mobile broadband provider could invest in a fixed broadband operation in order to provide services to customers that prefer fixed broadband. For example, Vodafone has engaged in such a strategy through its acquisition of Perlico Communications, and has expanded its fixed broadband customer-base further through its recent acquisition of BT Ireland’s retail residential and SME customers. ComReg’s view, however, is that this 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 DSL broadband network) were mobile broadband to be considered a close substitute for fixed broadband in the retail market. Rather, ComReg considers that

responding to a specific question relating to substitutability between mobile broadband and fixed broadband.

such investment is intended to allow the firm to service new markets and access a new customer base that has distinct needs.

Preliminary conclusion

- 4.106 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 retail mobile broadband is not a sufficiently effective substitute for retail broadband provided over DSL networks.
- 4.107 ComReg's view is that there are considerable functional differences 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 limited compared to fixed DSL broadband in terms of actual throughput capability (i.e. actual download speeds experienced by the end user), consistency and reliability of service, latency, and contention management. The preliminary view that retail mobile broadband is not considered to be an effective enough substitute for DSL broadband by a sufficient number of customers is further confirmed by the assessment of pricing trends and customer usage patterns. Actual behaviour in the market indicates that there is insufficient evidence of a direct pricing response by Eircom to the entry and growth of retail mobile broadband, and that customer switching between retail mobile and DSL platforms is likely to be less prevalent than switching from DSL to other fixed platforms.
- 4.108 It is ComReg's preliminary view that the available evidence is more consistent with DSL and mobile broadband products falling into different relevant product markets. The expansion of mobile broadband operators into fixed broadband, and vice versa, would seem to further confirm that such investment is intended to allow the firms in question to service distinct market niches and thus access a wider customer base overall, rather than investing in two different platforms to access effectively the same pool of customers.
- 4.109 Overall, ComReg considers that the degree of substitutability between DSL broadband and mobile broadband would not be sufficient to prevent a HM of DSL-based broadband from imposing a successful SSNIP. ComReg is therefore of the view that retail mobile broadband and retail fixed DSL broadband would not fall within the same retail broadband market for the purposes of this review.

Should the retail market be segmented according to customer type (i.e. residential or business)?

- 4.110 ComReg has considered whether retail fixed broadband products used by residential and business users form part of the same relevant market. Operators which supply both business and residential retail customers tend to offer a similar range of products to

both types of customer.¹⁵¹ Some operators offer higher specification and quality products, such as lower contention ratios, or higher upload speeds, or static IP addresses, to business customers. There are also some differences in pricing, and where an operator offers both business and residential products, residential products are usually, but not always, priced slightly lower.¹⁵²

- 4.111 ComReg has considered first of all from the *demand side* whether a customer of a residential broadband service would be likely to find a business broadband service to be an effective substitute, and vice versa. In terms of product characteristics, the residential and business broadband user is buying similar products. A customer who chooses to purchase retail broadband would have the same requirement for routers and software regardless of whether it is a business or residential user, and this would be the case across platforms. A retail customer would find a broadly similar range of products available to business and residential customers. While some operators may structure their offers slightly differently, ComReg's research shows that there are no significant differences in the range of broadband services which are available to residential and business users – for example, operators offer a range of products differentiated by speed, so that a customer who was using a 3Mb residential product could switch to a 3Mb business product and vice versa.
- 4.112 In terms of usage, ComReg notes a strong trend amongst all users to subscribe to higher speed products, and this was discussed in section 3. At the end of Q2 2010, around 90% of business users and 86% of residential users were subscribing to broadband at

¹⁵¹ For example, according to Eircom's website on 17 July 2010, Eircom offers almost identical 1Mb & 3Mb products to its residential and business customers with equivalent upload speeds and download usage caps. In comparison to Eircom's 7Mb residential offering which has a data allowance of 50GB and an upload speed of 384Kb, Eircom offers its business customers slightly higher download speeds of 8Mb, an unlimited data allowance and increased upload speeds of 800Kb. Digiweb offers both its residential and business DSL customers on 3Mb and 7.6Mb products upload identical upload speeds of 384Kb and 672Kb respectively and identical data allowances of 20GB and 40GB respectively.

¹⁵² There is less difference in pricing between products at speeds up to 12Mb offered to residential and business customers, and as has been noted above, a large majority of both residential and business users fall into this category. According to Eircom's website on 13 July 2010, its 3Mb product is priced at €29.99 (inc VAT) per month for residential users, and €24.79 (ex VAT) for business customers, and its 7Mb product is priced at €39.82 (inc VAT) per month for residential customers and an "up to 8Mb" product for business customers is priced at €40 (ex VAT). Digiweb's website as at 13 July 2010 also indicated similar pricing for business and residential users, with its 3Mb DSL product offered to business users at €24.95 (ex VAT) and residential users at €29.95 (inc VAT), and its 7.6Mb DSL product offered to businesses for €36.95 (ex VAT) and residential users for €39.95 (inc VAT). UPC offers greater download speeds for its business products. The residential products are available at speeds of 5Mb, 15Mb and 30Mb, priced at €29.75, €39.75 and €49.75 (inc VAT) respectively, while the business products are available at speeds of 10Mb, 20Mb and 30Mb, priced at €49, €59 and €69 (ex VAT) respectively, although this includes additional voice lines, and a broadband-only product is not available for businesses.

speeds above 2Mb.¹⁵³ This suggests a similarity in demand for higher speed broadband between residential and business customers.

- 4.113 The main difference between business and residential products arises in the pricing of the top of the range products, i.e. at the 24Mb level. Generally, business broadband higher speed products are more expensive, and this is associated with difference in service provision. Business products tend to be of a higher specification, with features such as lower contention, increased support services or service level guarantees, and products are priced accordingly. However, there is increasingly an overlap between services which are provided to small and medium-sized enterprise (SME)-type businesses and residential customers, particularly as there is a general trend towards increased speed and improved quality of service for all customers.¹⁵⁴ The difference in pricing at the high end may be reflected in the take-up, as while over 10% of residential customers purchase products with speeds greater than 10Mb, only 1.3% of business customers purchase very high speed products.¹⁵⁵
- 4.114 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.¹⁵⁶ ComReg has found there to be some variance between platforms in terms of their take-up by business and residential customers. As of Q2 2010, 20% of users of DSL-based broadband were business customers, 30.3% of FWA customers were businesses, and 0.6% of cable-based broadband users were businesses.¹⁵⁷ However, ComReg is not aware of any requirement set by operators which would prevent a purchaser of a residential product from switching to purchase a business product, or vice versa. This means that a customer of residential or business broadband could readily switch to an alternative product, which would have similar characteristics and be in a similar price range.
- 4.115 ComReg has considered from the *supply side* whether an operator which supplied only residential broadband services would be able to switch to supply business broadband

¹⁵³ ComReg, Irish Communications Market; Quarterly Key Data Report, Document 10/73, 20 September 2010.

¹⁵⁴ For example, Eircom's recently announced Next Generation Broadband (NGB) upgrade (see Eircom press release of 29 March 2010) will make a range of 8MB product offerings with comparable download usage allowances available to both residential and business customers,

¹⁵⁵ ComReg, Irish Communications Market; Quarterly Key Data Report, Document 10/73, 20 September 2010.

¹⁵⁶ See para 57 of the Commission Notice on Market Definition which notes that in certain cases, the existence of chains of substitution might lead to the definition of a relevant market where products or areas at the extreme of the market are not directly substitutable. For example, where two products A and C are not direct demand substitutes, they might still be found to be in the same relevant product market if their respective pricing is constrained by substitution to an intermediate product B.

¹⁵⁷ ComReg, "Irish Communications Market; Quarterly Key Data Report", Document 10/73, 20 September 2010.

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.

- 4.116 ComReg suggests that the underlying inputs used to supply retail broadband are basically the same, whether that broadband is eventually offered to a business or a residential customer. For example, an operator which was offering retail broadband on a DSL platform would need access to a DSLAM at the exchange and backhaul connection from the exchange, and would need ADSL line cards, and would then be able to provide residential and/or business broadband services. ComReg believes that this is the case whether retail broadband is offered by a vertically-integrated operator, or via purchased wholesale inputs such as WPNIA or WBA. 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.
- 4.117 ComReg is therefore of the provisional view that, taking both demand and supply-side considerations into account, the retail broadband market should not be further differentiated by customer type.

Should the retail market be segmented according to whether retail broadband access is sold as part of a bundle or on a stand-alone basis?

- 4.118 As noted in section 3, retail broadband services are often bundled together with other products, such as fixed or mobile voice calls, and/or cable television 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.
- 4.119 On the matter of how bundles should be treated within a market analysis, the European Commission states that service elements constitute markets in their own right if a sufficient number of customers would ‘unpick’ the bundle if a SSNIP were introduced.¹⁵⁸
- 4.120 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

¹⁵⁸ Explanatory Note, p. 16.

various types of broadband bundles, and most operators offering retail broadband have optional bundles, with both bundled and stand-alone broadband access offers available to consumers. There are also operators focused on providing retail broadband access services that are independent of a bundle. Therefore, customers in Ireland may buy broadband on its own, or combined with voice, or with cable TV, or all three.¹⁵⁹

- 4.121 ComReg considers that in this fluid environment, if there were to be a SSNIP in the price of a bundle which contained broadband access, customers could (and would) be likely to choose to purchase the service elements separately such as to render the price increase unprofitable. This indicates that the broadband access component of the bundle would still constitute a relevant market in its own right, and that the various bundles available, incorporating broadband access along with other service elements, do not constitute separate relevant markets at this time.
- 4.122 For the purposes of defining the retail broadband market, ComReg's preliminary conclusion is that retail broadband access should be considered as a relevant product market in itself, not as a (bundled) market entailing other retail service elements.

Overall summary of preliminary conclusions on the assessment of the retail product market

- 4.123 As noted earlier, ComReg is not obliged to conclude on the precise scope of the retail market, but has carried out this analysis in order to inform the analysis of the WBA market. ComReg has focused on the extent to which different retail broadband products can be considered to be effective substitutes for retail broadband provided over DSL networks. 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 are in separate markets.
 - All retail broadband products offered at a fixed location over DSL, cable, FWA, and alternative FTTx networks are provisionally considered substitutes for the purposes of this broad retail assessment because they share general similarities in terms of functionality, pricing, and customer use. However, availability issues may in practice limit customer switching in response to a SSNIP.
 - Retail broadband offered over DSL is in a separate market to satellite-based broadband and to internet access via leased lines.

¹⁵⁹ For example, Vodafone's fixed services include Home Phone only, Home Broadband only, phone and broadband as a bundle (website 19 July 2010); Eircom offers voice only, broadband only, and bundles which include calls packages and broadband (website 19 July 2010); UPC offers bundles which include TV, broadband, and voice calls packages, as well as each of these services individually (website 19 July 2010).

- Retail mobile broadband is not an effective substitute for retail broadband offered over DSL, due primarily to functional differences, differences in pricing, and in customer use.
 - The retail broadband market should neither be segmented 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.
- 4.124 ComReg has taken into account the attributes of potential fixed broadband substitutes for DSL-based retail broadband and provisionally considers them part of the same relevant retail market. However, to formally consider the potential impact of a SSNIP, ComReg would need to consider the availability of choice for the consumer, as where alternative networks have limited coverage, it may not be possible for the customer to switch from one type of product to another. Given that there is no material impact on the WBA market from their inclusion in the relevant retail market at this stage, it is proposed to provisionally include broadband products offered over cable, FWA, and alternative FTTx networks in the same relevant retail market as DSL-based broadband for the purposes of this assessment.
- 4.125 ComReg has engaged in a detailed assessment of the degree of substitutability between mobile broadband and DSL-based broadband products. Mobile broadband has experienced significant growth in recent years. However, ComReg is of the view that such growth does not, in itself, imply a sufficient degree of substitutability vis-à-vis DSL broadband products for market definition purposes. A more in-depth analysis has revealed key differences between fixed and mobile broadband products in terms of product characteristics/functionality, pricing structure, as well as in the customers' usage of those products, indicating that these products cannot be considered sufficiently close substitutes to be included in the same relevant retail market.
- 4.126 The approach which ComReg has taken in analysing the retail market results in the broadest possible market on which to base the discussion of the wholesale market and thus reflects a conservative approach overall. While this proposed approach results in the inclusion of all fixed broadband products which may over-state the size of the retail market and the degree of competition within, it will help minimise the risk of over-regulation at the wholesale level and ensure that any regulation which may be imposed following subsequent stages of the analysis is limited and targeted to only where it is genuinely needed to ensure that consumers are sufficiently protected.

Question 2: Do respondents agree with ComReg's preliminary conclusions on the retail 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 position.

Geographic scope of the retail broadband market

- 4.127 The consideration of the geographic scope of the retail broadband market is focused on the extent to which it informs the consideration of the wholesale market. It is not necessary for ComReg to conclude on the precise scope of the retail market. However, any visible regional or local variations in competitive conditions at the retail level can help in identifying the geographic scope of the corresponding wholesale market(s). In

this section, we continue to hypothesise what the retail market would look like if there were no regulated WBA input available, i.e. a Greenfield scenario, since the objective is to determine to what extent any such wholesale regulation is needed to facilitate effective retail competition and choice for end users.

- 4.128 The application of demand and supply side substitution through a strict interpretation of the HM test may have certain shortcomings when considering the geographic market because it can result in extremely narrow market definitions which do not mirror actual market conditions – for example, an end-user is unlikely to move house to benefit from lower broadband prices.
- 4.129 Accordingly, ComReg identifies geographic market boundaries on the basis of a clearly defined geographic area *“in which the conditions are sufficiently homogeneous and which can be distinguished from neighbouring areas because the conditions of competition are appreciably different in those areas”*.¹⁶⁰
- 4.130 The Commission’s Notice on Market Definition notes further (para 28) that it: *“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”*.
- 4.131 As is further discussed in the later section defining the geographic scope of the wholesale market, the European Commission¹⁶¹ has clarified that relevant evidence which may indicate different regional or local competitive pressure includes:
- Information on the distribution of market shares and the evolution of shares over time.
 - Evidence of differentiated retail or wholesale pricing which might apply. It is noted in this regard that it is appropriate to look at the pricing of both the incumbent and alternative operators as well as its evolution over time in the relevant areas.
 - Additional supply and demand characteristics such as differences in the functionalities or types of products being offered by both the incumbent and alternative operators or in the marketing strategies being pursued.
 - Differentiated entry conditions in a given area.

The Commission also notes the importance of any proposed market boundaries being sufficiently stable over time.

- 4.132 In its recent guidance,¹⁶² the European Commission has reiterated its view that a geographic delineation which is based primarily on the number of operators present in a

¹⁶⁰ European Commission Notice on Market Definition, paragraph 8.

¹⁶¹ Case UK/2007/0733.

local area is not, in itself, sufficiently detailed or robust to identify real differences in competitive conditions for the purposes of the market definition. In assessing whether conditions of competition within a geographic area are similar or sufficiently homogeneous, a combination of structural and behavioural evidence is necessary.

4.133 In assessing potential geographic variances in competitive conditions, the ERG's Common Position on Geographic Aspects of Market Analysis (ERG Common Position)¹⁶³ would seem to provide further support for the guidance given by the European Commission above. The ERG Common Position presents several indicators which may be used to assist NRAs identify whether a more in-depth assessment of the geographic boundaries of the relevant market is needed, including:

- Coverage and market share of alternative networks.
- Pricing patterns of incumbent and alternative operators.
- Geographic differences in product characteristics.
- The potential for next generation access (NGA) network roll-out to lead to geographic differences in competitive conditions.

4.134 ComReg has taken full account of guidance from the ERG and the European Commission, and assesses potential differences in regional or local conditions based on a combination of structural and behavioural factors below.

Entry conditions, distribution and evolution of market shares

4.135 In considering the geographic scope of the market, ComReg assesses the extent to which different competitive conditions may evolve in particular 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. This initial assessment of coverage and market shares is not intended as an SMP assessment, which is addressed later in this Consultation Paper, but as a high-level check to identify if any broad variances in competitive conditions can be identified which may require further investigation.

4.136 As the earlier assessment of the scope of the retail broadband product market suggested that broadband offered over DSL, cable, FWA and FTTx networks may be viewed as relatively close substitutes by the consumer in terms of their key characteristics and pricing, it is the coverage and market share distribution of these alternative platforms which are assessed below. As noted above, for the purposes of this assessment ComReg assumes a Greenfield scenario, i.e. a scenario where there is no regulated upstream non-physical wholesale input available to OAOs in the retail market.

¹⁶² Case UK/2010/1065.

¹⁶³ ERG "Common Position on Geographic Aspects of Market Analysis (definition and remedies)", ERG (08) 20, October 2008.

- 4.137 The coverage of the cable network is currently concentrated on urban and suburban areas. UPC's network covers a number of cities and towns around Ireland, including the greater Dublin area, Cork, Limerick, Galway, Waterford, Naas, Newbridge, Carlow, Kilkenny, Athlone, and others. Around 621,000 of homes passed¹⁶⁴ are currently capable of receiving broadband services over UPC's hybrid fibre/coaxial (HFC) cable network network.¹⁶⁵ Coverage in terms of total households¹⁶⁶ is approximately 38%. According to information supplied by UPC to ComReg, the number of broadband-enabled homes is expected to increase and the full realisation of UPC's plans could imply a potential national broadband coverage of up to around 44% based on an estimate of 720,000 homes. This would bring it close to the maximum potential of its existing HFC footprint and UPC has not indicated any further plans to extend its HFC network beyond its existing reach.
- 4.138 As noted in section 3 above, UPC's retail subscriber growth has also been gathering pace. If the retail market is considered to potentially include retail fixed broadband offered over DSL, cable, FWA and alternative FTTx networks, cable would have a national market share of 17% as of 30 June 2010, which represents a steady increase over the past five years from approx. 8% in Q1 2005 (having previously declined from 11% in Q1 2004).¹⁶⁷
- 4.139 Retail broadband using WPNIA inputs is currently distributed across 85¹⁶⁸ unbundled exchanges and is supplied by four networks, BT, Smart Telecom, Magnet, and 3PlayPlus, which cumulatively account for a 2.2% market share¹⁶⁹ of fixed broadband subscriptions at the national level reflecting a low level of WPNIA development to date. Taking account of plans submitted to ComReg in the context of its data gathering process, the largest WPNIA purchaser (BT), which supplies retail broadband to its own business customers and has recently started supplying wholesale broadband for Vodafone's retail and SME customers, is currently forecasted to reach close to 40%

¹⁶⁴ In its recent second quarter results for 2010, UPC defines "Homes Passed" as homes or residential multiple dwelling units that can be connected to its network without materially extending the distribution plant.

¹⁶⁵ Liberty Global reports second quarter 2010 results – August 3 2010. UPC also operates a wireless television broadcasting network known as a Multi-channel Multipoint (microwave) Distribution System (MMDS). However, UPC can only offer TV services over this part of its network.

¹⁶⁶ Source: Quarterly National Household Survey, Central Statistics Office, Q3 2009 1,632,000 households.

¹⁶⁷ ComReg's Quarterly Reports.

¹⁶⁸ Data submitted by Eircom May 2010.

¹⁶⁹ ComReg, "Irish Communications Market; Quarterly Key Data Report", Document 10/73, 20 September 2010. There are currently five operators availing of purchased WPNIA inputs in Ireland and which accounted for 22,042 lines as of Q2 2010 – BT, Magnet, Smart Telecom, Colt and 3PlayPlus, however Colt does not appear to offer any retail broadband services via LLU.

coverage of total broadband working lines over the period of the present market review.¹⁷⁰

- 4.140 As at 29 September 2010, there were 197 Fixed Wireless Access Local Area (FWALA) licences issued to 23 operators in the 3.5 GHz, 10.5 GHz and 26 GHz bands.¹⁷¹ The coverage of FWALA is relatively broad in terms of territory, and also in terms of population (fixed wireless broadband is available in all major metropolitan areas). As of Q2 2010, the total FWA share of the fixed retail market was just under 10%. Notwithstanding its sizeable coverage and recent WiMAX upgrade announcements, the number of subscribers to FWA-based products is declining overall. ComReg figures for Q2 2010 indicate that FWA had declined by just over 16% at national level from the previous year.
- 4.141 Alternative fibre networks are generally associated with supply to new housing developments, or to Greenfield business sites. ComReg notes that alternative fibre networks (including fibre to the home, fibre to the curb and fibre to the premises, collectively referred to as FTTx) make up less than 1% of fixed broadband subscriptions in Ireland.¹⁷² ComReg notes that the coverage of OAO fibre networks in Ireland is very limited spread over a number of small geographically separated locations and covering a total of approximately 15,000 homes.¹⁷³ The trend observed by ComReg indicates that alternative fibre subscriptions are not showing significant growth, suggesting that alternative FTTx providers are unlikely to assume a material presence at national level over the period of this review.¹⁷⁴
- 4.142 Based on the above analysis, broadband supplied over cable, purchased WPNIA inputs and alternative FTTx networks has traditionally been available within specific geographic areas, and the coverage of such broadband supply is still significantly less than that of DSL at national level which is at 92% of population.¹⁷⁵ Furthermore, DSL continues to account for the majority of retail fixed broadband subscriptions, at just over 70% of fixed broadband subscriptions (excluding WPNIA-based supply which as noted above accounted for a further 2%) as of Q2 2010, with 21% of this attributable to DSL subscriptions based on WBA inputs. This shows that retail broadband competition still continues to rely significantly on the availability of WBA inputs.

¹⁷⁰ The operator's roll-out plans are however contingent upon a number of factors, including it *inter alia* being in a position to obtain co-location and unbundle the forecasted exchanges and to migrate the relevant wholesale broadband connections to its WPNIA network in a sufficiently prompt manner. This is discussed further in the definition of the wholesale market below.

¹⁷¹ 3.5 GHz – 141 licences with 14 operators; 10.5 GHz – 41 licences with 5 operators; and 26 GHz – 15 licences with 4 operators.

¹⁷² This figure was estimated based on quarterly report data held by ComReg relating to the number of active copper and fibre paths in Ireland. ComReg, "Irish Communications Market; Quarterly Key Data Report", Document 10/73, 20 September 2010

¹⁷³ Estimate based on information provided by industry participants.

¹⁷⁴ ComReg estimates that the share of fibre subscriptions in the market has consistently fallen short of 1% and has even decreased over the 12 months to Q1 2010.

¹⁷⁵ European Commission, Europe's Digital Competitiveness Report, Commission Staff Working Document, SEC(2010)627, 17 May 2010, Figure 2.15.

- 4.143 According to the data supplied to ComReg, UPC's projections for the broadband-enablement of its HFC network would indicate a potential increase in geographic coverage, if realised, of close to around 10% of households over the timeframe of this review. The scope for differing competitive dynamics to arise in the areas where cable is present is assessed further below. BT's plans for the expansion of its WPNIA-based network primarily for the purposes of wholesale provisioning over the period of this review are also analysed in further detail in the wholesale geographic market definition section later on in this paper. Furthermore, according to the data available to ComReg, it is not anticipated that alternative FTTx network coverage and market share will grow appreciably over the period of this review. Although FWA is widely available, its competitive impact at national level in terms of market share has been declining since its peak in Q1 2008.
- 4.144 The above analysis broadly assesses market share trends on a national basis. However, recognising that entry and cost conditions can vary across the national territory¹⁷⁶ and to assess if more notable competitive developments are taking place in, for example, more densely populated areas, ComReg gathered detailed operator data on the evolution of retail broadband market shares in the Dublin area¹⁷⁷ since Q1 2007. This more detailed data gathering exercise is aimed at understanding whether a clear distinction in competitive conditions can be identified between urban and neighbouring rural areas based on market share evolutions to date. The key objective is to identify the extent to which retail competition in urban areas may be self-sustaining based on the presence of alternative broadband networks (e.g. cable, FWA and alternative FTTx networks) or conversely continues to rely on the presence of regulated wholesale inputs in those areas.
- 4.145 This data reveals that, of the alternative broadband platforms present in the Dublin area, cable has experienced the most significant increase in subscriber share, at a rate significantly above that of its national market share growth. UPC's broadband subscriber base in Dublin has almost trebled, from 40,281 customers in Q1 2007 to 107,431 customers in Q1 2010, resulting in a retail market share increase in the Dublin area of almost 10% from 21.4% to 30.1% of broadband subscribers¹⁷⁸. The retail market share developments of WPNIA purchasers, alternative FTTx and FWA operators in the Dublin area have been much less noticeable, mirroring in large part their similarly slow development at the national level to date. The market share of WPNIA-based operators has remained constant at approximately []%¹⁷⁹ since 2007 and alternative FTTx operators have yet to reach a market share of []%. Meanwhile, FWA

¹⁷⁶ For example, in ComReg's "Response to Consultation and Final Decision document "Local Loop Unbundling ("LLU") and Sub Loop Unbundling ("SLU") Maximum Monthly Rental Charges", Document 10/10, Decision 01/10, 9 February 2010, it was noted that the high-fixed costs that are involved and the lead time it takes to unbundle at an exchange means that OAOs will tend to focus on unbundling large exchanges where they can benefit from economies of scale.

¹⁷⁷ ComReg has defined this area to include Dublin city and county.

¹⁷⁸ Internal ComReg analysis based on operator provided data.

¹⁷⁹ [] denotes data provided confidentially by operators in response to formal information requests or discussions.

operators would appear to be experiencing a decline since Q1 2007 as their collective market share in the Dublin area has dropped significantly from []% to just over []% as of Q1 2010.

- 4.146 While cable has experienced the most significant market share growth in the Dublin area in recent years, the data reveals further that the uptake of cable-based broadband in Dublin over the period Q1 2007 to Q1 2010 is still behind that of DSL-based broadband. Retail broadband based on the incumbent's DSL network has experienced a relatively gradual decline¹⁸⁰ in its share of Dublin broadband subscribers over the same period.
- 4.147 In considering the scope for differentiated competitive conditions to emerge, ComReg has taken particular account of the European Commission's comments to Ofcom in the UK. Ofcom proposed to define separate geographic markets based on economic conditions across types of exchange area, in particular focusing on entry and expansion by LLU operators, and on pricing differentiation by the incumbent.¹⁸¹
- 4.148 ComReg has considered this guidance in the context of the Irish market. Unlike the UK situation, expansion by WPNIA-based operators has been limited to date with growth relatively static over the last two years. Furthermore, based on the DSL market share evolution and distribution observed in the Dublin area since Q1 2007, it cannot be unambiguously inferred that Eircom's market share is set for a rapid decline from its current levels over the forthcoming two to three years to such an extent that would materially distinguish it from neighbouring rural areas at retail level.¹⁸² Rather, the most significant loss in market share observed since 2007 was experienced by an alternative platform. Notwithstanding this, ComReg proposes to monitor market share developments in the Dublin area, in addition to developments at the national level, periodically over the current review period with a view to identifying any structural changes at the retail level that might necessitate a revisiting of the overall WBA market review.
- 4.149 It should also be noted that the above assessment focuses on structural parameters only, i.e. entry conditions, market share distribution and evolution over time. The next sections examine in further detail whether the growing presence of cable-based broadband is likely to engender a change in actual competitive dynamics in the Dublin area on a forward-looking basis in terms of behavioural parameters, notably pricing and product offerings in the areas in which it is present.

¹⁸⁰ For the purposes of this assessment ComReg assumes a modified Greenfield scenario.

¹⁸¹ Case UK/2007/0733. The Commission issued similar guidance in case PT/2008/0851.

¹⁸² In case UK/2007/0733, the Commission, while broadly accepting Ofcom's analysis, noted that there were local exchanges in Ofcom's identified geographic "market 3" (found by Ofcom to be competitive) where BT's market share was still at or above 50%. Ofcom noted that competitive entry had taken place only very recently and BT's market share was expected to decline rapidly in those identified areas. The Commission therefore called on Ofcom to carefully monitor the progression of competition and to reconsider its decision to de-regulate those areas that do not follow the predicted competitive trend.

- 4.150 ComReg has also considered the extent to which next generation access (NGA) network roll-out may lead to geographic differences in competitive conditions. As noted in a recent ComReg discussion document,¹⁸³ notwithstanding the progress on current generation broadband and development of advanced fibre-based next generation core networks, NGA network deployment has been limited in Ireland to date.
- 4.151 ComReg notes that two operators have publicly announced plans to invest in NGA trials. On 15 June 2010, Eircom announced two NGA fibre trials for up to 10,000 residential and business customers in communities in Wexford town and Sandyford, Co. Dublin with a view to providing FTTH with broadband speeds of up to 150 Mb. Current plans aim at connecting the first customers by early Spring 2011.¹⁸⁴
- 4.152 In May 2010, the cable operator, UPC, also announced plans to offer its customers high speed internet with download speeds of 100 Mb.¹⁸⁵ The 100Mb product would be the first product to be made available by UPC Ireland using the next generation cable broadband standard DOCSIS 3.0. According to the press release, UPC intended to introduce its 100Mb product from late summer of 2010, however, the precise scope, location and timing of this product launch is as yet unclear. In its response to a ComReg information request, UPC Ireland noted that it was hopeful the company would be in a position to commence roll out of DOCSIS 3.0 on a phased basis sometime in Q3 2010 and it indicated its expectation that this would be on a phased basis and would most likely commence in the urban regions.¹⁸⁶
- 4.153 Given the lack of any significant NGA roll-out across Eircom's network to date and the relatively nascent stage of its recently announced FTTH trials, it is not anticipated that a substantial NGA roll-out will occur during the life-time of this review that would significantly influence the existing competitive structure of broadband services at the retail level. To the extent that NGA roll-out does occur over Eircom's network, it is not in any event expected that this would alter the underlying competitive landscape significantly. As outlined in the European Commission's Recommendation,¹⁸⁷ incremental upgrades in network infrastructure are rarely translated into a new or emerging market. NGA investment by other operators is also still at planning stage and, at the time of publication, no concrete information/business plans had been communicated to ComReg on the extent or timing of such investment. Where, for example, material NGA roll-out takes place over UPC's network over the period of this review, ComReg will monitor any such development and assess its potential to drive differentiated competitive conditions in specific areas. However, in the absence of concrete information regarding anticipated product availability and timeframes for launch it is not possible to reliably quantify any such potential effects at this time.

¹⁸³ ComReg, Next Generation Broadband in Ireland: Promoting the timely and efficient development of high-speed broadband infrastructure and services, Document 09/56, 9 July 2009.

¹⁸⁴ Eircom Press Release, 15 June 2010 "eircom Announces Ultra-Fast Fibre Broadband Trials".

¹⁸⁵ UPC Press Release, 4 May 2010. "UPC unveils Fibre Power internet with up to 100Mbps".

¹⁸⁶ Information provided to ComReg by UPC, February 2010.

¹⁸⁷ The Recommendation, paragraph 7.

4.154 Furthermore, regarding the scope for FTTx roll-out by alternative network operators to drive any geographic variances in competitive conditions, there are only two such operators currently offering FTTx services, Magnet and Smart Telecom. As noted above, the FTTx services offered by these operators are still very limited, in terms of both coverage and market share. ComReg does not consider that these have led, or are likely to lead within the timeframe of this review, to material geographic differences in competitive conditions sufficient to define separate geographic markets.

Pricing patterns of incumbent and alternative operators over time

- 4.155 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.
- 4.156 For a common pricing constraint to be evident, price changes in one geographic area being mirrored or closely followed by similar price changes in other geographic areas would suggest that similar competitive pressures are being applied, and that a common pricing constraint operates across both areas. As part of its data gathering process,¹⁸⁸ ComReg asked operators specific questions about any geographic variations in the pricing of their retail broadband offerings. All operators (with the exception of two) indicated in their responses that they did not differentiate the prices of their retail broadband services on a geographic basis. Two operators have variable connection charges generally due to cost differences in supply rather than due to competitive pressures *per se*. One of these operators charged a higher connection charge in one particular county, reflecting higher stated costs of supply in that county, while the other operator charged more for connections where backhaul was required to bring data back to their main network footprint.
- 4.157 It is clear from the above that predominantly national pricing strategies are still being pursued by both the incumbent and alternative operators in the provision of retail broadband services in Ireland. This is distinct to the UK retail broadband situation where in its recent WBA consultation,¹⁸⁹ Ofcom identified a number of LLU-based operators as offering differential prices to customers located within, and outside of, their LLU footprints respectively.
- 4.158 In March 2010, Eircom announced free product upgrades for customers in a number of urban areas, specifically those in next generation broadband (NGB) exchange areas.¹⁹⁰ According to this offer, existing broadband customers on 1Mb, 3Mb and 7Mb will be upgraded for free to 8Mb, as the programme is rolled out. This NGB offer, which effectively implies a lower price per Mb for eligible customers, will initially be available in Dublin and is scheduled to be expanded to all major urban areas including Cork, Limerick, Galway and Waterford by the end of the year.

¹⁸⁸ Information request – November 2009 and meetings with operators.

¹⁸⁹ Ofcom, "Review of the wholesale broadband access markets, Consultation on market definition, market power determinations and remedies", 23 March 2010 – 1 June 2010.

¹⁹⁰ Eircom Press Release, March 29 2010, "eircom Launches Next Generation Broadband for Ireland".

4.159 While this NGB offer will be geographically restricted, the initial availability of this lower price per Mb in certain urban areas would appear to be driven primarily by technical considerations, i.e. those exchange areas where NGB will be available, rather than being explicitly driven by a sub-national commercial strategy. It would appear premature to conclude on the basis of this recent press release that Eircom is now pursuing a regional/local commercial strategy as a direct result of a growing competitive presence of cable in certain areas. If this were the case, one would expect Eircom to have also responded to such competitive pressure by differentiating the pricing of its higher bandwidth offerings in those areas where cable is present vis-à-vis those areas without a cable presence. ComReg proposes however to continue to monitor the retail pricing strategies pursued by Eircom and alternative operators respectively over the timeframe of this review with a view to identifying any behavioural changes at the retail level that might necessitate a revisiting of the relevant market definition, SMP analysis and/or remedies.

Geographic differences in other supply and demand characteristics

4.160 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.

4.161 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.

4.162 However, some operators do use different internet platforms in a complementary way to serve their customers typically for network availability reasons.¹⁹¹ It thus appears 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 consumer demand/localised competitive pressures in those areas.

4.163 Eircom's commercial strategy to date has not led it to vary the functionality of its retail broadband service by geography. However, as indicated above, ComReg explored whether Eircom's recently announced product upgrades in NGB-enabled areas could be interpreted as evidence of the emergence of a more regionally-focused strategy potentially driven by an increasing competitive presence in certain areas. As noted in the above section, however, the roll-out of such recent product innovations would appear to be driven primarily by technical considerations and cannot explicitly be linked to a sub-national commercial strategy at this stage. However, ComReg proposes to monitor the situation to identify whether any further retail product developments

¹⁹¹ For example, in areas where DSL is not available some DSL operators use FWA or satellite broadband to serve customers in those areas, while LLU-based operators use a mixture of LLU and bitstream inputs to serve customers depending on the exchange area, i.e. whether it is unbundled or not.

might be more consistent with a regional/local competitive response to an alternative network presence which, absent wholesale regulation, would be stable and self-sustaining over time.

Preliminary conclusions on the geographic scope of the retail broadband market

- 4.164 In view of the nationally-driven pricing practices of the incumbent and alternative operators and the similarities in product characteristics offered across different areas, ComReg's preliminary conclusion is that the conditions of competition in the retail broadband market are still sufficiently homogeneous to suggest a national market at this stage. While alternative network presence, in particular cable-based network presence, is growing in importance in the Dublin area, this does not appear to have triggered a specifically regional or local pricing response by operators in that area. Furthermore, while there is some limited geographic differentiation in the functionality of products offered, and in associated marketing strategies employed by certain operators, these generally tend to be driven by technical or underlying network considerations and the vast majority of retail broadband customers are serviced by companies which maintain a national commercial policy. Structural and behavioural trends observed over time would thus indicate that the geographic market for retail broadband is likely to continue to be national over the lifetime of this review.
- 4.165 Notwithstanding this provisional conclusion, ComReg's high-level assessment of the coverage and market shares of alternative networks would suggest a growing presence of cable-based broadband at the retail level in urban areas. While this trend does not appear sufficiently established or stable at this point to conclude sub-national markets, a continuing increase in the market share of cable-based broadband coupled with effective retail substitution from DSL to the cable broadband platform could suggest an emerging distinct sub-national market. Should future effective retail substitution be capable of constraining relative price changes, even in discrete geographic areas, relevant retail constraints and possibly even indirect wholesale constraints may need to be factored into the relevant market definition and/or remedies. ComReg thus proposes to monitor retail broadband developments over the period of this market review and to revisit the situation should a more regionally focused and sustained competitive response evolve in particular geographic pockets over time.

Question 3: Do respondents agree with ComReg's preliminary conclusions on the geographic scope of the retail broadband 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 position.

Overall preliminary conclusions on the assessment of the retail broadband market

Having regard to the analysis presented above, and while ComReg is not required to define a retail broadband market, ComReg considers that for the purposes of this review a retail broadband market would likely include the

following:

- **broadband products provided over DSL-based copper networks;**
- **broadband products available over cable-based networks;**
- **broadband products provided over FWA-based networks;**
- **broadband products provided over alternative FTTx networks.**

ComReg further considers that DSL-based broadband would likely fall within a product market which is distinct from products provided over retail narrowband access, satellite networks, leased line networks, as well as mobile broadband networks.

ComReg considers that for the purposes of this review the geographic scope of the retail broadband market would likely be national.

5 WBA Market Definition

Relationship between the WPNIA and WBA markets

- 5.1 As noted in section 4 above, the European Commission identifies a Wholesale Broadband Access (WBA) market as being susceptible to ex ante regulation. In its Recommendation on relevant markets the Commission further notes the relationship between the market for wholesale physical network infrastructure access (WPNIA, which constitutes Market 4) and the WBA market (which constitutes Market 5).¹⁹²
- 5.2 The WBA market lies downstream from the WPNIA market and the regulation of the WPNIA market has the potential to affect competition in the WBA market (since WBA may be offered over infrastructure captured within the WPNIA market). Furthermore, both the WPNIA and WBA markets ultimately aim to facilitate competition in the downstream retail broadband market.
- 5.3 ComReg's preliminary view, in line with the view of the European Commission,¹⁹³ is that WPNIA and WBA fall within separate product markets. However, for the sake of completeness, ComReg has considered whether an operator which provides retail broadband services based on WBA would switch to purchasing physical access (WPNIA products, such as LLU or Line Share) in response to a SSNIP of WBA products (such as bitstream). ComReg has compared the functional and cost characteristics of non-physical WBA with those of physical (WPNIA) access to understand on what basis OAOs might switch from purchasing non-physical to physical access.
- 5.4 From the perspective of the retail market, it is often possible to supply similar retail broadband services using WPNIA and WBA inputs. However, an operator would typically see unbundled loops as offering greater control and flexibility over the design of the retail offering.¹⁹⁴ WPNIA and WBA differ functionally in that WPNIA provides greater scope for differentiation of retail products and associated service features from those offered by the incumbent, compared with WBA, where the operator is more restricted by the performance of the incumbent's offering. For example, an unbundled loop can be used to offer a broader range of retail products compared with WBA, including for instance narrowband voice services. An unbundled loop can also be used by the purchasing operator to offer a WBA product to another operator. Furthermore, by installing its own equipment in an exchange, an operator can use the unbundled loop to offer services over alternative DSL standards that offer enhanced service/performance features not currently offered by the incumbent. In contrast, WBA typically offers lesser scope for retail product differentiation vis-à-vis the incumbent's offering in terms of quality of performance.
- 5.5 ComReg has also considered the investment costs associated with using a physical access product compared with using a virtual or non-physical access product. Physical

¹⁹² See paragraph 4.2 above.

¹⁹³ Explanatory Note, p. 35.

¹⁹⁴ Responses to ComReg's information requests.

access requires significant upfront investment in installing infrastructure at the relevant exchanges, along with access to associated services such as backhaul. Therefore, the WPNIA product would typically appeal to operators that are confident that sufficient economies of scale can be achieved within the areas to be unbundled. This investment represents a sunk cost for operators. Furthermore, potential delays in achieving collocation and implementing backhaul to the relevant exchanges may further imply that switching to such a physical access proposition may not be sufficiently immediate as to constrain a SSNIP in the price of WBA. WBA products, while facilitating less flexibility over the retail offering, may be supplied at higher points in the network (such as regional interconnection points), and thus require fewer interconnection points, and less initial network build, to provide nationwide or near nationwide coverage. WBA products therefore allow alternative broadband providers to provide a comprehensive retail offering with lower upfront investments.

- 5.6 ComReg's preliminary view is thus that wholesale physical access (WPNIA) and wholesale non-physical/virtual access (WBA) are in separate economic markets for the purposes of this assessment.
- 5.7 Furthermore, in line with the modified Greenfield approach set out in the Explanatory Note to the Commission's Recommendation,¹⁹⁵ ComReg's assessment starts from the assumption that regulation is present on the upstream WPNIA market but absent in the market under consideration, i.e. the WBA market. 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 rather how that particular 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.
- 5.8 It is also important at this point to differentiate between the purchase and sale of a wholesale non-physical WBA product such as bitstream, and the pure resale of another operator's product. Resale occurs when an operator, which controls some or all network elements, provides a product which is re-branded and sold on by another operator. It does not provide the operator purchasing the wholesale service with the opportunities for product innovation and differentiation (for example, in terms of quality of service or value-added services) which are associated with a wholesale non-physical product. Resale products are thus not considered to fall within the same relevant market as non-physical WBA products, with the latter typically being used by new entrants with some infrastructure of their own. This approach is also in line with European Commission guidance.¹⁹⁶

¹⁹⁵ Explanatory Note, p. 13.

¹⁹⁶ The European Commission's original (2003) Explanatory Note (pp. 24-25) makes this clear: *"There is very little substitution between resale of end-to-end wholesale products and access-style products, both from the demand- and from the supply-side perspectives. While the former mainly appeal to service providers and resellers, the latter are needed by new entrant network operators which intend to offer a full set of competing services by using their own infrastructure ... Resale products are not considered part of this market as they are not*

Approach to defining the WBA market

- 5.9 As noted above, the market definition exercise assumes no SMP regulation in the WBA market.¹⁹⁷ It is possible that, absent regulation, no wholesale products would be offered by the incumbent. In such a scenario, pent-up demand for a comprehensive non-physical WBA product may also prevail from operators without extensive infrastructure of their own aiming to gain more widespread coverage in the downstream retail market. As noted in section 3 above and also later in this section, a number of respondents to ComReg's information requests confirmed that geographic coverage was indeed a key consideration when choosing their WBA supplier. In that case, it may be expected that the products which could meet such pent-up wholesale demand would be the WBA products self-supplied by a broadband access provider with comprehensive or ubiquitous (e.g. widespread or near nationwide) coverage.
- 5.10 Absent regulation, some voluntary commercial supply of WBA could materialise from alternative operators (e.g. WPNIA purchasers) in discrete geographic areas. However, these alternative wholesale offerings are likely to be limited in scope and not in a position to meet the pent-up demand that would likely prevail for a comprehensive or ubiquitous WBA broadband product capable of enabling downstream operators to enter the retail broadband market with widespread or near nationwide coverage. Indeed, as also discussed later in this section, responses to ComReg's information requests confirm that purchasers of WBA consider it less commercially attractive to purchase WBA services from geographically-restricted providers and also noted possible switching/transaction costs associated with using multiple WBA providers.
- 5.11 In its Explanatory Note, the European Commission recognises that:
- "In many cases, the incumbent is the only firm 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, 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."*¹⁹⁸
- 5.12 Further to this guidance, and in considering a situation absent regulation, ComReg's assessment takes into account a notional market involving WBA services self-supplied over a comprehensive access infrastructure.
- 5.13 As noted in sections 3 and 4 above, the predominant means of retail broadband access in Ireland is currently based on DSL infrastructure, accounting for almost 50% of all

sufficient to address the needs of the wholesale broadband access market and the inclusion of such resale products in this recommendation is not justified."

¹⁹⁷ The current WBA market is regulated and Eircom is obliged to offer WBA products and services in line with its obligations on that market. ComReg "Market Analysis, Wholesale Broadband Access", Document 05/11r, Decision 03/05, 24 February 2005, and ComReg, "Retail minus wholesale price control for the WBA market", Document 06/01, Decision D01/06, 13 January 2006.

¹⁹⁸ Explanatory Note, p. 15.

retail broadband subscriptions and approximately 72% of all retail fixed broadband subscriptions as of Q2 2010. Since wholesale demand is ultimately derived from the demand for access at the retail level, ComReg thus assumes as its starting point a HM supplier of DSL-based WBA services, with extensive or ubiquitous infrastructure.

- 5.14 As the analysis of the WBA market is forward-looking, it is not bound by existing products and technologies. The WBA market is thus provisionally considered to include non-physical broadband access provided over current generation infrastructure (based on DSL/copper) as well as next generation infrastructure (based on fibre and/or a combination of copper and fibre) when it becomes available.¹⁹⁹
- 5.15 ComReg's preliminary view is that WBA services offered by the HM over NGA infrastructure would allow for replication/replacement of current generation broadband access services and/or for the provision of higher quality services. As NGA develops and begins to supersede current generation access as a platform for delivering broadband (and other) services, consumers are likely to continue demanding services over these networks and access seekers are likely to perceive WBA over NGA as an effective 'next step' substitute for the purposes of competing in downstream retail markets. In considering potential demand from access seekers for a comprehensive or ubiquitous WBA input as noted above, it is likely to be immaterial to such wholesale purchasers whether copper or fibre is used to deliver such inputs, as it is likely that similar products could be provided over fibre, albeit in an evolved form. This view is consistent with the European Commission's Recommendation which indicates that incremental upgrades in network infrastructure are rarely translated into a new or emerging market. The lack of substitutability of a product has to be established from both demand and supply-side perspectives before it can be concluded that it is not part of an already existing market.²⁰⁰
- 5.16 As wholesale demand for a comprehensive or ubiquitous WBA product is likely to prevail, regardless of whether the HM's network is based on current generation (DSL) access or if fibre is overlaid (either in whole or in part) as part of an NGA upgrade,²⁰¹ ComReg proposes that both types of access would represent effective demand side substitutes and form part of the same relevant market.

¹⁹⁹ Similarly, the WPNIA market is defined as including current generation and next generation physical access. ComReg, "Response to Consultation and Decision, Market Review: Wholesale (Physical) Network Infrastructure Access (Market 4)", Document 10/39, Decision D05/10, 20 May 2010.

²⁰⁰ The Recommendation, para. 7.

²⁰¹ Note, however, that the degree of substitutability will also depend on the degree of ubiquity/reach of a given network (described in detail in the following sections). Therefore, a hypothetical wholesale product on any network that is not of sufficient scale to offer a viable and commercially attractive WBA product could be excluded from the WBA product market, due to a lack of demand-side or supply-side substitutability.

Assessment of possible constraints from vertically integrated operators on a HM supplier of (DSL-based) WBA

- 5.17 In line with guidance from the European Commission,²⁰² self-supplied WBA by vertically integrated operators is included in the WBA market if the following conditions for direct wholesale constraints are satisfied:
- the operator could switch readily to providing a WBA product to third parties without significant additional costs or risks (e.g. in implementing additional infrastructure and/or relevant wholesale systems);
 - the network would offer the coverage/ubiquity expected by access seekers;
 - there would be sufficient capacity to provide a WBA product to third parties; and
 - there would be sufficient wholesale demand side substitution.
- 5.18 Where the above conditions are not fulfilled, self-supply by vertically integrated operators is only included in the WBA market where indirect constraints from retail competition are strong enough to constrain small but permanent wholesale price increases.²⁰³
- 5.19 Taking the starting point of a HM supplier of a (currently DSL-based) non-physical WBA product, ComReg considers that Eircom's self-provisioned access network would offer the type of ubiquity and capacity expected by access seekers.²⁰⁴ In view of the dimension and reach of Eircom's access network, it may be expected that demand side substitution to a WBA offering supplied over that network would be sufficiently immediate and effective without involving significant customer switching costs. Further, taking into account the scope of Eircom's network as a self-provisioning operator and its existing wholesale systems and relationships in adjacent markets, it may be expected that Eircom could switch production to the relevant products and market them in the short term without incurring significant additional costs or risks. On that basis, it would appear that non-physical broadband access provided over Eircom's access network falls for inclusion within the WBA product market.
- 5.20 There are a number of different possible routes to market for a non-ubiquitous operator wishing to supply retail broadband services. For example, vertically integrated operators, such as WPNIA purchasers, cable, FWA, FTTx or mobile operators, effectively self supply their own non-physical access product via their respective broadband platforms.
- 5.21 It needs to be considered whether the WBA market definition should be broadened to include these self-supplied inputs, and/or any actual or potential wholesale services

²⁰² See, for example, paragraph 20 of the Commission Notice on Market Definition, and p. 15 of the Explanatory Note on relevant markets.

²⁰³ See paragraphs 5.86 to 5.122 below for a discussion of indirect constraints.

²⁰⁴ As noted above and also discussed later in this section, a number of respondents to ComReg's information requests confirmed that geographic coverage was a key consideration when choosing their WBA supplier.

offered over such alternative broadband platforms over the period of this review. In line with the approach set out above, ComReg first considers possible direct constraints which any wholesale product offered across such platforms may impose on a HM (DSL-based) supplier of WBA. In the absence of such direct wholesale constraints, ComReg considers any possible indirect constraints which actual or potential substitute products provided at the retail level may impose upstream on a HM supplier of WBA.

Possible direct constraints from WPNIA purchasers, cable operators, FWA operators, alternative FTTx operators and mobile operators on a HM supplier of (DSL-based) WBA

5.22 Since wholesale demand is derived from the retail level, the following assessment considers vertically integrated operators whose retail broadband products may be considered good substitutes for DSL-based retail broadband. This section therefore examines the extent to which actual/potential wholesale products offered over the following alternative platforms could exercise a sufficiently strong direct constraint on WBA delivered over a HM's extensive or ubiquitous DSL network:

- Non-physical WBA products supplied by purchasers of WPNIA
- Cable
- FWA
- Alternative FTTx networks
- Mobile (while it is considered that mobile broadband is not a good substitute for DSL broadband at the retail level, the potential wholesale product in the NBS area means that, in the interests of carrying out a comprehensive analysis, ComReg has included an assessment of mobile in this section).²⁰⁵

WBA supplied by WPNIA purchasers

5.23 ComReg has considered from the demand side the extent to which wholesale customers could or would switch to purchasing WBA from a WPNIA purchaser in response to a SSNIP of a HM's (DSL-based) WBA product.

5.24 ComReg considers that, in terms of product/technical characteristics and given that they rely on the same underlying technology, a WBA product offered by an operator which had purchased WPNIA inputs is likely to be sufficiently similar to a (DSL-based) WBA product offered by a HM to make them potential demand-side substitutes. This means that, on the basis of the characteristics of the product alone, a wholesale customer

²⁰⁵ In view of the notably different characteristics of broadband provisioning via satellite communications, e.g. in terms of the more restricted speeds and latency inherent in satellite communications, as well as the substantially different pricing structure, and significantly lower number of retail customers currently availing of satellite-based broadband products, ComReg does not anticipate that any potential WBA supply via satellite networks could effectively constrain the HM WBA provider from implementing a SSNIP within the lifetime of this review and it is thus not considered further in this section.

would be likely to find a WBA product based on a purchased WPNIA input to be a suitable substitute for a HM's (DSL-based) WBA product.²⁰⁶

- 5.25 However, in order for two products to be considered as *sufficiently* interchangeable to fall in the same relevant market, demand must be sufficiently responsive to small changes in relative prices around the competitive level.²⁰⁷
- 5.26 At present, there is limited wholesale supply of WBA by WPNIA purchasers to third party customers. As already noted in section 3, BT, the largest WPNIA purchaser, is in the early stages of supplying a WBA service to Vodafone and has indicated plans to incrementally supply further WBA services to Vodafone using purchased WPNIA inputs. The implications of this wholesale arrangement for the WBA market definition is considered in a separate section (see BT/Vodafone transaction) below.
- 5.27 As noted in section 3 above, another WPNIA purchaser supplies a wholesale broadband product to one of its customers on a very limited basis, although this appears more akin to a resale product rather than a WBA product offering. No other concrete plans for WBA merchant supply have been announced by other WPNIA purchasers to date. As noted in paragraph 5.8 above, resold broadband access products are not considered to fall within the same relevant market as WBA products given that both appeal to different sets of users with distinct needs in terms of their ability to differentiate the resulting retail offering.
- 5.28 Apart from the BT/Vodafone transaction, which is considered further below, the potential for effective WBA supply from other WPNIA purchasers to develop is limited by the low levels of take-up of WPNIA in Ireland to date, and the relatively limited presence of such operators. At the end of June 2010 only 22,042 lines had been unbundled in total representing only about 3% of DSL subscriptions and a 2.2% share of retail fixed broadband subscriptions (i.e. the retail broadband market as provisionally defined above). Over the last 2 years (since Q2 2008) the numbers of WPNIA-based retail subscriptions have remained static, contributing consistently less than 2.5% of retail fixed broadband subscriptions. It should be further noted that these unbundled lines were distributed across four networks,²⁰⁸ implying even lower availability of broadband supply based on purchased WPNIA inputs on an operator-by-operator basis.
- 5.29 In responses to ComReg's information requests, certain wholesale customers noted a willingness to consider WPNIA purchasers for their WBA needs if such wholesale

²⁰⁶ It should be noted that reference to product characteristics in this context refers only to the key technical/functional specifications of the broadband access products. As noted above, the degree of ubiquity/reach of a given network may also affect the viability and commercial appeal of any WBA product supplied over that network. The influence of network coverage/reach on the substitutability of any WBA products supplied using WPNIA inputs is considered later in this section.

²⁰⁷ The SMP Guidelines, para 44.

²⁰⁸ There are currently five operators availing of WPNIA in Ireland – BT, Magnet, Smart Telecom, Colt and 3PlayPlus, however Colt does not appear to offer any retail broadband services via LLU. There are currently 85 unique unbundled exchanges in Ireland (note there may be more than one of the aforementioned WPNIA purchasers collocated at each of these exchanges).

supply were to become available and if the geographic coverage of alternative operators was more widespread. However, in addition to concerns about the level of availability, switching barriers associated with the cost to purchasers of developing multiple automated order handling and service assurance systems were noted by some operators as possible factors limiting demand-side substitutability. The information provided to ComReg further suggests that wholesale customers may not find it viable to purchase wholesale services from a number of different suppliers because of the costs associated with establishing separate administrative and technical relationships with each supplier.

- 5.30 ComReg's preliminary view is that, while the product characteristics of a potential WBA offering based on purchased WPNIA inputs are likely to be comparable to the (DSL-based) WBA offering of a HM supplier, the low and fragmented nature of WPNIA take-up is likely to significantly limit the potential availability of any such product. Furthermore, the possible need to contract with multiple WPNIA purchasers and the associated switching costs could limit wholesale customers' propensity to switch to WBA services provided over purchased WPNIA inputs within the period of this review.
- 5.31 ComReg has also considered from the *supply side* the extent to which a WPNIA purchaser, not currently supplying WBA on a merchant market basis, could or would switch to supplying WBA to third parties in response to a SSNIP of a HM's (DSL-based) WBA product. Such supply substitution should only be taken into account in the relevant market definition if its effects are equivalent to those of demand substitution in terms of effectiveness and immediacy, i.e. where suppliers could switch production to the relevant products and market them quickly in response to a SSNIP without incurring significant additional costs or risks.²⁰⁹ ComReg also notes the European Commission's view that it is not justified to take the self-supply of the integrated providers concerned into account if the alternative operators face capacity constraints, if their networks lack the level of ubiquity expected by access seekers, and/or if alternative providers have difficulty in entering the merchant market readily.²¹⁰
- 5.32 There are examples of WBA products supplied on the merchant (wholesale) market by WPNIA purchasers in some other jurisdictions, although supply is still limited. In the UK, Ofcom notes LLU-based supply of wholesale DSL products to third parties, although these were low in volume.²¹¹ In France, ARCEP noted that one WPNIA purchaser offers WBA delivered at sub-national level, but in very limited volumes.²¹² This suggests that, as the retail broadband market develops, wholesale products may

²⁰⁹ Commission Notice on Market Definition, para. 20.

²¹⁰ Explanatory Note, section 3.1, p. 15.

²¹¹ See Ofcom, "Review of the wholesale broadband access markets, Consultation on market definition, market power determinations and remedies", 23 March 2010 – 1 June 2010, p. 52. However, notwithstanding this wholesale supply it appears that Ofcom included LLU-based self-supply of WBA in the relevant product market largely on the basis of indirect retail constraints rather than direct wholesale constraints. See case UK/2010/1064-1065.

²¹² See case FR/2008/0780-0781.

emerge on a voluntary basis, although experience to date in other jurisdictions suggests that supply of WBA outside of that supplied as a regulatory obligation remains limited.

- 5.33 As noted above, WPNIA purchasers currently have limited WPNIA footprints in Ireland. With the exception of BT, which is considered further below, it is not anticipated that from such low initial levels of WPNIA uptake potential wholesale supply could extend readily and on a sufficient scale to meet the expectations of WBA access seekers and therefore constrain a SSNIP by a comprehensive or ubiquitous HM supplier of (DSL-based) WBA over the timeframe of this review.²¹³
- 5.34 A WPNIA purchaser intending to enter the WBA market would also need to develop a wholesale product and associated interfaces, and the information which has been made available to ComReg suggests that, with the exception of BT, the costs may not be justified in view of a limited potential customer base due to a limited WPNIA footprint. Furthermore, such WPNIA purchasers generally could not enter the market readily without incurring significant costs or risks in unbundling additional exchanges and implementing the relevant wholesale systems.

BT/Vodafone transaction²¹⁴

- 5.35 BT has announced plans to increase its WPNIA presence in Ireland such that its WPNIA footprint is planned to cover approximately 40% of total working DSL lines at the end of the next two years.²¹⁵ According to the terms of a recent wholesale agreement

²¹³ Developments in the pricing of regulated WPNIA inputs in recent months could have an important impact on its uptake in Ireland. However, the very low WPNIA deployment by Smart Telecom, Magnet, Colt, and 3 PlayPlus to date and the relevant investments and potential delays involved in unbundling exchanges and implementing relevant backhaul is likely to constrain the ability of these operators to supply a sufficiently comprehensive WBA offering using purchased WPNIA inputs over the period of the current review. ComReg proposes however to monitor any significant uptake in purchased WPNIA inputs over the present review. See ComReg "Response to Consultation Documents No 09/39 and 09/62, "Local Loop Unbundling ("LLU") and Sub Loop Unbundling ("SLU") Maximum Monthly Rental Charges", Document 10/10, Decision D01/10, 9 February 2010 and ComReg "Response to Consultation Document No 08/106 and Decision, "Rental Price for Shared Access to the Unbundled Local Loop", Document 09/66, Decision D04/09, 18 August 2009.

²¹⁴ The market definition exercise is usually carried out by reference to products rather than suppliers with the assessment of the actual suppliers of substitute products being generally deferred to the competition or SMP assessment. However, as noted above, the degree of ubiquity/reach of a given network may also affect the viability and commercial appeal of any WBA product supplied over that network. For example, a network that reaches a large number of customers serves a different functional purpose for an access seeker and offers a different value proposition to a network that extends to only a small number of customers. Therefore, the willingness of access seekers to switch to a potential WBA product offered on small and fragmented networks may differ in comparison to more comprehensive access networks. Given that BT is the largest WPNIA purchaser in Ireland and has expressed plans to expand its WPNIA footprint, it is considered appropriate to assess any WBA offerings over BT's network separately from the other WPNIA purchasers discussed above.

²¹⁵ Competition Authority, Determination of merger notification M/09/015 – VODAFONE IRELAND/BT IRELAND, Acquisition of retail and SME customers of BT Communications Ireland Limited by Vodafone Ireland Limited, 21 August 2009, (Competition Authority Merger Determination), p. 7

between BT and Vodafone Ireland, BT plans to offer a WBA-type product to Vodafone Ireland based on its existing and future WPNIA inputs, and Vodafone proposed to take over from BT the supply of retail telecoms services to approximately 84,000 residential customers and 3,000 SME customers.²¹⁶

- 5.36 As part of the transaction, the first year of WBA supply from each unbundled exchange will be on an exclusive basis,²¹⁷ so that BT will supply only Vodafone with a wholesale non-physical broadband access product at that exchange. For this initial period, the product will not be available to any other wholesale customers on the broader merchant market. Vodafone also commits to purchasing WBA services only from BT for a period of 7 years in those exchanges which BT has unbundled or successfully unbundles over the course of the agreement.²¹⁸ It may be expected that Vodafone would continue to purchase WBA from Eircom in those exchanges which BT does not unbundle.
- 5.37 ComReg has considered whether or not the partnership between BT and Vodafone indicates that there is potential supply-side substitution to constrain a SSNIP of a HM's (DSL-based) WBA offering in the immediate to short term. Furthermore, should BT's wholesale supply evolve in accordance with the available business plan, ComReg has considered whether or not there would be sufficient demand-side substitution so as to constrain a SSNIP by a HM supplier of (DSL-based) WBA.
- 5.38 For supply-side substitution to be included in the relevant market definition, it should involve immediate or short term effective entry. ComReg's understanding of the strategic partnership between BT and Vodafone is that the wholesale arrangement is part of an overall commercial relationship which also involves the transfer of BT's retail and SME customers to Vodafone. The provisional plans and timing for the supply of WBA services by BT to Vodafone indicates that it will be incremental. The nature of the arrangement between BT and Vodafone is such that BT could not respond to a SSNIP in a HM's WBA offering (i.e. by supplying third parties) for a one-year period starting from the time that each additional exchange is unbundled, because BT will exclusively (for the first year) supply Vodafone with WBA in those exchanges which it unbundles.
- 5.39 Notwithstanding this initial period of exclusivity, ComReg has considered the scope for BT's WBA supply to potentially constrain a HM supplier of (DSL-based) WBA over the entire period of this review.
- 5.40 At the end of the initial 12-month exclusive period at each unbundled exchange, it may be expected that BT could potentially offer a WBA product to other wholesale purchasers from its unbundled exchanges if further commercial agreements were reached. While on the demand side some wholesale customers have indicated interest in possible alternative sources of WBA supply if the geographic coverage of alternative operators was more widespread, it remains to be seen whether BT's anticipated

²¹⁶ Competition Authority Merger Determination, pp. 6-7.

²¹⁷ Competition Authority Merger Determination, p. 7.

²¹⁸ Competition Authority Merger Determination, p. 7.

coverage would provide sufficient ubiquity for further wholesale access seekers to switch a sufficient portion of their wholesale broadband purchases to BT, in the absence of an accompanying retail customer transfer which forms part of the BT/Vodafone transaction.

- 5.41 BT's supply of WBA to Vodafone is still in its initial stages. The first phase of this project, initially scheduled for March 2010, has seen migration connections from the Eircom network to the BT network slow to materialise, due to a delay in reaching industry agreement on a bulk inter-migration process. Figures provided to ComReg on 9 July 2010 indicated that less than 20% of the active lines, which BT had initially forecasted to be migrated to its network in June 2010, had actually been transferred by that date. This represents less than 15% of BT's overall wholesale migration plan for the two-year period in question. As BT is starting from an existing WPNIA base of just 22 exchanges,²¹⁹ its WBA business plan is critically dependent on a sufficiently prompt unbundling of 38 additional exchanges,²²⁰ as well as on the development of BT's wholesale service, establishment of the relevant interfaces between the operators and the effective migration of wholesale connections to BT.
- 5.42 The European Commission's Notice on Market Definition suggests that, for the purposes of market definition, constraints by *actual* competitors are among the most relevant elements to be assessed.²²¹ Furthermore, the European Commission's SMP Guidelines note that when defining a relevant market mere hypothetical supply-side substitution is not sufficient.²²² On the one hand, the incremental and medium term nature of BT's planned WBA supply and its inherent dependency on the successful realisation of a number of factors could imply that it is not immediate or effective enough to be considered in the relevant market at this stage. On the other hand, ComReg recognises that BT has secured a non-trivial wholesale customer for potentially a 7-year period and that the implementation of its prospective WBA supply to this and any other potential customers should be carefully assessed.
- 5.43 It is not, however, necessary to reach a definitive conclusion on the inclusion/exclusion of BT's planned WBA supply in the relevant product market at this stage. It potential

²¹⁹ Competition Authority Merger Determination, p. 7.

²²⁰ Irish Times, "Revenues at BT Ireland dip 3% to settle at €388m", 13 November 2009,.

²²¹ According to para. 2 of the Commission's Notice on Market Definition: "*The objective of defining a market in both its product and geographic dimension is to identify those actual competitors of the undertakings involved that are capable of constraining those undertakings' behaviour and of preventing them from behaving independently of effective competitive pressure*".

²²² According to para. 52 of the SMP Guidelines: "*NRAs will need to ascertain whether a given supplier would actually use or switch its productive assets to produce the relevant product or offer the relevant service (for instance, whether their capacity is committed under long-term supply agreements, etc.). Mere hypothetical supply-side substitution is not sufficient for the purposes of market definition.....delays and obstacles in concluding interconnection or co-location agreements, negotiating any other form of network access, or obtaining rights of ways for network expansion, may render unlikely in the short term the provision of new services and the deployment of new networks by potential competitors*".

impacts will in any case be carefully assessed at both the geographic market definition and the SMP analysis stage, taking account of the available BT/Vodafone business plan, as well as any possible additional wholesale capacity which BT may make available over the review period.

- 5.44 Such an approach is in line with European Commission guidance where the SMP Guidelines note (at footnote 24) that:

*“Distinguishing between supply-side substitution and potential competition in electronic communications markets may be more complicated than in other markets given the dynamic character of the former. **What matters, however, is that potential entry from other suppliers is taken into consideration at some stage of the relevant market analysis, that is, either at the initial market definition stage or at the subsequent stage of the assessment of market power (SMP) [emphasis added]**”.*

- 5.45 Furthermore, regardless of where in the analysis BT’s WBA supply is considered, it is shown later in this Consultation Paper that there is not considered to be a material impact on ComReg’s overall preliminary finding of SMP. Thus the question of the inclusion/exclusion of BT’s WBA supply based on purchased WPNIA inputs can be left open in the product market definition at this stage.

Summary of preliminary conclusions on potential direct constraints from non-physical access supplied by WPNIA purchasers

- 5.46 ComReg is of the view that, in principle, a WBA offering based on purchased WPNIA inputs would share similar product/technical characteristics as a (DSL-based) WBA product offered by a HM supplier. However, ComReg’s preliminary view is that the ability of a WPNIA purchaser to offer an effective non-physical WBA product is limited by the very low levels of WPNIA uptake to date. ComReg considers that, with the exception of BT, purchasers of WPNIA inputs in Ireland would not be able to offer a WBA product with the ubiquity expected by access seekers within the immediate to short term and without incurring significant additional costs.

- 5.47 ComReg has, however, taken particular account of BT’s plans to supply a WBA product to Vodafone as part of their broader commercial partnership. Given the early stages of this supply, the incremental nature of its implementation and its dependence on a number of factors, ComReg’s preliminary view is that the BT/Vodafone partnership does not meet the European Commission’s criteria for inclusion in the relevant market definition at this time. However, regardless of this, the question of whether or not BT’s planned WBA supply should be included in the relevant product market can be left open. It is not necessary to reach a definitive conclusion for the purposes of this product market definition as potential constraints from BT’s WBA supply are still considered in both the geographic market definition and the SMP assessment. Furthermore, irrespective of where in the analysis such potential competition from BT is considered, the preliminary SMP finding arrived at below is not affected.

- 5.48 ComReg also proposes to carefully monitor BT’s wholesale supply on an ongoing basis as it materialises and to revisit its market definition, SMP analysis and/or remedies if appropriate.

Non-physical WBA products offered over alternative platforms (cable, FWA, FTTx, mobile)

- 5.49 This section considers the extent to which non-physical broadband access services offered over alternative platforms could potentially constrain a HM sustaining a SSNIP in its (DSL-based) WBA offering.
- 5.50 The focus is on the wholesale equivalent of retail broadband products which may be considered good substitutes for DSL retail broadband. The preliminary assessment of the retail market suggested that, in terms of product characteristics and pricing, consumers may find products offered over alternative cable, FTTx and FWA networks to be effective substitutes for DSL-based broadband. This section therefore examines the extent to which potential wholesale products offered over these platforms may exercise a direct constraint on a (DSL-based) WBA product supplied by a HM. While it is considered that retail mobile broadband is not a good substitute for DSL broadband, the potential wholesale product in the NBS area means that, in the interests of carrying out a comprehensive analysis, ComReg has included an assessment of mobile in this section.

Cable

- 5.51 As there is currently no WBA-type product available via cable infrastructure in Ireland, the assessment of *demand-side* substitutability focuses on a potential wholesale demand for cable-based WBA products. ComReg has considered the extent to which wholesale customers would be likely to switch to a notional cable-based WBA product in response to a SSNIP in a (DSL-based) WBA offering. ComReg notes the relatively limited geographical coverage of cable-based broadband at present (approximately 38% of Irish homes are passed by a broadband-capable cable network).²²³ As noted in section 4 above, UPC has indicated plans to increase its potential national coverage up to 44%, bringing it close to the maximum potential of its existing HFC network over the next three years, but has not indicated plans to extend its broadband network further beyond its existing HFC footprint.
- 5.52 Even if a wholesale product were made available on a cable network, the number of wholesale customers that could choose to switch to it would be restricted by the network's geographical coverage, although ComReg recognises that coverage is increasing. Responses to ComReg's information requests confirm that purchasers of WBA consider it less commercially attractive to purchase WBA services from geographically-restricted providers, because the purchaser would then be compelled to enter into purchasing agreements and potentially establish interface systems with multiple operators in order to achieve economies of scale in supply to end-users.

²²³ According to Liberty Global's second quarter results, as of August 2010 UPC's internet network passed 621,000 homes.

- 5.53 The European Commission also referred to the restricted geographic coverage of cable networks as a factor limiting the scope for effective demand-side substitution vis-à-vis DSL-based broadband offerings in Spain:

*“...demand-side substitution is constrained by the difference of geographical coverage of the available cable and ADSL networks in Spain. Whereas nearly all of the Spanish population can get broadband access based on Telefónica's ubiquitous ADSL up-graded network based on conventional copper pairs, only about 40% of the population can get broadband access based on cable-modem. This would not allow a purchaser of wholesale cable-modem access to offer broadband access services throughout the Spanish territory...The geographic coverage of the Spanish cable operators thus acts as a significant constraint on demand-side substitution between cable modem and ADSL wholesale access.”*²²⁴

- 5.54 The impact of geographic coverage is further reinforced in the Commission’s Explanatory Note to its Recommendation, where it states:

*“Experience under the market analysis and Article 7 notification procedures so far has indicated that, where cable networks exist, their geographical coverage is often limited and wholesale access to such networks does not constitute a direct substitute for DSL-based wholesale access products from the demand or the supply side, so that inclusion in the same product market is not justified”.*²²⁵

- 5.55 As also noted in the European Commission’s Telefónica decision, there are substantial switching costs associated with changing technological platforms for WBA products:

*“The costs associated with switching from one technological platform to another are very significant, because they entail rolling out another network reaching the nodes of the alternative network (Telefónica's network and the cable networks do not have the same topology). These costs by far outweigh any incentive for switching in the case of a small but significant lasting increase in the price of the ADSL wholesale access products, and therefore the clients would be unwilling to switch to a cable modem based wholesale broadband access product even if such product was made available on the market in the future”.*²²⁶

- 5.56 In its Explanatory note to the Recommendation, the Commission also recognises that substantial switching costs would be involved for wholesale customers switching from DSL-based to cable-based wholesale access, where it states:

“For existing wholesale customers, migrating from DSL-based access to cable-based access would give rise to substantial switching costs so that switching is unlikely to occur in reaction to a small but significant non-transitory price increase. Suppliers would also be in a position to price discriminate between existing wholesale customers

²²⁴ European Commission decision of 04.07.2007 relating to a proceeding under Article 82 of the EC Treaty (Case COMP/38.784 – Wanadoo España vs. Telefónica), paras 201-203.

²²⁵ Explanatory Note, p. 34.

²²⁶ Case COMP/38.784 – Wanadoo España vs. Telefónica, para. 200.

*and wholesale customers that have not yet committed to a particular technology so that existing customers would not benefit from any constraining effect of uncommitted customers”.*²²⁷

- 5.57 ComReg’s preliminary view is that the European Commission’s observations about the situation in Spain would apply also in Ireland. Switching/transaction costs may include the need for a potential purchaser of cable-based WBA to establish additional technical and administrative links with the cable operator, and to potentially incur equipment costs such as the replacement of customer premises equipment.
- 5.58 For example, in the Netherlands, OPTA has observed that the choice of a certain technology is frequently a long-term choice due to transition costs, and that purchasers of WBA via copper have to make specific investments in network equipment for DSL, meaning they will not switch to WBA via coaxial cable in response to a SSNIP.²²⁸ While including cable in the relevant WBA market in France, ARCEP itself admitted that cable networks may only be hypothetical substitutes due to especially high switching costs associated with the replacement of customer premises equipment and the absence of demand from ISPs for cable-based WBA due notably to the absence of interoperability of cable and DSL terminal equipment.²²⁹
- 5.59 The findings of other NRAs are also confirmed in an Irish context by responses to ComReg’s information requests. Respondents noted potential switching costs such as the expense of developing and maintaining automated handling and assurance systems with multiple providers, migration costs, the need to potentially build new IT system interfaces, and to develop operational and technical aspects of the service.
- 5.60 Based on the above assessment, ComReg’s preliminary view is that any potential cable-based WBA product would not be a sufficiently effective direct demand-side substitute for (DSL-based) WBA supplied by a HM due to its more limited geographic availability and potentially high switching costs for wholesale customers in changing technological platforms.
- 5.61 It is important to note that there is currently no cable-based non-physical WBA product available in Ireland. For the purposes of market definition, it must also be considered from the *supply side* whether, absent regulation, a cable operator could or would offer a WBA product within the immediate to short-term (e.g. within 12 months) and at negligible cost. The European Commission has noted in previous Article 7 cases that:

*“... before including cable networks in the relevant market definition, the NRAs should give due consideration to the technical, practical and economic feasibility for cable operators to offer facilities equivalent to bitstream access”.*²³⁰

²²⁷ Explanatory Note to the Commission Recommendation, footnote 37.

²²⁸ See case NL/2008/0827. OPTA included cable in the low-quality WBA market largely on the basis of indirect constraints but excluded it from the high-quality WBA market.

²²⁹ See case FR/2008/0781.

²³⁰ See, for example, case PT/2004/0118. See also Explanatory Note, p. 34.

- 5.62 As regards the technical feasibility of a cable-based WBA offering, work previously carried out by the European Regulators Group (ERG),²³¹ now known as the Body of European Regulators for Electronic Communications (BEREC), proposed that various technical solutions exist for cable operators to provide “bitstream-type” services to third parties, although the inherent structure and architecture of a cable network may render these solutions more complex than in the case of, for example, DSL.
- 5.63 In including cable in its definition of the relevant WBA market in Denmark, NITA indicated its view that, due to the high quality of the cable network (DOCSIS 3.0) operated by the incumbent telecoms operator, TDC, granting wholesale access to TDC’s network would be technically feasible. NITA considered further that in order to provide WBA via cable, TDC would have to make investments in the necessary equipment (mainly routers), in network capacity and in management and administrative systems. In addition, TDC might also incur some specific costs due to the provision of third party access (e.g. reorganisation of its cable frequency bands, transaction costs, etc.). NITA also provided evidence of pent-up demand from operators indicating a stated interest in gaining access to TDC’s cable network.²³²
- 5.64 In its comments on NITA’s proposal, the European Commission indicated doubts about the inclusion of cable in the relevant market (referring *inter alia* to the absence of a nationwide coverage implying that substitutability with the DSL network might not be sufficiently wide-ranging). However, in recognising the particular circumstances in Denmark where TDC as the incumbent operator has joint control over the cable and DSL networks, the European Commission noted a risk that limiting access remedies to the DSL network would undermine the effectiveness of the bitstream remedies and accepted that it was justified to extend the remedies to cover also TDC’s cable network, even in the absence of conclusive evidence on the market definition. NITA has thus imposed an obligation on TDC to also provide a bitstream access offer on its cable network.
- 5.65 Considering the above, there would still appear to be some questions regarding the technical and economic feasibility of supplying cable-based WBA offers, considering the limited availability of any such wholesale offers (particularly as a result of voluntary action) in an EU context. Furthermore, based on the available information, ComReg does not anticipate a cable-based WBA offer materialising in Ireland over the period of this review and is not aware of significant pent-up customer demand in this regard. UPC has stated that it does not now, or at any time within the period of this review, plan to offer a WBA product.

²³¹ ERG (03)33 Rev2 Revised Common Position on wholesale bitstream access (includes a chapter on cable network access), adopted on 2 April 2004 and amended on 25 May 2005.

²³² Case DK/2008/0862. Following its analysis of the WBA market, NITA has imposed an obligation on TDC to also provide a bitstream access offer on its cable network, although this is not yet available.

Summary of preliminary conclusions on potential direct constraints from non-physical access supplied by cable operators

- 5.66 There is no cable-based wholesale product currently available on the market and ComReg's preliminary view is that, absent regulation, it is neither likely nor probable that a cable operator would have sufficient economic incentives to voluntarily offer a WBA product following a SSNIP in (DSL-based) WBA within the period of this review.
- 5.67 Furthermore, even if cable-based WBA were to become available, the more limited geographic reach as well as potential switching costs vis-à-vis DSL-based networks would also potentially limit its effectiveness as a demand-side substitute.
- 5.68 ComReg has examined recent NRA approaches in relation to WBA, noting that, although around half of market analysis notifications to the European Commission have included a wholesale non-physical access product offered over cable in the WBA market, this has for the most part been on the basis of indirect retail constraints, rather than on the basis of direct wholesale constraints. The potential for indirect constraints is discussed further below.

Alternative FWA and FTTx networks²³³

- 5.69 There is currently no WBA-type product available via alternative FWA and FTTx infrastructure in Ireland. ComReg has therefore considered the viability and likelihood of potential wholesale demand emerging for WBA products via these networks as well as the viability and likelihood of operators actually offering a WBA product via this alternate infrastructure in response to a SSNIP in a (DSL-based) WBA product supplied by a HM supplier.
- 5.70 While any prospective WBA supply over alternative FWA or FTTx networks may be functionally similar to a HM's (DSL-based) WBA offering, the geographic coverage (although more significant in the case of FWA) and take-up of services over these alternative networks may limit the scope for effective *demand-side* substitution. At the retail level, end-user numbers on both platforms have stabilised and, in the case of FWA, have even declined.²³⁴
- 5.71 As noted in the geographic definition of the retail market above, FWA is licensed on a regional basis across 23 operators (as at September 2010) in the 3.5 GHz, 10.5 GHz and

²³³ It should be recalled that ComReg reached the provisional view above that the WBA market includes non-physical WBA provided over both current generation and next generation infrastructure. As NGA develops and begins to supersede current generation access as a platform for delivering broadband (and other) services, access seekers are considered likely to perceive NGA-based WBA as an effective 'next step' substitute to current generation WBA products. The question being asked separately in this section, however, is whether potential wholesale non-physical access products provided over a small number of alternative FTTx networks should be included in the WBA market.

²³⁴ ComReg figures for Q2 2010 indicate a decline in FWA subscriptions of just over 16% nationally in the preceding year.

26 GHz bands. This means that an access seeker potentially wishing to purchase WBA based on FWA may only be able to obtain a fragmented wholesale service, i.e. in those areas delineated by a particular FWA provider's licence, and may be faced with the prospect of having to combine a potential WBA offering from a number of different providers in order to achieve national coverage, if such FWA-based wholesale supply were to become available.

- 5.72 A number of NRAs (e.g. ANACOM, ARCEP, NITA, OFCOM) have excluded FWA broadband access products from their relevant WBA markets due, *inter alia*, to price differentials and coverage levels vis-à-vis existing WBA products. The Finnish regulator, FICORA, by contrast has included it in the relevant WBA market. However in its analysis, FICORA noted direct constraints due to the availability of a wholesale broadband product actually implemented in Digita Oy's FWA network.²³⁵
- 5.73 As regards alternative FTTx networks, there are two alternative operators in Ireland providing retail broadband over fibre access networks, Magnet and Smart Telecom.²³⁶ The fibre networks were in most cases installed in new residential developments that lay in proximity to a fibre backhaul path.²³⁷ The collective coverage of OAO fibre networks and take-up of fibre-based retail products in Ireland is extremely limited and dispersed. It is estimated that there are 15,000 fibre access paths in Ireland (dispersed across approximately 30 geographic locations) of which, as of Q2 2010, 6,403 were being used to provide services to retail customers. Growth over the last two years has been negligible.
- 5.74 An alternative fibre operator could thus only offer service in fragmented and very small scale areas. As noted in earlier sections, however, the scale (in terms of network coverage and end users reached) of an access network is important to access seekers, in that it must allow the purchaser to achieve economies of scale and build a viable business case in the retail broadband market. The impact of coverage on the substitutability of alternative fibre networks from the demand side was recognised in a recent notification by the Slovenian regulator (APEK) to the Commission where, despite the main alternative operator, T-2, indicating plans to introduce WBA supply over its own optical fibre network, APEK considered that T-2's optical network did not have sufficient coverage to be considered a viable alternative to Telekom Slovenije's bitstream access and excluded it from the relevant WBA market. According to the Commission's decision, APEK noted that "*one of the key features of the WBA market is that it is the first rung on the ladder of broadband investment and should therefore provide ubiquitous access in order to facilitate efficient market entry*". In its comments,

²³⁵ Case F1/2008/0848.

²³⁶ As noted above, Smart Telecom only offers fibre-based broadband as part of a bundle with telephony and/or digital TV where the available download speed is 3Mb, and not as part of its stand-alone broadband offers.

²³⁷ Fibre networks have typically been installed in new developments because the ducting and fibre can then be installed in tandem with the construction of other core infrastructure (i.e. water, power networks) so as to reduce the deployment cost. New developments that are located near core network facilities are more attractive commercially because the cost of backhaul to the access network hub is reduced.

the Commission also noted the role of geographic coverage and network reach in the market definition assessment:

“Given the demand for ubiquitous WBA products in Slovenia, the Commission recognises that the actual coverage of [alternative operator] T-2's [optical] network may limit its substitutability with WBA products provided over the copper network of the incumbent operator at this stage.”²³⁸

- 5.75 In addition to availability considerations, ComReg has assessed whether any potential switching to a WBA product offered over alternative FWA or FTTx networks would be further impacted by costs associated with such switching. ComReg’s preliminary view is that switching/transaction costs would be similar to those described in the discussion of cable, in that a purchaser would potentially need to establish separate administrative and technical relationships with multiple fragmented suppliers, such as in implementing necessary interconnects and in developing multiple order handling and other necessary wholesale systems. Having incurred these costs, access seekers would then only gain access to a small number of potential customers. Switching from a HM’s (DSL-based) WBA offering to a potential WBA product offered over alternative FWA or FTTx networks would thus not be an attractive proposition for a sufficient number of access seekers in response to a SSNIP.
- 5.76 ComReg has also considered the scope for *supply-side* substitution. For example, this would involve whether, absent regulation, an alternative provider of FWA or FTTx infrastructure would be likely to offer a WBA product within an immediate to short term timeframe (e.g. within 12 months) in response to a SSNIP in a (DSL-based) WBA product offered by a HM.
- 5.77 Although there are no wholesale access products over alternative FWA or FTTx networks currently available in Ireland, ComReg’s preliminary view is that it may be technically possible to develop such products; however, taking account of the shared nature of FWA networks and its reliance on spectrum availability, there are uncertainties concerning available network capacity, the quality of service, and the degree of control which access seekers could exercise over their resulting products. Furthermore, given the need to develop necessary wholesale systems, it is unlikely that such alternative wholesale supply could be implemented in the short term without incurring time delays or significant additional costs.
- 5.78 Furthermore, based on the available information, ComReg does not anticipate such WBA offers being developed and introduced in the immediate to short term.

Summary of preliminary conclusions on potential direct constraints from non-physical access products supplied over FWA and FTTx networks

- 5.79 ComReg’s preliminary view is that it is neither likely nor probable that an alternative FWA or FTTx operator would have sufficient economic incentives to voluntarily offer

²³⁸ Case SI/2009/0958.

a WBA product following a SSNIP in a HM's (DSL-based) WBA service. There is no wholesale product based on these networks currently on the market in Ireland and there would likely be additional costs and time delays in bringing any such potential supply to the market. Even if such a wholesale offering were to be made available, its effectiveness would be limited by network availability (in particular for alternative FTTx networks). Furthermore, potential customer transaction costs in dealing with multiple suppliers could also limit effective demand-side substitution away from DSL-based WBA services to WBA services offered over these networks.

Mobile

- 5.80 In the assessment of the retail market, ComReg reached the preliminary conclusion that retail mobile broadband does not fall within the same market as retail broadband offered over DSL. While this would generally indicate that a wholesale mobile broadband access product would not fall within the same market as a wholesale fixed broadband product, ComReg has nonetheless considered any possible direct wholesale constraints from mobile-based broadband providers to ensure that its analysis is sufficiently comprehensive. In this respect, ComReg has considered whether from the demand side there is potential demand for a WBA product offered over mobile networks and whether from the supply side a mobile operator would be likely to start supplying a wholesale product fulfilling the same functions as a (DSL-based) WBA product offered by a HM, within a relatively short (e.g. 12-month) period and at negligible cost.
- 5.81 As noted in section 4, mobile broadband networks have different functional characteristics to fixed networks, for example in terms of average bandwidth speeds, latency, contention ratios, etc., due to the shared nature of the access network which limits *demand-side* substitutability with DSL-based broadband products. As these functional differences are also likely to apply at the wholesale level, due to the same underlying network components being used, ComReg is of the preliminary view that these technical characteristics would also limit the propensity of wholesale customers to switch from a DSL-based WBA product offered over a HM's network to a potential wholesale offering (if supplied) over mobile broadband networks. As end users do not perceive broadband access supplied over fixed and mobile broadband networks to be sufficiently close substitutes, it may be expected that wholesale customers are similarly unlikely to be perceive mobile networks to be in a position to offer wholesale inputs capable of adequately meeting the needs of the retail broadband market (as provisionally identified in section 4 above).
- 5.82 The analysis of possible *supply-side* substitution is particularly pertinent in Ireland, because the mobile broadband provider 3 Ireland, which (as already discussed in section 3 above) has been awarded the contract for the National Broadband Scheme (NBS) by the Irish Government, is required since March 2009 to provide wholesale access to any other authorised operator that wishes to serve premises in the NBS coverage area. ComReg understands however that as at July 2010 due to demand and supply side factors no service provider has so far availed of this wholesale offer.

Furthermore, even if a wholesale customer did avail of this offer, its effectiveness as a substitute for (DSL-based) WBA would need to be assessed in greater detail. As noted in the demand-side section above, the differing functional characteristics of services offered over mobile broadband networks and DSL networks respectively are also likely to apply at the wholesale level.²³⁹

- 5.83 There is currently no WBA offering by any mobile operator outside of the NBS area and ComReg is not aware of further concrete plans for the supply of WBA offerings over mobile networks. Furthermore, ComReg's preliminary view is that it is unlikely that mobile broadband providers, not currently active in the provisioning of retail fixed broadband products, would be capable of producing and marketing relevant wholesale inputs for such fixed broadband products, or for products with comparable specifications, without incurring significant additional costs or time delays. Potential WBA offerings supplied over mobile broadband networks are therefore considered unlikely to provide an effective supply-side constraint on (DSL-based) WBA for the purposes of this wholesale market definition.
- 5.84 In the absence of concrete statements/plans being supplied on the adoption of Long Term Evolution (LTE/4G) technology and more wide-ranging network upgrades in Ireland, it is not anticipated that the existing gap in the functional characteristics of mobile and fixed broadband networks (also taking into account that fixed broadband networks are continuously evolving in terms of product speeds and features) would be offset to such an extent over the period of this review as to constrain a SSNIP of a DSL-based WBA product.

Summary of preliminary conclusions on potential direct constraints from non-physical access products supplied over mobile networks

- 5.85 It is ComReg's preliminary view that, from the demand side, the differences in functionality and quality of service which were identified between mobile and fixed broadband products at the retail level would be apparent also at the wholesale level, such as to render them in separate relevant wholesale markets. ComReg's preliminary view is also that, from the supply side, absent regulation, it is not likely that a mobile operator would be capable of switching to third-party supply of WBA quickly or on a sufficient scale as to constrain a HM supplier of comprehensive or ubiquitous (DSL-based) WBA services over the timeframe of this review.

²³⁹ As noted on the Department of Communications, Energy and Natural Resources website, the mobile wireless broadband service offered to subscribers in the NBS area is to have a minimum download speed of 1.2Mb with a contention ratio of 36:1 and a round-trip latency of 120 milliseconds. End-users access this service primarily via a wireless modem (dongle), however where the signal received by the end-user is weak satellite technology and/or other alternative devices may be deployed to improve the signal strength.

Possible indirect constraints from WPNIA purchasers, cable operators, FWA operators, and alternative FTTx operators on a HM supplier of (DSL-based) WBA

- 5.86 Even in the absence of actual or potential wholesale supply, a vertically-integrated operator's self-supply could form part of the WBA market if it is shown that its presence in the retail market is able to exercise a sufficiently strong indirect constraint on a HM's wholesale supply via the retail market. This means that, even where a vertically-integrated operator may not exert a direct constraint on the wholesale market, it could conceivably exercise an indirect constraint through its position on the retail market.
- 5.87 ComReg has thus considered further the extent to which self-supply of WBA by an operator offering retail broadband over purchased WPNIA inputs or over alternative cable, FWA, or FTTx networks, should be considered part of the same market as (DSL-based) WBA provided by a ubiquitous vertically-integrated HM based on an indirect constraint from the retail level. To this end, ComReg assesses the magnitude of any possible indirect retail constraints emanating from those platforms which are provisionally considered to form part of the retail market (as identified in section 4)²⁴⁰ including broadband supplied by:
- Purchasers of WPNIA
 - Cable
 - FWA
 - Alternative FTTx networks
- 5.88 In its first round (2004/2005) review of the WBA market in Ireland, ComReg included cable and FWA-based broadband services in the relevant wholesale market on the basis of indirect constraints. This inclusion was considered appropriate at the time on the assumption of retail substitution in response to an increase in the price of bitstream access by the DSL operator, thereby providing cable and FWA operators with the opportunity to increase their share of the retail market. However the precise level of pass-through of any wholesale price increase to the retail level, as well as the probability and immediacy of any resulting retail substitution effect and the impact of potential limiting factors such as availability/capacity of the networks in question, were not explored in detail at that time of ComReg's previous review.
- 5.89 While the European Commission in its comments on ComReg's first-round assessment²⁴¹ expressed doubts as to whether cable and FWA-based wholesale bitstream access products (whether currently or prospectively) formed part of the

²⁴⁰ ComReg has considered the potential indirect constraints exercised by operators offering products which may potentially be considered viable retail substitutes. Broadband products which are not considered effective retail substitutes for DSL broadband (e.g. satellite or mobile broadband) cannot be considered to pose effective indirect constraints at the wholesale level and are thus not considered further here.

²⁴¹ See case IE/2004/0093.

relevant market, it noted that the exclusion of cable and FWA-based wholesale services from the market definition would not however have led to a different result in the SMP analysis on that particular occasion.

- 5.90 Since ComReg’s first-round review, the European Commission has further elaborated its views on the proper evaluation and treatment of possible indirect retail constraints by NRAs when carrying out their WBA market reviews. For example, in the European Commission’s Explanatory Note to the Recommendation, it noted the following:

*“Experience under the market analysis and Article 7 notification procedures so far has indicated that, where cable networks exist, their geographical coverage is often limited and wholesale access to such networks does not constitute a direct substitute for DSL-based wholesale access products from the demand or the supply side, so that inclusion in the same product market is not justified. The presence of cable (or other broadband-capable networks) in a given Member State may, however, exercise an indirect constraint on the provider of DSL-based wholesale broadband access, through the substitutability between both products at retail level. Broadband subscribers may have a choice between the services provided by the integrated incumbent, by other vertically integrated companies (such as a cable operator), or by firms using inputs supplied by the incumbent. If alternative integrated undertakings have high market shares compared to firms exploiting inputs, (and the former choose not to offer wholesale inputs), it is likely that indirect constraints will be more important than direct ones. Such indirect pricing constraint, where it is found to exist, should be taken into account when assessing if the incumbent DSL operator has SMP on the relevant market”.*²⁴²

- 5.91 In its comments on a number of Article 7 cases, the European Commission has further suggested that the strength of any constraint posed by a vertically-integrated operator should be carefully estimated, and that, when assessing the effect of indirect substitution through a SSNIP, it should be shown that:²⁴³
- ISPs 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;
 - there would be sufficient demand substitution at the retail level such as to render the wholesale price increase unprofitable; and
 - the customers of the ISPs would not switch to a significant extent to the retail arm of the integrated hypothetical monopolist, in particular if the latter does not raise its own retail prices.
- 5.92 In this second-round review of the WBA market, ComReg has carefully considered the evolved guidance from the European Commission on indirect constraints by assessing each of these three criteria in turn below. While the European Commission 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 proposes to assess the

²⁴² Explanatory Note, p. 34.

²⁴³ See cases NL/2005/281, UK/2007/733, ES/2008/805, PT/2008/851.

- strength of any such constraints at both the market definition and SMP analysis stages to ensure that any immediate constraints as well as any medium-to-longer term effects, if they arise, are accurately captured.²⁴⁴
- 5.93 ComReg has addressed the European Commission's *first criterion* above by assessing the relationship between wholesale and retail prices in Ireland, and by considering the extent to which wholesale purchasers would be likely to pass through a potential wholesale price increase imposed by a HM supplier of (DSL-based) WBA to their own retail customers.
- 5.94 Assuming that all other elements of the retail service were provided at competitive prices, an increase in the price of the wholesale access input could conceivably translate into a price increase at the retail level if the wholesale purchaser was compelled through competitive forces to pass on the wholesale price increase in its retail pricing. If the retail market were not fully competitive, however, it may be that the operator purchasing WBA would choose not to pass through all, or indeed any, of the wholesale price increase, but may rather choose to absorb the wholesale price increase itself. Particularly in the situation of a less than fully competitive market, where the full amount of the wholesale SSNIP was not passed through, the indirect constraint may be less potent than a direct constraint would be. 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 the wholesale input if fixed sunk investments are non-trivial.²⁴⁵
- 5.95 Furthermore, even where the purchaser of WBA is intending to pass through some or all of the wholesale price increase to the retail market, any wholesale price increase will still be diluted when passed through to the retail market. This is because the wholesale element is only one input to the eventual retail price, so an increase in the wholesale price would not translate directly into an equivalent increase at the retail level.
- 5.96 In establishing the wholesale/retail price ratio, that is, the relationship between the wholesale input cost and the retail price, the first decision is which retail prices to use. ComReg is aware that not all operators offer standalone broadband, but rather bundle broadband in various ways. The bundle could, for example, include such non-regulated retail elements as fixed voice calls, and/or TV, and/or mobile voice calls.
- 5.97 For operators which only offer bundles, it is not possible to be certain about the retail price associated with the broadband element. Nor is it possible to be certain about the cost of the wholesale input, because operators which bundle broadband for instance with voice, are generally using more than one wholesale input (for example, WBA plus WLR). One approach could involve making a series of assumptions about the relative

²⁴⁴ 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.

²⁴⁵ See Robert Lipschitz, Paul Anderson and Fatima Fiandeiro "Self-supply and indirect constraints within competition analysis", 22 May 2008.

weighting of different wholesale inputs in the eventual unregulated bundled retail price offerings. However, it is ComReg's provisional view that it is more relevant to base the calculation on actual retail prices and actual wholesale input costs where possible, and that this calculation would be less susceptible to flaws in the underlying assumptions. Accordingly, ComReg proposes to use the most direct and transparent measure possible and one which requires fewer untested assumptions regarding cost allocation by unregulated retail operators. This means taking the retail price of standalone broadband, and the wholesale price of its bitstream input, and calculating the ratio between the two.

- 5.98 ComReg's review of retail offers²⁴⁶ indicates that Eircom is the main operator offering standalone retail broadband. The calculation therefore considers the ratios between Eircom's retail offerings and its wholesale bitstream inputs. Of the OAOs which purchase bitstream, BT, Imagine and Digiweb have standalone broadband prices, and these prices have thus also been included in the calculation of the wholesale/retail price ratio.²⁴⁷
- 5.99 As is clear from the above, this analysis has been carried out using actual retail and wholesale prices of standalone retail broadband and bitstream where available. While the individual wholesale/retail price ratios derived for all such products and operators result in a fairly broad range at [35-58%], it can be noted that the most popular bitstream products return ratios of between [46-56%].
- 5.100 Thus even assuming a 100% pass-through rate of a wholesale SSNIP to the retail level, the fact that the WBA price constitutes only approx. [46-56%] of the final retail price, implies that even a 5-10% increase in the price of WBA would translate into a much smaller percentage increase in the retail price (between 2.3-5.6%) and any resulting impact on demand would be correspondingly diluted. However, as noted above, the operator purchasing WBA may not necessarily choose to pass through all, or indeed any, of the wholesale price increase, but may rather choose to absorb the wholesale price increase itself, which would further limit the scope for end-user substitution to discipline the wholesale price increase.
- 5.101 Following a given price increase, the Commission's *second criterion* notes the need to establish whether there would be sufficient demand substitution at the retail level to render the wholesale price increase in question unprofitable.
- 5.102 In its assessment of the retail broadband market, ComReg provisionally proposed that all forms of retail broadband from fixed locations, including those provided via DSL, cable, FWA and FTTx, share broadly common product characteristics and pricing. As it

²⁴⁶ A review of relevant retail offers for the purposes of the calculation of the wholesale/retail price ratio was carried out on 23 April 2010.

²⁴⁷ In examining OAO retail offers, generally OAOs do not distinguish between retail products offered via LLU and retail products offered via bitstream, and there is no distinction on retail price. To assess how much of the retail price is likely to be made up of the cost of a WBA input, ComReg has assumed that where retail products are offered at speeds which are not consistent with bitstream products (e.g. Smart has a 5Mb product, and Magnet a 5 Mb and a 10Mb product, which do not directly correspond to bitstream products) then these products are offered via LLU, and not bitstream.

is not required to conclude on the precise definition of a retail market, ComReg has proposed a conservative approach for the purposes of this assessment such that it results in the broadest possible retail market on which to base the analysis of the relevant wholesale market.

- 5.103 As noted above, the test applied in determining indirect pricing constraints is different to determining possible substitutability in the retail market, because the assessment is applied to the pricing of the wholesale input rather than the retail price. Therefore, while retail broadband provided over a range of platforms may be considered to share broad product characteristics, there is likely to be less substitutability when the hypothetical price increase takes place in the WBA market, because the magnitude of the price increase has been somewhat diluted by the time it reaches the retail level. In analysing any indirect pricing constraints, ComReg has to consider whether there is likely to be sufficient cross-platform substitution in the retail market to render a wholesale price increase (even where diluted at retail level) unprofitable.
- 5.104 For the purposes of this analysis, ComReg assumes the most extreme scenario, i.e. that all of the wholesale price increase would be passed through to the retail level. The dilution effect discussed above means that a wholesale SSNIP of 5% would translate into a retail price increase of approximately [2.3-2.8%] and a wholesale SSNIP of 10% would translate into a retail price increase of approximately [4.6-5.6%].
- 5.105 The retail customers who would be affected by the SSNIP are those customers who buy broadband from an OAO which purchases the (DSL-based) WBA input.
- 5.106 The distribution of retail subscribers by fixed platform in Ireland is shown in the table below.

Figure 10: Share of Retail Broadband Subscriptions by Platform

Platform	Number of subscribers (Q2 2010)	Market share ²⁴⁸ (%)
OAO Bitstream Eircom retail LLU	211,655 496,195 22,042	21.04% 49.3% 2.2%
Cable	173,146	17.2%
FWA	96,759	9.62%
Alternative FTTx operators	6,403	0.64%
Total	1,006,200	100%

Source: ComReg Quarterly Report Data

- 5.107 As the table shows, the total subscriber population whose service providers currently rely on (predominantly DSL-based) WBA inputs and thus who could potentially be affected by a SSNIP in the wholesale market amounts to around 20% of the retail market. For a wholesale price increase to be rendered unprofitable, a significant number of retail customers would have to switch to purchase a retail product provided over an alternative platform, causing a material impact on demand for the relevant WBA inputs.
- 5.108 Consumer survey research conducted by ComReg in Q2 2009²⁴⁹ found that there is a relatively low incidence of consumers switching broadband providers with just 10% having done so in the 12 months prior to Q2 2009. A further survey carried out for Q4 2009 continued to show a low incidence of consumers switching broadband providers with only 8% having switched ISP within the previous 12 months, suggesting a relatively low level of churn.²⁵⁰ In terms of trends over the last 12 months, as observed in ComReg’s Quarterly Reports, the share of retail fixed broadband subscriptions

²⁴⁸ Market share estimates presented here are based on the retail market provisionally identified in section 4 above, consisting of retail broadband provided over DSL, cable, FWA, and alternative FTTx networks.

²⁴⁹ ComReg, “Residential ICT Services Survey Quarter 2, 2009: A review of findings by Millward Browne Lansdowne”, Document 09/60, July 2009. As noted above, there are several well-documented difficulties in relying on the findings of surveys to infer customer switching behaviour. Firstly, it is difficult to assess claimed behaviour as opposed to observed behaviour. Secondly, even where sample sizes are robust, they may be subject to error margins. For these reasons, ComReg has used consumer survey data to inform its analysis but not to define it.

²⁵⁰ ComReg, “Residential ICT Services Survey Quarter 4, 2009: A review of findings by Millward Browne Lansdowne”, Document 10/22, March 2010.

accounted for by the fixed DSL platform has fallen only slightly from 74% in June 2009 to 72% in June 2010, while over the same period the FWA share has fallen from 12% to 10%, the cable share has risen from 13% to 17%, and alternative fibre has remained static at just under 1%.

- 5.109 Taking recent retail market share trends into account, a degree of constraint could conceivably arise from the vertically integrated cable broadband provider. UPC is experiencing steady growth in its retail market share. However, the coverage of UPC's broadband network in terms of total households passed is still at approximately 38% of households and, even though UPC has indicated plans to increase its coverage up to 44% of households over the timeframe of this review, such potential coverage would still fall short of the DSL network (which is currently reported to have 90% coverage in terms of homes passed), thereby limiting the scope for retail substitution away from retail broadband products supplied over DSL to retail broadband products supplied over cable. However, in view of recent strong retail growth trends for cable broadband, ComReg proposes to monitor retail substitution between DSL and cable-based broadband platforms over the period of this review to identify if, by the time of the next review, retail competition from cable broadband is strong enough to constrain a SSNIP at the wholesale level in (DSL-based) WBA.
- 5.110 The relatively limited presence of WPNIA purchasers will also significantly limit the scope for material switching by retail customers to broadband services based on purchased WPNIA inputs over the timeframe of this review. As noted above, at the end of June 2010 only 22,042 lines had been unbundled across five networks²⁵¹ representing only about 3% of DSL subscriptions, or 2.2% of retail fixed broadband subscriptions. Starting from this low base, it is unlikely that, even in the event of a stronger uptake of purchased WPNIA inputs over the current review period, retail substitution would materialise to such an extent as to constrain a wholesale SSNIP by a HM supplier of (DSL-based) WBA.²⁵²
- 5.111 While FWA connections have potentially broader geographic availability, FWA retail subscriptions have been declining while DSL growth has been continuing.²⁵³ This may also be suggestive of a more muted retail substitution effect to FWA connections in the event of wholesale SSNIP by a HM supplier of (DSL-based) WBA inputs.
- 5.112 Furthermore, as noted above, the collective coverage of alternative FTTx networks and take-up of fibre-based retail products over such networks is extremely limited and

²⁵¹ There are currently five operators availing of WPNIA in Ireland – BT, Magnet, Smart Telecom, Colt and 3PlayPlus, however Colt does not appear to offer any retail broadband services via LLU.

²⁵² While the BT/Vodafone transaction discussed above could lead to a more significant uptake of purchased WPNIA inputs by BT, potential constraints from this agreement are already considered in the section on Possible Direct Constraints from WPNIA Purchasers above.

²⁵³ In the 12 months prior to Q1 2010 FWA subscriptions fell by just under 13%, while DSL subscriptions grew by 6.6%. In the 12 months prior to Q1 2009, FWA subscriptions also fell by 4.4% from its peak in Q1 2008, while DSL subscriptions grew by 15.8% over the same period.

dispersed. As at Q2 2010 there were estimated to be 15,000 fibre access paths in Ireland (dispersed across approximately 30 geographic locations). The level of retail switching that could occur in practice to alternative FTTx networks in response to a wholesale SSNIP is thus considerably limited by their restricted availability. This is further evidenced by the low customer uptake to date with only 6,403 fibre lines being connected to active subscribers as at Q2 2010. Furthermore, there has been negligible subscriber growth over such networks over the past two years.

- 5.113 ComReg has thus considered the extent to which retail customers could or would switch away from broadband services relying on (DSL-based) WBA inputs supplied by a ubiquitous HM in response to a retail price increase of 2.3-5.6%.²⁵⁴ As noted above, the proportion of retail customers which could switch to alternative broadband offerings would be limited by the coverage and availability of such alternatives. ComReg further considers that, when taking into account the costs (money and time) associated with switching,²⁵⁵ an insufficient number of customers are likely to be motivated to switch to broadband services provided over alternative cable, FWA or FTTx platforms or over purchased WPNIA inputs in response to a retail price increase as low as 2.3-5.6%.
- 5.114 As noted in section 4 above, to further assess customer switching behaviour, ComReg also sought evidence from operators of churn between broadband services delivered over different platforms on an historical basis. All operators indicated that this information was not routinely collected, and it is therefore difficult to draw definitive conclusions on actual behaviour. However, some operators were able to supply some anecdotal information based on selected surveys of their gaining and/or departing customers. While recognising the limitations of this information, ComReg's assessment of the information which has been made available to it by fixed DSL operators is that movement takes place primarily from one DSL provider to another, followed by switching from DSL to cable, with switching from DSL to other providers being less pronounced.
- 5.115 The above evidence would suggest potentially greater scope for retail customer switching to broadband services based on purchased WPNIA inputs or to cable-based broadband services in response to a wholesale SSNIP, in the event of an increase in the availability of such services over the period of this review. As noted above, ComReg proposes to monitor this situation with a view to identifying if retail substitution to such services could potentially constrain wholesale pricing by the time of the next review.
- 5.116 In considering the *third criterion* indicated by the European Commission above, ComReg has assessed whether, in response to a wholesale SSNIP of WBA offered by a vertically integrated HM supplier over an extensive or ubiquitous DSL network,

²⁵⁴ This assumes a conservative scenario of full pass-through of the 5-10% wholesale price increase which, as discussed above, is not an inevitable consequence

²⁵⁵ Possible switching costs include costs associated with new modems and installation, possible costs for early contract termination (given that, particularly in the purchase of bundles, customers are generally tied to a contract time of at least 12 months), as well as less measurable and intangible costs such as time and effort expended.

eventual retail customers of operators purchasing such WBA inputs would in fact switch to the HM supplier's own retail arm.

- 5.117 Assuming a situation absent regulation, it can be expected that a vertically-integrated supplier of WBA over a widespread or ubiquitous DSL network would have incentives to hold its own retail prices constant so as to attract as many switching customers as possible back to its own network. ComReg's preliminary view is that, should retail customers switch at all, a proportion of such customers would be likely to switch to the retail arm of such a HM supplier, because of the similarity of product characteristics and low switching costs. Furthermore, the ubiquity of the HM's DSL network implies that its downstream arm would not be limited by coverage in the way in which some of the alternative platforms are limited. In such cases the HM supplier would gain the retail revenues associated with those customers switching to its retail arm, thereby offsetting any loss of wholesale revenue from the access seekers. This effect further diminishes the potential for alternative broadband platforms to indirectly constrain an integrated HM supplier of (DSL-based) WBA inputs.

Summary of preliminary conclusions on potential indirect constraints from WPNIA purchasers, cable, FWA and alternative FTTx networks

- 5.118 ComReg has assessed the extent to which retail competition from broadband services supplied over purchased WPNIA inputs or over alternative cable, FWA, or FTTx networks could constrain a wholesale SSNIP by a HM supplier of WBA over a widespread or ubiquitous DSL network.
- 5.119 ComReg firstly examined the possibility that pass-through of the wholesale price rise to retail prices could be less than complete and that, even in the event of significant pass-through, the impact of any such wholesale price increase would still be diluted when passed to the retail level as the WBA input constitutes just one element of the overall retail price.
- 5.120 Secondly, ComReg considered the impact of the more limited/dispersed availability of alternative platforms, as well as possible switching costs, on the ability and incentives for retail switching in response to small price changes. In view of recent retail growth trends, ComReg proposes to monitor in particular the development of retail competition from cable-based broadband with a view to identifying if it may be strong enough to constrain a wholesale SSNIP by the time of the next WBA market review.
- 5.121 Thirdly, ComReg considered the scope for indirect retail constraints to be further muted if, absent regulation, a vertically-integrated HM raised its wholesale prices, but sustained its own retail prices below those offered by its wholesale purchasers. In such a scenario, the integrated HM (given its brand recognition and network ubiquity) would also be likely to gain any switching retail customers, further mitigating the effects of any indirect retail constraints.
- 5.122 Based on the above, ComReg is of the preliminary view that indirect retail constraints from suppliers of broadband services via purchased WPNIA inputs or over alternative cable, FWA, or FTTx networks are not of sufficient strength to be included in the relevant WBA market for the purposes of the present review. However, ComReg proposes to monitor retail substitution patterns on an ongoing basis with a view to identifying, in particular, if any acceleration in retail substitution to cable broadband over the period of this review may enhance such potential indirect constraints which

may need to be taken into account in the market definition, SMP analysis and/or remedies.

Overall summary of preliminary conclusions on WBA product market

- 5.123 Based on the above analysis, ComReg has reached the preliminary conclusion that wholesale competition from alternative networks (such as cable, FWA, FTTx, and mobile) would not pose a strong enough constraint on the pricing of WBA offered by a HM supplier over an extensive or ubiquitous DSL network over the period of this review. There are no effective WBA products currently being supplied over these networks which could serve as a substitute for the WBA 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.
- 5.124 While potential WBA products offered by WPNIA purchasers would share similar product characteristics as a HM's (DSL-based) WBA offer, ComReg is of the preliminary view that the effectiveness of any such wholesale offerings would be limited by the very low levels of WPNIA uptake to date. However, ComReg acknowledges BT's plans to supply WBA to Vodafone using its WPNIA inputs. ComReg considers that it is not necessary to reach a definitive conclusion on the inclusion/exclusion of BT's planned supply in the relevant product market for the purposes of this assessment. This is because its potential effects are nonetheless considered at both the geographic market definition and SMP analysis stage and, regardless of where in the analysis BT's WBA supply is considered, there is no material impact on ComReg's overall preliminary finding of SMP.
- 5.125 ComReg has further considered the extent to which retail competition from vertically integrated providers, namely those supplying broadband services over purchased WPNIA inputs or over alternative cable, FWA, or FTTx networks, could constrain a wholesale SSNIP by a HM supplier of WBA over a widespread or ubiquitous DSL network.
- 5.126 ComReg's preliminary view is that any such retail constraints would be limited by the dilution of the wholesale SSNIP when passed to the retail level, the availability of alternative broadband networks, and the potential for switching to the HM's own retail product. Indirect constraints from retail broadband offered by alternative providers are thus not strong enough to justify their inclusion in the WBA market at this stage.
- 5.127 Taking recent retail market share trends into account, a degree of constraint could however conceivably arise from the vertically integrated cable broadband provider by the time of the next review, particularly towards the top of the range of a wholesale SSNIP (i.e. close to 10%) if retail substitution were strong enough. ComReg thus proposes to monitor the development of retail competition, in particular from cable, with a view to identifying any acceleration in its potential to constrain a wholesale SSNIP which may need to be factored into the market definition, SMP analysis and/or remedies.

Question 4: Do respondents agree with ComReg’s preliminary conclusions on the definition of the WBA product 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 position.

Geographic wholesale market definition

- 5.128 Having considered the wholesale product market definition, ComReg now considers the geographic scope of the wholesale market. ComReg’s general approach to the geographic market definition was described in section 4 above.
- 5.129 The European Commission has set out its criteria for the assessment of sub-national WBA markets, noting that a geographic delineation which is primarily based on the number of operators present in a local exchange is not by itself sufficient.²⁵⁶ In assessing whether conditions of competition within a geographic area are *similar* or *sufficiently homogeneous*, additional structural and behavioural evidence is necessary.
- 5.130 As noted in section 4, ComReg has considered the types of evidence identified by the European Commission as relevant for assessing potential regional or local competitive pressures, including:
- Distribution of market shares and the evolution of shares over time.
 - Evidence of differentiated retail or wholesale pricing strategies.
 - Geographical differences in additional supply and demand characteristics, such as in product offerings or marketing strategies.
 - Differentiated entry conditions in a given area.

The European Commission also notes the importance of any proposed market boundaries being sufficiently stable over time.

- 5.131 As discussed above, ComReg’s preliminary conclusion on the wholesale product market is that the market comprises non-physical WBA provided by a HM’s (predominantly DSL-based) infrastructure, and, for the purposes of the current review, excludes WBA offered over other types of infrastructure, such as wholesale inputs self-supplied by cable, FWA, or alternative FTTx operators. However, any localised competitive pressures potentially arising from such alternative networks are in any case carefully analysed in the geographic assessment of the retail market.
- 5.132 Furthermore, as ComReg is consulting on the market definition, and remains open to the possibility of alternative definitions, it proposes to consider broader options in

²⁵⁶ See case UK/2007/0733 as already referred to in the retail market definition section above, which related to a notification from Ofcom to the European Commission in 2007 proposing to de-regulate WBA to 65% of all UK homes and businesses on the basis of sub-national geographic wholesale markets (this was subsequently extended to 69.2% of UK premises in the final decision). See also case PT/2008/0851.

potential geographic wholesale markets to ensure that any locally driven competitive pressures are not overlooked in the analysis. Therefore, while ComReg's preliminary market definition leaves open the question of whether or not WBA offered by BT using purchased WPNIA inputs forms part of the relevant wholesale product market, the consideration of the geographic scope of the market will nonetheless take account of possible constraints from such supply on a forward-looking basis.

- 5.133 Taking full account of the European Commission's guidance, ComReg assesses potential differences in regional or local conditions based on a combination of structural and behavioural factors below.

Distribution of market shares and their evolution over time

- 5.134 As noted in section 3, at present four operators in Ireland offer some form of wholesale non-physical broadband access product.
- 5.135 Eircom's WBA product is offered pursuant to a regulatory obligation, and is available on all broadband-enabled lines on its network.
- 5.136 The mobile broadband operator, 3 Ireland, has a contractual obligation to offer a wholesale non-physical product in the NBS area. As at 13 July 2010, no operator had yet availed of this wholesale offer.
- 5.137 An alternative operator supplies a wholesale broadband product using purchased WPNIA inputs on a very limited basis to a single customer, although this offer appears to be more akin to a resale product with similar technical specifications/parameters to the services of the host operator.
- 5.138 As already discussed in detail in the product market definition, BT has announced that it will offer WBA services to Vodafone based on purchased WPNIA inputs at existing and future unbundled exchanges. This project is in its early stages of migrating Vodafone's customers to BT's unbundled exchanges and is being undertaken on an incremental basis, subject *inter alia* to BT's WPNIA collocation/roll-out programme progressing as planned and also subject to certain interim exclusivity provisions implying that a one-year exclusive supply period will apply at each individual exchange as it becomes unbundled.²⁵⁷ ComReg nonetheless proposes to assess the potential market share impact of such wholesale provisioning based on purchased WPNIA inputs on both a national and local area level to identify how such wholesale supply may evolve over the lifetime of this review and if a differentiated (sub-national) geographic market definition could be appropriate.
- 5.139 This more detailed analysis of potential variances in geographic conditions also takes into account the analytical approaches of other NRAs, particularly those which have found geographic differentiation in their wholesale markets partly due to constraints from WPNIA purchasers, such as in the Ofcom analysis referred to above.
- 5.140 Based on the available plans, ComReg has carried out an assessment of BT's potential market shares at different levels of geography, including on a disaggregated basis at the

²⁵⁷ Competition Authority Merger Determination, paragraph 29.

level of each individual exchange, on a cumulative basis within the overall BT WPNIA footprint (this footprint takes account of the net number of exchanges which are to be unbundled by BT over the review period), and on an aggregated basis at national level.

- 5.141 It should be emphasised that ComReg’s assessment of BT’s potential wholesale presence is based on a scenario whereby BT’s stated business plans are assumed to be fully realised, i.e. with the last phase of the project currently scheduled for June 2011. It should be further noted that this forecasted market share assessment is intended purely as a high-level check of the likely homogeneity of competitive conditions on a forward looking basis. The potential flaws in basing market share estimations solely on business plans are well understood and outlined further below.
- 5.142 According to the overall exchange-by-exchange analysis of the available business plans, there is only one Dublin-based exchange where, assuming this best case scenario for BT, it may potentially reach a market share²⁵⁸ in excess of 40% following the migration of Vodafone’s wholesale connections. Taking account of the fact that there are approximately 849 DSL-enabled exchanges,²⁵⁹ it is unlikely that the presence of a sizeable wholesale competitor at just one individual exchange would in itself be capable of triggering a meaningful change in commercial behaviour.
- 5.143 It may be further observed, however, that the best case assessment for BT on the basis of its available plans would yield a potential market share of between 30% and 40% at a further 21 exchanges. Should these plans materialise in their entirety, the competitive impact of BT’s wholesale presence in such individual exchanges would need to be monitored, particularly in areas where economies of scale and density can be more readily utilised, such as in large urban centres. When assessing the assumed plans on a more aggregated level, however, BT’s share of WBA would reflect a more moderate wholesale market share of 25% within the overall WPNIA footprint and just 8-9% at national level.
- 5.144 As BT is starting from an existing LLU base of just 22 exchanges, it was noted in the product market definition that the successful realisation of its WBA plans is critically dependent on a number of factors. Such factors include it being able to unbundle up to 38 additional exchanges²⁶⁰ sufficiently promptly over the forthcoming period as well as successfully implementing the relevant wholesale interfaces and migrating all forecasted wholesale connections (assuming minimal underlying retail churn) within the planned timeframe. However, as noted in the product market definition above, the first phase of this project, initially scheduled for March 2010, has seen migrations slow to materialise.

²⁵⁸ These market shares are estimated by reference to a WBA market which is assumed for the purposes of this calculation to include Eircom’s WBA supply as well as BT’s projected WBA supply. See the preliminary conclusions below for a fuller description of ComReg’s provisional views on the scope of the WBA market.

²⁵⁹ Eircom response to November 2009 information request.

²⁶⁰ Irish Times, “Revenues at BT Ireland dip 3% to settle at €388m”, 13 November 2009.

- 5.145 In any event, caution should be afforded when evaluating anticipated competitive pressures on the basis of mere forecasts alone. As noted in the European Commission's Notice on Market Definition, and as reiterated in the wholesale product market definition above, constraints by actual competitors are among the most relevant elements to be assessed in market definition. Furthermore, mere hypothetical supply side substitution is not sufficient for market definition purposes.
- 5.146 As noted above, other vertically integrated operators which self supply WBA but do not make it available on the broader merchant market are not considered in this geographic wholesale market definition but are addressed in the assessment of the geographic scope of the retail market. This is considered appropriate since their self-supply is not yet considered part of the relevant wholesale product market. However, their potential to promote clear and sustained regional differences in competitive conditions in the absence of regulated wholesale inputs over the period of the current market review is nonetheless captured in the retail market definition.
- 5.147 As noted in section 4, there is a growing competitive presence of cable-based broadband provision at the retail level in the Dublin area. This could suggest that future effective retail substitution to cable-based broadband, even in discrete geographic areas, may generate relevant retail and possibly indirect wholesale constraints which may need to be factored into the relevant retail/wholesale market definitions, SMP analysis and/or remedies at the time of the next market review. ComReg thus proposes to monitor retail broadband developments on an ongoing basis over the period of the current review.

Pricing patterns and commercial behaviour of incumbent and alternative operators over time

- 5.148 In Ofcom's "Review of the wholesale broadband access markets" in 2007/2008,²⁶¹ a key behavioural development prompting Ofcom to consider that there may no longer be a national market for WBA services was BT's introduction of geographically de-averaged prices for its wholesale broadband products. In particular, in April 2005 BT differentiated its wholesale prices in 561 of its 5,587 local exchanges, extending this to 1,016 exchanges in 2007. As noted above, the European Commission also emphasised the role of any de-averaged retail or wholesale pricing as a potential indicator of different regional or local competitive pressure.²⁶²
- 5.149 By contrast, in an Irish context there have been no geographic variations in Eircom's wholesale pricing structure to date. Eircom's wholesale pricing is based on a regulated retail minus price control, where its wholesale price is set by reference to its retail price minus an appropriate margin to enable OAOs to cover their retail costs and compete in the retail broadband market. Notwithstanding this regulatory obligation, there is no obvious impediment to Eircom de-averaging its retail or wholesale prices in discrete

²⁶¹ Ofcom, "Review of the wholesale broadband access markets, Final explanatory statement and notification", 21 May 2008.

²⁶² Case UK/2007/0733.

geographic areas, subject to no margin/price squeeze concerns arising. Eircom has however continued to set its wholesale prices on a national basis.

- 5.150 Furthermore, while noting that there is still a limited alternative presence at the wholesale level, it is instructive to also consider derived demand from the retail broadband market and to note that operators have predominantly chosen to maintain national pricing of retail and wholesale broadband services. The fact that Eircom and alternative operators have priced and continued to price on a national basis at both the retail and the wholesale level strongly suggests that a common pricing constraint still operates at national level. Similarly, the available evidence on marketing practices and product offerings suggest that operators active in the provisioning of broadband access services at wholesale and retail level still predominantly design and market their products on a national basis.

Geographic differences in other supply and demand characteristics including entry conditions across different areas

- 5.151 Having regard to approaches adopted by other NRAs, including any European Commission commentary on such approaches, ComReg has considered the extent to which variances in economies of scale and density contribute to the emergence of differentiated entry strategies and competitive conditions in particular geographic areas. In particular, ComReg has assessed whether a broad distinction can be observed in the competitive conditions present in the Dublin area and the rest of the Irish market. This is because the retail presence of broadband-enabled cable networks is growing in urban centres and provisioning of WBA services based on purchased WPNIA inputs is also likely to be developed primarily in urban (and suburban residential) centres. Taking both of these developments into account, ComReg assesses whether there is any evidence of geographically specific markets emerging in Dublin and potentially other urban areas.
- 5.152 Other NRAs have suggested in their reviews of the WBA market that for conditions of competition to be sufficiently differentiated for the definition of sub-national geographic markets, there needs to be a meaningful presence of alternative infrastructure providers. For example, in both the UK and Portuguese market reviews, where sub-national market definitions have been applied, LLU was identified as the key driver of competition, alongside a notable cable presence in both cases. In Portugal at the end of 2007, 60% of the population was covered by LLU and the largest LLU operator, Sonaecom, substantially increased its market share in the identified “competitive” area from 8% in 2005 to 25% in 2007, resulting in a corresponding decrease in the PT Group’s wholesale market shares over the same period.²⁶³ According to Ofcom’s “Review of the wholesale broadband access markets 2010”,²⁶⁴ LLU roll-out is also at a considerably advanced stage in the UK. Indeed the data indicated that as of

²⁶³ Case PT/2008/0851.

²⁶⁴ See Ofcom, “Review of the wholesale broadband access markets, Consultation on market definition, market power determinations and remedies”, 23 March 2010 – 1 June 2010.

September 2009 there were 23 active LLU operators and specifically 1,989 BT exchanges (84.4% of UK delivery points) were enabled by at least one LLU operator.

5.153 In Ireland, as at 22 April 2010,²⁶⁵ five operators had established LLU collocation footprints across 85 of Eircom’s exchanges. Of these, one operator [] was present at 66 exchanges; one operator [] was present at 48 exchanges; one operator [] was present at 39 exchanges; one operator [] was present at 16 exchanges; and one operator [] was present at 1 exchange, although it does not appear to offer any retail broadband services via LLU. Furthermore, as of 30 June 2010, only 22,042 lines had been unbundled. The following table indicates the fragmented nature of unbundling practices in Ireland to date and the relatively limited number of exchanges where Eircom faces such unbundled operators:

Figure 11: Eircom DSL exchanges where unbundled operators are present

No of operators	No of exchanges
Eircom only	c.764
Eircom + 1 LLU operator	40
Eircom + 2 LLU operators	19
Eircom + 3 LLU operators	16
Eircom + 4 LLU operators	10

Source: Data provided by Eircom, May 2010

5.154 In this context, it is interesting to recall the criteria which Ofcom relied on in its 2007/2008 market review to distinguish between geographic areas in the UK WBA market. Ofcom identified a distinct break in competitive conditions between those exchanges where there are three principal operators present and those exchanges with four or more principal operators present.²⁶⁶ Ofcom observed a stronger competitive dynamic, in terms of both structural (e.g. market share) and behavioural (e.g. pricing) trends, at those exchanges with four or more principal operators and identified a

²⁶⁵ Confidential Data submitted by Eircom in response to information request.

²⁶⁶ According to Ofcom’s 2007/2008 analysis the term principal operator referred to operators that were expected to provide a material competitive constraint in the market, including LLU operators with a planned coverage of 10% and cable operators capable of supplying at least 65% of homes and businesses within an exchange footprint.

separate market (market 3) for those exchanges (1,197 exchanges in total)²⁶⁷ which were subsequently de-regulated. By comparison, there are only a handful of exchanges in Ireland where four or more operators, relying on WPNIA or own network (e.g. cable) inputs, would be present and average exchange size is generally lower in an Irish context. Thus, the number of operators likely to enter a discrete exchange can be expected to be less in an Irish context. Furthermore, even where such entry has taken place, it does not appear to have triggered a localised competitive response in terms of prices and products offered in those specific areas. As outlined above, this is a key distinguishing feature to the UK situation.

5.155 ComReg has also undertaken some preliminary analysis of the likely geographic availability of BT's WPNIA-based wholesale services following its planned unbundling of an additional 38 exchanges. Based on the available plans, the assumed best case scenario for BT would imply that at the end of its unbundling programme approximately 40% of the available broadband market would be within reach of BT's network footprint and capable of receiving WBA services based on BT's purchased WPNIA inputs. It should be stressed again that such coverage estimates are based on forecasts only, which are inherently dependent on the successful realisation of a number of factors. Nonetheless, such projected coverage still compares less favourably to the figures given for the UK in Ofcom's recent 2009/2010 WBA market review where 84.4% of UK delivery points were estimated to be already enabled by at least one LLU operator. Based on the information available to ComReg, it does not appear possible to draw stable sub-national market boundaries on the basis of wholesale constraints from WPNIA purchasers at this time.

5.156 Furthermore, as noted above, ComReg provisionally concluded that indirect constraints from cable are insufficient for inclusion in the relevant wholesale product market in the present market review. The assessment of the geographic scope of the retail market nonetheless analyses in detail potential retail constraints from the growing cable platform. This involves an assessment of the extent to which cable's recent market share growth, particularly in the Dublin area, might be capable of driving sustained and effective changes in competitive conditions absent a regulated wholesale product over the timeframe of this review. While the retail presence of cable-based broadband is advancing, this trend does not appear to be driving geographically differentiated commercial behaviour at either the retail or wholesale level on a stable and self-sustaining basis at this stage. However, ComReg proposes to monitor retail substitution to the cable broadband platform over the period of the current review with a view to identifying if accelerated retail constraints, and indirect wholesale constraints, arise

²⁶⁷ According to Ofcom's "Review of the wholesale broadband access markets 2006/07, Identification of relevant markets, assessment of market power and proposed remedies, Explanatory Statement and Notification, Consultation, 15 November 2007 - 7 February 2008", the national average number of delivery points served by each exchange in the UK at that time was 4,950 delivery points and in the market which it proposed to de-regulate (market 3) the average number of delivery points serviced by each exchange was significantly higher at 16,745 delivery points.

which may need to be factored into the relevant market definitions, SMP analysis and/or remedies.

Overall summary of preliminary conclusions on the geographic scope of the WBA market

- 5.157 ComReg’s preliminary conclusion is that, while there are early signs that a more competitive environment may develop in particular areas, this is not yet well enough established to indicate the presence of separate geographic wholesale markets for the purposes of the present market review.
- 5.158 Taking into account the low uptake of purchased WPNIA inputs to date and the absence of an identifiable behavioural response in distinct geographic areas, WBA competition from WPNIA purchasers does not appear to be at the stage where stable sub-national market boundaries can be drawn over the timeframe of this review. At the same time, ComReg is mindful of recent WPNIA pricing decisions²⁶⁸ and BT’s plans to expand its WPNIA footprint for the purposes of supplying wholesale broadband services. Should a meaningful competitive wholesale presence emerge on the basis of purchased WPNIA inputs capable of driving material and sustained changes in competitive conditions in distinct geographic areas, ComReg would need to carefully re-consider the case for geographic segmentation of markets and/or remedies.
- 5.159 As for the Portuguese and UK WBA markets, significant advances in unbundling activities and wholesale provisioning by WPNIA purchasers, in parallel to growing constraints from cable at the retail level, and indirectly at the wholesale level, could be a driver of differentiated competitive conditions in WBA in certain urban centres by the time of the next market review.
- 5.160 ComReg thus proposes to monitor retail and wholesale broadband developments periodically over the period of the present market review. In line with European Commission guidance, ComReg proposes to examine any such developments using a combination of structural and behavioural parameters.

Question 5: Do respondents agree with ComReg’s preliminary conclusion that the geographic scope of the WBA market is national? 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.

²⁶⁸ Wholesale line share charges were recently reduced from €8.41 to €0.77 and full unbundling charges reduced from €16.43 to €12.41. ComReg, “Response to Consultation Documents 09/39 and 09/62, Local Loop Unbundling (LLU) and Sub Loop Unbundling (SLU) Maximum Monthly Rental Charges”, Document 10/10, Decision 01/10, 9 February 2010 and ComReg, “Response to Consultation Document No 08/106 and Decision, Rental Price for Shared Access to the Unbundled Local Loop”, Document 09/66, Decision 04/09, 18 August 2009.

Overall preliminary conclusions on the WBA market definition

Having regard to the analysis presented above, ComReg has arrived at the following preliminary conclusions in defining the WBA market. Subject to the qualifications set out in the subsequent paragraphs below, the WBA market is provisionally considered to consist of:

- Wholesale broadband access provided over an extensive or ubiquitous current generation DSL/copper network infrastructure
- Wholesale broadband access provided over an extensive or ubiquitous next generation fibre network infrastructure

This would include, for example, the WBA products provided by Eircom.

This could potentially include WBA products supplied by BT on a forward-looking basis, although this can be left open at this stage of market definition.

Self-supplied WBA by vertically integrated operators is included in the WBA market if the following conditions for direct wholesale constraints are satisfied:

- the operator could switch readily to providing a WBA product to third parties without significant additional costs or risks (e.g. in implementing additional infrastructure and/or relevant wholesale systems);
- the network would offer the coverage/ubiquity expected by access seekers;
- there would be sufficient capacity to provide a WBA product to third parties; and
- there would be sufficient wholesale demand side substitution.

Where the above conditions are not fulfilled, self-supply by vertically integrated operators is only included in the WBA market where indirect constraints from retail competition are strong enough to constrain small but permanent wholesale price increases.

ComReg provisionally considers that Eircom's self-supply of WBA satisfies the above conditions for direct wholesale constraints and therefore falls within the WBA product market.

ComReg provisionally considers that self-supply of WBA by alternative operators in Ireland (regardless of the underlying technology) is unlikely to meet the conditions for consideration of direct/indirect wholesale constraints within the period of this market review, and therefore does not fall within the WBA product market.

ComReg provisionally considers that, for the purposes of this review, the geographic scope of the WBA market is likely to be national.

6 Competition Analysis and Assessment of Significant Market Power

Approach

- 6.1 Having defined the scope of the relevant WBA product and geographic market, the next step is to determine whether the relevant market is effectively competitive or whether SMP exists.
- 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*:
- “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 consumers.”*²⁶⁹
- 6.3 Article 14 of the Framework Directive effectively mirrors this definition of dominance and equates SMP with:
- “...a position of economic strength affording it [the undertaking] the power to behave to an appreciable extent independently of competitors, customers and ultimately consumers”.*²⁷⁰
- 6.4 Arising from this definition, there are three key sources of competitive constraint that may affect an undertaking’s ability to act independently, namely constraints from existing competition, potential competition, and strong buyers.²⁷¹
- 6.5 The European Commission stresses that the existence of a dominant position cannot be established on the sole basis of large market shares. The European Commission recommends a number of criteria that may be used as a guide when measuring the power of an undertaking to behave independently of competitors, customers, and

²⁶⁹ Case 27/76 *United Brands v European Commission* [1978] ECR 207, Paragraph 65.

²⁷⁰ Directive 2002/21/EC of the European Parliament and of the Council of 7 March 2002 on a common regulatory framework for electronic communications networks and services (Framework Directive), OJ L 018/33, 24.4.2002.

²⁷¹ In markets subject to ex ante regulation an undertaking’s behaviour may also be restricted by way of existing regulatory controls. It is necessary however to consider the potential ability of the undertaking to exert market power in the absence of ex ante regulation in the market concerned. To do otherwise might lead to a finding of non-dominance on the basis of regulatory remedies that would cease to exist following the review and in the absence of which the operator may be able to exert market power. The key question is therefore how the operator in question is likely to behave if it were free from regulatory constraints and if the imposition of remedies is as such warranted.

consumers. According to the SMP Guidelines (para. 78), potentially relevant factors include 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;
- Barriers to expansion.

6.6 ComReg considers that the relative importance of each factor may vary from one analysis to the next as the market characteristics or dynamics 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 must be considered as a whole before a determination on SMP can be made.

6.7 For the purposes of this market analysis, ComReg considers the following factors to be particularly relevant:

- Overall size of the undertaking;
- Control of infrastructure not easily duplicated;
- Absence of or low countervailing buying power;
- Economies of scale;
- Economies of scope;
- Vertical integration;
- Absence of potential competition;
- Barriers to expansion.

6.8 Each of these factors is considered in detail later in this section. Given an inherent degree of overlap, ComReg proposes to combine its assessment of these factors under three broad headings as follows:

1. **Existing Competition in the WBA Market** - which assesses such factors as market shares, overall size of the undertaking and relative strength of existing competitors.
2. **Potential Competition in the WBA Market** - which assesses the extent to which control of infrastructure not easily duplicated, sunk costs, economies of

scale, economies of scope and economies of density, and vertical integration act as barriers to entry and/or expansion in the WBA market, as well as considering the overall strength of potential competitors.

3. **Strength of Countervailing Buyer Power** – which assesses the impact of any strong buyers.
- 6.9 Other factors which could be used to indicate the market power of an operator have been considered, but are seen as less relevant for the purposes of this analysis for the reasons set out below. These include the following:
- *Technological advantages or superiority*: The section on Potential Competition in the WBA market notes the potential for network developments or upgrades to influence the position of the relevant market participants on a forward-looking basis. In the WBA market, however, it would appear that any technological advance made by one operator could, from a purely technological point of view (absent considerations of network size, etc.) be adopted over time by others. It is unlikely therefore that technology in itself could be used as a sustainable advantage or disadvantage in this market.
 - *Easy or privileged access to capital markets/financial resources*: As regards the extent to which access to capital markets may pose a barrier to entry, ComReg considers that many operators in this market are part of large global enterprises, and would therefore operate under similar conditions and constraints in terms of their ability to access capital.
 - *A highly developed distribution and sales network*: The need to establish distribution systems might delay short term market entry. However, over the medium to longer term it is much less significant of a barrier in a wholesale market than in a retail market, as WBA is purchased only by a relatively small number of wholesale customers.
 - *Product or services diversification*: While there is often a positive correlation between product/service differentiation and market power due to the impact of differentiation on brand loyalty and a customer's willingness to switch supplier, ComReg considers that this is not particularly relevant in the WBA market as bundled offerings do not feature significantly at the wholesale level. Wholesale customers typically purchase WBA on a standalone basis.

Competition and SMP analysis

Existing competition in the WBA market

Market shares

6.10 Market shares are not on their own determinative of SMP but are nonetheless a useful starting point for defining instances where SMP is more likely to arise. It is clear from EU jurisprudence and the SMP Guidelines that concerns about SMP are more likely to arise in instances where an undertaking holds a large market share over a period of time. According to established case law and the SMP Guidelines:

“...very large shares are in themselves, and save in exceptional circumstances, evidence of the existence of a dominant position. An undertaking which has a very large market share and holds it for some time... is by virtue of that share in a position of strength...”²⁷²

6.11 In the WBA market definition, ComReg proposes that the WBA market lies downstream from the WPNIA market, and comprises non-physical WBA products and services offered over current generation (DSL-based) and next generation (fibre and/or a combination of copper and fibre) access infrastructure in Ireland.

6.12 The proposed market includes both the provision of WBA services to third parties and the self-supply of WBA services by the incumbent, Eircom, taking into account *inter alia* its capacity and ability to offer ubiquitous non-physical access services to potential access seekers and its ability, absent regulation, to enter the merchant market readily without significant additional costs or risks. It is further proposed that (self) supply of WBA services over other platforms (namely, alternative cable, FWA, FTTx and mobile networks) would be excluded from the WBA market, due primarily to an insufficient capacity or scope for effective or comprehensive non-physical wholesale access products to be offered readily over such platforms, as well as ineffective indirect retail constraints at this time.²⁷³

6.13 While it was identified that WBA services supplied using purchased WPNIA inputs would share similar product characteristics to current (DSL-based) WBA offerings,²⁷⁴ the majority of WPNIA purchasers do not currently offer wholesale offerings directly to third parties, and in view of their low retail presence based on WPNIA inputs to date,

²⁷² Case 85/76 Hoffmann-La Roche v Commission, [1979] ECR 461, [1979] 3 CMLR 211, para. 41; and the SMP Guidelines, para. 75.

²⁷³ As referred to above, ComReg has taken into account the European Commission’s Explanatory Note (p. 15) where it states that it is not justified to take the self-supply of alternative providers into account for the sake of market delineation if they face capacity constraints, if their networks lack the level of ubiquity expected by access seekers, and/or if alternative providers have difficulty in entering the merchant market readily.

²⁷⁴ As noted in the market definition section above, reference to product characteristics in this context refers only to the key technical/functional specifications of the broadband access products. The degree of ubiquity/reach of a given network may also affect the viability and commercial appeal of any WBA product supplied over that network.

do not yet offer an effective indirect constraint on the wholesale market through retail competition. However, as one WPNIA purchaser, BT, has recently entered into a direct wholesale supply agreement, ComReg proposes to leave open the possibility that such prospective WBA supply via purchased WPNIA inputs could be included over the present market review in the event of a significant take-up of this service.

- 6.14 A further operator supplies a wholesale product to one of its customers using purchased WPNIA inputs, although this offer appears to be more akin to a resale product with similar technical specifications/parameters to the services of the host operator. Furthermore, the wholesale volumes offered under this arrangement are extremely low and static with only a negligible impact on any market share estimates.
- 6.15 Considering a market share scenario whereby the wholesale broadband supply of Eircom and the above two WPNIA purchasers is taken into account, Eircom would still have a market share of at least 98%²⁷⁵ as at July 2010. The potential for such WPNIA purchasers to further increase their WBA supply and to constrain Eircom's commercial behaviour over the lifetime of this review is considered in the section on Potential Competition in the WBA Market below.
- 6.16 ComReg has also noted that, as supplier of the Government's National Broadband Scheme (NBS), the mobile broadband provider 3 Ireland has a contractual obligation to make a wholesale product available in the NBS area. The inclusion/exclusion of this supply from the relevant market would however have no impact on the market share assessment at this stage, given that, as at July 2010, no operator had yet availed of the wholesale product.
- 6.17 It is thus clear from the above that Eircom continues to enjoy a persistently high market share of at least 98% in the provision of WBA services in Ireland.
- 6.18 ComReg recognises however that large market shares, while a useful starting point in the analysis, are not in themselves sufficient to form the basis of a finding of SMP and that other factors that may contribute to a finding of SMP must also be taken into account. Therefore, in the next sections ComReg also considers the scope for potential competitors and for large buyers to constrain Eircom's behaviour on a forward-looking basis over the lifetime of this review.

Overall size of the undertaking and relative strength of existing competitors

- 6.19 It is clear from the above market share assessment that Eircom is still by far the primary wholesale broadband supplier, accounting for nearly all of the supply of WBA services in Ireland. As is discussed further in later sections below, Eircom enjoys control of an extensive or ubiquitous access infrastructure which is not easily replicated by its competitors, as well as certain advantages such as economies of scale and scope by virtue of its absolute size in the WBA market.

²⁷⁵ (Eircom WBA Supplied to OAOs + Eircom WBA Self-Supply) ÷ (Eircom WBA Supplied to OAOs + Eircom WBA Self-Supply + WBA Currently Supplied by WPNIA Purchasers to OAOs) = 98%.

- 6.20 As regards the relative strength of existing competitors in the market, at present only BT has reached a direct wholesale agreement with a relatively sizeable wholesale customer whereby WBA is to be supplied at a number of its existing/future unbundled exchanges. The recent nature of this arrangement and the low level of wholesale migrations to date imply that existing competition in the WBA market is at this stage still weak and unlikely to appreciably constrain Eircom's ability to independently set its commercial terms and conditions absent regulation. The potential for BT's wholesale supply to prospectively exert a constraint on Eircom over the lifetime of this review is explored in the section concerning Potential Competition in the WBA Market below.
- 6.21 While another WPNIA purchaser offers a wholesale broadband product to a single customer, this wholesale product would appear more of a resale product with limited differentiation to the services of the host operator. Furthermore, the volumes offered under this arrangement are negligible and their inclusion/exclusion from the WBA market share calculation would not have any material impact on the resulting market share estimate of at least 98% for Eircom.
- 6.22 Apart from the above three cases, there are no further examples of active supply of a WBA service in the relevant market at present. Existing competition in the WBA market thus continues to be limited with Eircom currently still accounting for nearly all of the available WBA supply.
- 6.23 As was observed previously in the WBA market definition section above (section 5), the impact of competition in the downstream retail broadband market still does not sufficiently constrain commercial behaviour in the WBA market. This is, in part, due to the dilution of any wholesale price increases when passed through to the retail level (given that the WBA price is only a proportion of the overall price of the retail service and any wholesale price increase results in a more diluted retail price increase). It is less likely therefore that there would be a strong enough retail substitution effect away from downstream broadband services, based on Eircom's wholesale inputs, towards services carried over other platforms, so as to sufficiently discipline Eircom's pricing behaviour in the upstream wholesale market at present.
- 6.24 Taking recent retail market share trends into account, the most likely area where a degree of competitive constraint could conceivably be faced by Eircom in the retail broadband market is that posed by the vertically integrated cable broadband provider. However, considering the above-mentioned dilution effect for wholesale price increases when passed to the retail level, as well as the more limited geographic coverage of the cable broadband network in Ireland (the coverage of the main cable provider, UPC, in terms of total households passed is approximately 38%²⁷⁶ at present, still significantly less than Eircom's DSL network), such factors would limit the extent of retail substitution away from retail broadband products supplied over Eircom's platform to

²⁷⁶ This figure is based on Liberty Global reports second quarter 2010 results – August 3 2010 which reports that 621,000 of homes passed are currently capable of receiving broadband services over UPC's hybrid fibre/coaxial (HFC) cable network, as well as the latest CSO figure from Q3 2009 which reported 1,632,000 households nationally.

retail broadband products supplied over cable. The section on Potential Competition in the WBA Market below assesses in more detail the potential for competition from vertically integrated undertakings at the retail level to evolve as a constraint on wholesale market behaviour over the period of this review.

Preliminary conclusion on existing competition in the WBA market

6.25 ComReg’s preliminary conclusion from assessing the state of existing competition in the WBA market is that Eircom has a persistently high market share of at least 98%, and that the relative strength of alternative WBA providers is still restricted, with only very limited WBA volumes being supplied by such alternative providers at present. Furthermore, the strength of competition in the retail broadband market does not sufficiently constrain Eircom’s ability to act independently in the WBA market at this stage.

Potential competition in the WBA market

6.26 In the absence of a material competitive constraint posed by existing competition, ComReg assesses any possible constraints posed by potential competition in the WBA market. This assessment of potential competition considers whether entry (and expansion) in the WBA market is likely to such an extent that it would constrain Eircom’s ability to act independently of its competitors and customers over the timeframe of this review (i.e. two to three years).

6.27 In assessing the possibility for existing and potential new entrants to act as a constraint on Eircom over the period of this review, ComReg has analysed below the nature and extent of any barriers to firms both entering and expanding in the relevant WBA market.

6.28 Barriers to entry 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 Recommendation:²⁷⁷

“...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 costs.”

6.29 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 pose a viable competitive threat over the medium to longer term. Barriers to entry and expansion are closely related as many of the factors that make entry harder also make it harder for new entrants to grow or expand.

²⁷⁷ Explanatory Note, p. 8.

Control of infrastructure/inputs not easily replicated

- 6.30 The SMP Guidelines cite control of infrastructure not easily duplicated as one relevant criterion for assessing whether SMP exists. This may be relevant where, for example:
- Access to a certain infrastructure is necessary to produce a particular product or service;
 - The required infrastructure is exclusively or overwhelmingly under the control of a certain undertaking; and
 - There are high and non-transitory barriers associated with replacing the infrastructure in question.²⁷⁸
- 6.31 Consideration of this factor is thus linked to the consideration of the absolute size of Eircom above, as well as the assessment of the sunk costs and economies of scale, scope and density associated with a ubiquitous access infrastructure below.
- 6.32 According to the SMP Guidelines, it is not necessary for the infrastructure to be deemed “essential” within the meaning of EU competition law. Ownership of a significant infrastructure may confer an absolute cost advantage on the incumbent and the cost and time involved in operators replicating the infrastructure in question may pose a significant barrier to entry. In addition, it may be possible for the owner of the infrastructure in question to leverage their market power into horizontally or vertically related markets.
- 6.33 In the WBA market, in order for an operator to be able to compete with Eircom in the supply of WBA, it would need to either establish, or expand, an access network with the capacity to offer a wholesale service, or it would need to avail of WPNIA inputs on a sufficient scale as to be in a position to provide a (geographically and commercially) viable WBA offering.
- 6.34 As noted in sections 3 and 5 above, responses to ComReg’s information requests noted network coverage as an important factor when deciding whether or not to purchase a WBA product from a particular provider.
- 6.35 In considering the extent to which Eircom’s control of infrastructure which is not easily replicated acts as a barrier to entry to the WBA market, ComReg has considered in the section below on Overall Strength of Potential Competitors whether an alternative operator’s ability to purchase WPNIA inputs or invest in its own infrastructure (e.g. cable, FWA, FTTx, or mobile) to self supply and/or commercially offer WBA would constrain Eircom’s behaviour in the WBA market over the period of this review. The preliminary conclusion is that, while instances of investment in WPNIA inputs and/or

²⁷⁸ See Revised ERG Working Paper on the SMP concept for the new regulatory framework, ERG (03) 09 rev3, September 2005, p. 5.

- own infrastructure by alternative providers exist, they are generally still limited in scale and geographic reach in comparison to Eircom's network.²⁷⁹
- 6.36 For example, as of Q2 2010, five purchasers of WPNIA inputs, BT, Smart Telecom, Magnet, Colt and 3PlayPlus, cumulatively accounted for 22,042 lines with four of these operators accounting for only a 2.2% market share of retail fixed broadband subscriptions at the national level,²⁸⁰ reflecting a low level of WPNIA development to date. Such a low level of WPNIA uptake would have limited potential to constrain Eircom via either direct wholesale constraints or indirect retail constraints over the current review.
- 6.37 One of these WPNIA-based operators, BT, has entered into a wholesale arrangement for the purposes of supplying WBA services to Vodafone over the period of this review. BT is starting from an existing WPNIA base of just 22 exchanges from which to supply such WBA services,²⁸¹ but proposes to unbundle a further 38 additional exchanges.²⁸² Based on the available plans, which are contingent upon a range of factors, the assumed best case scenario for BT would imply that at the end of its unbundling programme approximately 40% of the available broadband market would be within reach of BT's network footprint and capable of receiving WBA services.
- 6.38 If effectively realised, such WPNIA roll-out could potentially lessen the impact of Eircom's control of infrastructure not easily replicated as a barrier to entry/expansion. However, as noted in the market definition section above, the successful realisation of BT's roll-out plans is dependent *inter alia* on BT being able to achieve co-location and backhaul and to unbundle the additional exchanges sufficiently promptly over the forthcoming period. Furthermore, it should be noted that BT's projected WPNIA coverage at the end of its current unbundling programme would still compare less favourably to the coverage of Eircom's DSL network which is currently at 92% of population.²⁸³
- 6.39 However, ComReg recognises the potential for an effectively functioning WPNIA market to lessen Eircom's control of infrastructure not easily replicated, particularly in certain geographic areas where such WPNIA-based roll-out is potentially more viable and effective. ComReg thus intends to keep under review the impact of developments in the upstream WPNIA market on the downstream WBA market.

²⁷⁹ Coverage is less of an issue in the case of FWA and mobile broadband networks. However, following from the market definition sections above, wholesale broadband products supplied over these networks would not be considered effective substitutes/constraints for the wholesale broadband products offered over Eircom's fixed network.

²⁸⁰ Colt does not appear to offer any retail broadband services via LLU.

²⁸¹ Competition Authority Merger Determination, para. 29.

²⁸² Irish Times, "Revenues at BT Ireland dip 3% to settle at €388m", 13 November 2009.

²⁸³ European Commission, Europe's Digital Competitiveness Report, Commission Staff Working Document, SEC(2010)627, 17 May 2010, Figure 2.15.

- 6.40 While there is no effective wholesale supply over alternative platforms such as cable, FWA and alternative FTTx networks at present, ComReg has taken account of the retail presence of the respective platforms and their development over time.
- 6.41 It is clear from the trends observed in the section on the Overall Strength of Potential Competitors below that the retail presence of cable broadband is growing steadily. Furthermore, while its coverage in terms of total households passed is still only approximately 38%, UPC has indicated plans for a potential national coverage of up to 44% of households over the timeframe of this review, although such potential coverage would still compare less favourably to the existing scope of Eircom's DSL network as noted above.
- 6.42 As discussed in the market definition section above (section 5), ComReg does not anticipate effective WBA supply to third parties materialising over the cable platform over the timeframe of this review. ComReg has, however, also considered the potential for the cable network to constrain Eircom's position in the wholesale market by virtue of its growing retail presence (see Overall Strength of Potential Competitors below). However, further to this assessment it is not anticipated that indirect constraints from retail substitution to cable will evolve to such an extent as to constrain the wholesale market over the period of this review. Nonetheless, as noted below, ComReg proposes to monitor the development of cable in the retail broadband market and its capacity to affect Eircom's wholesale market behaviour over the timeframe of this review.

Sunk costs

- 6.43 The mere existence of sunk costs does not automatically imply that entry barriers are high. It is acknowledged that a certain level of sunk costs will be involved in entering most markets, and that the incumbent may also have had to pay a similar level of sunk cost before it entered the market. However, in some circumstances it is more difficult for new entrants to break into a market than it was for the first firm to enter, creating a decisional asymmetry where an incumbent has already paid sunk costs but a new entrant has not. In general, the higher the sunk costs of entry, the less likely it is that a firm will enter.²⁸⁴
- 6.44 Entry to, and expansion in, the WBA market would involve considerable sunk costs. Eircom has a ubiquitous access network and associated DSLAMs and backhaul to its core network. For an operator that wished to enter or expand in the WBA market, it would either have to build or expand a direct access network (for example, this could include a copper, fibre, cable or wireless-based network) to individual homes and businesses, or would have to avail of WPNIA inputs.
- 6.45 Should an operator wish to build a direct access network, ComReg notes that, in considering the effect of sunk costs, it is not necessary to assume that a market entrant would have to invest in an access network of the magnitude of Eircom's network. However, considerable costs would need to be sunk in order to enter the WBA market even in a limited way. Where alternative access networks are already in place, such as

²⁸⁴ OECD, Barriers to Entry, (DAF/COMP(2005)42), 2006, Paris.

in the case of the cable network, there may be fewer upfront investments needed. However, there may still be a requirement for further network expansion given the nature of WBA demand, as demonstrated by the responses to ComReg's information requests, whereby the geographic coverage/reach of a given network is an important driver of wholesale purchase decisions. Furthermore, there are other costs associated with the development of a wholesale product such as appropriate management and billing systems. In the case of different network topologies, there may also be additional technical costs associated with traffic and quality of service management in the event of wholesale provisioning.

- 6.46 Remedies imposed in the WPNIA market mean that alternative operators which seek to offer a WBA product based on a purchased WPNIA input would not have to build their own access network. However, significant sunk costs and lead times are still required, such as in implementing co-location at Eircom's exchanges and the appropriate purchase/provision of backhaul. Given the low levels of take-up of WPNIA in Ireland to date, significant costs and lead times would still be needed for purchasers of WPNIA inputs to achieve a sufficient presence for the purposes of effective WBA provisioning.²⁸⁵ Furthermore, there are other costs associated with the development of a wholesale product such as appropriate management and billing systems.
- 6.47 ComReg's preliminary view is that sunk costs constitute a barrier to entry for any operator which does not already own an access network. Furthermore, they constitute a lesser but still significant barrier to entry for an operator which has an access network but not the elements required to offer a wholesale non-physical access product and/or for an operator which seeks to offer WBA based on purchased WPNIA inputs. Indeed, responses to ComReg's information requests confirm that effective supply of WBA to third parties involves significant investment which is not likely to be undertaken on a speculative basis.

Economies of scale, economies of scope and economies of density

- 6.48 Economies of scale, scope and density refer to potential advantages that larger incumbents may enjoy over smaller new entrants. 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, e.g. where a cable network could be used to provide TV, voice telephony and Internet access services simultaneously. Economies of density refer to potential efficiencies associated with supplying customers who are geographically concentrated.

²⁸⁵ As of Q2 2010, there were 22,042 local loops unbundled across five platforms, although one of these WPNIA purchasers, Colt, does not appear to offer any retail broadband services via LLU. As at Q2 2010, just 3% of DSL lines were provided to subscribers by OAOs using local loop unbundling.

- 6.49 It is ComReg's view that the market for WBA is characterised by economies of scale, scope and of density. A potential supplier of WBA which already owns an access network would have to broadband-enable it (if not already so enabled) and potentially expand it to achieve the required geographic reach, and would further have to develop the associated systems and processes to offer a wholesale service. As noted above, a potential OAO WBA supplier using a purchased WPNIA input would also need to incur costs associated with co-location and installation of equipment at an exchange, as well as other backhaul and wholesale development costs. The fixed costs associated with network upgrade/expansion, and/or of unbundling an exchange, are subject to economies of scale and density. The average costs per line will fall as the number of subscribers served increases, so that economies of scale and density will be achieved where an operator can serve as many subscribers as possible from its investment in a given part of the network, e.g. in an exchange.
- 6.50 Economies of scope may also be achieved by the incumbent supplier of WBA, as in other wholesale fixed access markets. These relate mainly to investments which can be used as inputs into a wide range of services. These economies of scope may act as a deterrent to entry into the WBA market, since an alternative supplier of a single service would have to absorb the entire cost of the investment in that one service, where the multi-product incumbent could potentially absorb them across many wholesale and retail services.
- 6.51 The ability to achieve scale and scope economies is linked to the impact of economies of density on the WBA market. This has to be considered in light of the eventual retail market, where the cost of supply per customer decreases in line with the number of customers supplied. Responses to ComReg's information requests indicated that alternative infrastructure roll-out such as that based on WPNIA inputs (and thus any future WBA provisioning) is most viable in areas which have high population density, and the pattern of LLU take-up so far confirms this.²⁸⁶ This provides evidence of associated economies of density in the market.
- 6.52 ComReg thus notes that the high sunk costs associated with entry and expansion in the WBA market also act to exacerbate the effects of economies of scale, scope and density as a further barrier to entry/expansion.

Vertical integration

- 6.53 A vertically integrated operator can enjoy significant efficiencies arising from its presence in upstream and downstream markets. Such efficiencies can also be passed to consumers in the form of cheaper prices, lower transaction costs and/or enhanced

²⁸⁶ In ComReg's "Response to Consultation and Final Decision document "Local Loop Unbundling ("LLU") and Sub Loop Unbundling ("SLU") Maximum Monthly Rental Charges", Document 10/10, Decision 01/10, 9 February 2010, it was also noted that the high fixed costs that are involved and the lead time it takes to unbundle an exchange means that OAOs will tend to focus on unbundling large exchanges where they can benefit from economies of scale.

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 (e.g. where prospective new entrants perceive the need to enter multiple markets simultaneously to pose a viable competitive constraint on the 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.

- 6.54 A supplier of WBA needs to have a means of acquiring retail customers. For an integrated operator, this would mean that it developed downstream capability, such as its own retail operation. Eircom is a major provider of retail broadband, and so is in a strong position to consolidate its position in the upstream WBA market as the primary supplier. Absent regulation, there would also be an incentive for such an integrated operator to reinforce entry barriers across the wholesale and retail broadband access markets, by, for example, applying a margin squeeze between wholesale costs and retail prices.
- 6.55 There are other integrated suppliers (with own network or WPNIA inputs) of broadband services to the retail market, but these operators are still limited in scale and geographic reach in comparison to Eircom's network. The next largest vertically integrated competitor in the retail fixed broadband market is UPC's cable-based network. However, as noted above, it is not expected that effective supply of WBA to third parties will materialise across this platform over the timeframe of this review. Furthermore, the retail market shares and coverage of other integrated providers such as broadband providers relying on purchased WPNIA inputs and alternative FTTx providers would provide less initial scale to support entry to the WBA market (see Overall Strength of Potential Competitors below).
- 6.56 Non-integrated operators may also seek to mimic the vertically integrated structure of the incumbent to facilitate their growth in the WBA market. For example, the partnership arrangement between BT and Vodafone ties demand and supply together, so that the companies effectively operate as a vertically-integrated entity. Vodafone will increase its presence in the retail broadband market by adding BT's residential and SME customers to its existing fixed retail broadband base.²⁸⁷ Furthermore, as BT rolls out its unbundling programme, Vodafone commits to purchase WBA from BT in its unbundled exchanges,²⁸⁸ thereby ultimately facilitating BT's entry and growth in the WBA market. However, as will be discussed further below, it is not considered that this wholesale arrangement would be of a sufficient scale over the lifetime of this review to successfully erode Eircom's market power in the relevant market. Furthermore, the scope for the BT/Vodafone arrangement to be replicated by other potential WBA providers is unclear given scale and network availability considerations.

²⁸⁷ Competition Authority Merger Determination, para. 26

²⁸⁸ Competition Authority Merger Determination, para. 29.

Overall strength of potential competitors

- 6.57 ComReg has considered whether market developments could suggest that a competitive constraint may be exercised on the incumbent in the lifetime of this review.
- 6.58 In addition to the market definition assessment which considers any immediate or effective competitive constraints from potential suppliers, ComReg also considers any direct and/or indirect wholesale constraints which could potentially materialise on a more medium to longer term basis.
- 6.59 As previously noted, indirect constraints which operate at the wholesale level through their effects at the retail level can be taken into account at either the market definition or the competition analysis stage.²⁸⁹ ComReg has already considered the immediate effects of indirect constraints operating through the retail level in its wholesale product market definition, and has concluded that these are insufficient for alternative platforms to be included in the relevant market. In considering the potential impact of indirect constraints within the competition analysis, ComReg is assessing the potential for retail competition to constrain the wholesale market over a medium to longer timeframe, e.g. within a two to three year timescale.

Potential competition from purchasers of WPNIA

- 6.60 ComReg has considered whether the ability of WPNIA purchasers to enter the WBA market and exercise a check on the market power of the incumbent is likely to occur over the period of the review. WPNIA has been available for a number of years now, but, as noted above, its take-up remains very low (22,042 unbundled lines as of Q2 2010) and fragmented across five operators.²⁹⁰
- 6.61 ComReg notes that one WPNIA purchaser, BT Ireland, plans to supply WBA products to Vodafone using WPNIA inputs at existing and future unbundled exchanges. ComReg understands that the strategic partnership between BT and Vodafone transfers BT's retail residential and small business customer base to Vodafone, with BT retaining its larger business customers.²⁹¹ Furthermore, instead of Vodafone purchasing WBA from Eircom to support its newly expanded retail customer base, BT will offer Vodafone a WBA product based on WPNIA inputs purchased from Eircom,²⁹² which Vodafone will then use to offer retail broadband. The impact on Eircom is that it will lose Vodafone's WBA purchases at BT's unbundled exchanges, but will gain WPNIA purchases from BT at those exchanges. It may be expected however that Vodafone would be likely to continue to buy Eircom's WBA in those exchanges which BT does not unbundle.

²⁸⁹ In its comments on a number of Article 7 cases, the European Commission has however noted that indirect pricing constraints, where they are found to exist, should be taken into account in the context of the SMP assessment. See cases UK/2003/0032, UK/2007/0733.

²⁹⁰ As noted above, one of these WPNIA purchasers does not appear to offer any retail broadband services via LLU.

²⁹¹ Competition Authority Merger Determination, para. 26.

²⁹² Competition Authority Merger Determination, para. 28.

- 6.62 In assessing the impacts of the BT/Vodafone partnership on the WBA market, ComReg has, based on the available plans, undertaken a detailed assessment of the potential impacts of this arrangement on a forward-looking basis. As noted in the geographic wholesale market definition in section 5 above, ComReg's assessment of BT's potential wholesale presence is based on a scenario whereby BT's stated business plans are assumed to be fully realised, i.e. a conservative or best case scenario. However, it should be noted that basing market share estimations solely based on assumed business plans could lead to an over-statement of competitive effects if those plans do not materialise in practice. Thus, caution should be afforded when evaluating anticipated competitive pressures on the basis of mere forecasts alone.
- 6.63 Based on the available plans, the assumed best case scenario for BT would imply that at the end of its unbundling programme approximately 40% of the available broadband market would be within reach of BT's network footprint and capable of receiving WBA services based on BT's WPNIA inputs. The available plans would further imply, based on its forecasted supply to Vodafone, a national market share for BT of just 8-9% at national level suggesting that, even assuming a conservative approach, the BT/Vodafone deal is unlikely in itself to appreciably undermine Eircom's market power in the WBA market.
- 6.64 As noted in section 5 above, BT's supply of WBA to Vodafone is still in its initial stages. Furthermore, as BT is starting from an existing WPNIA base of just 22 unbundled exchanges,²⁹³ and the remainder of the project is inherently dependent on a range of factors, this could imply that the assumed best case scenario may not even fully materialise in practice within the period of this review.²⁹⁴
- 6.65 ComReg has further examined the potential for BT to enter into partnerships with other wholesale customers which might constrain Eircom's ability to act independently over the timeframe of this review. In this respect, and as noted earlier, according to the terms of the BT/Vodafone agreement, the WBA product will initially be available exclusively to Vodafone for (a one-year period at each unbundled exchange operated, or to be operated, by BT Ireland)²⁹⁵ and so would not initially be available to further third parties. At the end of this exclusive period, it may be expected that BT could make a WBA product commercially available to other wholesale customers, subject to capacity, etc. ComReg would propose to monitor the evolution of any future wholesale transactions of this kind. However, the circumstances of the BT/Vodafone transaction, whereby Vodafone acquired an expanded retail customer base in return for *inter alia* committing wholesale volumes to BT at specified exchanges, are somewhat unique in

²⁹³ Competition Authority Merger Determination, para. 29.

²⁹⁴ It was noted in section 5 above that the successful realisation of BT's WBA plans is critically dependent on a number of factors, including it being able to achieve co-location and backhaul and to unbundle the additional exchanges sufficiently promptly over the forthcoming period, as well as successfully implementing the relevant wholesale systems and migrating all forecasted wholesale connections (assuming minimal underlying retail churn) within the planned timeframe.

²⁹⁵ Competition Authority Merger Determination, para. 29.

the Irish market to date. Thus, it is not clear that there would be significant scope for replicating deals of this kind. Furthermore, the extent of demand for pure wholesale offers from WBA providers relying on purchased WPNIA inputs remains to be seen.

- 6.66 As noted above, responses to ComReg’s information requests indicate that an operator purchasing WBA may not find it economic to purchase from a number of suppliers noting that there would be transaction/switching costs involved in agreeing commercial terms, building IT interfaces and developing and maintaining order handling and assurance systems with multiple providers. Respondents further cited geographic coverage and logistical problems associated with moving customers from one supplier to another as factors potentially hindering their ability to switch WBA provider.
- 6.67 Furthermore, ComReg does not anticipate widespread WBA entry from further WPNIA purchasers on a scale sufficient to constrain Eircom over the period of this review, given the low level of WPNIA uptake to date. From the information which has been made available to ComReg, it is unlikely that there will be further substantive entry to the WBA market based on purchased WPNIA inputs over the timeframe of this review.
- 6.68 ComReg has further considered the scope for the self supply of WPNIA purchasers to exercise an indirect constraint on Eircom’s wholesale pricing through the development of their position in the retail market over the timeframe of this review. While the market definition in section 5 contemplated the strength of any immediate constraints deriving from such WPNIA-based self provisioning, similar considerations would apply over the medium to longer term perspective considered by this competition assessment. For example, taking account of the possibility that pass-through of any wholesale price increases to retail prices by OAOs may be less than complete and that the WBA cost constitutes only a proportion of the overall retail price, as well as the more limited availability of retail broadband offers based on WPNIA inputs, as also demonstrated by the low end user take-up to date (accounting for only 2.2% of retail fixed broadband subscriptions at the national level as of Q2 2010), it is ComReg’s preliminary view that any retail substitution to such services would not be sufficient to appreciably constrain Eircom’s commercial behaviour in respect of WBA over this review. However, as noted in section 5 above, in the event that there is a significant increase in unbundling activities over the period of this review, ComReg proposes to monitor the capacity for such activities to trigger any changes in competitive conditions in discrete geographic areas.

Potential competition from cable, FWA, alternative FTTx and mobile platforms

- 6.69 ComReg has considered the extent to which other alternative platform operators (e.g. alternative cable, FWA, FTTx and mobile broadband operators) could or would exercise a direct or indirect constraint on Eircom’s behaviour in the WBA market over the two to three year period contemplated by this review.
- 6.70 There is currently no non-physical WBA product available over alternative cable, FWA or FTTx infrastructure in Ireland. Furthermore, based on information provided, ComReg does not anticipate substantial WBA supply materialising across these platforms over the period of this review. In addition, ComReg has not identified evidence of a concrete demand for WBA offerings via these platforms within the review timeframe. As noted above, respondents to ComReg’s information requests noted potential costs associated with switching from Eircom’s platform such as the

expense of developing and maintaining automated handling and assurance systems with multiple providers, migration costs, the need to potentially build new IT system interfaces, and the need to develop/agree operational and technical aspects of the service. Furthermore, it is conceivable that additional inter-platform switching costs could arise where, for example, existing wholesale customers migrating from DSL-based access to access based on cable or FWA platforms needed to incur costs associated with replacing customer premises equipment.

- 6.71 As noted in sections 3 and 5 above, the mobile broadband provider, 3 Ireland, has a contractual obligation as the NBS supplier to make a wholesale product²⁹⁶ available in a number of target areas in which broadband services were not previously available in Ireland. As at July 2010, no operator had yet availed of this wholesale product. Furthermore, even if take-up of this service materialises over the relevant review period, it is still not anticipated that this would appreciably constrain Eircom in the WBA market. The NBS scheme only relates to the provision of broadband services in those parts of Ireland in which broadband services were not previously available. Therefore, Eircom would not in any case have had an existing retail or wholesale presence in those specific target areas.
- 6.72 There is currently no WBA offering by any mobile operator outside of the NBS area and ComReg is not aware of further concrete plans for an effective mobile-based WBA offering over the timeframe of this review. Furthermore, even if mobile operators were to offer a form of wholesale supply across their networks over the review period, the different functional characteristics between mobile broadband and fixed broadband networks as identified in the market definition sections above would likely limit the constraint posed by any resulting wholesale offer on Eircom's (predominantly DSL-based) WBA offer.²⁹⁷
- 6.73 In assessing the potential for indirect wholesale constraints from alternative platform operators to constrain Eircom's behaviour in the WBA market over the forthcoming two to three year period, ComReg has taken account of the retail presence of the respective fixed broadband platforms and their development over time.²⁹⁸ In terms of trends over the last 12 months, as observed in ComReg's Quarterly Reports, the share of retail fixed broadband subscriptions accounted for by the fixed DSL platform has fallen only slightly from 74% in March 2009 to 72% in June 2010, while over the same period FWA has fallen from approximately 12% to 10% of retail fixed broadband subscriptions, cable has risen from approximately 13% to 17%, and alternative fibre has

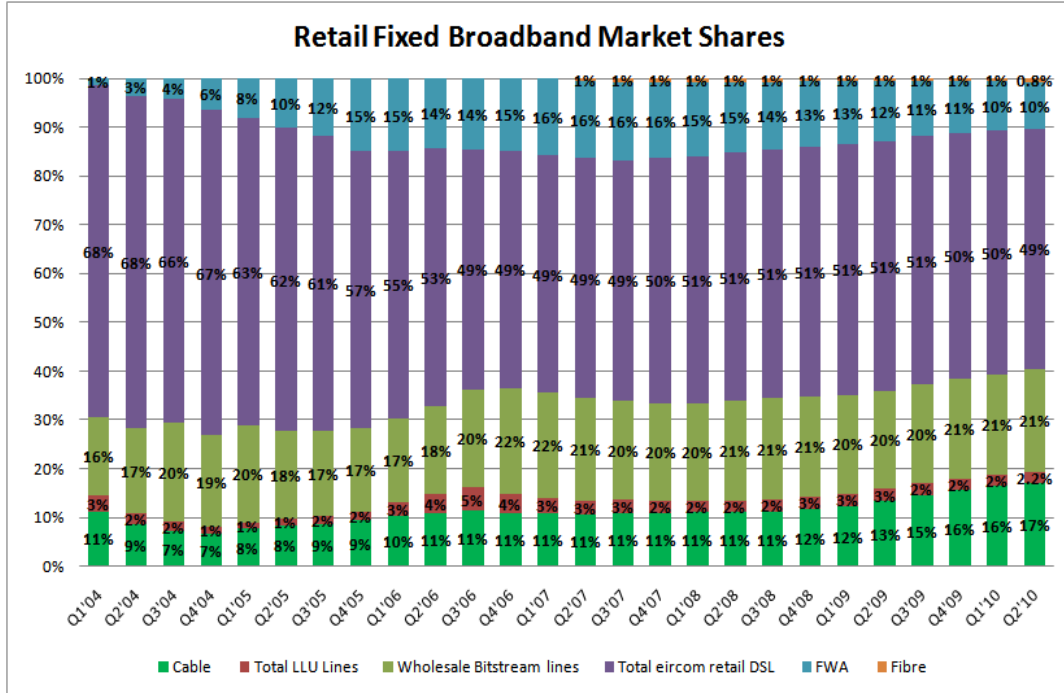
²⁹⁶ See footnote 239.

²⁹⁷ ComReg considered potential constraints from mobile broadband supply and proposes to exclude actual/potential supply of broadband access services over mobile broadband platforms from both the relevant retail and wholesale markets provisionally identified in sections 4 and 5 above.

²⁹⁸ ComReg has considered the potential indirect constraints exercised by operators offering products which may potentially be considered viable retail substitutes. Broadband products which are not considered effective retail substitutes for DSL broadband (e.g. satellite or mobile broadband) cannot be considered to pose effective indirect constraints at the wholesale level and are thus not considered further here.

remained static at just under 1%. The below graph also demonstrates the longer term evolution of retail broadband subscriptions over fixed platforms since 2004.

Figure 12: Distribution of retail broadband subscriptions across fixed platforms (2004-2010)



Source: ComReg’s Quarterly Reports

- 6.74 As can be seen from Figure 12, although the proportion of DSL-based broadband²⁹⁹ provided in the retail market has been declining gradually, it is still by far the primary means of providing fixed retail broadband services in Ireland. Furthermore, as at Q2 2010, Eircom’s overall retail presence (in terms of both Eircom’s direct retail supply and retail supply based on Eircom’s indirect WBA inputs) was still at 70% of all retail fixed broadband subscriptions.
- 6.75 UPC’s retail presence is however growing steadily. As of 30 June 2010,³⁰⁰ UPC’s market share of fixed retail broadband subscriptions was just over 17%, up from 8% in Q1 2005 (having previously declined from 11% in Q1 2004). Furthermore, while its coverage in terms of total households passed is approximately 38%, still significantly

²⁹⁹ All DSL products in the above graph were offered over Eircom’s network, either directly (Eircom retail supply) or indirectly (via WBA or WPNIA purchases).

³⁰⁰ ComReg “Irish Communications Market; Quarterly Key Data Report”, Document 10/73, September 2010.

less than Eircom's DSL network, UPC has indicated plans for a potential national broadband coverage of up to 44% over the timeframe of this review.

- 6.76 Notwithstanding these developments, in absolute terms UPC's retail market share is still relatively modest with 173,146 active subscribers as of Q2 2010. Thus, even assuming a situation absent regulation where there may be near complete pass-through of any wholesale price increases by Eircom to the retail level, it is not clear from the above trends that the level of retail switching to cable would be sufficient to constrain Eircom's behaviour over the period of this review. Furthermore, any such switching potential is likely to be impacted by the availability of cable-based products which could suggest a weaker retail substitution effect in rural vis-à-vis urban areas. ComReg nonetheless proposes to monitor any effective retail substitution to cable over the period of this review, even if confined to discrete (urban) geographic areas, and to assess whether any indirect wholesale constraints, even at a local/regional level, may need to be factored into the relevant market definition, SMP analysis and/or remedies.³⁰¹
- 6.77 Over the past few years, FWA retail broadband has had a similar retail market share to cable retail broadband. However, notwithstanding its more sizeable coverage (albeit fragmented across a number of licensed operators) and recent WiMAX upgrade announcements, the number of subscribers to FWA-based products is declining overall. ComReg figures for Q2 2010 indicate that FWA had a total of 96,759 retail broadband subscribers nationally; this represents a decline of over 16% from Q2 2009 to Q2 2010 at national level, following a decline of 6% from Q2 2008 to Q2 2009.³⁰² The reduction in subscriber numbers over the last two years suggests that, where retail customers have choice, they are less likely to choose to move to FWA, thereby undermining the strength of any potential indirect retail constraints on Eircom's wholesale behaviour.
- 6.78 Coverage of alternative FTTx operators is very limited, both geographically and in terms of market penetration. As the coverage of alternative fibre is still very restricted, spread over a number of small geographically separated locations, a total of approximately 15,000 homes,³⁰³ and the cumulative retail market share is still

³⁰¹ ComReg will also take into account any impacts on retail substitution resulting from the introduction of new or upgraded products offered using the next generation cable broadband standard DOCSIS 3.0, such as UPC's recently announced plans to offer customers a 100Mb product. As noted in section 4 above, according to UPC Press Release, "UPC unveils Fibre Power internet with up to 100Mbps", 4 May 2010, UPC intends to introduce its 100Mb product from late summer. Eircom also announced two NGA fibre trials for up to 10,000 residential and business customers in communities in Wexford town and Sandyford, Co. Dublin with a view to providing FTTH with broadband speeds of up to 150 Mb. However, in the absence of concrete information regarding the availability/scope and timeframes for actual product launches it is not possible to reliably quantify potential effects from such network developments at this time, but ComReg proposes to keep the situation under review.

³⁰² ComReg, "Irish Communications Market: Quarterly Key Data Report," Document 09/71, 10 September 2009.

³⁰³ Estimate based on information provided by industry participants.

negligible, at less than 1% of retail fixed broadband subscriptions in Ireland³⁰⁴ remaining static since the previous WBA market review, any potential for retail substitution to such alternative FTTx operators is not considered sufficient to indirectly constrain Eircom's behaviour in the WBA market over this review.

Preliminary conclusion on potential competition in the WBA market

- 6.79 ComReg has considered whether a range of possible market developments may impact on Eircom's market position, and has considered potential developments over a two to three year timeframe.
- 6.80 ComReg has in particular assessed two key possible sources of competitive constraint - first, the commencement of BT's provisioning of WBA services to Vodafone; and second, the possible increase in the retail market presence of the cable operator, UPC.
- 6.81 ComReg's preliminary conclusion is that these developments are not anticipated to have a material effect on the competitive structure of the national WBA market over the timeframe of this review, primarily in view of their projected scope at this time. ComReg notes, however, that both market developments could potentially lead to an increasing differentiation in competitive conditions between particular areas should BT and/or UPC materially expand their operations, particularly in overlapping areas, by the time of the next review.
- 6.82 As noted in the geographic market definition section above (section 5), and as observed in other Member States (notably the UK and Portugal), significant advances in unbundling activities and WBA provisioning by WPNIA purchasers, in parallel to intensified (indirect) constraints from cable, could be a driver of differentiated competitive conditions in WBA in certain urban centres. ComReg proposes to closely monitor the potential for any such local/regional competitive developments which may need to be factored into the relevant market definition, SMP analysis and/or remedies assessment.

Strength of countervailing buyer power in the WBA market

- 6.83 Another potential constraint on an undertaking's ability to exercise market power is buyer power. Countervailing buyer power can arise if, for example, a particular purchaser is sufficiently important to its supplier to influence the price or other terms and conditions of supply. In its Guidelines on horizontal mergers, the European Commission 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

³⁰⁴ This figure was estimated based on quarterly report data held by ComReg relating to the number of active copper and fibre paths in Ireland and is calculated on the basis of total fibre subscriptions divided by the number of total fixed broadband subscriptions (excluding mobile, satellite and leased lines subscriptions).

*to its size, its commercial significance to the seller and its ability to switch to alternative suppliers”.*³⁰⁵

- 6.84 The circumstances where countervailing buyer power might be observed include where a customer:
- Accounts for a significant proportion of the supplier’s total output;
 - Is well-informed about alternative sources of supply; and
 - Is able to switch to other suppliers at little cost to itself, or to self supply the relevant product relatively quickly and without incurring substantial sunk costs.
- 6.85 While some ISPs may be considered to be more significant than others in their purchase of Eircom’s WBA, the largest purchaser of WBA is Eircom’s own downstream operation.
- 6.86 ComReg notes that, in Ireland, there are very limited alternative sources of supply of WBA. At present, Eircom is the main supplier, with BT having recently commenced some initial WBA supply to Vodafone based on WPNIA inputs³⁰⁶ and, as noted above, BT plans to increase its take-up of WPNIA to support its WBA product offering to Vodafone. However, the initial exclusivity of the arrangement implies that other purchasers of WBA from Eircom would be unable to switch to BT as an alternative supplier for an initial one-year period at each unbundled exchange. Vodafone itself would also be limited in the extent to which it could exercise countervailing buyer power because it has committed to purchase certain volumes of WBA from BT in a set number of nominated exchanges, and for those exchange areas which are not to be unbundled by BT, Vodafone’s negotiating position vis-à-vis Eircom would be weaker.
- 6.87 ComReg has considered the potential impact of the agreement between Vodafone and BT on Eircom’s overall supply of WBA. As part of the agreement, Vodafone plans to switch its WBA purchases within BT’s projected WPNIA footprint to BT’s own WPNIA infrastructure.³⁰⁷ If such plans are realised in their entirety,³⁰⁸ the loss of these WBA orders would in any case only reduce Eircom’s total WBA volumes by approximately []% of its current total WBA market supply. It may be expected that Vodafone would also be likely to continue purchasing bitstream from Eircom to serve customers in areas outside of the BT WPNIA footprint.

³⁰⁵ European Commission, “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.

³⁰⁶ As noted above, there is some limited wholesale supply being actively provided by a further WPNIA purchaser but the volumes supplied under this arrangement are extremely low and this may reflect more of a resale agreement.

³⁰⁷ Competition Authority Merger Determination, paras 30 and 32.

³⁰⁸ As noted above, the successful realisation of these wholesale plans are however contingent upon a number of factors. Furthermore, at time of writing in July 2010 there has been a relatively low level of wholesale migrations to date.

- 6.88 This would suggest that, even if the prospective switching of two of Eircom's current largest wholesale customers to an alternative WBA provider is realised in its entirety, the overall impact on Eircom's current wholesale volumes would be limited. The ability of any customer to switch to an alternative WBA provider using purchased WPNIA inputs is restricted only to those exchanges within the relevant provider's current/projected WPNIA footprint over the timeframe of this review. Therefore, ComReg does not consider that any individual purchaser of WBA would consume sufficient volumes of Eircom's WBA within the footprint of the WPNIA purchasers such that it would be able to materially influence the price or other terms and conditions of Eircom's supply.
- 6.89 Furthermore, while the BT/Vodafone deal might indicate scope for alternative wholesale arrangements to arise, as noted above the circumstances of the BT/Vodafone retail/wholesale transaction, whereby Vodafone acquired an expanded retail customer base in return for *inter alia* committing wholesale volumes to BT at specified exchanges, would appear rather specific. Thus, it is not clear that there would be significant scope for replicating similar deals of this kind on a scale that would significantly bolster the bargaining power of wholesale customers in this market. Given the unique nature of the BT/Vodafone deal, the scope for pure wholesale agreements with operators relying on purchased WPNIA inputs to provide a credible threat to Eircom's negotiating position as yet remains untested. However, as noted above, responses to ComReg's information requests suggest that coverage considerations, as well as potential transaction/switching costs associated with switching to alternative WBA providers, could serve to weaken the credibility of any such threat.

Preliminary conclusion on the strength of countervailing buyer power in the WBA market

- 6.90 ComReg has assessed the negotiating position of buyers and level of any countervailing buyer power which may materialise in the WBA market over the period of this review. Having assessed the potential alternative supply options as well as the positions of individual WBA customers vis-à-vis Eircom's position in this market, ComReg's preliminary conclusion is countervailing buyer power does not exist to the extent which would qualify Eircom's market power over the lifetime of this review. ComReg proposes, however, to monitor the development of alternative supply options over the period of this review with a view to identifying if any countervailing buyer power, even in discrete geographic areas, might be strengthened accordingly.

Overall summary of preliminary conclusions on competition analysis and assessment of SMP

- 6.91 ComReg has assessed the WBA market in terms of existing competition, potential competition, and the strength of any countervailing buyer power in order to determine whether any undertaking has SMP. In summary, ComReg's overall preliminary conclusions are as follows:
- Eircom's current market share is at least 98%. This is the case even if the market is considered to include WBA offered over OAO purchased WPNIA inputs

- Barriers to entry and expansion persist, including sunk costs, economies of scale, scope and density, control of infrastructure not easily replicated, and vertical integration.
- Neither the expansion of WBA based on OAO purchased WPNIA inputs, nor the continuing growth of retail cable-based broadband is individually anticipated to have a material effect on the competitive structure of the national WBA market over the timeframe of this review. However, should BT and UPC significantly expand their operations, particularly in overlapping areas, by the time of the next review, taken together, this market development could potentially lead to an increasing differentiation in competitive conditions between particular areas. ComReg proposes to monitor the combined effect of any such retail/wholesale developments.
- ComReg's preliminary view is that countervailing buyer power is not strong enough to constrain Eircom's market power in the WBA market over the current review period.

Designation of undertakings with significant market power

6.92 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.

6.93 Having regard to the preliminary conclusions of the above market analysis, ComReg is therefore of the preliminary view that:

Eircom should be designated as having SMP in the market for Wholesale Broadband Access in Ireland.

Question 7: Do you agree with ComReg's preliminary conclusions on the competition analysis and 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 position.

7 Competition Problems

- 7.1 ComReg is obliged to impose at least one remedy, further to Regulation 27(4) of the Framework Regulations, once it designates an undertaking with SMP.³⁰⁹ According to Regulation 9(6) of the Access Regulations, the remedies imposed must be based on the nature of the competition problems identified, and be proportionate and justified in light of ComReg's objectives as set out in section 12 of the Communications Regulation Act 2002.³¹⁰
- 7.2 It is not necessary for ComReg to point to examples of actual anti-competitive activity within the meaning of Article 102 of the Treaty on the Functioning of the European Union (TFEU) and/or Section 5 of the Competition Act, 2002 that have occurred or are occurring. A finding of dominance indicates the potential for competition problems to arise and this is sufficient to justify the imposition of proportionate *ex ante* regulation. As noted in the European Commission's Explanatory Note, 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.³¹¹ The finding of durable barriers to entry/expansion and an absence of effective competition in the WBA market indicates the potential for competition problems to arise over the review period in question, thereby justifying the imposition of *ex ante* regulation. As noted in earlier sections above, the European Commission has already identified the WBA market as susceptible to *ex ante* regulation.
- 7.3 In determining what form of *ex ante* regulation is warranted in the relevant market, ComReg has carried out an assessment of potential competition problems that are likely to arise assuming SMP regulation is absent and taking account of the structure and characteristics of the WBA market.³¹²
- 7.4 In the absence of regulation in the WBA market, a dominant undertaking would have the potential ability and incentive to influence a range of competition parameters, including prices, innovation, output and the variety or quality of goods and services provided. Three broad types of competition problems³¹³ may arise where an undertaking has SMP, involving conduct by the SMP operator that is aimed at:

³⁰⁹ The SMP Guidelines note further at paragraph 114 that "*NRAs must impose at least one regulatory obligation on an undertaking that has been designated as having SMP*".

³¹⁰ Pursuant to section 12 of the Communications Regulation Act 2002, 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.

³¹¹ Explanatory Note, p. 5.

³¹² As noted in section 6 above, although the WBA market has been regulated since the time of the last review, the assessment of competition problems must consider how the market would be likely to operate if SMP regulation was not in place in the WBA market, as otherwise the analysis would be circular.

³¹³ In considering the types of competition problem which could arise, ComReg has also been guided by experience in the market. Although it is not necessary *per se* to demonstrate actual

- exploiting customers by virtue of its SMP position;
- leveraging its market power into adjacent vertically or horizontally related markets;
- foreclosing or excluding competitors such as to protect its existing dominance in the WBA market.

Exploitative practices

- 7.5 Economic theory suggests that where a firm possesses market power it is in a position to increase prices above and/or reduce output below competitive levels, thereby allowing higher than normal profits to be earned. These higher profits effectively create a wealth transfer from the consumer to the firm with market power. It is ComReg's preliminary view that an operator with dominance in the market for WBA would have the ability and incentives to engage in exploitative practices, such as excessive pricing, inefficiency or inertia.

Excessive pricing

- 7.6 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 consumer and/or the cost of producing or providing the relevant service.³¹⁴ In line with established competition law practice, 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. ComReg suggests that, given the barriers to effective competition analysed earlier, and in the absence of SMP regulation in the WBA market, Eircom would have the ability and incentives to price excessively. This would raise input costs to retail operators and ultimately raise prices to end-consumers. Such excessive pricing would thus not only exploit retail broadband users but might also harm competition where the excessively priced WBA input would make it more difficult to compete in related markets, e.g. in downstream markets where operators rely on the upstream input to compete.
- 7.7 To address the potential for excessive pricing in the WBA 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. An *ex post*

abuse, examples of competition problems which have previously arisen, even in the presence of existing regulation, help ground the analysis in actual experience.

³¹⁴ 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".

approach to excessive pricing in markets characterised by high and non-transitory entry barriers, such as the WBA market, does not offer adequate protection for consumers, as the effect on the market is often too late, if it is even proven to the required competition law standard.

- 7.8 Given the ability and incentives for Eircom, as the SMP operator, to engage in excessive/exploitative pricing, price control and related cost accounting obligations are therefore considered justified to ensure appropriate prices are set. As noted in section 2, Eircom's wholesale prices in the WBA market are currently regulated by ComReg Decision D01/06 and the methodology for setting these wholesale prices is under review, with a separate consultation taking place in parallel to this market review.³¹⁵

Inefficiency/inertia

- 7.9 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 to stay ahead of rivals. This may limit the development of new technology and/or lead to costlier and less efficient methods of production and consequently higher prices for consumers than would otherwise exist under competitive market conditions.
- 7.10 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 to compete in neighbouring markets and delays upgrading those inputs or providing newer, potentially more cost effective inputs in line with technological developments.
- 7.11 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 consumers. For example, in *Merci Convenzionali Porto di Genova v. Siderurgica Gabrielli*³¹⁶ 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.
- 7.12 As an SMP operator in the provision of WBA, ComReg is of the preliminary view that there is little effective pressure (absent regulation) on Eircom to innovate and provide an efficient service. Therefore, there would be little incentive to implement product upgrades or process improvements in WBA services and delays may arise in the provisioning of alternative forms of WBA access where OAOs may express a demand for an access product which is not yet addressed. This could impede OAOs' ability to compete in related markets and in turn delay the delivery of effective retail broadband services to end-users. An access obligation is thus required and justified in order to

³¹⁵ ComReg, "Wholesale Broadband Access: Consultation and draft decision on the appropriate price control", Document 10/56, 15 July 2010.

³¹⁶ Case C-179/90 [1991] ECR I-5889.

address this potential problem, alongside other possible remedies such as non-discrimination, transparency, accounting separation, and price control and cost accounting to ensure that access is provided in an effective manner.

Leveraging

- 7.13 Where an integrated operator has SMP in one market which has links with other adjacent markets either at a similar or different level in the production or distribution chain, the dominant undertaking may attempt to transfer (leverage) its market power to such vertically or horizontally 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.

Vertical leveraging

- 7.14 Vertical leveraging arises where a vertically integrated operator has dominance at one level in the production or distribution chain, e.g. the wholesale level, and can potentially transfer this market power into downstream markets where it is also active. This would mean that a vertically integrated operator that is dominant in the WBA market may have the incentive to use this power to affect the competitive conditions in related markets, where competitors rely on this key input, such as the market for retail broadband. An example of vertical leveraging can include refusal to deal. A refusal to deal/denial of access may manifest itself as a constructive denial and not necessarily an outright and categorical refusal to supply. This could include delaying tactics such as protracted negotiations in respect of the supply of new WBA products or features, discriminatory use or withholding of information, quality discrimination, strategic design, disproportionate entry criteria as well as unreasonable terms and conditions associated with access. Further examples of potential leveraging behaviour can include possible disruption of customer migration processes, certain tying practices, creating or exploiting information asymmetries, margin squeeze, cross subsidisation to facilitate predatory behaviour, practices aimed generally at raising rivals' costs³¹⁷ etc. ComReg considers that, absent regulation, these types of issues could arise in the WBA market.
- 7.15 Discriminatory use or withholding of information, and quality discrimination, may be particular issues where downstream competitors are dependent on the incumbent's

³¹⁷ Unlike predatory pricing, certain practices can be employed which unfairly raise a rival's costs and reduce competition and 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).

network to provide services and need certain (quality or technical) information to produce services that would compete with the SMP firm, and also must provide information about their own network rollout to the incumbent in order to allow the networks to interconnect. In this situation, the incumbent may have the power both to provide a lesser quality of service/inferior information to downstream competitors than to its own downstream arm (so that new entrants are restricted in the retail marketing of their products), and to use information about downstream competitors' network rollouts in the design of their own retail proposition.

- 7.16 Where the SMP operator is vertically integrated, it may be difficult to compare products used internally with those offered to third parties in the wholesale market, and it may be difficult to compare how products are developed and implemented. A lack of transparency in how products and services are both developed and implemented internally to the SMP operator could make it difficult to demonstrate equivalence and provide the potential and incentive for a number of non-price means of leveraging market power. For example, in terms of product development, an unregulated SMP operator which controls the wholesale market while also operating in the retail market could launch retail products which OAOs could not match because there is no wholesale equivalent available. In terms of product implementation, if OAOs are not aware of all the features of the wholesale product which is available internally, so that they can request these features themselves, they may find themselves offering an inferior product at retail level. Furthermore, where, for example, certain WBA services/information necessary for preparing a bid/tender proposal for a (retail) 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. The potential implications of information asymmetries are discussed further below.
- 7.17 A vertically-integrated SMP operator could also have an incentive to frustrate the process whereby retail customers can switch to an alternative product or an alternative provider. OAOs may wish to migrate downstream customers between wholesale products, and may wish to carry out single or bulk migration of their customer base. This should involve minimal disruption or delay from the customer's perspective. Examples of the types of action which could disrupt the migration process could include rejecting migration orders on the basis of technicalities which were not made known to the requesting operator, requesting additional customer authorisation mechanisms, or preventing the uplift of a large number of retail customers to alternative service provision. This type of action would impose an additional and artificial switching cost on retail customers.
- 7.18 Another example of non-price vertical leveraging could be where the SMP operator requires OAOs using WBA to purchase an additional service. Conditioning the sale of WBA on the sale of an additional unnecessary service can effectively raise rivals' costs, and so reduce the ability of OAOs to compete with the SMP operator in downstream markets.
- 7.19 A vertically-integrated SMP operator may also act to foreclose WBA-based competition in the retail market by creating or exploiting information asymmetries. An example of this would be any differences in interface between the SMP operator's internal access to IT systems, and OAO access. The infrastructure associated with Operational Support Systems (OSS) and Business Support Systems (BSS) is supported

by IT systems, which are continually evolving. Where, for example, OAOs do not have visibility or input into IT 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.

- 7.20 A further example of information asymmetries could include where wholesale customers require metrics on order processing, service delivery and fault repair to view the overall performance of Eircom's WBA product from a provisioning and service assurance perspective. Failure by Eircom to provide such data to its wholesale customers would impair their ability to compare the performance of Eircom's wholesale products with its retail products. Uncertainty for OAOs and their retail customers as to the performance and quality of their purchased WBA 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.
- 7.21 For example, in December 2008, ComReg notified Eircom of a finding that Eircom had failed to comply with its non-discrimination obligation in relation to "Sync Checker", a business support tool which makes available various broadband metrics used in the diagnosis of customer broadband problems.³¹⁸ While Eircom retail had direct and immediate access to Sync Checker, OAOs were subject to a more lengthy procedure for access. ComReg found that information and services regarding WBA were not provided by Eircom to OAOs according to timescales, on a basis, or of a quality, which were equivalent to those provided to Eircom retail and, as such, Eircom was not in compliance with its non-discrimination obligation.
- 7.22 Information asymmetries may also apply to future planning by the SMP operator. For example, changes by Eircom to its core network topography may have significant implications for operators using WBA and a lack of information and associated uncertainty may discourage OAOs from expanding their downstream footprint. Further, such information asymmetries may lead to a delayed consideration of OAO wholesale requirements as part of such network developments, delaying in turn their ability to respond to any new downstream offerings by the SMP operator.
- 7.23 Vertical leverage may also be apparent in the use of price. A vertically integrated operator which has SMP at the wholesale level and provides a wholesale input on which other operators rely to compete in a downstream market could price its upstream and downstream services in such a way as to impede effective downstream competition due to an insufficient margin between wholesale and retail prices.
- 7.24 ComReg's preliminary analysis has indicated that Eircom has continuing dominance in the WBA market, and there is a limited existence of other factors which would significantly dilute Eircom's market power within the timeframe of this review.

³¹⁸ See ComReg, "Decision to find that Eircom is not in compliance with the non-discrimination obligation in its use of 'Sync Checker'", Document 08/95, 4 December 2008.

ComReg therefore suggests that Eircom, as a vertically-integrated operator, would have the ability and incentive to leverage its market power in WBA into related downstream markets thereby justifying robust obligations of access, transparency, non-discrimination, price control and cost accounting and accounting separation. As noted in the Exclusionary Practices section below, many of the practices discussed above which harm downstream competition also have the potential to delay infrastructure development and thus reinforce entry barriers and delay competition in the WBA market itself.

Horizontal leveraging

- 7.25 Horizontal leveraging involves an undertaking which is dominant in one market using its market power to exert undue influence in other markets that are at a similar level in the production or distribution chain. Examples of horizontal leveraging can include certain tying/bundling practices, cross subsidisation/predatory-type behaviour and/or where the SMP operator may seek to foreclose infrastructure-based competitors by way of an insufficient economic space³¹⁹ between the relative pricing of different upstream/intermediate inputs.
- 7.26 For example, while the WPNIA market lies upstream from the WBA market, products from both wholesale markets can be used to compete in the same retail broadband market. Similarly resale or end-to-end wholesale access products, while not considered to fall within the WBA market, can also be used to provide retail broadband services to end-users. A dominant operator could potentially use this dominance to “game” the system – for instance, by making the wholesale product which is least attractive or profitable for them, or which could pose the greatest competition risk over the longer term, unattractive to OAOs through higher relative prices or degraded service.
- 7.27 As noted in the parallel consultation on an appropriate price control for WBA,³²⁰ changes in the relative prices of wholesale inputs used for the provision of broadband services to end-users could impact on the economic space available. ComReg is of the preliminary view that, absent regulation and given its presence in a number of related input markets, Eircom would have the ability and incentives to price its wholesale inputs in a way that increases uncertainty and could dissuade potential entrants from engaging in efficient infrastructural investments. For example, where resale or end-to-end wholesale access products are priced too low relative to WBA or WPNIA inputs, this might discourage potentially efficient investment in infrastructure to the detriment of end users. Similarly, where WBA inputs are priced too low relative to WPNIA inputs, this could also potentially discourage efficient infrastructural investments.

³¹⁹ “Economic space” refers to an appropriate space between the pricing of related wholesale or intermediate products/services sufficient to promote sustainable infrastructure competition to the benefit of end-users.

³²⁰ ComReg, “Wholesale Broadband Access: Consultation and draft decision on the appropriate price control”, Document 10/56, 15 July 2010.

- 7.28 These potential problems would therefore justify possible 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

- 7.29 In addition to any exploitative practices and potential leveraging into vertically or horizontally related markets, the operator may attempt to defend its existing SMP position in the relevant WBA market by engaging in predatory behaviour or conduct aimed at foreclosing the market concerned.
- 7.30 ComReg's preliminary view is that exclusionary practices which are likely to occur in the WBA market are also those associated with the motivation and incentives of a vertically-integrated SMP operator as discussed above in the context of leveraging. In addition to raising entry barriers and impeding competition in related (downstream) markets, many of the practices outlined in the sections on leveraging above may have the added effect of delaying infrastructure investment and entry to the WBA market itself.
- 7.31 Furthermore, where an existing upstream competitor continues to rely partially on WBA inputs from the SMP operator to complement their own WBA offering so as to be in a position to provide a comprehensive WBA product, the SMP operator could foreclose such upstream competition through practices identified in the leveraging sections above, including refusing to supply access, applying unreasonable or discriminatory terms and conditions of access, and/or creating or exploiting information asymmetries. An example of such behaviour could include a situation where certain services/information necessary for preparing a bid/tender proposal for a wholesale contract is not made available to upstream competitors to enable them to also compete for the contract. This could impede upstream competitors' ability to offer an effective WBA product, thereby restricting their ability to expand their wholesale operations.
- 7.32 Further examples of potentially predatory behaviour aimed at foreclosing competition in the WBA market could include predatory pricing, exclusive contracts with retail customers making it more difficult for upstream competitors to expand their sales, and exclusionary actions aimed generally at raising customer switching costs and/or raising rivals' costs, such as frustrating the customer migration process to competing WBA suppliers.
- 7.33 As 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 is of the preliminary view that it has both the ability and incentives to obstruct the development of competition in the WBA market. This underlines the need for effective obligations of access, transparency, non-discrimination, price control and cost accounting, and accounting separation to monitor and protect against potential behaviour aimed at foreclosing the WBA market.

Preliminary conclusion on competition problems

- 7.34 In summary, ComReg's preliminary view is that, absent regulation, there is the potential and incentive for an SMP operator in the WBA market to engage in actions

which could impact on competition and customers in related broadband markets, and ultimately inhibit competition in the WBA market itself. ComReg has provided examples of some potential competition problems above, but notes that it is neither necessary to catalogue examples of actual abuse, nor to provide exhaustive examples of potential abuse. Rather, ComReg notes that the purpose of *ex ante* regulation is to prevent the possibility of abuses given that Eircom has been identified on a preliminary basis with SMP in the WBA market, and thus has both the ability and incentives to engage in exploitative and exclusionary behaviour to the detriment of competition and end-users.

- Question 7: Do you agree with ComReg’s preliminary assessment of potential competition problems in the WBA 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 position.**
- Question 8: Do you have evidence/examples of any further competition problems in the WBA market? Please provide all relevant factual evidence supporting your position.**

8 Regulatory Impact Assessment

- 8.1 The Regulatory Impact Assessment (RIA) is an analysis of the likely effect of proposed new regulation or regulatory change. The RIA should help identify regulatory options, and should establish whether proposed regulation is likely to have the desired impact. The RIA is a structured approach to the development of policy, and analyzes the impact of regulatory options on different stakeholders.
- 8.2 ComReg's approach to RIA follows the Guidelines published by ComReg in August 2007³²¹ and takes into account the Government's Better Regulation programme³²² and international best practice (by, for example, considering developments in thinking about RIA published by the European Commission and the OECD). This was also done having regard to Ministerial Policy Direction 6.³²³
- 8.3 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
- 8.4 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 Government's Revised RIA Guidelines state (at paragraph 2.1) that "*RIA should be conducted at an early stage and before a decision to regulate has been taken*".
- 8.5 The European Commission, 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*".³²⁴

³²¹ ComReg, "Guidelines on ComReg's Approach to Regulatory Impact Assessment", Document 07/56a, 10 August 2007.

³²² Department of the Taoiseach, "Regulating Better", January 2004. See also "Revised RIA GUIDELINES: How to conduct a Regulatory Impact Analysis", June 2009, http://www.betterregulation.ie/eng/Publications/Revised_RIA_Guidelines.pdf

³²³ Policy Directions made by Dermot Ahern T.D. (the then) Minister for Communications, Marine and Natural Resources on 21 February, 2003 and 26 March, 2004 which provide that "*The Commission, before deciding to impose regulatory obligations on undertakings in the market for electronic communications or for the purposes of the management and use of the radio frequency spectrum or for the purposes of the regulation of the postal sector, shall conduct a Regulatory Impact Assessment in accordance with European and International best practice and otherwise in accordance with measures that may be adopted under the Government's Better Regulation programme.*"

³²⁴ 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.

8.6 Following these 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 informs 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 Paper and having taken utmost account of any comments from the European Commission. In the earlier sections of this Consultation Paper, ComReg has carried out an initial definition of the relevant market, followed by a competition and SMP analysis of that market. ComReg has then considered, on the basis of a preliminary SMP finding, the potential for competition problems to arise over the review period in question. Taking account of these potential market failures, ComReg is now considering appropriate regulatory options through conducting a RIA, following which it will propose a suite of remedies.

Principles in selecting remedies

8.7 In choosing remedies ComReg is obliged, pursuant to Regulation 9(6) of the Access Regulations, to ensure that they are:

- based on the nature of the problem identified;
- proportionate and justified in the light of the objectives laid down in section 12 of the Communications Regulation Act 2002; and
- only imposed following consultation in accordance with Regulations 19 and 20 of the Framework Regulations.

8.8 As already noted in the Competition Problems section above, the relevant objectives, as set out in section 12 of the Communications Regulation Act 2002 which must be taken into account when applying remedies are as follows:

- to promote competition;
- to contribute to the development of the internal market; and
- to promote the interests of users within the Community.

8.9 ComReg's principal objective is to ensure that the operation of the WBA market provides optimum encouragement for the development of effective competition in the retail broadband market, as well as supporting the development of sustainable and effective wholesale competition over the longer term, to the benefit of end users. To this end, ComReg aims to ensure that a dominant operator is prevented from the potential exploitation of its market power in the WBA market, as this would impact on the wholesale market and on the downstream retail markets which depend on WBA as an input.

- 8.10 ComReg notes that this is a second-round market review, and that regulatory remedies were put in place following the previous (first-round) market review.³²⁵ While the preliminary market definition and SMP analysis is carried out absent regulation, the assessment of regulatory impact should, in ComReg’s view, take into account the fact that the market currently operates in the presence of regulation and should consider relevant impacts arising from such regulatory obligations to date.
- 8.11 Taking account of the approach outlined in the Government’s Guidelines on Regulating Better,³²⁶ ComReg considers that, in a market which is already regulated, the focus should be on answering the following:
- Is regulation still necessary in this market?
 - Does current regulation achieve its objectives as simply as possible?
 - Are changes to regulation required?
 - What are the impacts of proposed changes?
- 8.12 In order to assess the efficacy of existing regulation, and to consider prospective regulation, ComReg included specific questions on this topic in its data requests to industry. This has allowed ComReg to take account of industry views as part of the process of analysing regulation in the WBA market and in considering regulatory options.

Is regulation still required in the WBA market?

- 8.13 The previous (first-round) review of the WBA market imposed a full suite of obligations on Eircom as the designated SMP operator.³²⁷ The market analysis indicated that Eircom had SMP. A range of actual and potential competition problems were identified and, in order to address these, remedies were imposed.
- 8.14 In this second-round review of the WBA market, ComReg has carried out a preliminary analysis of competition in the WBA market which indicates a persistently high market share of at least 98% for Eircom and that barriers to entry and expansion remain high and non-transitory. Furthermore, Eircom’s ability to act independently is not appreciably qualified by other factors in the market, such as potential competition and/or countervailing buyer power. ComReg has thus reached a preliminary conclusion that Eircom has SMP in the WBA market. Following a finding of SMP, ComReg is obliged to impose at least one regulatory obligation.³²⁸ The option of not imposing any

³²⁵ ComReg, “Market Analysis: Wholesale Broadband Access”, Document 05/11r (amended), Decision 03/05, 24 February 2005, and ComReg, “Retail minus wholesale price control for the WBA market”, Document 06/01, Decision D01/06, 13 January 2006.

³²⁶ See footnote 322 above.

³²⁷ Eircom’s current legal obligations arising from ComReg’s previous finding of SMP (ComReg Decisions D03/05 and D01/06) include obligations of Transparency, Non-Discrimination, Access, Accounting Separation, Price Control and Cost Accounting.

³²⁸ As noted in the Competition Problems section above, ComReg is obliged, further to Regulation 27(4) of the Framework Regulations, to impose on an undertaking with SMP such specific obligations as it considers appropriate. As also noted in the Competition Problems section, the

obligations is therefore not permitted under the Framework Regulations or under the Access Regulations.

- 8.15 As noted above, the European Commission’s Recommendation on relevant markets identifies two relevant wholesale markets which are linked to the retail broadband market, namely the WPNIA and WBA markets which are respectively concerned with physical and non-physical access inputs used to support the development of competition in the downstream broadband market. Further to its review of the WPNIA market, ComReg has published its Decision finding that Eircom has SMP and imposing appropriate remedies.³²⁹ In considering whether it is still justified to impose regulatory obligations in the WBA market, ComReg must consider whether the remedies imposed on the WPNIA market are sufficient to ensure a sustainable competitive retail broadband market, or whether there is still a need for regulation of the non-physical WBA market.
- 8.16 ComReg’s analysis of the retail broadband market in section 4 above indicates that, in the presence of wholesale regulation, the overall market for retail broadband has grown since the previous review. Retail broadband services are increasingly available on various platforms (including cable, fibre, FWA, mobile and DSL). However, this is still to an extent conditional on location, as some platforms are available only in selected geographic areas. Furthermore, the predominant means of delivering retail broadband is still via DSL. Eircom’s DSL platform accounted for 70% of all retail fixed broadband subscriptions as of Q2 2010,³³⁰ with 21% of this attributable to DSL subscriptions based on WBA inputs. Retail broadband supply using purchased WPNIA inputs over Eircom’s network accounted for a further 2% of retail fixed broadband subscriptions. This shows that retail broadband competition still continues to rely significantly on the availability of WBA inputs.
- 8.17 In assessing the potential for alternative vertically integrated operators to develop their retail presence over the period of this market review, ComReg noted that cable, FWA and alternative FTTx operators have to varying degrees invested in infrastructure which allows them to offer a range of retail products, including retail broadband. In particular, ComReg noted an increasing retail presence of cable broadband products which it proposes to monitor over the course of this review. However, by comparison to Eircom’s DSL network, these alternative networks are still relatively limited in terms of the areas they cover, as well as in their retail market shares and absolute subscriber numbers.
- 8.18 Furthermore, ComReg’s preliminary assessment indicates that, even in the presence of regulation in the WPNIA market, Eircom still has a position of SMP in the WBA market which is not expected to be significantly eroded over the lifetime of this review.

SMP Guidelines state at paragraph 114 that “NRAs must impose at least one regulatory obligation on an undertaking that has been designated as having SMP”.

³²⁹ ComReg, “Market Review: Wholesale (Physical) Network Infrastructure Access (Market 4)”, Document 10/39, Decision D05/10, 20 May 2010.

³³⁰ This retail market share of 70% is estimated by including Eircom’s direct retail supply and retail supply based on Eircom’s indirect WBA inputs.

While BT has commenced provisioning of WBA services to Vodafone, this is still in its initial stages and is not anticipated to have a material effect on the competitive structure of the national WBA market over the timeframe of this review. Operators are therefore still largely dependent on WBA inputs from Eircom to reach a mass or widespread customer base. ComReg therefore proposes that the need for a WBA product is established.

- 8.19 In ComReg’s view, it is very unlikely that a comprehensive or ubiquitous WBA product would be offered by the SMP operator without regulation. Furthermore, the Competition Problems section above noted that Eircom, as the SMP operator, has the ability and incentives to engage in a range of exploitative and exclusionary practices, including a potential denial of access to WBA.³³¹ It is therefore necessary and appropriate that ComReg continues to impose regulation in the WBA market. The direct benefit of having a WBA product with a widespread reach is that OAOs are in a better position to gain scale and compete effectively in the retail broadband market, with consequent positive impacts on the price and choice of services available to end-users.

Does current regulation achieve its objectives as simply as possible?

- 8.20 ComReg’s approach is to consider regulation as incremental such that it only imposes obligations which are necessary and proportionate to the competition problems which have been identified. The lightest measure that can be imposed is the obligation of transparency.³³² Should this be insufficient to address competition problems on its own, ComReg may apply a non-discrimination obligation.³³³ If this is still not sufficient, ComReg may next consider the imposition of an access obligation,³³⁴ generally supported by accounting separation obligations.³³⁵ The final measure to be considered is the imposition of a price control and cost accounting remedy.³³⁶
- 8.21 At present, the WBA market is regulated. In considering the extent to which current regulation achieves its objectives as simply and effectively as possible, ComReg has to balance the need to minimise the burden on Eircom against the requirement to ensure the availability of fit-for-purpose WBA products as inputs to enable OAOs to compete in the retail broadband market.

³³¹ Pursuant to Regulation 13(1) of the Access Regulations, ComReg may impose access obligations where it considers that the denial of such access or the imposition by operators of unreasonable terms and conditions having a similar effect:

- a) would hinder the emergence of a sustainable competitive market at the retail level,
- b) would not be in the interests of end-users, or
- c) would otherwise hinder the achievement of the objectives set out in section 12 of the Communications Regulation Act 2002.

See Remedies section (paragraph 9.11 below) for an analysis of the above criteria.

³³² Regulation 10 of the Access Regulations.

³³³ Regulation 11 of the Access Regulations.

³³⁴ Regulation 13 of the Access Regulations.

³³⁵ Regulation 12 of the Access Regulations.

³³⁶ Regulation 14 of the Access Regulations.

- 8.22 ComReg considers whether a transparency obligation would be sufficient to address the competition problems identified in section 7 above. A transparency obligation ensures that all operators and ComReg can observe price and non-price terms in the market. It provides, for example, that Eircom can be obliged to publish a Reference Offer for the products offered in the WBA market, and that Eircom can be obliged to publish supporting industry documentation. ComReg's initial view is that a transparency obligation is necessary, but on its own is not sufficient, because it does not directly address competition problems to do with a form of actual or potential behaviour in the market. That is, the transparency obligation allows monitoring and observation of actions, but does not directly affect the actions themselves.
- 8.23 ComReg considers whether an obligation not to discriminate would be sufficient in the WBA market. A non-discrimination obligation would oblige Eircom to supply products and services under equivalent conditions in equivalent circumstances to all operators, and under the same conditions and of the same quality as it provides to its own internal operations or its partners. ComReg proposes that this obligation is necessary but not sufficient together with transparency, given the types and range of competition problems that could occur in the market.
- 8.24 A non-discrimination obligation establishes a form of behaviour in the market, but does not specifically address what type of product or service should be offered, or how it should be offered. The obligation not to discriminate requires equivalent treatment of operators, and the transparency obligation allows the means of observing this. However, recourse to a non-discrimination obligation tends to be on an *ex post* basis, so that an operator alleges a breach after the event. Thus, the operation of the non-discrimination and transparency obligations alone is not adequate in providing a means of ensuring *ex ante* that Eircom does not discriminate between OAOs and its own internal operation. ComReg's review of competition problems indicated potential issues which could be addressed by a non-discrimination obligation, but there may be a more fundamental underlying problem to do with the nature of the product being offered.³³⁷ While a non-discrimination obligation would be a necessary supporting obligation to address this, it would not on its own, or coupled with transparency, be sufficient.
- 8.25 As non-discrimination and transparency are considered necessary, but not sufficient on their own, the next level of regulation considered is the imposition of an access obligation. Taken together, access obligations ensure that operators have the right to access wholesale products on the basis of a reasonable request, and to implement them, and that access is provided in a manner which is fair, reasonable and timely, safeguarded by appropriate SLAs, and to a standard equivalent to that provided to Eircom's own operations or its partners.

³³⁷ For example, as noted in the Competition Problems section, an SMP operator in the WBA market may have little incentive to implement product upgrades or process improvements in WBA services and delays may arise in the provisioning of alternative forms of WBA access where OAOs may express a demand for an access product which is not yet addressed.

- 8.26 ComReg noted earlier that, in its view, it would be unlikely that a comprehensive or ubiquitous WBA product would be offered by the SMP operator absent regulation. An access obligation gives operators the right to request WBA products, and establishes the principles on which the products should be made available. In ComReg's view, an access obligation on the basis of a reasonable request is a fundamental requirement in this market and, taking account of the provisions of Regulation 13(1) of the Access Regulations, the absence of such an obligation would hinder the development of fit-for-purpose WBA products impeding the emergence of a sustainable competitive market at the retail level to the detriment of end-users. An access obligation is therefore considered necessary and appropriate in achieving the objectives of section 12 of the Communications Regulation Act 2002, namely the promotion of competition and the interests of end-users.³³⁸
- 8.27 At present, price controls apply in the WBA market. Currently, Eircom is obliged to ensure that prices for WBA comply with a retail minus price control.³³⁹ ComReg has considered whether it is still necessary to ensure that prices for WBA products are subject to a price control and cost accounting obligation, and whether the current control remains appropriate and justified. Given ComReg's preliminary view that Eircom has SMP in the WBA market and that there is limited constraint offered by qualifying factors (such as potential competition and countervailing buyer power), there is no identifiable appreciable constraint on Eircom's wholesale pricing in the absence of regulation.³⁴⁰

³³⁸ See footnote 331 above for the conditions set out under Regulation 13(1) of the Access Regulations according to which ComReg may impose an obligation to meet reasonable requests for access. Additionally, when considering whether to impose access obligations, ComReg has (in the Remedies section (paragraphs 9.9 to 9.10) below) considered Regulation 13(4) of the Access Regulations which notes that the following factors should be taken into account:

- 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;
- the feasibility of providing the access proposed, in relation to the capacity available;
- the initial investment by the facility owner, bearing in mind the risks involved in making the investment;
- the need to safeguard competition in the long-term;
- where appropriate, any relevant intellectual property rights; and
- the provision of pan-European services.

³³⁹ ComReg, "Retail minus wholesale price control for the WBA market", Document 06/01, Decision D01/06, 13 January 2006.

³⁴⁰ Pursuant to Regulation 14(1) of the Access Regulations the Regulator may impose price control or cost accounting obligations in situations where a market analysis indicates that a lack of effective competition means that the operator concerned might sustain prices at an excessively high level, or apply a price squeeze to the detriment of end-users.

- 8.28 As noted in section 7 above, ComReg’s preliminary view is that, absent an appropriate price control obligation, Eircom would, as a vertically integrated operator, have the ability and incentives to set excessive prices in the WBA market which would harm competition from OAOs relying on Eircom’s WBA inputs and exploit retail broadband users. ComReg also identified scope and incentives for the SMP operator to price its upstream and downstream services in such a way as to give rise to an insufficient wholesale/retail margin which would impede effective downstream competition. Furthermore, given its presence in a number of related markets, Eircom was considered to have the ability and incentives to engage in potential foreclosure of infrastructure-based competitors by way of an insufficient economic space between the relative pricing of different upstream/intermediate inputs, e.g. pricing resale or end-to-end wholesale access inputs too low relative to WBA and WPNIA inputs and/or pricing WBA inputs too low relative to WPNIA inputs might discourage potentially efficient investment in infrastructure to the ultimate detriment of retail consumers.
- 8.29 Given the persistent risk of price-related competition problems deriving from an SMP position in the WBA market, ComReg considers that the continued imposition of a price control and cost accounting obligation is appropriate and proportionate in this market. As noted earlier in this Consultation Paper and as will be discussed further below, ComReg is consulting on an appropriate price control for WBA in parallel to the consultation process in relation to this WBA market analysis review.³⁴¹
- 8.30 Furthermore, as separated accounts assist in the disclosure of price-related competition problems and facilitate transparency as regards any potential misallocation of costs across different services, it is considered proportionate and justified to maintain an obligation on Eircom to keep separated accounts. ComReg has now issued a Decision on the details and implementation of the accounting separation and cost accounting obligations³⁴².
- 8.31 Having regard to the types of actual and potential competition problems identified in the WBA market, and having considered the extent to which current regulation meets its objectives as simply as possible, ComReg is further of the preliminary view that there are elements of current regulation which require further development as discussed below and in section 9 of this Consultation Paper.

Are changes to regulation required?

- 8.32 Based on the review of market power and potential competition problems and of the effectiveness of current regulation above, ComReg proposes that regulation is still required in the WBA market, and that a full suite of remedies is appropriate and justified. The option of imposing no remedies does not apply in this market because, when there is a (preliminary) finding of SMP, ComReg is obliged to impose at least one

³⁴¹ ComReg, “Wholesale Broadband Access: Consultation and draft decision on the appropriate price control”, Document 10/56, 15 July 2010.

³⁴² ComReg, “Response to Consultation Document and Final Direction and Decision, Accounting Separation and Cost Accounting Review to Eircom Limited”, Document 10/67, 31 August 2010.

remedy.³⁴³ In section 9 of this Consultation Paper, ComReg indicates in more detail areas where it is proposed that current regulation needs to be developed. This may be because current regulation needs to be supplemented to reinforce its effectiveness, or needs to take account of changes in the market since the time of the previous review.

- 8.33 The key changes to current regulation which are proposed are summarised below as follows:

SMP obligations in relation to current generation WBA

Access obligation

- 8.34 In view of the competition problems identified in relation to a potential refusal to supply access, ComReg proposes that, similar to the previous review of this market,³⁴⁴ it is still justified to oblige Eircom to meet reasonable requests for access to WBA, including associated facilities. The aim of the access remedy is to ensure that OAOs can access wholesale products which will allow them to compete effectively in the downstream retail broadband market without having to replicate Eircom's extensive local access infrastructure.
- 8.35 ComReg considers that some elements of the access remedy should be clarified in order to elaborate and ensure utmost clarity on how the remedy should be implemented. For example, in addition to its obligation to meet reasonable requests for access, ComReg proposes to make clear that Eircom would be obliged to continue to offer its existing WBA product set.
- 8.36 While ComReg's 2005/2006 review of this market obliged Eircom to conclude legally binding SLAs in respect of relevant products and appropriate process points,³⁴⁵ ComReg also proposes to attach additional conditions to the access obligation in the present market review to ensure that legally binding contracts or SLAs are appropriately concluded and implemented and should specify a level of compensation (service credits) that adequately compensates the customer for any deviation by Eircom from a pre-defined and pre-agreed level of performance.
- 8.37 Furthermore, in light of the ability and incentives for the SMP provider to refuse to supply WBA to its competitors, ComReg proposes that Eircom should be specifically obliged in the current market review to provide the objective criteria for refusing, or only partly meeting, a request for access.

³⁴³ See footnote 328 above.

³⁴⁴ ComReg Document 05/11r (amended), Decision 03/05, section 5.1 of Annex. Eircom was specifically obliged to meet reasonable requests for access to, and use of, wholesale bitstream access products, features or additional associated facilities.

³⁴⁵ ComReg Document 05/11r (amended), Decision 03/05, sections 5.2 and 6.1(IV) of Annex.

Non-discrimination obligation

- 8.38 At the time of the first-round review of the WBA market, Eircom was required to comply with non-discrimination obligations.³⁴⁶ ComReg proposes that a non-discrimination obligation is still a necessary support for the access obligation. In view of the broad range of potential discriminatory behaviour identified in section 7 above, the aim of a non-discrimination obligation is to ensure that Eircom does not discriminate either between OAOs, or between OAOs and Eircom's own operations or its partners' operations. If Eircom was only required to provide access, it could potentially discriminate in favour of its own operation, for example, by supplying inferior information to OAOs or by providing products to OAOs which were not of the same quality or pricing as those supplied to Eircom's own downstream arm. The non-discrimination obligation therefore supports the objective of promoting the development of sustainable competition to the benefit of end users. ComReg maintains that a non-discrimination obligation continues to be necessary in the WBA market, and has considered how it may best be implemented.
- 8.39 ComReg has considered whether the obligation should apply broadly to all OAOs, or whether it should apply only to those OAOs which are seeking access to WBA (i.e. Access Seekers). ComReg's preliminary view is that the obligation to supply certain WBA services and information applies specifically to Access Seekers which intend to purchase WBA from Eircom, and that it is Eircom's treatment of those potential and actual purchasers which must not be discriminatory. ComReg suggests that this formulation of the non-discrimination obligation is a proportionate and reasonable approach taking into account potential commercial sensitivities surrounding the provision of information and services to other undertakings.
- 8.40 For the avoidance of doubt as to the operation of this obligation, ComReg also proposes in the current market review to clarify the timeframes within which Eircom should be specifically required to provide WBA services and information to such Access Seekers. The proposed timeframes for the provision of such services and information are set out in further detail in section 9 below. These clarifications regarding timing are designed to allow sufficient flexibility to Eircom regarding its product development, whilst ensuring that Access Seekers can access relevant WBA services and information under the same conditions and of the same quality as Eircom provides to itself.
- 8.41 The Competition Problems section above (section 7) also noted Eircom's ability, as the SMP operator, to provide a lesser quality of access to Operational Support Systems (OSS) to OAOs. Because of the significant contribution of OSS access to an OAO's ability to compete, as discussed further in section 9 below, ComReg proposes to clarify in the present market review specifically how the non-discrimination obligation is to be applied to Operational Support Systems (OSS).

Transparency obligation

³⁴⁶ ComReg Document 05/11r (amended), Decision 03/05, section 6 of Annex.

- 8.42 ComReg notes that Eircom was required, pursuant to the first-round review of the WBA market in 2005/2006 to comply with a number of transparency obligations.³⁴⁷ ComReg believes that, in view of the significant range of potential competition problems noted in section 7 above, transparency obligations continue to be necessary, both to allow monitoring and visibility of how Eircom is meeting its obligations, and to provide information on which OAOs may base a decision to enter or expand in the relevant retail or wholesale broadband access markets. Thus, in addition to maintaining the existing transparency obligations, ComReg proposes to clarify these further.
- 8.43 In particular, ComReg believes that the current Bitstream Access Reference Offer (BARO) is not sufficiently detailed or comprehensive, and so Eircom should be obliged to produce a reference offer for WBA products and services which allows OAOs to easily access relevant information about all relevant WBA products and services. When compared to other regulated wholesale reference offers, ComReg considers that important elements which are contained in these offers in other markets are absent from the BARO. ComReg thus proposes to require Eircom to publish and keep updated a proposed Wholesale Broadband Access Reference Offer (WBARO) which provides appropriate information about all products and services offered in the WBA market.
- 8.44 In the interests of supporting market confidence and promoting sustainable competition, ComReg also proposes that any changes the WBARO should be clearly specified in advance. ComReg thus proposes to clarify advance publication and notification periods for any proposed changes to the WBARO including changes to prices, and the introduction of new services and facilities. As discussed in further detail in section 9 below, the proposed advance publication/notification periods are designed to be long enough to allow ComReg to analyse the proposed change and for OAOs to make the necessary changes to systems and processes and to plan a retail campaign, but not so long as to discourage product innovation by Eircom.
- 8.45 To further support the proposed non-discrimination obligations and to ensure that market participants have adequate visibility of the conditions and quality of the offered wholesale service, ComReg further proposes a number of publication requirements. These concern, *inter alia*, the publication of Key Performance Indicators (following further consultation by ComReg), the publication of SLAs and associated Performance Metrics (to support the proposed changes to the access obligations noted above), and the publication and justification of any differences between the WBA services and facilities which Eircom self supplies and those supplied to OAOs (as set out in the WBARO).
- 8.46 These proposed changes to the transparency obligation are discussed and justified further in section 9 below.

Accounting separation obligation

³⁴⁷ ComReg Document 05/11r (amended), Decision 03/05, section 7 of Annex.

- 8.47 Currently, Eircom is obliged to comply with requirements regarding separated accounts following the 2005/2006 review of the WBA market.³⁴⁸ As discussed further in section 9 below, separated accounts make visible the wholesale prices and internal transfer prices of a dominant operator's services, thereby facilitating transparency as regards any potential misallocation of costs across different services. It is therefore considered proportionate and justified to maintain an obligation on Eircom to keep separated accounts to help disclose possible competition problems which might otherwise undermine the proposed access, non-discrimination, transparency and price control obligations.
- 8.48 It is not proposed to make any changes the accounting separation obligation in this Consultation Paper. ComReg has cross referenced a separate consultative process concerning proposed amendments on the detailed implementation of the accounting separation and cost accounting obligations.³⁴⁹

Price control and cost accounting obligations

- 8.49 Eircom is currently subject to obligations of price control and cost accounting³⁵⁰ and is specifically required to ensure that prices for WBA comply with a retail minus price control.³⁵¹ As noted above, given the persistent risk of price-related competition problems deriving from an SMP position in the WBA market, ComReg considers that the continued imposition of a price control and cost accounting obligation is appropriate and proportionate.
- 8.50 ComReg is also mindful of Regulation 14(3) of the Access Regulations which states that any cost recovery mechanism or pricing methodology that is imposed by ComReg should serve to promote efficiency and sustainable competition and maximise consumer benefits. Taking account of the fact that efficient costs can now be determined with a reasonable level of confidence and in seeking to promote competition and innovation such that retail consumers derive maximum benefit in terms of price, choice and quality, ComReg is exploring, in a parallel pricing consultation in ComReg Document 10/56, the possibility of setting a cost-oriented price range in the WBA market. This would include appropriate safeguards against excessive prices or an insufficient economic space between the relative pricing of different inputs to the broadband market, as well as protecting against a margin (price) squeeze between the price of WBA products and associated downstream offerings including resale offers.
- 8.51 As part of this parallel pricing review, ComReg is also taking account of Regulation 14(2) of the Access Regulations which notes that, when imposing obligations under Regulation 14(1), ComReg should take into account any relevant investments made by

³⁴⁸ ComReg Document 05/11r (amended), Decision 03/05, section 8 of Annex.

³⁴⁹ ComReg, "Response to Consultation Document and Final Direction and Decision, Accounting Separation and Cost Accounting Review to Eircom Limited", Document 10/67, 31 August 2010.

³⁵⁰ ComReg Document 05/11r (amended), Decision 03/05, sections 9 and 10 of Annex.

³⁵¹ ComReg, "Retail minus wholesale price control for the WBA market", Document 06/01, Decision D01/06, 13 January 2006.

the operator and allow a reasonable rate of return on adequate capital employed, taking into account the risks involved. As noted in that parallel consultation, ComReg considers that the aim of a revised price control is to maintain prices at an efficient level to the benefit of consumers and at a level which encourages ongoing efficient entry and investment decisions by other operators while also ensuring that the SMP operator makes a reasonable return on its efficient investment.³⁵²

- 8.52 Furthermore, as noted above, ComReg has now issued a Decision on the details and implementation of the accounting separation and cost accounting obligations (see ComReg Document 10/67).

SMP obligations in relation to next generation WBA

- 8.53 At the time of the previous review of the WBA market in 2005/2006, it was not considered necessary, in view of the level of infrastructure development at that time, to provide specific detail as to how Eircom's SMP obligations would operate in an NGA context.
- 8.54 As noted in section 5 of this Consultation Paper, ComReg has now reached the provisional conclusion in the present market review that the WBA market includes non-physical WBA provided over both current generation and next generation infrastructure. ComReg is thus considering possible regulatory options for WBA in a situation where NGA infrastructure becomes available over the timeframe of this market review.
- 8.55 ComReg has further presented its view in the discussion of remedies in section 9 below that the conditions of competition are expected to be the same where Eircom overlays or replicates its existing access network with fibre and NGA equipment (Eircom's SMP will prevail across current generation networks and next generation network infrastructure). Failing to impose some form of remedial obligations over NGA infrastructure would ultimately be contrary to ComReg's statutory responsibility to promote competition and the interests of end users.
- 8.56 Thus, it appears that ComReg has two potential regulatory options available to it for the purposes of the present analysis. According to the first option (option A), ComReg could set out the full detail of the proposed obligations that would apply in an NGA context and how they would be implemented to the same level of specificity and detail as proposed for current generation services. According to the second option (option B), and taking account of the level of NGA deployment to date, ComReg could set out the principles of the proposed remedies that would apply in an NGA environment and consult on the further detailed implementation of such remedies at a later date. These options are considered further below.

³⁵² ComReg, "Wholesale Broadband Access: Consultation and draft decision on the appropriate price control", Document 10/56, 15 July 2010, p. 12.

Option A: Set out SMP obligations for NGA infrastructure to the same level of detail and specificity as for current generation infrastructure

- 8.57 Given that SMP has been provisionally identified in the WBA market independently of whether the underlying access network is substantially copper or fibre based, ComReg is of the view that the advent of NGA should not be allowed to lead to a restoration of monopoly conditions over the access network. ComReg therefore considers that it is justified and proportionate to impose remedies on Eircom in relation to WBA supplied over NGA infrastructure. These include obligations of access, non-discrimination, transparency, accounting separation, price control and cost accounting.
- 8.58 Furthermore, given that similar potential competition problems could arise in either a current or next generation environment, it may be justified at this stage to also apply remedies to NGA-based WBA services and facilities to the same level of detail and specificity as proposed for current generation services.
- 8.59 However, while ComReg believes that it is appropriate to specify in detail the obligations relating to current generation WBA, it acknowledges that the nature and the timing of material NGA investment and evolution of services in wholesale and retail markets is still uncertain.³⁵³ Thus, given the current level of investment in NGA infrastructure and services, ComReg proposes that it would be premature to specify NGA remedies at the level of detail which is feasible and appropriate for current generation WBA at this stage and that a more focused consultation on NGA remedies would be appropriate.

Option B: Set out the principles of SMP obligations to be applied in an NGA context and consult on detailed implementation at a later date

- 8.60 As noted above, in view of the provisional finding of SMP and range of potential competition problems identified for this market, ComReg considers it justified and proportionate to impose remedies on Eircom in relation to WBA supplied over NGA infrastructure (including obligations of access, non-discrimination, transparency, accounting separation, price control and cost accounting). However, taking account of the uncertainties surrounding the nature and timing of material NGA investment and evolution of services, ComReg proposes to impose remedies on next generation WBA at a higher level and to consult on the further implementation of such remedies at a later date.
- 8.61 Such an incremental approach would clarify that next generation WBA would be subject to regulation and would provide transparency to stakeholders regarding potential migration from current generation to NGA-based infrastructure by establishing a set of regulatory principles which would address the immediate need for a transparent framework regarding the planning and introduction of NGA-based services. However, cognisant of the present level of NGA development and the need to

³⁵³ As noted above, Eircom has announced plans for two FTTH trials for up to 10,000 customers in early 2011 with a view to providing broadband speeds of up to 150 Mb, although concrete plans for broader commercial deployment are as yet unknown.
Eircom Press Release, 15 June 2010 "eircom Announces Ultra-Fast Fibre Broadband Trials".

encourage efficient investment, ComReg proposes to allow for flexibility in the precise manner in which such next generation WBA will be specified at this stage of its analysis, pending a more focused consultation on NGA. As part of the future consultation to specify other details and further implementation of next generation WBA remedies, ComReg would also include a further RIA.

The impact of proposed changes

- 8.62 In paragraphs 8.13 to 8.19 above, ComReg has set out its rationale for its proposal to continue to impose regulation in the WBA market.
- 8.63 Furthermore, in paragraphs 8.20 to 8.31 above, ComReg has further justified its proposal to continue to impose the full suite of remedies (i.e. transparency, non-discrimination, access, accounting separation, price control and cost accounting) on Eircom as the SMP operator in the WBA market. Paragraphs 8.32 to 8.61 above further set out the elements of WBA regulation which ComReg considers would require further development.
- 8.64 The following section now summarises the impact of proposed changes to WBA regulation on the key stakeholders and competition in this market. In particular, ComReg seeks to consider the potential costs incurred by Eircom in complying with the proposed reinforced obligations, while also considering and evaluating the potential implications for competition and ultimately end users as a result of the proposed obligations.

Impact on Eircom

- 8.65 As noted above, Eircom is already subject to the full suite of regulatory obligations in the WBA market.³⁵⁴ Many of the obligations proposed in this Consultation Paper for current generation WBA are a continuation of those existing obligations, in some cases with further specificity and improved clarification.
- 8.66 For example, in the case of the access obligation, ComReg is aware that an SLA has been in place with respect to WBA products since their introduction to the Irish market. As for performance metrics, Eircom already collates this information for the purposes of managing its compliance with its SLA commitments. ComReg considers that specifically requiring Eircom to include performance metrics and service credits that specify a pre-defined and pre-agreed level of performance in respect of Eircom's provisioning of WBA services to be a minimal additional burden for the operator. As noted in section 9 below, quality guarantees are commonplace in contractual agreements between suppliers and their customers.
- 8.67 ComReg furthermore does not consider that requiring Eircom to provide the objective criteria for refusing, or only partly meeting, a request to be unduly costly or burdensome as any access request should in any event only be refused by Eircom on the

³⁵⁴ Pursuant to ComReg Decisions 03/05 and D01/06.

grounds of clearly objective reasoning. Thus, making such criteria available to the OAOs requesting such access should not represent a significant additional cost to Eircom.

- 8.68 As regards the non-discrimination obligation, ComReg proposes to refine the obligation such that Eircom would be obliged to supply WBA services and information in advance specifically to Access Seekers which intend to purchase WBA from Eircom. Such a refinement would take into account the potential commercial sensitivities faced by Eircom in making services and information available to third parties.
- 8.69 On ComReg's proposed clarification to the timeframes within which Eircom should be specifically required to provide WBA services and information to such Access Seekers, ComReg considers the burden to be minimal, having regard to the need to ensure fair treatment in the supply of WBA to Access Seekers. While there may be some costs associated with this, ComReg does not consider these to be significant given the prior existence of a non-discrimination obligation. The proposed amendment simply relates to clarifying what is meant by the existing obligation to provide all services and information to other undertakings under the same conditions and quality as Eircom provides to itself.
- 8.70 In terms of the proposed refinements to the transparency obligation, Eircom is already subject to an obligation to publish a BARO and to keep it up-to-date, as well as ensuring that it *inter alia* includes a description of the relevant offerings broken down according to market needs and a description of associated terms and conditions, including prices. Thus, requiring Eircom in the current market review to publish a reference offer in the form of a WBARO which is appropriately detailed and comprehensive and provides appropriate information about all products and services offered in the WBA market should not represent a significant additional cost to Eircom. In relation to its existing WBA product set such information should already be readily available to Eircom and thus relatively easily incorporated within the WBARO. However, including a defined process or framework within the WBARO through which new services or features can be requested could involve some additional work for Eircom. ComReg therefore suggests that it is reasonable to allow Eircom three months from the date of the Decision taking effect to develop and publish its WBARO. Taking account of its experience in developing similar offers for products in other markets, it is considered that three months would permit Eircom sufficient time to engage with industry regarding proposed changes, before submitting the WBARO to ComReg for regulatory approval.
- 8.71 On the proposal to require Eircom to publish changes to the WBARO (including changes to prices and the introduction of new services and facilities) in a timely fashion, ComReg considers the burden of this proposed change mechanism to be relatively low, having regard to the need to ensure fair treatment in the supply of WBA to OAOs. Furthermore, in setting proposed timeframes for advance publication/notification of any changes to the WBARO, ComReg has, in addition to considering the need to promote sustainable competition, also taken into account the need to support effective product development by Eircom. In order to offer the greatest flexibility to Eircom, OAOs and ultimately consumers, it is also proposed to include provision for ComReg to extend or reduce the proposed publication/notification periods where appropriate on a case-by-case basis.

- 8.72 As regards the additional publication requirements which have been proposed to support the non-discrimination obligations, including the requirement to publish KPIs as well as SLAs and associated performance metrics, ComReg has considered the burden of these proposed measures on Eircom. KPIs would require the collection by Eircom of data regarding its performance in the supply of WBA. The nature of the specific KPIs to be measured are to be determined via a separate consultation process and the burden of the proposed KPIs will be considered in this context. As noted above, Eircom already collates information on performance metrics for the purposes of managing its compliance with its SLA commitments and thus the obligation to publish all SLAs and information about performance metrics on its publicly available website should result in a relatively low additional burden for Eircom.
- 8.73 In considering the obligation to justify and publish any differences between the supply by Eircom of WBA inputs to itself and to OAOs, ComReg notes that Eircom has been (and is proposed to continue to be) subject to a non-discrimination obligation. Eircom should thus already have in place internal mechanisms to ensure that it is meeting this obligation. The burden now arising would be for it to clearly express, in written form, the nature of any differences and the justification for them. While there may be some costs associated with this, ComReg does not consider them to be significant given the prior existence of a non-discrimination obligation. Furthermore, this proposed publication requirement would also generate benefits for Eircom, by enabling to demonstrate to its wholesale customers that its wholesale products are compliant with its non-discrimination obligations. ComReg proposes however that it is reasonable to allow Eircom time to comply with this new publication requirement, and proposes that Eircom should ensure that it publishes the required information within four months of the date of the WBA Decision coming into effect.
- 8.74 As noted above, any proposed changes to the accounting separation, price control and cost accounting obligations are being addressed through separate consultative processes and RIAs will be conducted as appropriate in those contexts.
- 8.75 Taking account of the fact that market failures have been provisionally identified in the WBA market independently of whether the underlying access network is substantially copper or fibre based, it could be justified to extend the remedies proposed for current generation WBA to next generation services and facilities with the same level of detail and specificity even at this stage. However, ComReg's proposed approach is to specify the principles of remedies that would apply in a next generation WBA context, while maintaining flexibility in the detail of its approach, pending a more focused consultation on NGA remedies. Such an approach is considered to be both balanced and proportionate in terms of its impacts on Eircom.
- 8.76 Recognising the need for certainty to be provided to stakeholders, ComReg has proposed an obligation to meet reasonable requests for access and to negotiate in good faith in an NGA context and has further considered specific provisions under the non-discrimination and transparency obligations to facilitate migration from current generation to NGA-based wholesale access. It is also proposed to supplement these provisions with the obligation on Eircom under current generation WBA not to withdraw access to facilities already granted without the prior approval of ComReg.
- 8.77 However, also cognisant of the current level of investment in NGA infrastructure and services and the need to encourage efficient investment, ComReg proposes flexibility in

the manner in which next generation WBA remedies would be specified at this stage. ComReg recognises that the burden of meeting obligations relating to next generation WBA would fall largely on Eircom. However, the precise nature of such obligations could be impacted by the manner within which Eircom itself seeks to address the provision of access in an open, non-discriminatory and transparent manner, particularly having regard to the need to address competition considerations.

- 8.78 As noted above, as part of the future consultation to specify other details and further implementation of next generation WBA remedies, ComReg will also include a further RIA.

Impact on competition

- 8.79 As already discussed in paragraph 8.16, retail broadband competition still continues to rely significantly on the availability of WBA inputs. Furthermore, as noted in paragraph 8.19, in ComReg's view, it is very unlikely that a comprehensive or ubiquitous WBA product would be offered by the SMP operator without regulation. Furthermore, Eircom has been provisionally identified as having the ability and incentives to engage in a range of exploitative and exclusionary practices in respect of WBA. Therefore, taking account of the objectives laid down in section 12 of the Communications Regulation Act 2002, in particular the need to promote competition, ComReg considers it necessary for effective and sustainable broadband competition that regulation is maintained in the WBA market.
- 8.80 In the context of current generation WBA remedies, the proposed changes to the access obligation as noted above, including the proposed specifications regarding access to Eircom's existing product set and to the appropriate conclusion and implementation of SLAs, would provide further legal certainty to wholesale customers regarding their ability to access WBA services and their contractual rights in respect of same. Furthermore, the requirement on Eircom to provide the objective criteria for refusing any access request would further ensure the objectivity of Eircom's processes for dealing with such requests.
- 8.81 Similarly, the proposed clarifications to the non-discrimination and transparency obligations would facilitate enhanced certainty and instil wholesale customers with greater confidence that they are receiving relevant WBA services and information under the same conditions and of the same quality as Eircom provides to itself. Ensuring such non-discrimination is integral to promoting effective competition in the provision of broadband services and in promoting investor confidence.
- 8.82 The proposed changes to the reference offer would further imply that OAOs would be able to access a coherent offer of products available in this market and would have sufficient time to respond to any proposed changes to the WBARO, thereby further supporting their ability to compete effectively with Eircom.
- 8.83 The additional publication requirements regarding KPIs, SLAs and associated Performance Metrics, as well as the obligation on Eircom to publish any differences between the WBA services and facilities which Eircom self supplies and those supplied to OAOs, should further improve the ability of wholesale customers to compare the performance of Eircom's WBA services and facilities with the comparable services and facilities Eircom provides to itself. In ensuring increased visibility of Eircom's ongoing wholesale performance, actual and potential competitors would be further protected

against potential discriminatory behaviour by Eircom and should therefore have greater confidence when investing in markets dependent upon Eircom's regulated WBA inputs.

- 8.84 As noted above, any proposed changes to the accounting separation, price control and cost accounting obligations are being addressed through separate consultative processes and RIAs may be conducted as appropriate in those contexts³⁵⁵.
- 8.85 Furthermore, the proposed specification of the principles of next generation WBA remedies would provide certainty to market participants that WBA services and facilities supplied over NGA infrastructure would be subject to regulation and that access would be provided to such new infrastructure. ComReg proposes to consult further on the detailed specification and implementation of such NGA remedies. However, recognising the importance of regulatory certainty to the development of effective and sustainable competition, ComReg's proposed non-discrimination and transparency obligations should enable OAOs to prepare for any relevant changeover to NGA-based access in the interim period.
- 8.86 Having regard to the analysis undertaken above, ComReg considers that the proposed remedies are thus necessary and proportionate to its objectives of facilitating the development of effective competition.

Impact on consumers

- 8.87 Taking account of the objective of promoting the interests of end-users, as set out in section 12 of the Communications Regulation Act 2002, ComReg notes again that retail broadband competition is still significantly dependent on the availability of effective WBA inputs.
- 8.88 ComReg is thus of the preliminary view that the proposed remedies in the WBA market (i.e. transparency, non-discrimination, access, accounting separation, price control and cost accounting) which are all targeted at the provision of effective and fit-for-purpose WBA inputs would support the development of effective and sustainable broadband competition, in turn promoting an environment capable of delivering important improvements in the price, choice and quality of retail broadband services. Promoting a sustainable competitive market at the retail level (and over time also at the wholesale level) should help secure continuous downward pressure on retail prices and ongoing improvements and innovations in retail broadband provisioning over the medium-to-longer term.
- 8.89 The proposed changes to the non-discrimination and transparency obligations would furthermore afford consumers the confidence that Eircom's wholesale inputs are of a sufficient standard and quality to enable competing operators to provide an effective retail offer. Increasing consumer confidence in competing retail operators should in turn support the development of sustainable competition and reinforce the strength of the competitive mechanism, generating further benefits for end users through improved quality of service and competitive pricing.

³⁵⁵ See paragraphs 8.48 and 8.50 above.

Preliminary conclusions on the RIA

- 8.90 In proposing appropriate remedies for the WBA market, ComReg has taken account of its obligations under Regulation 9(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 (including the promotion of competition and the interests of end users). As noted above, ComReg's principal objective is to provide optimum encouragement for the development of effective competition in the retail broadband market, as well as supporting the development of effective wholesale competition, to the ultimate benefit of end users.
- 8.91 As the WBA market is already regulated, ComReg has considered whether regulation is still necessary in this market. Taking account of the fact that Eircom is provisionally identified with SMP and with the ability and incentives to engage in a range of exploitative and exclusionary practices, as well as recognising the continued reliance of retail broadband competition on the availability of effective WBA inputs, ComReg considers that WBA regulation is still appropriate and necessary over the period of the current review.
- 8.92 In considering whether current regulation is sufficiently effective, ComReg has provisionally proposed to retain the full suite of regulatory obligations in this market (i.e. transparency, non-discrimination, access, accounting separation, price control and cost accounting) in recognition of the persistent risk of competition problems which have been identified in the WBA market, including Eircom's ability to deny access to WBA or to impose unreasonable terms and conditions having a similar effect, as well as the scope for discriminatory behaviour and/or a range of price-related competition problems to arise. ComReg has proposed to further develop certain elements of these existing obligations. These proposed developments are considered appropriate to reinforce their effectiveness and to clarify Eircom's specific duties under each obligation in a current generation environment, as well as to clarify the principles of the obligations that would apply in an NGA context.
- 8.93 The assessment of the impacts of the proposed changes to WBA regulation for Eircom, competition and consumers respectively in turn influences the selection of the appropriate regulatory options. In this respect, ComReg is of the preliminary view that many of the obligations proposed in this Consultation Paper are a continuation of existing obligations, in some cases with further specificity and improved clarification. Any proposed enhancements are fundamentally aimed at clarifying Eircom's responsibilities and ensuring a more effective application of the proposed remedies and are proportionate and justified based on the range of competition problems identified in section 7 above and as further elaborated in section 9 below.
- 8.94 On the basis of the analysis set out in this Consultation Paper, ComReg is of the preliminary view that the anticipated benefits associated with the proposed regulatory changes, namely a strengthened regulatory and competitive process capable of delivering important pricing and product innovations to end-users, are considered to exceed the overall costs to stakeholders involved in implementing the proposed obligations.

Question 9: 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.

9 Remedies

Approach to defining and imposing WBA remedies

- 9.1 Further to Regulation 27(4) of the Framework Regulations, ComReg is obliged to impose on an undertaking with SMP such specific obligations as it considers appropriate.³⁵⁶ Pursuant to Regulation 9(1) of the Access Regulations, the NRA shall impose on an SMP operator such of the obligations set out in Regulations 10 to 14 of the Access Regulations³⁵⁷ as it considers appropriate.
- 9.2 In light of the potential competition problems (see section 7 above) arising from the preliminary conclusion of SMP in the relevant market, and ComReg's preliminary view that there are unlikely to be sufficiently significant developments within the period of this review which would prevent Eircom from acting independently of its competitors or customers, ComReg proposes in the below discussion to impose a number of proportionate regulatory obligations. The detailed wording of the specific obligations proposed is set in out in the draft Decision Instrument contained in section 10 of this Consultation Paper. These are considered to be based on the nature of the actual and potential competition problems identified above, and justified in light of the objectives laid down in section 12 of the Communications Regulation Act, 2002³⁵⁸ (further to Regulation 9(6) of the Access Regulations). As noted in the earlier sections of this Consultation Paper, ComReg also proposes to closely monitor any relevant developments in the WBA market over the period of the current review, including the potential for more heterogeneous competitive conditions to arise, which may need to be factored into the remedies assessment accordingly.³⁵⁹
- 9.3 ComReg is further of the view that the advent of next generation access (NGA) should not be allowed to lead to a restoration of monopoly conditions over the access network. As demonstrated by the preceding market analysis and assessment of competition problems, the conditions of competition are not expected to change appreciably where

³⁵⁶ As noted in the Competition Problems section above, the SMP Guidelines note at paragraph 114 that *"NRAs must impose at least one regulatory obligation on an undertaking that has been designated as having SMP"*.

³⁵⁷ Transparency (Regulation 10 of the Access Regulations); Non-discrimination (Regulation 11 of the Access Regulations); Accounting separation (Regulation 12 of the Access Regulations); Access to and use of specific network elements and associated facilities (Regulation 13 of the Access Regulations); and Price control and cost accounting (Regulation 14 of the Access Regulations).

³⁵⁸ As already noted in the Competition Problems section above, pursuant to section 12 of the Communications Regulation Act 2002, 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.

³⁵⁹ For example, the European Commission has previously accepted a differentiation in remedies where certain differences in competitive pressures may be emerging but there are still unclear/unstable boundaries in respect of the conditions of competition, and as such not a sufficient demarcation to merit the definition of separate relevant markets. See case AT/2008/0757.

Eircom overlays or replicates its existing access network with fibre and NGA equipment. It is ComReg's preliminary view that Eircom's SMP will prevail across current generation and next generation network infrastructure. Market failures have been provisionally identified in the WBA market independently of whether the underlying access network is substantially copper or fibre based. Failing to impose some form of remedial obligations over NGA infrastructure would ultimately be contrary to ComReg's statutory responsibility to promote competition and the interests of end users.

- 9.4 However, the nature and the timing of material NGA investment and evolution of services in wholesale and retail markets are still uncertain.³⁶⁰ Against this background ComReg believes that, while it is important to establish the principles of regulatory remedies which would apply to WBA in both a current and next generation context, further consultation is required to consider to what extent these obligations may need to be further specified in an NGA environment.
- 9.5 ComReg believes that it needs to clarify now that it sees NGA as being subject to regulation and that access should be provided to such new infrastructure; nevertheless ComReg considers it prudent to be flexible in the detail of its approach, pending a more focused consultation on NGA remedies. The degree of intervention required will, in ComReg's view, also need to take into account the degree to which Eircom makes WBA over its NGA network available to other players in the interim. If, for example, such access is provided on reasonable terms consistent with the promotion of effective competition, and with a clear roadmap detailing the terms and conditions of such access, the need for more detailed regulatory intervention may be reduced. At the same time, ComReg recognises that regulatory certainty is key to promoting efficient investments by all operators. In particular, there is a need for a clearly specified migration path to be put in place at the appropriate level of detail for operators currently availing of WBA to be able to prepare for the relevant changeover to NGA-based access.
- 9.6 The proposed approach to remedies is therefore specific and detailed in relation to current generation services, in regard to both the obligations which are proposed, and to how the obligations would be implemented. In considering NGA services, the approach is specific in terms of the principles of the obligation, but less detailed in terms of their implementation pending a more focused consultation on NGA remedies. ComReg notes that it is important that the remedies proposed now sufficiently address potential migration from current generation products and services to NGA-based products and services. For this reason, ComReg has considered the need for more detailed transparency and non-discrimination obligations, particularly around possible NGA planning, within the proposed NGA remedies. Furthermore, ComReg considers an obligation not to withdraw access to facilities already granted without the approval

³⁶⁰ As noted above, Eircom has announced plans for two FTTH trials for up to 10,000 customers in early 2011 with a view to providing broadband speeds of up to 150 Mb, although concrete plans for broader commercial deployment are as yet unknown. Eircom Press Release, 15 June 2010 "eircom Announces Ultra-Fast Fibre Broadband Trials".

of ComReg to be important in paving the way for a smooth transition from current generation to NGA-based WBA.

- 9.7 ComReg notes that its proposed approach is consistent with that of the European Commission. In particular, the European Commission has recently published its Recommendation on regulated access to Next Generation Access Networks³⁶¹ (“NGA Recommendation”) and ComReg has considered this NGA Recommendation, as well as comments from the European Commission in its review of regulatory measures notified under the Community consultation mechanism for electronic communications services, when formulating its views.³⁶²

Proposed remedies for current generation WBA

Obligations to provide access

Obligation to meet all reasonable requests for the provision of access, including associated facilities

- 9.8 Under Regulation 13(1) of the Access Regulations, ComReg may, in accordance with Regulation 9 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, would not be in the interests of end-users and would otherwise hinder the objectives set out in section 12 of the Communications Regulation Act 2002.
- 9.9 Pursuant to Regulation 13(4) of the Access Regulations, when considering whether to impose obligations referred to in paragraphs (1) and (2) of Regulation 13 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, ComReg has taken the following factors into account:

³⁶¹ European Commission, Commission Recommendation of 20 September 2010 on regulated access to Next Generation Access Networks (NGA), Brussels, C(2010) 6223.

³⁶² In its Article 7 letters, the European Commission has encouraged NRAs to ensure that sufficient remedies are in place to address competition problems in NGA-based WBA services. For example, in its comments on the analysis of markets 4 and 5 by the Portuguese regulator, Anacom (case PT/2008/0851), the Commission noted that fibre roll-outs may significantly change the competitive landscape, especially if MDFs will be closed down, and invited Anacom to impose remedies on fibre access products as appropriate following national consultation. In its comments on cases involving market 4, the Commission has invited NRAs *inter alia* to ensure that, in the event of any replacement of the existing copper access network with fibre, existing customers receive all necessary information (concerning any network modification plans) in a timely fashion so as to be in a position to adjust their own network plans accordingly (case EE/2009/0942-0943).

- 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;
- the feasibility of providing the access proposed, in relation to the capacity available;
- the initial investment by the facility owner, bearing in mind the risks involved in making the investment;
- the need to safeguard competition in the long-term;
- where appropriate, any relevant intellectual property rights; and
- the provision of pan-European services.

9.10 ComReg has set out below its consideration of all factors listed above in the course of its preliminary analysis and proposed recommendations on access remedies as follows:

- *Technical and economic viability of using or installing competing facilities:* In the preceding market analysis, ComReg has considered the technical and economic viability of WBA customers using or installing competing facilities. As noted in section 6 above, ComReg’s preliminary SMP analysis indicates that it does not anticipate alternative modes of WBA access from WPNIA purchasers, cable, FWA or alternative fibre operators emerging on a sufficient scale capable of constraining Eircom’s dominance in the WBA market over the period of this review.
- *Feasibility of providing access in relation to capacity available:* ComReg’s proposals regarding the provision of WBA over current generation infrastructure relate to elements which are for the most part already in place. ComReg is not aware of any material capacity constraint issues having been raised to date such that it would give rise to significant difficulties in Eircom providing WBA in the vast majority of cases. While ComReg does not anticipate significant capacity constraints arising in NGA networks, ComReg intends to consult further on the detailed implementation of obligations applicable to NGA-based WBA and, in doing so, will further consider the feasibility of providing access in light of the capacity available.
- *The initial investment of the facility owner:* As per Regulation 14(2) of the Access Regulations, ComReg’s approach to imposing access remedies market is based on principles that, inter alia, allow a reasonable rate of return on adequate capital employed, taking into account the risks involved.³⁶³ As noted in ComReg Decision D01/06, when applying the existing retail minus price control to WBA, ComReg was mindful of facilitating the emergence of effective competition without compromising

³⁶³ According to Regulation 14(2) of the Access Regulations “When considering the imposition of [price control] obligations under paragraph (1), the Regulator shall, take into account any investment made by the operator in electronic communications networks or services or associated facilities which the Regulator considers relevant and allow the operator a reasonable rate of return on adequate capital employed, taking into account the risks involved”.

desirable investments at a network level.³⁶⁴ Furthermore, in ComReg's current consultation on an appropriate price control for WBA, ComReg is mindful of the need to ensure the incumbent should recover its efficiently incurred costs. As noted in that parallel consultation, ComReg considers that the aim of a revised price control is to maintain prices at an efficient level to the benefit of consumers and at a level which encourages ongoing efficient entry and investment decisions by other operators while also ensuring that the SMP operator makes a reasonable return on its efficient investment.³⁶⁵

As regards access over next generation infrastructure, ComReg intends to consult further on the detailed implementation of obligations applicable to NGA-based WBA and, in doing so, will further consider the application of Regulation 14(2) of the Access Regulations in that context.

- *The need to safeguard competition:* ComReg has put forward a preliminary view in this Consultation Paper that competition in the retail broadband market still depends significantly on effective regulation in the WBA market. The withdrawal of access remedies would result in the reinforcement of Eircom's dominance in the WBA market, and hinder the development of competition in this market and ultimately in the retail broadband market.
- *Intellectual property rights:* ComReg's view is that intellectual property rights are not a significant concern in the WBA market.
- *Pan European Services:* ComReg is of the view that its proposed approach will facilitate pan-European services since its proposed approach is consistent with the policies of the European Commission and other NRAs. Consistent regulation of WBA across the EU helps support a seamless provision of pan-European services by broadband providers with an international footprint.

9.11 The market analysis carried out above (see section 5 in particular) has indicated a preliminary view that WBA services voluntarily provided over a ubiquitous access network may not exist absent regulation, and that Eircom is dominant in the WBA market (see section 6). The assessment of competition problems in section 7 has also indicated that, absent regulation, Eircom would have the ability and incentives to refuse to supply WBA (either explicitly or tacitly) or to supply it on discriminatory or unreasonable terms and conditions to its downstream competitors. While the retail broadband market is not considered susceptible to *ex ante* regulation, the market analysis has indicated that currently and within the period of this review OAOs are still significantly dependent on wholesale inputs from Eircom's access network in order to compete. Thus, a denial of WBA or the imposition of unreasonable terms and conditions having a similar effect would hinder the emergence of a sustainable

³⁶⁴ ComReg, "Retail minus wholesale price control for the WBA market", Document 06/01, Decision D01/06, 13 January 2006, p. 4.

³⁶⁵ ComReg, "Wholesale Broadband Access: Consultation and draft decision on the appropriate price control", Document 10/56, 15 July 2010, p. 12.

competitive retail market. Such an obstruction of competition would ultimately be detrimental to the interests of end-users and would otherwise hinder the objectives set out in section 12 of the Communications Regulation Act 2002. A requirement on the SMP provider to provide wholesale access to its network is thus needed to facilitate competition in downstream markets without OAOs having to invest in a ubiquitous broadband access network.

- 9.12 The need for physical access to Eircom’s network was addressed in the WPNIA market review.³⁶⁶ This WBA review addresses the proposed requirement for OAOs to have non-physical, or virtual access to Eircom’s network. As noted in the Explanatory Note to the European Commission’s Recommendation, the reason for identifying two separate wholesale markets was based on the view that even regulated local loop access would be insufficient in most Member States to constrain potential market power at the retail level and a significant entry barrier would still exist.³⁶⁷
- 9.13 ComReg proposes that the access obligation would apply to reasonable requests from OAOs for the provision of non-physical WBA products, features, and associated facilities required to foster sustainable downstream competition.
- 9.14 In addition, ComReg proposes to make clear that Eircom would be obliged to continue to offer its existing product set, including (but not limited to) the following particular services and facilities:

(i) *Bitstream*

- 9.15 Bitstream refers to a WBA product currently offered by Eircom over its existing network. As noted in the European Commission’s Recommendation, the market for non-physical or virtual network access includes ‘bitstream’ at a fixed location. Furthermore, the ERG has defined bitstream as “*a wholesale product provided by an incumbent that consists of bidirectional high speed transmission capacity between an end user connected to a telephone connection and the point of handover to the new entrant. It is essentially the corresponding wholesale product for DSL services*”.³⁶⁸
- 9.16 While certain investments are necessary for OAOs to avail of bitstream access, bitstream enables OAOs to compete and potentially access a broad retail customer base in the downstream broadband market without having to replicate Eircom’s ubiquitous local access network. In view of the ongoing importance of Eircom’s WBA inputs to the competitiveness of the downstream market, ComReg considers that an obligation to maintain existing bitstream access in place is thus proportionate and justified.

(ii) *Bitstream (Ethernet) Connection Service (BECS)/Bitstream Connection Service (BCS)*

³⁶⁶ ComReg, “Response to Consultation and Decision, Market Review: Wholesale (Physical) Network Infrastructure Access (Market 4)”, Document 10/39, Decision D05/10, 20 May 2010.

³⁶⁷ Explanatory Note, p. 32.

³⁶⁸ ERG (06)33, “Revised ERG Common Position on the approach to appropriate remedies in the ECNS regulatory framework”, May 2006 (ERG Common Position on Remedies), p. 124.

9.17 Backhaul refers to the transport capacity which connects the Eircom network and the OAO's nominated point of handover. There are currently two types of backhaul connectivity available over Eircom's network:

- Bitstream (Ethernet) Connection Service (BECS) which is a backhaul service currently offered by Eircom over Ethernet interconnects/interfaces; and
- Bitstream Connection Service (BCS) which is a backhaul service currently offered by Eircom over leased line PDH/SDH interconnects/interfaces.

9.18 An obligation to provide backhaul is necessary to ensure interoperability between networks, enabling operators to obtain connectivity to the Eircom network for the purpose of accessing WBA services. Such an obligation is considered proportionate and justified to ensure non-discriminatory provision of WBA for operators which lack Eircom's economies of scale. As such a facility is already available in the form of a BECS and BCS service, it should not represent a major additional cost to Eircom to provide this service.

(iii) In-building/in-span handover

9.19 An obligation to provide in-building and in-span handover is considered proportionate and justified, as it allows an operator which has rolled out infrastructure to make efficient use of its investment by taking handover of traffic from Eircom at the point where its own network is closest to Eircom's exchange. This prevents unnecessary and inefficient duplication of resources. In the absence of this remedy, an OAO might have to purchase backhaul from Eircom when it could have used its own infrastructure.

9.20 In-building and in-span handover allows operators to compete on an equivalent basis with Eircom since Eircom, by the very nature of how its own network is designed, can route its own traffic as it chooses. The provision of in-building and in-span handover would also be to the benefit of end-users, since it would remove unnecessary duplication of resources and cost from the supply chain, thereby potentially contributing towards lower prices.

(iv) Migrations

9.21 As noted in the Competition Problems section (section 7) above, Eircom, as a vertically-integrated SMP operator, could have an incentive to frustrate the process whereby retail customers can switch to an alternative product or an alternative provider. ComReg also noted in section 7 that, absent regulation, Eircom would have incentives to protect its dominant position in the WBA market by frustrating the customer migration process to competing WBA suppliers. ComReg thus proposes that OAOs must be able to migrate (whether on an individual or bulk basis) retail customers both to/from WBA and across wholesale products in a fair and timely manner, as well as on terms and conditions which are fair and reasonable. This would include, for example, migration from current generation to next generation WBA products. ComReg notes that the ability to "migrate to" and "migrate from" a wholesale product is intrinsic to the ability to access wholesale products and necessary for OAOs to be able to compete effectively in the downstream retail market. Migration should therefore be implemented in a way which is best for the retail customer with minimum disruption. For example, it should be possible to migrate between competing WBA suppliers. In addition, it should be possible to migrate easily from WBA to Line Share products or to fully unbundled products (and back if necessary). All such migration options would be considered

intrinsic to access the relevant products and are thus proportionate and justified. These include inter and intra migrations and bulk versions of these.³⁶⁹

- 9.22 Further to the above, and taking account of the potential competition problems identified in section 7, it is proposed that the access obligation would also include (but not be limited to) those products currently offered in Eircom's Bitstream Access Reference Offer (BARO) and elsewhere on Eircom's wholesale website, as may be amended from time to time. The specification of WBA, including associated facilities, may change as products and services develop. It was identified in section 7 above that, absent regulation, Eircom would have little incentive to implement product upgrades or process improvements or to provide alternative forms of WBA access where OAOs may express a demand that is not yet addressed. As part of its access obligation, ComReg would expect that Eircom meets all reasonable requests for access to current and future products in the WBA market. For example, there may be a future requirement for a new type of WBA, such as a naked DSL product, which may form the basis of an access request. ComReg's proposed approach is therefore to establish the principle that the access obligation would apply to reasonable requests for all necessary WBA products, features and additional associated facilities, and to recognise that the nature of the specific elements may evolve over the timeframe of this review.

Obligation to negotiate in good faith

- 9.23 Given the potential for an express or constructive refusal to supply as identified in section 7 above, ComReg proposes an obligation that Eircom should negotiate in good faith with OAOs requesting access to WBA. ComReg notes that the obligation to negotiate in good faith implies that the responsibility rests with Eircom to demonstrate that its approach to negotiation with OAOs was in good faith and that any unmet access requests can be shown to be unreasonable.
- 9.24 Recital 19 of the Access Directive states in relation to access requests to the SMP operator that "*such requests should only be refused on the basis of objective criteria such as technical feasibility or the need to maintain network integrity.*"³⁷⁰ ComReg therefore proposes that when an access request is refused the objective criteria for refusing same should be provided in reasonable detail and in a timely manner to the party making the access request (see paragraph 9.40 below).
- 9.25 In addition, ComReg proposes that an obligation to negotiate in good faith also includes, but is not limited to, negotiations in relation to the conclusion of fit-for-purpose and legally binding Service Level Agreements (SLAs) (see paragraph 9.37 below).

³⁶⁹ These terms are defined in the draft Decision Instrument contained in section 10 of this Consultation Paper. ComReg's approach to migrations is also detailed in "Intra Migration Premium Charge: Response to Consultation Document 08/105 and Decision", ComReg Document 09/77, Decision D05/09, 6 Oct 2009.

³⁷⁰ Directive 2002/19/EC of the European Parliament and of the Council of 7 March 2002 on access to, and interconnection of, electronic communications networks and associated facilities (the Access Directive), OJ L108/07.

Obligation not to withdraw access to services and facilities already granted

- 9.26 ComReg’s approach to the need for an obligation not to withdraw access to services and facilities already granted without the prior approval of ComReg has to balance the requirement for OAOs to have some certainty over the future of their investments against the requirement to support network development. This is particularly pertinent in the discussion over the potential implementation of NGA.
- 9.27 As noted in section 7 above, information asymmetries regarding changes by Eircom to its core network topography may have significant implications for operators which use WBA to compete. This justifies an obligation according to which Eircom should not withdraw access to services and facilities already granted, and should not diminish the service level already granted, except with the prior approval of ComReg.
- 9.28 In its NGA Recommendation, the European Commission has supported the notion of an appropriate migration path in the event of changes to existing network architecture and technology, so that operators currently enjoying access have an appropriate time to prepare for changes that substantially affect their investments and business case. Absent a commercial agreement on any such migration period, the European Commission has suggested a five-year notice period before any de-commissioning of points of interconnection such as the local loop exchange, although this may be less if fully equivalent access is provided at the point of interconnection.
- 9.29 With the introduction of new infrastructure, Eircom might wish to discontinue services based on legacy platforms. Furthermore, Eircom may propose to withdraw access where demand for certain network services/facilities becomes redundant over time. ComReg would propose to assess any request by Eircom to withdraw access to such existing services/facilities on a case-by-case basis.
- 9.30 ComReg, while mindful of the need to support network development, is also of the preliminary view that any such withdrawal of access should be flagged sufficiently in advance so as to give OAOs adequate notice of the impending change. The purpose of this is to allow time for alternative supply arrangements or alternative services to be put in place so as to minimise potential adverse effects on downstream competition. Another consideration for ComReg in such cases would be to minimise potential adverse impacts on end consumers of services relying on the withdrawn facility.

Obligations to grant open access to technical interfaces, protocols and other key technologies, and to provide access to operational support systems or similar software systems necessary to ensure fair competition in the provision of services

- 9.31 As noted in section 7 above, ComReg has identified the ability and incentives for an SMP operator in the WBA market to create or exploit information asymmetries, for example, in relation to the SMP operator’s internal access to IT systems, and OAO access. ComReg thus proposes that Eircom should be obliged to grant open access to technical interfaces, protocols and other key technologies that are indispensable for the interoperability of services or virtual network services. ComReg considers that Eircom should be further obliged to provide access to operational support systems (OSS) or similar software systems necessary to ensure fair competition in the provision of

services. ComReg considers that these obligations are proportionate and justified in order to ensure that access is operable and non-discriminatory.

- 9.32 ComReg is aware that Eircom’s downstream arm has had access to many backend IT systems either natively or through different interfaces. ComReg has accepted this practice on the basis that Eircom, in providing different IT interfaces and modes of access for OAOs and Eircom’s downstream arm, does so in a manner which is compliant with its non-discrimination (and other) obligations, that is, that Eircom provides services and information to OAOs under the same conditions and of the same quality as Eircom provides for its own services. It was on this basis that ComReg investigated Eircom’s self-supply of “Sync-Checker”.³⁷¹ In its finding (also discussed in section 7 above) that Eircom was not in compliance with its non-discrimination obligation with respect to “Sync-Checker”, ComReg noted that *“that while Eircom Retail had direct access to Sync Checker for the purposes of the diagnosis of customer issues relating to Eircom Retail broadband services, an Other Authorised Operator (“OAO”) did not have access to either Sync Checker or the metrics measured at the DSLAM for the purposes of the diagnosis of customer issues relating to Wholesale broadband services.”* Eircom has since remediated this issue and provided access to Sync-Checker via its Unified Gateway,³⁷² and is now in compliance with its non-discrimination obligations on this issue.
- 9.33 The key point is that the outcome experienced by the OAO should be the same as the experience of Eircom’s retail operation. This does not mean that the method of access needs to be identical. Rather, it needs to be demonstrated that different methods of access facilitate the same outcome and are non-discriminatory. It is proposed that the obligation would be on Eircom to ensure that access to technical interfaces, protocols and other key technologies necessary for interoperability of services as well as OSS or similar software systems is provided in a way which supports effective competition. In ComReg’s view, the objective of this obligation is to ensure that OAOs can gain access to such technical interfaces, technologies and relevant support systems to effectively and efficiently support the use of WBA services such that they can compete on an equivalent footing with Eircom’s downstream arm.

Conditions attached to the access obligations

Obligation to grant access in a fair, reasonable and timely manner

- 9.34 In assessing the scope for competition problems to arise in the WBA market (see section 7 above), ComReg identified the potential for an SMP operator to engage in a constructive refusal to supply WBA, e.g. through delaying tactics, discriminatory use or withholding of information, quality discrimination, strategic design, disproportionate entry criteria as well as unreasonable terms and conditions associated with access. ComReg thus proposes that a condition should be attached to the access obligations

³⁷¹ ComReg, “Decision to find that Eircom is not in compliance with the non-discrimination obligation in its use of ‘Sync Checker’”, Document 08/95, 4 December 2008.

³⁷² ComReg, “Closure of Sync Checker Investigation”, Document 09/74, 29 September 2009.

which would oblige Eircom to grant access to current generation WBA and associated facilities in a fair, reasonable and timely manner.

Service Level Agreements (SLAs)

- 9.35 ComReg proposes to attach conditions to the access obligation to ensure that legally binding contracts or SLAs are appropriately concluded and implemented.
- 9.36 It is proposed that a condition of Eircom’s access obligation would specify that SLAs should include associated performance metrics.³⁷³ Given the potential (as identified in section 7 above) for the SMP operator to provide a lesser quality of service/inferior information to downstream competitors than to its own downstream arm, ComReg considers it proportionate and justified that the performance of WBA products is transparent, and that OAOs should be able to compare their performance against metrics defined in the SLA.
- 9.37 ComReg also proposes to make a specific provision that Eircom should be obliged to negotiate in good faith with OAOs in relation to the conclusion of legally binding and fit-for-purpose SLAs.
- 9.38 ComReg further proposes a specific obligation to ensure that the SLA should specify a level of compensation (service credits) that adequately compensates the customer for any breach of the SLA, e.g. due to a failure to deliver or repair the WBA service appropriately within a prescribed time as described in the SLA. This would provide Eircom with an incentive to deliver and maintain its WBA service to a pre-defined and pre-agreed level of performance or otherwise compensate their customer accordingly. The process of compensation should not be burdensome on either party and the methodology used and calculation of SLA credits should be clearly explained in the SLA, with examples. To ensure the effectiveness of this obligation, it is further proposed that the payment of any service credits due should be made in a timely and efficient manner. ComReg is aware that an SLA has been in place with respect to WBA products since their introduction to the Irish market. ComReg is of the view that SLAs help to ensure that products and services of a defined quality are made available to OAOs and that there is an incentive (through the possibility of penalties being paid) for Eircom to supply in accordance with such defined levels. Given the potential competition problems identified above relating to quality discrimination, ComReg is of the preliminary view that certain quality guarantees are appropriate in respect of Eircom’s provisioning of WBA services. Such assurances are also commonplace in contractual agreements between suppliers and their customers.
- 9.39 ComReg further notes the ERG Common Position that “*SMP players often prefer not to be committed to supplying that product according to a particular time-scale or quality or to be committed to repairing faults within an agreed time-scale.*”

³⁷³ For clarity, ComReg has provided a clear definition of Performance Metrics in the draft Decision Instrument contained in section 10 of this Consultation Paper. These are the aggregate performance levels achieved by Eircom within a specified period, as calculated in accordance with the methodology and service parameter definitions set out in its SLAs.

*Commitments of this kind would be normal commercial practice and it is entirely legitimate – and may be necessary for proper functioning of the market – for the NRA to require the SMP player to make reasonable commitments of that nature.*³⁷⁴

Obligation to provide objective criteria for any refusal or part refusal of access to OAOs

- 9.40 As noted in paragraph 9.24 above, ComReg proposes that Eircom should be obliged to provide the objective criteria for refusing a request, or only partly meeting a request, to the OAO which has made the request. This is considered proportionate and justified in light of the ability and incentives for the SMP provider to refuse to supply WBA to its competitors and the potential competitive and consumer impacts on related markets. ComReg would thus expect that Eircom's response should be fair, reasonable and timely.

Question 10: Do you agree with ComReg's proposals regarding the application of access remedies in the WBA 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 position.

Obligation of non-discrimination

- 9.41 In section 7 above, ComReg has considered the scope for Eircom, as the SMP operator in the WBA market, to engage in various discriminatory practices, including discriminatory use or withholding of information, quality discrimination, disproportionate entry criteria or unreasonable terms and conditions of access, etc. To facilitate the development of competition in the WBA market and in related markets which rely on the use of WBA inputs, ComReg considers it proportionate and justified that Eircom should be obliged to not discriminate in its supply of WBA.

Obligation to apply equivalent conditions in equivalent circumstances, and to ensure that services and information are provided under the same conditions and of the same quality

- 9.42 As provided for by Regulation 11 of the Access Regulations, a non-discrimination obligation includes, obliging Eircom to ensure that it applies equivalent conditions in equivalent circumstances to other undertakings providing equivalent services, and that it 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. In ComReg's view, non-discrimination obligations include obliging Eircom to treat other undertakings in an equivalent manner, and so should not discriminate in its provision of services between undertakings seeking equivalent services. The non-discrimination obligation further includes obliging Eircom not to discriminate between its treatment of other undertakings and its treatment of its own operations and/or

³⁷⁴ ERG Common Position on Remedies, p. 67.

- partners, such that WBA services and information should be provided to other undertakings in a manner which places them in the same position as Eircom's own operations and/or its partners.
- 9.43 ComReg recognises, however, the commercial sensitivity surrounding the provision of information and services, and proposes that it is reasonable to restrict the obligation regarding non-discrimination to the provision of services and information to Access Seekers, rather than to all OAOs. The distinction, as set out in the draft Decision Instrument in section 10 below, is that an Access Seeker is an OAO which has already agreed a Wholesale Broadband Access Reference Offer (WBARO) with Eircom, or has signed a Non-Disclosure Agreement with Eircom. ComReg does not consider it proportionate or justified to expect Eircom to make available commercially sensitive information to all market players, irrespective of whether or not they rely on Eircom-supplied WBA inputs to compete.
- 9.44 To ensure that Access Seekers are in the same position as Eircom and/or its partners, ComReg considers it essential that information and services are provided in sufficient time. To provide further clarity in this regard, ComReg proposes that Eircom should be specifically required to provide WBA services and information to Access Seekers within a specified timeframe, that is the earlier of:
- a) at the same time as the WBA service(s) or information is available to Eircom or its partners; or
 - b) unless otherwise determined by ComReg, at least two months before any Eircom retail service or facility, which relies on the provision of the WBA service(s) or information, is made available on the retail or downstream market.
- 9.45 This demonstrates a flexible and effective approach to applying the non-discrimination obligation depending on the circumstances of the case in hand, while still ensuring that competition is sufficiently protected.
- 9.46 The first scenario (scenario a), in addition to addressing services/information to be supplied to retail competitors, also addresses potential situations involving WBA services/information to be made available to wholesale competitors. As noted in section 7 above, such a need for equivalent WBA services and information to be made available to wholesale competitors might arise, for example, in the case of services/information necessary for preparing a (bid/tender) proposal for a wholesale contract.
- 9.47 The second scenario (scenario b), which would come into play only where the former scenario is particularly truncated, would ensure that Eircom is nonetheless obliged to provide WBA services and information to Access Seekers sufficiently in advance of launching a retail product. ComReg considers that generally requiring Eircom to supply such services and information at least two months in advance, unless otherwise determined by ComReg, of any corresponding Eircom retail service or facility being made available on the retail or downstream market would ensure sufficient flexibility to Eircom, where its product development is particularly short, while also ensuring that Access Seekers are not disadvantaged competitively compared with Eircom's own retail operation.

Access to OSS and information

- 9.48 As discussed in greater detail in section 7 above, an SMP operator may be able to foreclose WBA-based competition by creating or exploiting information asymmetries. In particular, such asymmetries could be introduced by providing a lesser quality of OSS for OAOs. Comparatively poor OSS would mean that an OAO would not be in a position to provide delivery or repair services to end users which would be competitive with those supplied by the SMP operator. Such restricted access might, for example, limit an OAO's capacity to diagnose bitstream service degradation as was determined by ComReg in the case of access to Sync Checker (see paragraph 9.32 above).
- 9.49 Restricted access to OSS would hamper the customer relationship management capabilities of an OAO. Delays in fault reporting and diagnostics, delays in service upgrades or changes, poor feedback on service status or on repair progress would all adversely affect a consumer's assessment of an OAO and could contribute to increased rates of churn for that operator.
- 9.50 Because of the significant contribution of access to OSS to an OAO's ability to compete, ComReg proposes that a specific non-discrimination obligation on Eircom to ensure that OAOs should experience the same standard and quality of service and information in this regard as Eircom itself experiences is proportionate and justified. This means, for example, that the time taken to process requests via OSS, quality and completeness of output from OSS, and ease of OSS use should be the same regardless of whether the request comes from an OAO or from Eircom's own operations or partners.

Question 11: Do you agree with ComReg's proposals regarding the application of non-discrimination remedies in the WBA 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 position.

Obligation of transparency

- 9.51 Transparency obligations can typically support other obligations being imposed and manifest themselves in requirements to make specified information publicly available.
- 9.52 As noted in the Competition Problems section above (section 7), in the WBA market the SMP operator could provide a lesser quality of service/inferior information to downstream competitors than to its own downstream arm. For example, it was noted that a lack of transparency in how products and services are both developed and implemented internally to the SMP operator vis-à-vis OAOs could make it difficult to demonstrate equivalence and provide the potential for leveraging of market power into related markets. It was further noted above that Eircom could foreclose competition in both the WBA market and in adjacent markets through exploiting information asymmetries.
- 9.53 Eircom is currently subject to a transparency obligation in the WBA market pursuant to ComReg Decision 03/05 and ComReg proposes that a transparency obligation should continue to be imposed on Eircom. In view of the potential competition problems identified above, non-price transparency is required to cover such areas as access to information in terms of service provision and service assurance, product development, IT system development and relevant timelines as such factors can impact on the

wholesale product set, IT planning, processes and procedures, service delivery and service assurance performance.

- 9.54 In the absence of such information, uncertainty would arise for OAOs and their retail customers as to the performance and quality of their purchased WBA inputs relative to the services and information made available internally to Eircom's retail arm. There would also be uncertainty regarding future planning by the SMP operator and any future network/systems changes. As noted in section 7, such uncertainty could potentially discourage investments in markets dependent upon Eircom's wholesale products. Thus, a transparency obligation is a necessary means of ensuring that ComReg and OAOs can observe relevant non-price terms and conditions for Eircom's WBA products, thereby ensuring the effectiveness of the proposed access and non-discrimination obligations and bringing the necessary confidence to potential investors.
- 9.55 A transparency obligation is also required to monitor and ensure the effectiveness of any price control obligations and to support any accounting separation obligations, as this would allow the calculation of costs and prices (i.e. internal price transfers) to be rendered visible. This would also allow ComReg to monitor the compliance of Eircom's pricing behaviour with any non-discrimination obligations, and address potential competition problems relating to cross subsidisation, price discrimination and the application of price squeezes.
- 9.56 As set out in Regulation 10(1) of the Access Regulations, transparency obligations may be used in relation to *“interconnection, access or both interconnection and access, requiring such operator to make public specified information, such as accounting information, technical specifications, network characteristics, terms and conditions for supply and use, and prices”*.

Publication of a reference offer

- 9.57 Regulation 10(2) of the Access Regulations provides for publication of a reference offer that is sufficiently unbundled to ensure that undertakings are not required to pay for facilities which are not necessary for the service requested – this should include a description of the relevant offerings broken down into components according to market needs, and a description of the associated terms and conditions, including prices.
- 9.58 Eircom is currently required, pursuant to ComReg Decision D03/05, to publish a Bitstream Access Reference Offer (BARO), including a description of the relevant offerings broken down into components according to market needs and a description of the associated terms and conditions, including prices.³⁷⁵ In view of the need to observe relevant price and non-price terms and conditions for Eircom's WBA products as noted above, ComReg proposes that the obligation to publish a reference offer should be maintained. However, ComReg considers that the current BARO is not sufficiently comprehensive and is not sufficiently detailed. When compared to other regulated

³⁷⁵ Eircom was further required to publish specified information such as accounting information, technical specifications, network characteristics, terms and conditions for supply and use and prices.

wholesale offers such as the Reference Interconnect Offer (RIO), Leased Line Reference Offer (LLRO) and the Access Reference Offer (ARO), ComReg considers that important elements which are contained in these offers in other markets are absent from the BARO.

- 9.59 Of principal concern is the absence of Service Schedules which should describe in a detailed and comprehensive manner the ancillary and associated facilities or services which may form part of the overall offering. For example, there is no mention of the BECS or BCS within the current BARO. ComReg considers that this provides suboptimal transparency as to the nature of Eircom's offer within the market. The absence of a comprehensive BARO could mean that the WBA offer was not a "stand alone" or independent offer and could unnecessarily require the Access Seeker to sign multiple wholesale offers in order to avail of all elements required for the WBA service. ComReg notes also the absence of any section or clauses in the current BARO which cover "New Services" which would provide Access Seekers with a defined process or framework through which new services or features can be requested. As noted in section 7 above, delays in the provisioning of alternative forms of WBA access could impede OAOs' ability to compete in related markets and in turn delay the delivery of effective retail broadband services to end users. ComReg anticipates that the efficient and swift deployment of innovative products and features will be of increasing importance in the market.
- 9.60 Furthermore, the BARO has remained unchanged in five years and ComReg is therefore of the view that a thorough review and update of the BARO is timely. Further to the above discussion, ComReg is of the preliminary view that Eircom should overhaul the current offering based on the model of the current RIO and LLRO and consult with industry on these changes through the appropriate means and by publishing on its website a proposed Wholesale Broadband Access Reference Offer (WBARO). This WBARO shall provide the appropriate information about all products and services offered in the WBA market. To provide the requisite transparency and confidence to the market, ComReg is of the view that the WBARO should contain at least a description of all relevant WBA offerings broken down into components according to market needs, a description of the technical specifications and network characteristics of the access being offered, and a description of the associated terms and conditions for supply and use, including prices. ComReg is further of the preliminary view that Eircom should engage with industry, for example, through an industry forum, to agree any changes where appropriate and reasonable, before submitting the WBARO to ComReg for regulatory approval.
- 9.61 ComReg recognises that the development of a WBARO would involve some additional work for Eircom. ComReg therefore suggests that it is reasonable to allow Eircom three months, from the date of the Decision taking effect, to develop and publish its WBARO. Eircom would then be obliged to keep the WBARO publically available and up-to-date.
- 9.62 ComReg proposes that specific obligations should be placed on Eircom regarding a change mechanism for the WBARO. The mechanism should provide for all proposed changes, including changes to prices, and the introduction of new services and facilities.

- 9.63 Up to now price changes have been governed under ComReg Decision D01/06 by a requirement to provide publication to industry at least three weeks (fifteen working days) in advance of proposed changes, with an additional week (five working days) notification period for ComReg in the case of new products. Within those current notification periods under ComReg Decision D01/06, ComReg has the power to set deadlines for further information to be provided by Eircom for ComReg's analysis before the proposed change can be allowed, therefore the notification period to ComReg may as a result be longer.
- 9.64 ComReg has considered whether the current timeframe is proportionate and appropriate. On the one hand, under a retail minus price control it is important to ensure that retail changes are not unduly delayed. On the other hand, it is important to ensure that ComReg has sufficient time to analyse the proposed changes and that OAOs have sufficient time to respond to changes, and in other markets ComReg has mandated longer timeframes. For example, in the Leased Lines market, ComReg mandated a three month advance publication requirement and an additional five working days' notification period to ComReg.³⁷⁶ In principle, any advance publication and notification period should be long enough to allow ComReg to analyse the proposed change and for OAOs to make the necessary changes to systems and processes, and also to allow adequate time for an OAO to plan a retail campaign, but not so long as to discourage innovation at the retail and wholesale levels, and this will depend on the dynamic of the market in question.
- 9.65 Taking account of the characteristics of the WBA market and its importance to OAOs in securing retail broadband customers, which may for example be acquired by way of tender processes, advance information of product/pricing changes needs to be provided in sufficient time for OAOs to be able to compete effectively. ComReg therefore proposes that, as a general principle, Eircom should publish proposed changes to the WBARO and any proposed changes to wholesale prices (including prices for new services and facilities) at least two months before they come into effect, and to notify ComReg of such proposed changes an additional month before publication. This would mean that ComReg would be notified at least three months before proposed changes were implemented, to be followed by publication at least two months before implementation.
- 9.66 In order to offer the greatest flexibility to Eircom, OAOs and ultimately consumers, ComReg proposes that there should also be provision for ComReg to extend or reduce this period where appropriate on a case-by-case basis. For example, in the case of minor changes to the pricing of existing products, the current timescale under ComReg Decision D01/06 may be sufficient, that is publication three weeks ahead of implementation. In the case of significant changes to products or prices, including the

³⁷⁶ ComReg, "Market Analysis – Leased Line Market Review, Response to Consultation on draft Decision Instrument Final Decision Notice and Decision Instrument", Decision D06/08, Document 08/103, 22 December 2008.

introduction of new products, ComReg also proposes to reserve the right to extend the publication and notification periods beyond the two-month period if appropriate and necessary on a case-by-case basis.

- 9.67 To ensure the effectiveness of this transparency obligation, it is proposed that any proposed changes to the WBARO should not be implemented without prior approval from ComReg. Furthermore, ComReg proposes to retain flexibility to issue directions requiring Eircom to make changes to the WBARO or to publish information from time to time where appropriate for ensuring the effective operation of this obligation.

Publication of information about WBA products and services

- 9.68 ComReg proposes further that, as part of the transparency obligation, Eircom should be required to publish any reasonable information or data which an OAO may require in order to be able to compete effectively based on Eircom's WBA inputs. This could include, for example, accounting information, technical specifications, network characteristics, terms and conditions for supply and use, and prices.

Publication of Key Performance Indicators (KPIs)

- 9.69 The ERG (now known as BEREC),³⁷⁷ in discussing Quality of Service in the context of Wholesale Unbundled Access and Bitstream Access, recommends that a remedy be imposed requiring the publication of KPIs. As noted in the ERG report, KPIs facilitate monitoring of the application of the non-discrimination obligation and provide transparency on the quality of the offered service. ComReg is of the view that the focus of KPIs is non-discrimination and that a well-designed suite of KPIs would allow all stakeholders to observe any discriminatory delivery performance by inspection of the KPIs.
- 9.70 KPIs should transparently demonstrate, on the basis of the level of service actually delivered with respect to common or equivalent inputs, that there is no discrimination between wholesale inputs delivered to OAOs and the same or equivalent inputs self-supplied by Eircom to its own operations and/or partners, including, for example, its retail or other downstream operations. However, while establishing the principle, further consideration is necessary as to the precise content of individual KPIs and how they are to be introduced. ComReg, therefore, has issued a separate consultation process regarding the detailed implementation of KPIs³⁷⁸.

Publication of SLAs and performance metrics

- 9.71 As noted above, ComReg proposes as a condition of Eircom's access obligation that Eircom should be obliged to negotiate, conclude and implement SLAs which should include associated performance metrics. ComReg further proposes that a transparency

³⁷⁷ ERG, "Report on Best Practices on Regulatory Regimes in Wholesale Unbundled Access and Bitstream Access", ERG (07)53 WLA WBA BP final 080604. See section 0 above for full BEREC reference.

³⁷⁸ ComReg "Consultation on the Introduction of Key Performance Indicators for Regulated Markets" Document 10/74, 27 September 2010.

obligation is required to ensure that SLAs are kept up-to-date and published on Eircom's website. The justification for SLAs was discussed above in the context of the access obligation, and the transparency obligation further supports the effective application of this access obligation.

- 9.72 ComReg also proposes that a specific transparency obligation should be applied to the publication of performance metrics. Performance metrics are the aggregate performance levels achieved by Eircom within a specified period, as calculated in accordance with the methodology and service parameter definitions set out in its SLAs. ComReg proposes that the publication of performance metrics will provide required visibility to market participants and provide details of Eircom's actual performance against its published SLA.
- 9.73 ComReg views KPIs and Performance Metrics as complementary instruments. KPIs should demonstrate that there is no discrimination in the delivery of services in the market, while Performance Metrics would record Eircom's actual delivery performance against the standards advertised in its published SLA. In view of the complementary relationship between KPIs and Performance Metrics, ComReg further suggests that both tools should be published and presented in an easily accessible manner on Eircom's publicly available website.

Publication of information on self-supplied WBA products and services

- 9.74 In order to support the proposed non-discrimination obligation, and recognising also that Eircom's self-supply forms part of the proposed WBA market, ComReg proposes that any differences in the conditions and quality in the services offered by Eircom to OAOs, and the conditions and quality Eircom provides for its own operations, should be transparently demonstrated. It is ComReg's view that ensuring transparency concerning the services Eircom offers to itself in comparison to the services it offers to OAOs is both reasonable and justified having regard to the potential discriminatory behavior (such as quality discrimination) identified in section 7 and thus the need to demonstrate that Eircom is complying with its non-discrimination obligations. The development of Reference Offers and SLAs address the question of supply to OAOs, and in ComReg's view this must be complemented by information regarding the services which Eircom supplies to itself to ensure effective operation of the non-discrimination obligation.
- 9.75 ComReg therefore proposes to require Eircom to publish on its website sufficient information to identify and justify any differences between the services and facilities set out in the WBARO and the comparable services and facilities which Eircom provides to itself. ComReg proposes that the information should include information about services and facilities, as well as associated terms and conditions including relevant processes. ComReg proposes further that Eircom be obliged to keep this information up-to-date, both in terms of developing and introducing new services and facilities, and in amending existing services or facilities.
- 9.76 As this is a new obligation, ComReg proposes that it is reasonable to allow Eircom time to comply, and proposes that Eircom should ensure that it publishes the required information within four months of the date of the WBA Decision coming into effect. This would allow Eircom to develop its new WBARO within three months of the date of the WBA Decision, and Eircom would then have an additional month to identify,

publish and justify any differences between the services and facilities detailed in the WBARO and the products and services it supplies to its own operations.

Question 12: Do you agree with ComReg’s proposals regarding the application of transparency remedies in the WBA 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 position.

Obligation of accounting separation

- 9.77 As noted in section 7 above, ComReg has identified potential competition problems associated with possible cross-subsidisation across related markets, as well as other price-related leveraging such as possible margin/price squeeze practices. Separated accounts help disclose such possible competition problems and make visible the wholesale prices and internal transfer prices of a dominant operator’s services, thereby facilitating transparency as regards any potential misallocation of costs across different services. It is therefore considered proportionate and justified to impose an obligation on Eircom to maintain separated accounts.
- 9.78 ComReg is of the preliminary view that all existing obligations in relation to accounting separation applying to Eircom in relation to the WBA market should be maintained in their entirety and Eircom should be obliged to comply with all of those obligations, pending any further decision by ComReg following consultations in relation to the details and implementation of accounting separation obligations. Eircom’s obligations in relation to accounting separation are in particular those obligations as of now are more particularly set out in *ComReg Decision 10/67 “Accounting Separation and Cost Accounting Review of Eircom Limited – Final Direction and Decision”* and may include any other decision or directions which may be issued by ComReg from time to time.

Question 13: Do you agree with ComReg’s proposals regarding the application of accounting separation remedies in the WBA 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 position.

Obligations relating to price control and cost accounting

- 9.79 Pursuant to Regulation 14(1) of the Access Regulations “*The Regulator may in accordance with Regulation 9 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 interconnection, access or both such interconnection and access in situations where a market analysis indicates that a lack of effective competition means that the operator concerned might sustain prices at an excessively high level, or apply a price squeeze to the detriment of end-users*”.

Cost accounting

- 9.80 The obligation to maintain appropriate cost accounting systems generally supports the obligations of price control and accounting separation, and can assist ComReg in monitoring the obligation of non-discrimination. ComReg thus proposes to oblige Eircom to maintain appropriate cost accounting systems in respect of WBA products, services or facilities.
- 9.81 To support the effective operation of a price control obligation, it is necessary for Eircom to establish cost accounting systems that capture, identify, value and attribute relevant costs to its services and products in accordance with agreed regulatory accounting principles, such as cost causality. A key part of this process is the stage which identifies those parts of the underlying activities or network components that directly support, or are consumed by, those particular services or products. As these components are frequently used to provide more than one product or service, it is also necessary to determine how much of each component is used for each service or product.
- 9.82 As operators may operate in both SMP and non-SMP designated markets, the division of services and products, and the corresponding costs, capital employed and revenues between the different markets should be reflected in costing systems, and coherence and integrity of information should be assured. Where such particular costs form part of the cost of an SMP service, ComReg needs to have visibility as to the basis of and amount of allocation across all services.
- 9.83 As noted above, ComReg has consulted on the details and implementation of accounting separation and cost accounting obligations, and has issued a Decision in this regard³⁷⁹.

Price control

- 9.84 Given the preliminary view that Eircom continues to hold SMP in the WBA market, ComReg considers that there continues to be a need for a price control obligation to ensure that the SMP operator sets appropriate WBA prices such that effective wholesale and retail broadband competition is facilitated.
- 9.85 As noted in section 7 above, ComReg believes that, absent an appropriate price control obligation, Eircom would have the ability and incentives to set excessive prices in the WBA market which would exploit retail broadband users and potentially harm competition from OAOs relying on Eircom's WBA inputs. ComReg thus considers it appropriate and justified to continue to impose a price control obligation on Eircom, so as to guard against such potential excessive pricing.
- 9.86 ComReg also identified scope and incentives for the SMP operator to engage in possible price-related leveraging through pricing its upstream and downstream services in such a way as to give rise to an insufficient wholesale/retail margin which would

³⁷⁹ ComReg, "Response to Consultation Document and Final Direction and Decision, Accounting Separation and Cost Accounting Review to Eircom Limited", Document 10/67, 31 August 2010.

impede effective downstream competition. On this basis, ComReg considers it appropriate and justified to oblige Eircom not to cause a margin/price squeeze.

- 9.87 Furthermore, ComReg identified that, given its presence in a number of related markets, Eircom would have the ability and incentives to engage in potential foreclosure of infrastructure-based competitors by way of an insufficient economic space between the relative pricing of different upstream/intermediate inputs. For example, where resale or end-to-end wholesale access inputs are priced too low relative to WBA or WPNIA inputs and/or where WBA inputs are priced too low relative to WPNIA inputs, this might discourage potentially efficient investment in infrastructure to the ultimate detriment of retail consumers in terms of the price, choice and quality of services available to them. Further to this concern, ComReg proposes to apply an obligation on Eircom to maintain an appropriate economic space between the relative pricing of different upstream/intermediate inputs.
- 9.88 Since the completion of the original (first-round) market review in 2005, and as the WBA market is no longer in the early stages of development, ComReg and Eircom have held discussions about a possible move from the current price control remedy which is based on a ‘retail minus’ approach (imposed as part of Decision Notice D1/06, ComReg Document 06/01), to a cost orientation price control based on a ‘cost plus’ model. As noted in ComReg Document 10/56, ComReg is of the preliminary view that it may be appropriate at this time to consider a cost-oriented price control for WBA. Therefore, over the past year, ComReg has requested data from Eircom and OAOs to develop a draft ‘cost plus’ price control model which formed the basis for a wider consultation with industry and other stakeholders on the appropriate price control for WBA in ComReg Document 10/56. This price control consultation is taking place in parallel to the consultation process in relation to this WBA market analysis review.³⁸⁰
- 9.89 As part of this parallel pricing consultation, and given that efficient costs can now be determined with a reasonable level of confidence, ComReg is exploring the possibility of setting a cost-oriented price range in the WBA market with associated maximum cost-oriented prices to guard against excessive prices and minimum cost-oriented prices to ensure the maintenance of an appropriate economic space between the relative pricing of WBA and WPNIA inputs. The consultation is further exploring relevant specifications for the operation of the obligation not to cause a margin (price) squeeze between the price of WBA products and associated downstream offerings including resale and retail offers.
- 9.90 Given the persistent risk of price-related competition problems deriving from an SMP position in the WBA market, ComReg proposes that, pending any revised decision in

³⁸⁰ As noted above, as part of this parallel pricing review, ComReg is taking account of Regulation 14(2) of the Access Regulations which notes that, when imposing obligations under Regulation 14(1), ComReg should take into account any relevant investments made by the operator and allow a reasonable rate of return on adequate capital employed, taking into account the risks involved. ComReg is further taking account of Regulation 14(3) of the Access Regulations which states that any such cost recovery mechanism or pricing methodology should serve to promote efficiency and sustainable competition and maximise consumer benefits.

relation to the appropriate price control for WBA resulting from the above consultation, prices charged by Eircom for access to, or use of, WBA products, services or facilities should be subject to the existing price control obligations as set out in ComReg Decision D01/06.

Question 14: Do you agree with ComReg’s proposals regarding the application of price control and cost accounting remedies in the WBA 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 position.

Proposed remedies for Next Generation WBA

- 9.91 ComReg outlined earlier in this section its proposed approach to remedies for Next Generation WBA. ComReg’s approach seeks to balance the need to ensure that there is no restoration of monopoly conditions against the need to support efficient investment in NGA infrastructure and services. ComReg’s view is that conditions of competition are expected to be the same where Eircom overlays or replicates its existing access network with fibre and NGA equipment and that Eircom’s SMP will prevail across both current generation and next generation network infrastructure. Furthermore, market failures have been provisionally identified in the WBA market independently of whether the underlying access network is substantially copper or fibre based. Failing to impose some form of remedial obligations over NGA infrastructure would, amongst other things, not be in line with ComReg’s statutory responsibility to promote competition and protect the interests of end users. However, given the current level of investment in NGA infrastructure and services, ComReg proposes that it would be premature to specify NGA remedies at the level of detail which is feasible and appropriate for current generation WBA.
- 9.92 ComReg thus proposes that the remedies for WBA over NGA infrastructure should establish a set of principles which would ensure, for example, that reasonable requests for access would be met. Further recognising the need for timely and sufficient information on Eircom’s next generation network planning, ComReg has considered specific provisions under the non-discrimination and transparency obligations to facilitate migration from current generation to NGA-based wholesale access. It is also proposed to supplement these provisions with the obligation under Current Generation WBA above not to withdraw access to facilities already granted without the prior approval of ComReg.
- 9.93 Further to the above, a set of regulatory principles would therefore be established which would address the immediate need for a transparent framework regarding the planning and introduction of NGA-based services. However, in view of the current level of NGA deployment, it is proposed that further consultation would consider the detailed implementation of the proposed obligations. The remedies which ComReg proposes to impose at this stage of the review process are as follows:

Obligation to provide access

Obligation to meet all reasonable requests from OAOs to provide access

- 9.94 ComReg proposes that Eircom should be obliged to meet all reasonable requests for access to WBA products, features and associated facilities over NGA infrastructure. ComReg considers that this obligation is proportionate and justified by the potential competition problems identified in section 7 above, including the potential for Eircom, irrespective of the underlying technology, to refuse to supply WBA or to supply it on unreasonable terms and conditions.
- 9.95 While ComReg does not propose to mandate any particular form of access at this point, ensuring that reasonable requests for WBA over NGA infrastructure would be met where such infrastructure becomes available provides important regulatory certainty and stability to downstream competitors relying on Eircom's WBA inputs.

Obligation to negotiate in good faith

- 9.96 Taking account of the potential for an express or constructive refusal to supply access, ComReg also proposes that Eircom should be obliged to negotiate in good faith with OAOs seeking access. As noted in the context of Current Generation WBA above, this obligation implies that the responsibility rests with Eircom to demonstrate that it has negotiated in good faith with undertakings.
- 9.97 The obligation to negotiate in good faith further facilitates an environment whereby commercial negotiations should be a key driver for WBA over NGA infrastructure, and that such negotiations should be carried out in a manner which is reasonable and based on objective criteria.
- 9.98 ComReg proposes that it is premature at this stage of NGA development to further specify a particular approach to particular products and services in an NGA environment. Thus, while ensuring that reasonable requests for wholesale access would be met and negotiations with OAOs seeking access would be undertaken in good faith, ComReg's proposed approach leaves flexibility to the market to determine how particular products and services and associated forms of wholesale access may evolve. ComReg thus proposes to engage in further consultation at a later date on the detailed specification and implementation of the access obligations.

Obligation of non-discrimination

Obligation to apply equivalent conditions in equivalent circumstances, and to ensure that services and information are provided under the same conditions and of the same quality

- 9.99 As for Current Generation WBA above, ComReg considers it proportionate and justified that Eircom should be obliged not to discriminate in its supply of WBA over NGA infrastructure. For the avoidance of doubt, ComReg further proposes to specify that such an obligation of non-discrimination would include access in relation to OSS. This is to ensure that operating support systems are designed so as to facilitate that migration of OAOs from current generation WBA to NGA-based access products.
- 9.100 In line with Regulation 11 of the Access Regulations, ComReg proposes that Eircom should be obliged to ensure that it applies equivalent conditions in equivalent circumstances to other undertakings providing equivalent services, thus treating other undertakings in an equivalent manner, and that it also provides services and information to others under the same conditions and of the same quality as it provides its own operations and/or partners.

- 9.101 ComReg proposes that Eircom should have a specific obligation designed to ensure that Access Seekers (that is, OAOs which have a contractual relationship with Eircom) are placed in the same position as Eircom or its partners with regard to the provision of NGA-based WBA services and information. This implies that Access Seekers should have sufficient advance notice prior to the launch of any Eircom service or facility which relies on the provision of NGA-based WBA inputs, so that they are not disadvantaged compared with Eircom's own operations or its partners' operations.
- 9.102 Taking account of possible lead times for OAOs to submit a reasonable request for access and to develop, market and launch products based on such new WBA inputs, ComReg generally considers that NGA-based WBA services and information should be provided to Access Seekers at least six months prior to any corresponding Eircom service or facility being made available. At the same time, it is proposed to maintain flexibility for ComReg to determine an alternative notice period where appropriate on a case-by-case basis. ComReg is of the preliminary view that such an approach would ensure sufficient flexibility for NGA product development depending on the circumstances of each case, while still ensuring that sustainable competition is sufficiently protected.
- 9.103 As for the other remedies proposed for Next Generation WBA, ComReg proposes to engage in further consultation at a later date on the detailed specification and implementation of the non-discrimination obligation.

Obligation of transparency

- 9.104 To support the effective operation of the other obligations being proposed, ComReg also proposes that Eircom should be subject to a transparency obligation, and that the detailed specification and implementation of this obligation would take place in a later consultation.
- 9.105 However, recognising the need for timely and sufficient information on Eircom's next generation network planning and for an effective migration of wholesale customers from current to next generation WBA services, ComReg proposes that Eircom should immediately be required to provide information regarding its planning and development of NGA infrastructure, technologies, services or facilities which could be reasonably expected to support services and facilities in respect of Next Generation WBA. ComReg believes that, in the interests of supporting sustainable competition, OAOs should be made fully aware of developments which may affect their planning and introduction of products and services based on Next Generation WBA inputs. ComReg thus considers it proportionate and justified to oblige Eircom to regularly publish and update industry of its network plans and developments. This would involve Eircom publishing such network planning information on its publicly available website on a quarterly basis, or such other suitably regular basis as may be specified by ComReg, and to a sufficient level of detail which would allow OAOs to compete effectively.

Obligation of accounting separation

9.106 As for Current Generation WBA above, and recognising the role of separated accounts in disclosing possible competition problems, ComReg proposes that Eircom should be obliged to maintain separated accounts also in respect of WBA over NGA infrastructure. ComReg thus proposes that all current obligations in relation to accounting separation should remain in force and apply also to NGA-based WBA services, pending any further decision by ComReg following further consultation. As noted above, ComReg has consulted on the details and implementation of accounting separation and cost accounting obligations (see ComReg Decision 10/67).

Obligations relating to price control and cost accounting

9.107 ComReg proposes that, as conditions of competition are likely to be similar in both a current generation and an NGA environment, the potential for price-related competition problems also arises in an NGA context. As noted in respect of Current Generation WBA above, such price-related problems may include possible excessive pricing, margin/price squeeze behaviour, or an insufficient economic space between the relative pricing of different upstream/intermediate inputs. ComReg therefore considers it proportionate and justified as part of the current market review, for Eircom to be subject to a price control in respect of WBA services over NGA infrastructure and to be obliged to maintain appropriate cost accounting systems, in respect of Next Generation WBA services and facilities. Such obligations would assist in monitoring and guarding against the possible price-related competition problems identified in section 7 above.

9.108 However, taking account of the current lack of certainty regarding the precise nature and timing of any material NGA investment and deployment and the particular products and services which would be offered over such infrastructure, ComReg proposes that the detailed implementation and specification of such a price control obligation should be subject to further consultation.

Question 15: Do you agree with ComReg’s proposals regarding the application of remedies in the WBA market in a Next Generation Access environment? Please explain the reasons for your answer, clearly indicating the relevant remedies and paragraph numbers to which your comments refer, along with all relevant factual evidence supporting your position.

10 Draft Decision Instrument

[Note the following text is in draft form only, being a draft measure in relation to which ComReg is required to consult upon pursuant to Regulation 19 of the Framework Regulations].

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 broadband access identified by the European Commission in its Recommendation of 17 December 2007 on relevant product and service markets within the electronic communications sector susceptible to *ex ante* regulation³⁸¹ and as defined by ComReg in the consultation document entitled []:

- i. Having had regard to sections 10 and 12 of the Communications Regulations Act, 2002;
- ii. Having taken account of its functions under Regulation 6(1) of the Access Regulations³⁸²;
- iii. Having, where appropriate, complied with the Policy Directions made by the Minister further to section 13 of the Communications Regulation Act 2002³⁸³;
- iv. Having taken the utmost account of the European Commission's Recommendation of 17 December 2007 and the European Commission's

³⁸¹ 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 the Council of 7 March 2002 on a common regulatory framework for electronic communications networks and services – OJ L 344/65.

³⁸² S.I. No. 305 of 2003 the European Communities (Electronic Communications Networks and Services) (Access) Regulations 2003 ("Access Regulations") as amended by the European Communities (Electronic Communications Networks and Services (Access) (Amendment) Regulations 2007 (S.I. No. 373 of 2007) which transposes Directive 2002/19/EC of the European Parliament and the Council of 7 March 2002 on access to, and interconnection of, electronic communications networks and associated facilities.

³⁸³ Policy Directions made by Dermot Ahern T.D. (the then) Minister for Communications, Marine and Natural Resources on 21 February, 2003 and 26 March, 2004.

Guidelines on market analysis and the assessment of significant market power³⁸⁴;

- v. Having had regard to the market definition, market analysis and reasoning conducted by ComReg in *Consultation Market Analysis*: [];
- vi. Having taken account of the submissions [to be] received in relation to [this consultation];
- vii. [Having consulted with the Competition Authority further to Regulation 27 of the Framework Regulations³⁸⁵];
- viii. [Having notified the draft measure imposing significant market power to the European Commission, further to Regulation 20 of the Framework Regulations whereby it was also made accessible to national regulatory authorities (NRAs) in other EU Member States, and having taken utmost account of the European Commission's response] [Commission's response to be inserted];
- vii. Pursuant to Regulations 25, 26 and 27 of the Framework Regulations and Regulations 9, 10, 11, 12, 13 and 14 of the Access Regulations.

1.2 The provisions of [Consultation document X, (i.e. the consultation document accompanying this draft) and Response to Consultation document Y (i.e. the response to consultation accompanying final D.I.)] shall, where appropriate, be construed with this Decision Instrument.

PART I - GENERAL PROVISIONS (SECTIONS 2 TO 5 OF THE DECISION INSTRUMENT)

2 DEFINITIONS AND INTERPRETATION

In this Decision Instrument:

³⁸⁴ European Commission Guidelines on market analysis and the assessment of significant market power under the Community regulatory framework for electronic communications networks and services of 11 July 2002 – OJ C 165/03.

³⁸⁵ S.I. No. 307 of 2003 the European Communities (Electronic Communications Networks and Services) (Framework) Regulations 2003 ("Framework Regulations") as amended by the European Communities (Electronic Communications Networks and services) (Framework) (Amendment) Regulations (S.I. No. 271 of 2007) which transposes Directive 2002/21/EC of the European Parliament and the Council of 7 March 2002 on a common regulatory framework for electronic communications networks and services.

“Access” shall have the same meaning as under Regulation 2 of the Access Regulations, as may be amended from time to time; for the purposes of this Decision Instrument access shall include Associated Facilities and Interconnection where appropriate;

“Access Regulations” means the European Communities (Electronic Communications and Network Services) (Access) Regulations, 2003 (S.I. No. 305 of 2003) as amended by the European Communities (Electronic Communications Networks and Services) (Access) (Amendment) Regulations 2007 (S.I. No. 373 of 2007), as may be amended from time to time;

“Access Seeker” means an Other Authorised Operator that is party to the Bitstream Access Reference Offer or Wholesale Broadband Access Reference Offer, or, although has not yet accepted the Bitstream Access Reference Offer or Wholesale Broadband Access Reference Offer, has entered into a Non-Disclosure Agreement with Eircom.

“Associated Facilities” shall have the same meaning as under the Framework Regulations, but shall also include, for the avoidance of doubt, Backhaul and Migrations;

“Authorisation Regulations” means the European Communities (Electronic Communications and Network Services) (Authorisation) Regulations, 2003 (S.I. No. 306 of 2003) as amended by the European Communities (Electronic Communications Networks and Services) (Authorisation) (Amendment) Regulations 2007 (S.I. No. 372 of 2007), as may be amended from time to time;

“Backhaul” means the transport capacity which connects the Eircom network and the Other Authorised Operator’s nominated Point of Handover;

“Bitstream” means a wholesale product provided in the wholesale broadband access market;

“Bitstream Access Reference Offer (BARO)” means the current offer of contract by Eircom Limited to Other Authorised Operators in relation to Current Generation WBA and shall be replaced by the Wholesale Broadband Access Reference Offer (WBARO) as defined below;

“Bitstream (Ethernet) Connection Service (BECS)” means a Backhaul service currently offered by Eircom over Ethernet interconnects/interfaces;

“Bitstream Connection Service (BCS)” means a Backhaul service currently offered by Eircom over leased line PDH/SDH interconnects/interfaces;

“ComReg” means the Commission for Communications Regulation, established under section 6 of the Communications Regulation Act, 2002 as amended by the Communications Regulation (Amendment) Act 2007;

“Direct Access Wholesale Products” means a wholesale product supplied by Eircom which allows an Other Authorised Operator to use it as an input to the Other Authorised Operator’s retail offering. The wholesale product is described as direct access as it allows the Other Authorised Operator to connect its network equipment, co-located in Eircom’s exchange, to the segment of the access network which connects the Other Authorised Operator’s customer

to the exchange, such as a copper pair. This allows the Other Authorised Operator to create a retail offering by providing retail services directly from the Other Authorised Operator's network equipment across the access network segment to the customer. Direct Access Wholesale Products include ULMP and Line Share.

“Economic space” means an appropriate space between the prices of Eircom's wholesale products/services sufficient to promote sustainable infrastructure competition.

“Eircom” means Eircom Limited and its subsidiaries, and any undertaking which it owns or controls and any undertaking which owns or controls Eircom Limited, and its successors and assigns (“Eircom”);

“Exchange” means an Eircom network premises or equivalent facility used to house network and associated equipment;

“Framework Regulations” means the European Communities (Electronic Communications Networks and Services) (Framework) Regulations 2003, (S.I. No. 307 of 2003) as amended by the European Communities (Electronic Communications Networks and Services) (Framework) (Amendment) Regulations 2007 (S.I. No. 271 of 2007), as may be amended from time to time;

“In-Building Handover” means the connection from the Eircom network to the Other Authorised Operator's equipment within the Eircom Exchange, or equivalent facility;

“In-Span Handover” means the connection between the Eircom Exchange and the Other Authorised Operator's nominated Point of Handover.

“Indirect Access Wholesale Products” means a wholesale product supplied by Eircom which allows an Other Authorised Operator to use it as an input to the Other Authorised Operator's retail offering. The wholesale product consists of both access network components combined with other network services, in particular, interconnect services, provided by Eircom. The product is described as an indirect access product because it enables Other Authorised Operators to create a retail offering in order to provide retail services to their customers based on wholesale services provided from Eircom's equipment on Eircom's network. Indirect Access Wholesale Products include single billing wholesale line rental.

“Interconnection” shall have the same meaning as under Regulation 2 of the Access Regulations, as may be amended from time to time;

“Key Performance Indicators (KPIs)” means a measure(s) of the standard(s) of Current Generation WBA provided by Eircom to Other Authorised Operators and by Eircom to itself through self-supply;

“Line Share” also known as shared access to the Local Loop means the product whereby the high frequency capacity of a line is provided to Other Authorised Operators, as more fully described in Annex C, Service Schedule 103 Appendix 1 to Eircom's Access Reference Offer, as may be amended from time to time;

“Local Loop” shall have the same meaning as under Regulation 2 of the Access Regulations, as may be amended from time to time;

“(the) Market” means the market as defined in section 4 below;

“Migrations” means Bulk Migrations; and/or Inter Operator Migrations; and/or Intra Operator Migrations. For the avoidance of doubt, both Intra Operator and Inter Operator Migrations include migrations between Current Generation WBA services and migrations from Current Generation WBA to Next Generation WBA services.

“(Bulk) Migration” means the facility whereby an Other Authorised Operator can have multiple Inter Operator and/or Intra Operator Migrations through a single request. For the avoidance of doubt, Bulk Migrations includes Migrations from Current Generation to Next Generation WBA products;

“(Intra Operator) Migration” is the facility whereby an Other Authorised Operator can switch the wholesale input(s) it is currently using to support the provision of its retail service to its retail customer. As a result of the switch, the retail customer’s service continues to be provided by the same Other Authorised Operator. The wholesale inputs can be switched to or from any combination of Direct Access Wholesale Products and Indirect Access Wholesale Products.

“(Inter Operator) Migration” is the facility whereby the Other Authorised Operator gaining the retail customer can switch the wholesale input(s) currently being used by the losing Other Authorised Operator to support its retail service to the same retail customer. As a result of the switch, the retail customer’s service will now be provided by the gaining Other Authorised Operator. The wholesale inputs can be switched to or from any combination of Direct Access Wholesale Products and Indirect Access Wholesale Products.

“Non-Disclosure Agreement” means the non-disclosure agreement entered into between Eircom and an Access Seeker;

“Other Authorised Operator(s) (OAO)” means an undertaking that is not Eircom, providing an electronic communications network or an electronic communications service authorised under Regulation 4 of the Authorisation Regulations;

“OSS” means operational support systems;

“Performance Metrics” means the aggregate performance levels achieved by Eircom within a specified period, as calculated in accordance with the methodology and service parameter definitions set out in its Service Level Agreements;

“Plesiochronous Digital Hierarchy (PDH)” is a digital transmission scheme whereby small deviations in timing across a network are permitted;

“Point of Handover” means the physical point at which two networks are interconnected;

“Service Level Agreements (SLAs)” are legally binding contracts between Eircom and Other Authorised Operators in relation to the service levels which Eircom commits to from

time to time, as more particularly set out in the Wholesale Broadband Access Reference Offer. For the avoidance of doubt, however, to the extent that there is any conflict between the Wholesale Broadband Access Reference Offer, the SLAs and Eircom's obligations now set out herein, it is the latter which shall prevail;

“Significant Market Power (SMP) obligations” are those obligations set out in Regulation 9 to 14 of the Access Regulations, as may be amended from time to time;

“Synchronous Digital Hierarchy (SDH)” is a digital transmission scheme where the timing of the network is strictly adhered to across the entire network. It is more efficient than the PDH hierarchy;

“Unbundled Local Metallic Path (ULMP)” is the implementation of full unbundled access to the Local Loop;

“WBA” means wholesale broadband access comprising non-physical or virtual network access including “Bitstream” access at a fixed location. It includes Current Generation WBA and Next Generation WBA and is synonymous with the Market;

“(Current Generation) WBA” means WBA provided over current generation access network infrastructure and its Associated Facilities (including self-supply by Eircom for the purpose of serving its downstream markets) that is substantially copper based;

“(Next Generation) WBA (NGA)” means WBA provided over next generation access network infrastructure and its Associated Facilities (including self-supply by Eircom for the purpose of serving its downstream markets) that is based on new or upgraded infrastructure, including fibre and/or a combination of copper and fibre access technology, capable of supporting broadband access services with enhanced characteristics compared to current generation access infrastructure;

“Wholesale Broadband Access Reference Offer (WBARO)” is the offer of contract by Eircom Limited to Other Authorised Operators in relation to Current Generation WBA (currently the Bitstream Access Reference Offer (BARO) version 1.0). For the avoidance of doubt, however, to the extent that there is any conflict between the WBARO or the BARO, and Eircom's obligations now set out herein, it is the latter which shall prevail;

“WPNIA” means wholesale (physical) network infrastructure access (including shared or fully unbundled access) at a fixed location. It includes Current Generation WPNIA and Next Generation WPNIA and is synonymous with the Market as defined in ComReg Decision D05/10.

3 SCOPE AND APPLICATION

- 3.1 This Decision Instrument applies to Eircom in respect of activities falling within the scope of the Market defined in section 4 of this Decision Instrument.
- 3.2 This Decision Instrument is binding upon Eircom and Eircom shall comply with it in all respects.

4 MARKET DEFINITION

- 4.1 Pursuant to Regulation 26 of the Framework Regulations, in accordance with the European Commission's Recommendation, taking utmost account of its Guidelines on market analysis and the assessment of significant market power and in accordance with the principles of competition law, the product market in this Decision Instrument is defined as the market for Wholesale Broadband Access;
- 4.2 Pursuant to Regulation 26 of the Framework Regulations, taking utmost account of the European Commission's Guidelines on market analysis and the assessment of significant market power and the European Commission's Explanatory Note³⁸⁶ and in accordance with the principles of competition law, the relevant geographic market is defined as Ireland.

5 DESIGNATION OF UNDERTAKING WITH SIGNIFICANT MARKET POWER ("SMP")

- 5.1 Pursuant to Regulation 25 and Regulation 27 of the Framework Regulations and consistent with the European Commission's Guidelines on market analysis and the assessment of significant market power, having determined that the market is not effectively competitive, Eircom is designated as having SMP on the Market.

PART II – SMP OBLIGATIONS IN RELATION TO CURRENT GENERATION WBA (SECTIONS 6 TO 12 OF THE DECISION INSTRUMENT)

6 SMP OBLIGATIONS IN RELATION TO CURRENT GENERATION WBA

- 6.1 ComReg is imposing certain SMP obligations on Eircom in respect of Current Generation WBA in the Market in accordance with and pursuant to Regulations 9, 10, 11, 12, 13 and 14 of the Access Regulations, as detailed further in sections 7 to 12 below.

7 OBLIGATIONS TO PROVIDE ACCESS

- 7.1 Pursuant to Regulation 13(1) of the Access Regulations, Eircom shall meet all reasonable requests from OAOs for the provision of Access, including Associated Facilities.

³⁸⁶ Commission Staff Working Document Explanatory Note accompanying document to the European Commission's Recommendation on Relevant Product and Service Markets within the electronic communications sector susceptible to ex ante regulation SEC (2007) 1483/2, 13 November 2007.

- 7.2 Pursuant to Regulation 13(2) of the Access Regulations and without prejudice to the generality of section 7.1, and notwithstanding the provisions of sections 7.3 and 7.4, Eircom shall provide and grant Access to OAOs to the following particular services and facilities:
- (i) Bitstream
 - (ii) BECS/BCS
 - (iii) In-building handover
 - (iv) In-span handover
 - (v) Migrations.
- 7.3 Eircom shall continue to offer Access to the services and facilities described in section 7 in accordance with any product descriptions and on the terms and conditions which are specified in the current version of the BARO, or elsewhere on Eircom's website as may be amended from time to time. For the avoidance of doubt, however, to the extent that there is any conflict between the BARO or the WBARO, to be published in accordance with section 10.2 below and Eircom's obligations now set out herein, it is the latter which shall prevail;
- 7.4 Without prejudice to the generality of sections 7.1 to 7.3, Eircom shall:
- (i) Pursuant to Regulation 13 (2) (b) of the Access Regulations, negotiate in good faith with OAOs requesting Access;
 - (ii) Pursuant to Regulation 13 (2) (c) of the Access Regulations, not withdraw Access to services and facilities already granted, without the prior approval of ComReg;
 - (iii) Pursuant to Regulation 13 (2) (e) of the Access Regulations, grant open Access to technical interfaces, protocols and other key technologies that are indispensable for the interoperability of services or virtual network services; and
 - (iv) Pursuant to Regulation 13 (2) (h) of the Access Regulations, provide Access to OSS or similar software systems necessary to ensure fair competition in the provision of services.

8 CONDITIONS ATTACHED TO THE ACCESS OBLIGATIONS

- 8.1 Without prejudice to the generality of section 7, Eircom shall, in relation to the obligations set out under section 7, grant Access to Current Generation WBA and Associated Facilities, pursuant to Regulation 13(3) of the Access Regulations in a fair, reasonable and timely manner.
- 8.2 Without prejudice to the generality of section 8.1, Eircom shall:
- (i) Conclude, maintain or update, as appropriate, legally binding SLAs which include provision for associated Performance Metrics with OAOs;
 - (ii) Negotiate in good faith with OAOs in relation to the conclusion of legally binding and fit-for-purpose SLAs;

- (iii) Ensure that all SLAs include provision for service credits arising from a breach of an SLA. Agreed service credits shall be a matter of negotiation between Eircom and Access Seekers and recovery of service credits shall be in the first instance, a matter for the individual Access Seeker and Eircom;
 - (iv) Ensure that SLAs detail how service credits are calculated, to include the provision of an example calculation;
 - (v) Ensure that payment of service credits, where they occur, shall be made in a timely and efficient manner.
- 8.3 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 same to the OAO which made the request. Eircom's response shall be fair, reasonable and timely.

9 OBLIGATION OF NON-DISCRIMINATION

- 9.1 Eircom shall have an obligation of non-discrimination as provided for by Regulation 11 of the Access Regulations in respect of Access.
- 9.2 Without prejudice to the generality of section 9.1, Eircom shall:
- i. Apply equivalent conditions in equivalent circumstances to other undertakings providing equivalent services; and
 - ii. 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 for itself or its partners.
- 9.3 In order that Access Seekers may be in the same position as Eircom or its partners with respect to the provision of WBA services and information, such services or information shall be provided in sufficient time, that is, the earlier of:
- a) at the same time as the WBA service(s) or information is available to Eircom or its partners; or
 - b) unless otherwise determined by ComReg, 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 on the retail or downstream market.
- 9.4 Without prejudice to the generality of Section 9.1, Access to OSS (including the ability to input data to OSS, time taken by Eircom to process requests via OSS, quality and completeness of output from OSS, and ease of OSS use) and information shall, in accordance with Eircom's obligations of non-discrimination, be of the same standard and quality as that which Eircom provides for itself or its partners.

10. OBLIGATION OF TRANSPARENCY

- 10.1 Eircom shall have an obligation of transparency as provided for by Regulation 10 of the Access Regulations in respect of Access.
- 10.2 Without prejudice to the generality of the obligation in section 10.1, pursuant to Regulation 10(2) of the Access Regulations, Eircom shall make publicly available and keep updated on its publicly available wholesale website, a WBARO. The WBARO, which will replace the BARO, shall be comprehensive and appropriately detailed. It shall be published within three months from the effective date of this Decision Instrument. The WBARO shall be sufficiently unbundled so as to ensure that OAOs availing of such services and facilities are not required to pay for services or facilities which are not necessary for the service or facility requested, and the WBARO shall include at least the following:
- (i) A description of the relevant offerings broken down into components according to market needs;
 - (ii) A description of the technical specifications and network characteristics of the Access being offered;
 - (iii) A description of the associated terms and conditions for supply and use, including prices.
- 10.3 Eircom shall, unless otherwise determined by ComReg, make publicly available and publish on its publicly available website at least two months in advance, or such other period as may be determined by ComReg, any proposed changes to the WBARO and any proposed changes to wholesale prices (including prices for new services and facilities) coming into effect. Eircom shall notify ComReg at least one month in advance of any such publication taking place i.e. three months prior to any changes coming into effect, unless such other period has been determined by ComReg, as described above. Proposed changes to the WBARO including proposed changes to wholesale prices and the application of such prices shall not be implemented without prior notification to ComReg and OAOs and prior approval from ComReg.³⁸⁷
- 10.4 ComReg may issue directions requiring Eircom to make changes to the WBARO to give effect to obligations imposed in this Decision Instrument and to publish the

³⁸⁷ Section 6.1 of the draft Decision Instrument in the parallel consultation on an appropriate price control for WBA (ComReg Document 10/56) also proposes publication and approval procedures for any proposed product changes or price changes (including prices for new products) which broadly reflect the proposed arrangements set out in section 10.3 above. For the avoidance of doubt, in its final WBA pricing Decision, and subject to respondents' views, ComReg proposes to adjust the wording of section 6.1 to mirror the proposed text considered for section 10.3 above.

WBARO with such changes pursuant to Regulation 10(5) 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, pursuant to Regulation 17 of the Access Regulations.

- 10.5 Without prejudice to the generality of the obligation in section 10.1, Eircom shall make public information on its wholesale website, such as accounting information, technical specifications, network characteristics, terms and conditions for supply and use, and prices, in respect of the services and facilities referred to in section 7, as specified by ComReg from time to time and all other information which may be reasonably required by OAOs.
- 10.6 It shall be a condition of Eircom's transparency obligations that Eircom publish Key Performance Indicators (KPIs). The specification of the content of the KPIs will be subject to further consultation by ComReg.
- 10.7 Eircom shall publish all SLAs (and any updates thereto) on its publicly available website.
- 10.8 Eircom shall be obliged to publish on its publicly available website information about Performance Metrics together with the KPIs referred to in section 10.6.
- 10.9 Pursuant to its obligation of transparency, Eircom shall, within four months of the effective date, publish on its website sufficient information to identify and justify any differences between the services and facilities set out in the WBARO and the comparable services and facilities which Eircom provides to itself. The information shall include all material associated terms and conditions, including relevant processes, and shall be kept updated by Eircom as new services or facilities are developed and deployed, or existing services or facilities are amended.

11 OBLIGATION OF ACCOUNTING SEPARATION

- 11.1 Pursuant to Regulation 12 of the Access Regulations, Eircom shall have an obligation to maintain separated accounts. All of the obligations in relation to accounting separation applying to Eircom and in force immediately prior to the effective date of this Decision Instrument related to the Market, shall be maintained in their entirety. Eircom shall comply with all of those obligations, and in particular those obligations set out in ComReg Decision 10/67, "*Response to Consultation Document and Final Direction and Decision, Accounting Separation and Cost Accounting Review to Eircom Limited*" and any other decision or directions which may be issued by ComReg from time to time.

12 OBLIGATIONS RELATING TO PRICE CONTROL AND COST ACCOUNTING

- 12.1 Pursuant to Regulation 14(1) of the Access Regulations, Eircom shall continue to comply with all of the obligations in relation to cost accounting in force immediately prior to the effective date of this Decision Instrument, until any amendment by ComReg.
- 12.2 Pursuant to Regulation 14(1) of the Access Regulations, Eircom shall maintain appropriate cost accounting systems in respect of products, services or facilities referred to in section 7.
- 12.3 Pursuant to Regulation 14(1) of the Access Regulations, Eircom shall have an obligation relating to price control and cost accounting. Prices charged by Eircom to any other undertaking for Access to or use of those products, services or facilities referred to in section 7 shall be subject to the existing obligations as set out in ComReg Decision D01/06 (*Retail Minus Wholesale Price Control for the WBA Market*) dated 13th January 2006 (ComReg Decision D01/06) and any other obligations applying to Eircom in force immediately prior to the effective date of this Decision Instrument. These obligations shall be maintained in their entirety pending any further consultation in respect of *Wholesale Broadband Access: Consultation and draft decision on the appropriate price control* (ComReg Document 10/56) pending any revised decision in relation to the appropriate price control being made by ComReg. Where there is any conflict between the provisions of ComReg Decision D01/06 or any other pricing decision instrument and this Decision Instrument, the latter shall prevail.
- 12.4 Eircom shall have an obligation not to cause a margin/price squeeze.
- 12.5 Eircom shall have an obligation to maintain an appropriate Economic Space between prices set for WBA and those set for WPNIA.

PART III – SMP OBLIGATIONS IN RELATION TO NEXT GENERATION WBA (SECTIONS 13 TO 18 OF THE DECISION INSTRUMENT)

13 SMP OBLIGATIONS IN RELATION TO NEXT GENERATION WBA

- 13.1 ComReg is imposing certain SMP obligations on Eircom in respect of Next Generation WBA in the Market in accordance with and pursuant to Regulations 9, 10, 11, 12, 13 and 14 of the Access Regulations. ComReg will consult further on the detail of certain of the remedies contained in Sections 14, 15, 16, 17 and 18 of this Decision Instrument.

14 OBLIGATIONS TO PROVIDE ACCESS

- 14.1 Pursuant to Regulation 13(1) of the Access Regulations, Eircom shall have an obligation to meet all reasonable requests from OAOs to provide Access.
- 14.2 Pursuant to Regulation 13(2) (b) of the Access Regulations, Eircom shall have an obligation to negotiate in good faith with OAOs requesting Access.
- 14.3 ComReg shall engage in a consultation to further specify other details and further implementation of the Access obligations.

15 OBLIGATIONS OF NON-DISCRIMINATION

- 15.1 Eircom shall have an obligation of non-discrimination as provided for by Regulation 11 of the Access Regulations in respect of Access, including for the avoidance of doubt Access in relation to OSS.
- 15.2 Without prejudice to the generality of section 15.1, Eircom shall:
- (i) Apply equivalent conditions in equivalent circumstances to other undertakings providing equivalent services; and
 - (ii) Ensure that all services and information are provided to OAOs under the same conditions and of the same quality as the services and information that Eircom provides for itself or its partners.
- 15.3 In order that Access Seekers may be in the same position as Eircom or its partners with respect to the provision of NGA-based WBA services and information, such services and information shall be provided by Eircom to Access Seekers in sufficient time, that is at least 6 months or as determined by ComReg, prior to any Eircom service or facility, which relies on the provision of the NGA-based WBA service(s) or information, being made available.
- 15.4 ComReg shall engage in a consultation to further specify other details and further implementation of the non-discrimination obligation.

16 OBLIGATION OF TRANSPARENCY

- 16.1 Eircom shall have an obligation of transparency as provided for by Regulation 10 of the Access Regulations in respect of Access.
- 16.2 Notwithstanding the provisions of 16.3 and in order to meet its transparency obligation, Eircom shall publish on its publicly available website, on a quarterly basis or such other suitably regular basis as may be specified by ComReg, sufficient information regarding the introduction of new infrastructures, technologies, services or facilities which could reasonably be expected to support services or facilities in respect of Next Generation WBA.
- 16.3 ComReg shall engage in a consultation to further specify other details and further implementation of the transparency obligation.

17 OBLIGATION OF ACCOUNTING SEPARATION

- 17.1 Pursuant to Regulation 12 of the Access Regulations, Eircom shall have an obligation to maintain separated accounts. All of the obligations in relation to accounting separation applying to Eircom and in force immediately prior to the effective date of

this Decision Instrument related to the Market, shall be maintained in their entirety. Eircom shall comply with all of those obligations, and in particular those obligations are now more particularly set out in ComReg Decision 10/67 “*Response to Consultation Document and Final Direction and Decision, Accounting Separation and Cost Accounting Review to Eircom Limited*”, and any other decision or directions which made be issued by ComReg from time to time.

18 OBLIGATIONS RELATING TO PRICE CONTROL AND COST ACCOUNTING

- 18.1 Pursuant to Regulation 14(1) of the Access Regulations, Eircom shall be subject to a price control obligation. The content and implementation of any price control for Next Generation WBA shall be subject to further consultation.
- 18.2 Pursuant to Regulation 14(1) of the Access Regulations, Eircom shall continue to comply with all of the obligations in relation to cost accounting in force immediately prior to the effective date of this Decision Instrument, until any amendment by ComReg.
- 18.3 Pursuant to Regulation 14(1) of the Access Regulations, Eircom shall maintain appropriate cost accounting systems in respect of Next Generation WBA services and facilities.

PART IV – OBLIGATIONS AND EFFECTIVE DATE (SECTIONS 19 TO 22 OF THE DECISION INSTRUMENT)

19 STATUTORY POWERS NOT AFFECTED

- 19.1 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) from time to time as the occasion requires.

20 MAINTENANCE OF OBLIGATIONS

- 20.1 Unless expressly stated otherwise in this Decision, 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, are continued in force by this Decision Instrument and Eircom shall comply with same.
- 20.2 If any section, clause or provision or portion thereof contained in this Decision Instrument is 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 section, clause or provision or portion 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 thereof of this Decision Instrument, and shall not in any way affect the validity or enforcement of this Decision Instrument.

21 WITHDRAWAL OF SMP OBLIGATIONS

21.1 ComReg Document No. D05/11r Market Analysis – Wholesale Broadband Access, Decision No. 03/05 is hereby withdrawn when this Decision shall take effect.

22 EFFECTIVE DATE

22.1 The effective date of this Decision Instrument shall be the date of its notification to Eircom and shall remain in force until further notice by ComReg.

**ALEX CHISHOLM
CHAIRPERSON AND COMMISSIONER
THE COMMISSION FOR COMMUNICATIONS REGULATION
THE [] DAY OF [] 2010**

Question 16: Do respondents agree with ComReg’s draft Decision Instrument set out above? Do respondents agree with ComReg’s Definitions and Interpretations as set out above in Part I? 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.

Annex A: Retail Broadband Product Information³⁸⁸

This annex provides information on retail broadband pricing and functionality used to help inform ComReg’s analysis throughout this Consultation Paper. Below ComReg has set out a non-exhaustive selection of retail product information for broadband services as of July 2010 from a selection of the main broadband providers in Ireland. ComReg has selected (broadband) product features which are likely to be of most significance for consumers when choosing a broadband product. Furthermore, to ensure consistency ComReg has selected standalone broadband products available on 12 month contracts.

Eircom DSL Broadband

	Broadband home plus	Broadband home Advanced	Broadband home turbo
Platform	DSL		
Standard Monthly Rental	€29.99	€39.82	€47.99
Download Speed	3Mb	7Mb	24Mb
Monthly Usage	30GB	50GB	75GB
Line Rental	€25.36	€25.36	€25.36
Connection fees ³⁸⁹	€9	€9	€9

Eircom NGB

	Next Generation Basic	Next Generation Regular	Next Generation Advanced
Platform	DSL		
Standard Monthly Rental	€24.99	€29.99	€39.82
Download Speed	8Mb	8Mb	8Mb
Monthly Usage	10GB	30GB	Unlimited
Line Rental	€25.36	€25.36	€25.36
Connection fees ³⁹⁰	€9	€9	€9

³⁸⁸ As per operators’ websites on 22 July 2010. All prices exclude any special offers/discounts and are inclusive of VAT.

³⁸⁹ Eircom currently offers free broadband connection when ordered online.

³⁹⁰ Eircom currently offers free broadband connection when ordered online.

UPC - Cable

	FibrePower	FibrePower	FibrePower
Platform	Cable		
Standard Monthly Rental ³⁹¹	€29.75	€39.75	€49.75
Download Speed	5Mb	15Mb	30Mb
Monthly Usage	40GB	Unlimited	Unlimited
Line Rental	-	-	-
Connection fees ³⁹²	€20	€20	€20

Smart Telecom - DSL

	Home Value 5Mb	Home Pro 12Mb	Home Pro 24Mb
Platform	DSL		
Standard Monthly Rental	€14.59	€34.59	€44.59
Download Speed	5Mb	12Mb	24Mb
Monthly Usage	170GB	170GB	170GB
Line Rental	€25.36	€25.36	€25.36
Connection Fee	-	-	-

Digiweb - DSL

	DSL	DSL Xtra	DSL Pro
Platform	DSL		
Standard Monthly Rental	€29.95	€39.95	€59.95
Download Speed	3Mb	7.6Mb	12Mb
Monthly Usage	20GB	40GB	70GB
Line Rental	€25.36	€25.36	€25.36
Connection Fee	€49.95	€49.95	€49.95

³⁹¹ Includes monthly charge of €7.75 for standalone broadband service.

³⁹² UPC currently offers free broadband connection when ordered online.

Digiweb – Satellite

	Tooway Value	Tooway Plus	Tooway Extra
Platform	Satellite		
Standard Monthly Rental	€34.99	€59.99	€79.99
Download Speed	3.6Mb	3.6Mb	3.6Mb
Monthly Usage	2.4GB	4GB	6GB
Line Rental	-	-	-
Connection Fees	€89	€89	€89

Digiweb - FWA

	MetroValue	MetroHome	MetroXtra
Platform	FWA		
Standard Monthly Rental	€34.95	€39.95	€59.95
Download Speed	5Mb	8Mb	12Mb
Monthly Usage	20GB	30GB	50GB
Line Rental	-	-	-
Connection Fee	€9	-	€9

Imagine –WiMax

	1Mb WiMax	3Mb WiMax	7MbWiMax
Platform	FWA		
Standard Monthly Rental	€25	€30	€35
Download Speed	1Mb	3Mb	7Mb
Monthly Usage	Unlimited	Unlimited	Unlimited
Line Rental	-	-	-
Connection Fee	€50	€50	€50

Vodafone - DSL

	Value Broadband	Ideal Broadband	Ultimate Broadband
Platform	DSL		
Standard Monthly Rental	€40	€48	€62
Download Speed	8Mb	8Mb	24Mb
Monthly Usage	40GB	120GB	300GB
Line Rental ³⁹³	-	-	-
Connection Fee	-	-	-

Perlico - DSL³⁹⁴

	1Mb Always On	3Mb Broadband Plus
Platform	DSL	
Standard Monthly Rental	€16.99	€24.99
Download Speed	1Mb	3Mb
Monthly Usage	10GB	36GB
Line Rental	€25.25	€25.25
Connection Fee	-	-

Magnet - DSL

	Magnet Force 5	Magnet Force 10	Magnet Force 24
Platform	DSL		
Standard Monthly Rental	€24.99	€29.99	€29.99
Download Speed	5Mb	10Mb	24Mb
Monthly Usage	-	-	-

³⁹³ Vodafone's line rental charge is included in the total price.

³⁹⁴ In order to avail of Perlico fixed-line broadband, customers must also move their home phone account to Perlico and therefore must also choose a voice bundle.

WBA Consultation and Draft Decision

Line Rental	€25.00	€25.00	€25.00
Connection Fee	€9	€9	€9

Magnet - Fibre

	Fibre broadband
Platform	Fibre
Standard Monthly Rental	€50
Download Speed	50Mb
Monthly Usage	-
Line Rental	-
Connection Fee	€9

Mobile Broadband

Meteor

	Meteor 5GB	Meteor 10GB	Meteor 15GB
Standard Monthly Rental	€16.99	€19.99	€24.99
Usage Allowance	5GB	10GB	15GB
Modem costs	€29	€29	-
Additional charges ³⁹⁵	2c per MB		
Coverage	53% ³⁹⁶		

O2

	O2
Standard Monthly Rental	€19.99
Usage Allowance	15GB

³⁹⁵ Charge applied for exceeding inclusive data allowances

³⁹⁶ Eircom 3Rd Quarter Results, 27 May 2010. Population coverage as of September 2009.

WBA Consultation and Draft Decision

Modem costs	€29
Additional charges	2c per MB
Coverage	90.5%

Three

	3Broadband Light	3Broadband Active	3Broadband Pro
Standard Monthly Rental	€9.99	€19.99	€34.99 ³⁹⁷
Usage Allowance	1GB	15GB	30GB
Modem costs	€39	€19	-
Additional charges	5c per MB		
Coverage	94%		

Vodafone

	Vodafone Mobile Broadband	Vodafone Mobile Broadband
Standard Monthly Rental	€19.90	€24.99
Usage Allowance	10GB	Unlimited
Modem costs	-	-
Additional charges	2c per MB	
Coverage	>90%	

³⁹⁷ According to 3 Ireland’s website on 25 July 2010, its “3Broadband Pro” product is priced at €26.24 as an introductory promotional offer until 30 September 2010.

Annex B: Glossary³⁹⁸

Acronym	Full title	Description
Bitstream	Bitstream	A wholesale product provided in the wholesale broadband access market .
Broadband	Broadband	Telecommunication in which a wide band of frequencies is available to transmit information. Because a wide band of frequencies is available, information can be multiplexed and sent on many different frequencies or channels within the band concurrently, allowing more information to be transmitted in a given amount of time
Cable	Cable	A system of providing television to consumers via radio frequency signals. It is transmitted to televisions through fixed optical fibers or coaxial cables as opposed to the over-the-air method used in traditional television broadcasting (via radio waves) in which a television antenna is required.
ComReg	Commission for Communications Regulation	National regulatory agency for Ireland
ADSL	Asymmetric Digital Subscriber Line	A variant of DSL. See below definition.
DSL	Digital subscriber line	Digital Subscriber Line technologies which use traditional copper telephony networks to deliver digital broadband signals.
DSLAM	Digital Subscriber Line Access Multiplexer	Allows telephone lines to make faster connections to the Internet. It is a network device, located near the customer's location, that connects multiple customer Digital Subscriber Lines (DSLs) to a high-speed Internet backbone line where multiple data streams are combined into one signal over a shared medium.
DOCSIS	Data Over Cable Service Interface Specification	The international standard that allows for the high-speed transfer of data over a cable network.
EC	European Commission	The European Commission embodies and upholds the general interest of the European Union, and is the driving force in the Union's institutional system. Its four main roles are to propose legislation to Parliament and the Council, to administer and implement Community policies, to enforce Community law (jointly with the Court of Justice) and to negotiate international agreements,

³⁹⁸ The glossary of terms represents many, but not necessarily all of the acronyms and phrases associated with both WBA and the various European regulators.

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		mainly those relating to trade and cooperation.
ECJ	European Court of Justice	
ECTA	European Competitive Telecommunications association	An association which promotes the regulatory interests of European alternative fixed telecoms operators
ERG	European Regulators Group	Established by by the European Commission to provide a suitable mechanism for encouraging cooperation and coordination between national regulatory authorities and the Commission, in order to promote the development of the internal market for electronic communications networks and services, and to seek to achieve consistent application, in all Member States, of the provisions set out in the Directives of the new regulatory framework.
Fibre	Fibre Optic Cable	Optical fibre is a glass or plastic fibre designed to guide light along its length. Optical fibres are widely used in fibre-optic communication, which permits transmission over longer distances and at higher data rates than other forms of communication. Fibres are used instead of metal wires because signals travel along them with less loss, and they are immune to electromagnetic interference.
FTTx	Fibre to the ...	Fibre to the x (FTTx) is a generic term used to refer to any broadband network architecture that uses fibre in the access part of the network, including fibre to the home (FTTH), fibre to the building (FTTB), fibre to the cabinet (FTTC), fibre to the node (FTTN), etc.
FWA	Fixed wireless access	The use of radio links for the transmission of voice and data communications
GB	Gigabyte	The abbreviation 'GB' refers to Gigabyte. Digital information storage capacity is often referred to in terms of gigabytes. Gigabytes are used to store large amounts of information (1 GB = 1,024 megabytes). Usage allowance is the amount of data an ISP allows a cusotmer to download/upload each month/week and is generally measured in Gigabytes (GB).
ISP	Internet Service Provider	A commercial entity that offers its customers access to the Internet
Kb	Kilobits per second	The abbreviation 'kb' refers to kilobit per second and is a unit of data transfer rate equal to 1,000 bits per second
LLU	Local loop unbundling	The regulatory process of allowing multiple telecommunications operators use of connections from the incumbents telephone exchange's to the customer's premises.
Local Loop	Local loop	The physical circuit connecting the network termination point at the subscriber's premises to the main distribution frame or equivalent facility in the fixed public telephone network providers network
LS	Line share	Also known as shared access to the Local Loop means the product whereby the high frequency capacity of a line is provided to Other Authorised Operators
LTE	Long Term Evolution	A proposed 4th generation mobile broadband standard, the successor to 3rd generation standards

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MB	Megabytes	The abbreviation 'MB' refers to Megabyte and means a unit of data storage capacity equal to one million bytes.
Mb	Megabits per second	The abbreviation 'Mb' refers to megabit per second and is a unit of data transfer rate equal to 1,000,000 bits per second
MDF	Main distribution frames	A signal distribution frame for connecting equipment (inside an exchange) to cables and subscriber carrier equipment (outside an exchange).
NBS	National broadband scheme	Provision of broadband services to certain target areas in Ireland in which broadband services are not available or are unlikely to be available in the foreseeable future.
NGN	Next generation networks	The evolution in telecommunication core and access networks that will be deployed over the next 5-10 years. One network transports all information and services (voice, data, and all sorts of media such as video) by encapsulating these into packets
NRA	National regulatory agency	A state or government agency which regulates businesses in the public interest
OAO	Other alternative operators	Operators, other than the incumbent, providing telecommunication services
OfCom	Office of Communications	National regulatory agency for the United Kingdom
OSS	Operational support systems	
PSTN	Public switched telephone network	PSTN refers to the international telephone system based on copper wires and carrying analog voice data. This is in contrast to newer telephone networks based on digital technologies such as ISDN
SMP	Significant Market Power	
Satellite	Satellite	Communication that involves the use of an active or passive satellite to extend the range of a communications, radio, television, or other transmitter by returning signals to earth from an orbiting satellite.
SLU	Sub loop unbundling	Process by which a sub-section of part of the local loop is unbundled (ie. The physical circuit connecting the network termination point at the subscriber's premises to the nearest cabinet).
WBA	Wholesale Broadband Access	
WiMax	Worldwide Interoperability for Microwave Access	WiMax is a 4G wireless technology which operates over radio waves.
WPNIA	Wholesale Physical Network Infrastructure Access	Wholesale (physical) network infrastructure access (including shared or fully unbundled access) at a fixed location, more commonly known as LLU

Annex C: Consultation Questions

Question 1: Do respondents have any general comments in relation to this Consultation Paper? If so, please explain your views, clearly indicating the relevant paragraph numbers to which your comments refer, along with all relevant factual evidence supporting your position.

Question 2: Do respondents agree with ComReg's preliminary conclusions on the retail 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 position.

Question 3: Do respondents agree with ComReg's preliminary conclusions on the geographic scope of the retail broadband 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 position.

Question 4: Do respondents agree with ComReg's preliminary conclusions on the definition of the WBA product 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 position.

Question 5: Do respondents agree with ComReg's preliminary conclusion that the geographic scope of the WBA market is national? 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.

Question 6: Do you agree with ComReg's preliminary conclusions on the competition analysis and 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 position.

Question 7: Do you agree with ComReg's preliminary assessment of potential competition problems in the WBA 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 position.

Question 8: Do you have evidence/examples of any further competition problems in the WBA market? Please provide all relevant factual evidence supporting your position.

Question 9: 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.

Question 10: Do you agree with ComReg's proposals regarding the application of access remedies in the WBA 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 position.

Question 11: Do you agree with ComReg's proposals regarding the application of non-discrimination remedies in the WBA 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 position.

Question 12: Do you agree with ComReg's proposals regarding the application of transparency remedies in the WBA 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 position.

Question 13: Do you agree with ComReg's proposals regarding the application of accounting separation remedies in the WBA 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 position.

Question 14: Do you agree with ComReg's proposals regarding the application of price control and cost accounting remedies in the WBA 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 position.

Question 15: Do you agree with ComReg's proposals regarding the application of remedies in the WBA market in a Next Generation Access environment? Please explain the reasons for your answer, clearly indicating

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the relevant remedies and paragraph numbers to which your comments refer, along with all relevant factual evidence supporting your position.

Question 16: Do respondents agree with ComReg's draft Decision Instrument set out above? Do respondents agree with ComReg's Definitions and Interpretations as set out above in Part I? 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.