



Commission for  
**Communications Regulation**

# **Pricing of wholesale broadband services**

**Wholesale Local Access (WLA) market and the Wholesale Central Access (WCA) markets**

**Response to Consultation Document 17/26 and Final Decision**

Response to Consultation and Decision

**Reference:** ComReg 18/95

**Decision:** D11/18

**Date:** 19/11/2018

## Redacted Information

Please note that this is a **non-confidential version** of the Response to Consultation and Decision. Certain information within this document has been redacted for reasons of confidentiality and commercial sensitivity, with such redactions indicated by the symbol &lt; and the symbol [ is used to indicate the start of confidential information and the symbol ] indicates where that confidential information ends.

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## Chapter 1

# 1 Introduction

- 1.1 In this response to consultation and final decision document (referred to throughout this document as the '**Decision**') the Commission for Communications Regulation ('**ComReg**') specifies the price control obligations in two regulated wholesale markets. These wholesale markets are the market for Wholesale Local Access provided at a fixed location and the market for Wholesale Central Access provided at a fixed location for Mass Market Products, as discussed at paragraphs 1.5-1.6 below.
- 1.2 ComReg published its draft pricing proposals in Consultation Document 17/26<sup>1</sup> (referred to throughout this document as the '**Consultation**'). In reaching its final decision, ComReg has considered the submissions from interested parties to its consultation process.
- 1.3 This Decision provides a summary of ComReg's preliminary views from the Consultation, the submissions from interested parties, ComReg's assessment of those submissions and ComReg's final position. The non-confidential responses to the consultation have been published in ComReg Document 17/26sR<sup>2</sup>.
- 1.4 In parallel to the publication of this Decision, ComReg has published its Response to Consultation and Decision on the WLA and WCA Market Reviews in ComReg Decision D10/18<sup>3</sup> (referred to throughout this document as the '**2018 WLA / WCA Market Review Decision**'). In addition, ComReg has also published its Decision on the assessment of products sold in a bundle in ComReg Decision D12/18<sup>4</sup> (referred to throughout this document as the '**2018 Bundles Decision**'). These Decisions take effect simultaneously.
- 1.5 The 2018 WLA / WCA Market Review Decision identifies three separate markets (together referred to as the '**Relevant Markets**');

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<sup>1</sup> ComReg Document No. 17/26 "Pricing of wholesale services in the Wholesale Local Access (WLA) Market and in the Wholesale Central Access (WCA) Markets: further specification of price control obligations in Market 3a (WLA) and Market 3b (WCA)", dated 7 April 2017.

<sup>2</sup> ComReg Document No. 17/26sR "Further specification of price control obligations in Market 3a (WLA) and Market 3b (WCA): Non-Confidential Submissions to Consultation 17/26", dated 28 July 2017.

<sup>3</sup> ComReg Document No 18/94, Decision D10/18, Market Review: Wholesale Local Access (WLA) provided at a Fixed Location, Wholesale Central Access (WCA) provided at a Fixed Location for Mass Market Products. Response to Consultation and Decision; dated 19 November 2018.

<sup>4</sup> ComReg Document No 18/96, Decision D12/18, Response to Consultation and Decision on price control obligations relating to retail bundles – Further specification of the wholesale price control obligation not to cause a margin squeeze in the WLA, and WCA Markets, dated 19 November 2018.

- The Wholesale Local Access Market (**'WLA Market'**): WLA provided at a fixed location, which includes but is not limited to Local Loop Unbundling (**'LLU'**), Line Share and Virtual Unbundled Local Access (VULA) products (or referred to throughout this Decision as **'VUA'**);
- The Urban Wholesale Central Access Market (**'Urban WCA Market'**); Wholesale Central Access for mass market products provided at a fixed location, which includes but is not limited to Bitstream provided over a copper only network; Bitstream provided over Fibre to the Cabinet (**'FTTC'**) and Fibre to the Home (**'FTTH'**); retail broadband products provided over a Cable Access Television (**'CATV'**) network; and retail broadband products supplied by Service Providers (**'SPs'**) using purchased upstream WLA inputs;
- The Regional Wholesale Central Access Market (**'Regional WCA Market'**): Wholesale Central Access for mass market products provided at a fixed location, which includes Bitstream provided over a copper only network; Bitstream provided over FTTC/FTTH; retail broadband products provided over CATV; and retail broadband products supplied by SPs using purchased upstream WLA inputs.

- 1.6 In the 2018 WLA / WCA Market Review Decision, Eircom has been designated with Significant Market Power (**'SMP'**) in the WLA Market. In the Wholesale Central Access Markets (**'WCA Markets'**), the Urban WCA Market is tending towards effective competition and therefore no longer subject to *ex ante* regulation and Eircom has been designated with SMP in the Regional WCA Market.
- 1.7 In the 2018 WLA / WCA Market Review Decision, ComReg imposed a number of remedies to address the competition problems identified in the markets where Eircom has SMP. Among these remedies is a price control on wholesale services in the WLA Market and in the Regional WCA Market. The high level price control obligations are described in the 2018 WLA / WCA Market Review Decision. This Decision further specifies the price control obligations and associated transparency obligations relating to the WLA Market and the Regional WCA Market.
- 1.8 In addition, this Decision document further specifies the cost orientation obligation in the market for the wholesale fixed (voice) access and call origination markets (**'FACO Markets'**). While these markets were not identified in the 2014 Recommendation<sup>5</sup> as being susceptible to *ex ante* regulation ComReg applied

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<sup>5</sup> European Commission Recommendation of 9 October 2014 on relevant product and service markets within the electronic communications sector susceptible to *ex ante* regulation (the **'2014 Recommendation'**).

the three criteria test to the relevant markets (as permitted under the EU regulatory framework).<sup>6</sup>

1.9 This Decision determines the following:

**WLA Market:**

- (a) a further specification of the cost orientation obligation for fibre to the cabinet based virtual unbundled access ('**FTTC based VUA**') (including exchange launched very-high-bit-rate digital subscriber line ('**EVDSL**') (this encompasses Exchange Launched VUA in the WLA Market and Exchange Launched Bitstream in the WCA Markets)<sup>7</sup> in the WLA market;
- (b) a further specification of the wholesale margin squeeze obligation for fibre to the home based VUA ('**FTTH based VUA**');
- (c) a further specification of the retail margin squeeze obligation for FTTH based VUA provided within the footprint of the Urban WCA Market, for standalone services;
- (d) a further specification of the transparency obligation relating to pre-notification and compliance procedures with the relevant price control obligations in the WLA Market;
- (e) Determination of the rental prices for FTTC based VUA (including EVDSL).

**WCA Markets:**

- (a) a further specification of the cost orientation obligation for FTTC based Bitstream including EVDSL (this encompasses Exchange Launched VUA in the WLA Market and Exchange Launched Bitstream in the WCA Markets) and for current generation Bitstream and bitstream managed backhaul ('**BMB**') services in the Regional WCA market;
- (b) a further specification of the retail margin squeeze obligation for FTTH based Bitstream ("'**FTTH based Bitstream**") in the Regional WCA Market, for standalone services;

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<sup>6</sup> ComReg Decision No D05/15, ComReg Document 15/82: Market Review: Wholesale Fixed Voice Call Origination and Transit Markets, dated 24 July 2015. <http://www.comreg.ie/fileupload/publications/ComReg1582.pdf>

<sup>7</sup> Exchange launched VUA or Exchange launched Bitstream means that the active equipment that is required to provide the service (VUA or Bitstream) is housed in an Eircom Exchange building or equivalent.



- (c) a further specification of the transparency obligation relating to pre-notification and compliance procedures with the relevant price control obligations in the Regional WCA Market;
- (d) Determination of the rental charges for FTTC based Bitstream (including EVDSL) and for current generation Bitstream and BMB services in the Regional WCA Market.

**FACO Markets:**

- (a) A further specification of the cost orientation obligation for plain old telephone services ('**POTS**') (or voice) sold with FTTC services;
  - (b) Determination of the monthly rental charge for POTS based FTTC services.
- 1.10 ComReg has considered the views of its expert consultants Jacobs Cordova and Associates ('**JCA**') with regards to the pricing approach for current generation access ('**CGA**') WCA services and the views of TERA Consultants ('**TERA**') with regards to the pricing approach for next generation access ('**NGA**') services in the WLA and WCA markets, in arriving at the Decisions set out in this paper.<sup>8</sup>
- 1.11 This document is structured as follows:
- *Chapter 2:* provides an executive summary of the main points of the Decision as well as ComReg's overall objectives.
  - *Chapter 3:* provides a background on the wholesale access services under review in the WLA Market and WCA Markets and the associated competition problems. This chapter also addresses further comments made by respondents regarding the pricing proposals set out in ComReg Consultation Document 16/96<sup>9</sup> (referred to as the '**2016 WLA / WCA Market Review Consultation**' throughout this Decision) in light of the pricing obligations further specified in the Consultation (17/26) and ComReg's assessment of them.
  - *Chapter 4:* sets out the geographic issues relating to the WLA Market and WCA Markets.

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<sup>8</sup> For information purposes only, the JCA report is published at Annex 6. The TERA report is published at Annex 5. The views expressed by JCA and TERA are not necessarily the views of ComReg.

<sup>9</sup> ComReg Document No. 16/96, entitled "Market Reviews: Wholesale Local Access (WLA) provided at a Fixed Location; Wholesale Central Access (WCA) provided at a Fixed Location for Mass Market Products: Consultation and Draft Decision", dated 11 November 2016.

- *Chapter 5*: sets out the costing methodologies for determining the relevant costs for those wholesale access services subject to a cost orientation price control in the WLA Market and in the Regional WCA Market, including current generation Bitstream and BMB services in the Regional WCA Market, FTTC based Bitstream (including EVDSL) in the Regional WCA Market and FTTC based VUA (including EVDSL) in the WLA Market.
- *Chapter 6*: sets out the cost modelling approach for the NGA network i.e., FTTC based VUA (including EVDSL) and FTTC based Bitstream (including EVDSL) as well as POTS based FTTC services.
- *Chapter 7*: sets out the pricing approach for FTTC based NGA services i.e., FTTC based VUA and FTTC based Bitstream, including EVDSL.
- *Chapter 8*: sets out the cost modelling approach for the NGN core network.
- *Chapter 9*: sets out the pricing approach for current generation Bitstream and BMB services.
- *Chapter 10*: sets out a further specification of the margin squeeze obligations associated with the WLA Market.
- *Chapter 11*: sets out a further specification of the margin squeeze obligations associated with the Regional WCA Market.
- *Chapter 12*: sets out other regulatory measures.
- *Chapter 13*: sets out a review of specific ancillary charges in the WLA and WCA markets.
- *Chapter 14*: sets out a summary of the charges for FTTC based NGA services and the monthly BU-LRAIC+ prices for current generation Bitstream and BMB services.
- *Chapter 15*: sets out the regulatory impact assessment ('**RIA**').
- *Chapter 16*: assesses the points raised by respondents in relation to the draft decision instruments in the Consultation.

## Chapter 2

# 2 Executive Summary

- 2.1 ComReg is the regulator for the electronic communications sector in Ireland.
- 2.2 Our regulatory objectives in line with Section 12 of the Communications Regulations Act 2002<sup>10</sup> (**‘the Communications Regulations Act 2002 (as amended)’**) and Regulation 16 of the Framework Regulations<sup>11</sup> are to promote competition, to contribute to the development of the internal market and to promote the interests of users within the community. In the context of this document the following objectives<sup>12</sup> are also relevant:
- Incentivise efficient network investment by Eircom and other operators, as appropriate;
  - Ensure that Eircom cannot price excessively;
  - Ensure Eircom cannot foreclose other operators from the market; and
  - Ensure Eircom recovers its actual efficient investment together with an appropriate rate of return.
- 2.3 The European Commission in the 2014 Recommendation recommended a number of markets as being susceptible to *ex ante* regulation. These markets have been reviewed in an Irish context.
- 2.4 As set out in 2018 WLA / WCA Market Review Decision (ComReg Decision D10/18) Eircom has significant market power (**‘SMP’**) in the following two regulated markets:
- WLA Market, nationally;
  - In the Regional WCA Market.
- 2.5 In the 2018 WLA / WCA Market Review Decision ComReg imposed a number of obligations on Eircom in each of the two regulated markets, including the obligation of a price control and the obligation not to cause a margin squeeze.
- 2.6 In this Decision document we are further specifying the overriding price control obligations (including margin squeeze obligations) from the 2018 WLA / WCA

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<sup>10</sup> Communications Regulation Act 2002 (No. 20 of 2002), as amended by the Communications Regulation (Amendment) Act 2007 (No. 22 of 2007), the Communications Regulation (Premium Rate Services and Electronic Communications Infrastructure) Act 2010 (No. 2 of 2010) and the Communications Regulation (Postal Services) Act 2011 (No. 21 of 2011).

<sup>11</sup> European Communities (Electronic Communications Networks and Services) (Framework) Regulations 2011 (S.I. No. 333 of 2011).

<sup>12</sup> In line with Regulation 13 of the Access Regulations.

Market Review Decision in relation to the wholesale services in the WLA Market and the Regional WCA Market.

- 2.7 In further specifying the price control obligations we have taken utmost account of the recent European Commission Recommendation in 2013<sup>13</sup> on non-discrimination and costing methodologies (referred to throughout this document as the '**2013 Non-Discrimination Recommendation**'). The 2013 Non-Discrimination Recommendation, among other things, looks at the way copper and NGA wholesale access prices should be set and where cost orientation is appropriate.
- 2.8 Having regard to ComReg's regulatory objectives (at paragraph 2.2) and in light of the 2013 Non-Discrimination Recommendation (paragraph 2.7) we consider that the prices set out in this Decision document achieve the appropriate balance between ensuring on the one hand that Eircom can recover costs that are efficiently incurred (including an appropriate return on invested capital) and that prices are not excessive, while on the other hand the appropriate investment signals are provided to the market place — in terms of efficient market entry and sufficient incentives to invest especially in the relevant areas of the country.
- 2.9 In this regard, we have used in some instances the bottom-up long run average incremental cost plus an apportionment for joint and common costs ('**BU-LRAIC+**') pricing approach and in other cases we have used the top down historic cost accounting ('**TD HCA**') approach.
- 2.10 The BU-LRAIC+ methodology is based on current costs which values the operator's assets at the current market value and allows for changes in asset prices. By linking the value of the assets to newly deployed network it promotes efficient investment incentives and ensures that the Incumbent (Eircom) recovers its future costs thereby encouraging investment by Eircom. A potential entrant is charged an access price in principle similar to what it might pay to build its own network, and thus promotes efficient infrastructure investment by other operators.<sup>14</sup> In the context of this Decision document we have adopted the BU-LRAIC+ approach in line with the 2013 Non-Discrimination Recommendation, except for those assets that can be reused for the provision of NGA services as discussed at paragraph 2.11.<sup>15</sup>
- 2.11 The TD HCA methodology means the Incumbent's (Eircom's) accounting data, adjusted for efficiencies as well as the forecast for future expenditure over the

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<sup>13</sup> Commission Recommendation dated 11 September 2013 on 'Consistent non-discrimination obligations and costing methodologies to promote competition and enhance the broadband investment environment'.

<sup>14</sup> Please refer to Chapter 5 of this document.

<sup>15</sup> *ibid.*

price control period similarly adjusted for efficiencies.<sup>16</sup> The accounting net book value of each asset is taken as the basis for capital costs and this value is depreciated over the remaining lifetime of each asset. Operating expenditure is also estimated from historic accounting information and common cost items are allocated to different services using allocation keys. An uplift to allow for the rate of return<sup>17</sup> is added to the Eircom costs. In the context of this Decision document Eircom's TD data is generally applied to those assets that can be reused for the provision of NGA services e.g. poles and ducts, in line with the 2013 Non-Discrimination Recommendation.<sup>18</sup>

- 2.12 We consider that it is important to achieve an appropriate balance between setting the necessary investment signals while at the same time ensuring that Eircom does not over / under recover its actual efficient costs. If the wholesale price is too high in areas where infrastructure investment is also unlikely to develop (as the deployment cost for each line is high i.e., in rural areas), this would not be desirable due to the detrimental long-term impact on end users arising from a lack of competition, as competition from operators acting as resellers may also be dampened while end users may pay too much for their broadband service. On the other hand the wholesale price should not be too low, especially in the more densely populated areas, as it could deter investments in the long term.
- 2.13 In the proceeding paragraphs ComReg has summarised the approach to setting the wholesale prices for the various WLA and WCA services i.e., FTTC (including EVDSL) based services and for current generation Bitstream and BMB services. The wholesale prices for LLU, SLU, Line Share, duct access, pole access and dark fibre are based on a continuation of the prices set out in ComReg Decision D03/16<sup>19</sup> (referred to throughout this document as the '**2016 Access Pricing Decision**') which have been largely re-imposed in the 2018 WLA / WCA Market Review Decision. Therefore, this Decision document does not revisit the costing methodologies or prices associated with these services. Similarly, for ancillary services, ComReg has continued the obligations set out in the 2016 Access Pricing Decision regarding ancillary charges associated with the WLA and WCA markets, as re-imposed in the 2018 WLA / WCA Market Review Decision. However, in Chapter 13 of this document ComReg has reviewed the pricing options for the recovery of connection costs, in particular with regard to FTTH next generation services and ComReg has also further specified the cost orientation obligation in relation to interconnection and Wholesale Ethernet Interconnect Links ('**WEILs**') services.

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<sup>16</sup> Please refer to Chapter 5 of this document.

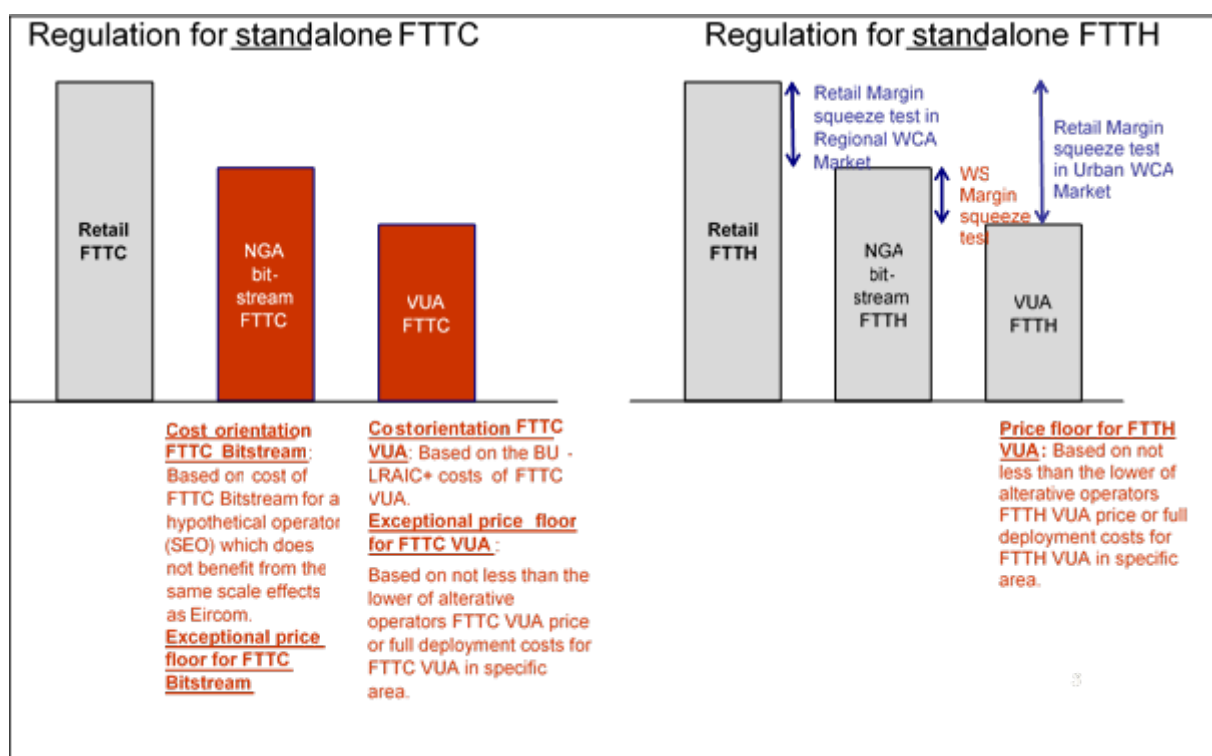
<sup>17</sup> *ibid.*

<sup>18</sup> *ibid.*

<sup>19</sup> ComReg Document No. 16/39, ComReg Decision D03/16, "Pricing of Eir's Wholesale Fixed Access Services: Response to Consultation Document 15/67 and Final Decision", dated 18 May 2016.

- 2.14 ComReg has decided that the price control period should be for three years but in any event it should remain in place until further notice by ComReg. The three year period should be from 2018 to 2021. The prices set out in the preceding paragraphs shall apply from 1 March 2019 and will subsequently change on 1 July each year of the price control period, to be consistent with Eircom's financial year.
- 2.15 Figure 1 illustrates the pricing approach for NGA services in the WLA and WCA markets.

**Figure 1: Pricing approach for NGA services**



**Virtual unbundled access (VUA):**

- 2.16 The national FTTC based VUA (including EVDSL<sup>20</sup>) monthly rental prices for each year of the price control period are:

<sup>20</sup> The single price for FTTC based VUA includes the costs for FTTC based VUA and also the cost for exchange launched very-high-bit-rate digital subscriber line (EVDSL). This is discussed in Chapter 6 and Chapter 7 of this document.

Services	1 March 2019 – 30 June 2019	1 July 2019 – 30 June 2020	1 July 2020 – 30 June 2021	1 July 2021 – 30 June 2022
	€	€	€	€
<b>FTTC based VUA (incl. EVDSL)<sup>21</sup></b>	19.54	19.79	20.10	20.36

- 2.17 The monthly national rental price is based on a BU-LRAIC+ model for those areas where active FTTC and EVDSL lines are deployed. In line with the 2013 Non-Discrimination Recommendation, we have applied a BU-LRAIC+ approach to those assets that cannot be reused for NGA services and Eircom's TD data is applied to those assets that can be reused for NGA services.
- 2.18 ComReg also determined the monthly rental prices for POTS based FTTC / EVDSL for each year of the price control period. The table below sets out the supplemental cost, to be added to the FTTC based VUA price above in order to determine the full price for POTS based FTTC / EVDSL.

Services	1 March 2019 – 30 June 2019	1 July 2019 – 30 June 2020	1 July 2020 – 30 June 2021	1 July 2021 – 30 June 2022
	€	€	€	€
<b>Supplemental cost for POTS based FTTC /EVDSL<sup>22</sup></b>	2.64	2.77	2.91	3.03

- 2.19 For further details please refer to Chapters 5, 6 and 7 of this document.
- 2.20 There has been a number of updates to the cost modelling inputs / assumptions since the Consultation. One of the main changes relates to the recovery of access network costs. The concerns raised around the access cost recovery centres on the use of sub loop unbundling<sup>23</sup> ('**SLU**') and local loop unbundling<sup>24</sup> ('**LLU**') cost inputs based on shorter than average access line lengths to inform the prices for FTTC and EVDSL rather than the higher costs based on the

<sup>21</sup> This price includes monthly fault repair and provisioning costs.

<sup>22</sup> The supplemental cost should be added to the FTTC based VUA price to determine the full price for POTS based FTTC / EVDSL service.

<sup>23</sup> See paragraph 3.5.

<sup>24</sup> See paragraph 3.4.



national average line length that informs the price for single billing – wholesale line rental ('**SB-WLR**') in the 2016 Access Pricing Decision. Since the Consultation ComReg has amended the approach to determining the unit costs associated with the LLU and SLU inputs used to inform the cost oriented prices for FTTC and EVDSL services as well as the POTS based FTTC and EVDSL services based on a maximum line length and taking into account the overall number of customers that can avail of a commercial NGA service. This has resulted in an increase in the unit costs of the LLU and SLU inputs which has increased the level of costs recovered from standalone FTTC and EVDSL services as well as POTS based FTTC and EVDSL services.

- 2.21 Please see further details in Chapter 6.
- 2.22 For FTTH based VUA a margin squeeze obligation should continue to apply such that Eircom should maintain a sufficient economic space between FTTH based VUA (in the WLA Market) and FTTH based NGA Bitstream (in the WCA Markets).
- 2.23 For further details please refer to Chapter 10 of this document.

#### **NGA Bitstream:**

- 2.24 The monthly rental prices for FTTC based Bitstream (including EVDSL) in the Regional WCA Market for each year of the price control period (based on an assumed mix of 90% regional handover and 10% national handover)<sup>25</sup> are:

<b>Services</b>	<b>1 March 2019 – 30 June 2019</b>	<b>1 July 2019 – 30 June 2020</b>	<b>1 July 2020 – 30 June 2021</b>	<b>1 July 2021 – 30 June 2022</b>
	€	€	€	€
<b>Per port charge<sup>26</sup></b>	22.09	22.33	22.65	22.93
<b>Per Mbps usage charge</b>	0.24	0.19	0.16	0.14

- 2.25 The monthly rental price for FTTC based Bitstream in the Regional WCA Market should be based on a BU-LRAIC+ model for those exchanges yet to be unbundled in the Regional WCA Market. In line with the 2013 Non-Discrimination Recommendation, ComReg has applied a BU-LRAIC+ approach to those assets

<sup>25</sup> Please note that the individual port prices and per Mbps prices for national handover and regional handover for FTTC based Bitstream services for each year of the price control period are set out in Chapter 14 of this document.

<sup>26</sup> This price includes monthly fault repair and provisioning costs.



that cannot be reused for NGA services and Eircom's TD data is applied to those assets that can be reused for NGA services. For those costs specific to the provision of Bitstream e.g. Backhaul, we have made adjustments to reflect the scale (or market share) of a similarly efficient operator ('**SEO**').

2.26 For further details please refer to Chapters 5, 6 and 7 of this document.

2.27 For FTTH based NGA Bitstream please see paragraph 2.22-2.23.

#### **Current generation Bitstream and BMB services:**

2.28 For current generation Bitstream and BMB services the monthly rental prices are based on Eircom's costs.

2.29 The monthly rental price for current generation Bitstream and BMB services in the Regional WCA Market should be based on a BU-LRAIC+ model for those exchanges in the Regional WCA Market.

2.30 For further details please refer to Chapters 5, 8 and 9 of this document. The monthly rental prices for current generation Bitstream and BMB services are set out in Chapter 14, Figure 16.

2.31 ComReg has decided that a price floor for current generation Bitstream services is no longer required recognising that future investment appears to be focussed on NGA rather than CGA (or copper based) infrastructure.

2.32 For further details please see Chapter 9 of this document.

#### **Retail margin squeeze tests**

2.33 In addition to the above, ComReg has further specified the principles of the retail margin squeeze tests as determined in the 2018 WLA / WCA Market Review Decision.

2.34 Since publication of the Consultation and having considered the views of respondents to the 2016 WLA / WCA Market Review Consultation and Consultation 17/26, ComReg has made some refinements to its approach regarding the retail margin squeeze obligations in the WLA Market and the WCA Markets. The refined approach should reduce the complexity of the pricing regime across the WLA Market and the WCA Markets as well as reducing the number of standalone retail margin squeeze tests required.

2.35 In summary, the only specific standalone retail margin squeeze obligation that shall apply going forward relates to FTTH based services. ComReg has decided that it is not necessary to further specify a standalone retail margin squeeze test for FTTC based services or current generation services sold singly in the WLA Market and the WCA Markets. Instead, the FTTC based VUA and FTTC based

Bitstream services and the current generation Bitstream services will be included in the retail margin squeeze test for bundles, as specified in the 2018 Bundles Decision.

- 2.36 Please see Chapter 10 of this Decision document for further details on the principles of the retail margin squeeze test for FTTH based VUA and Chapter 11 of this document for the principles of the retail margin squeeze test for FTTH based Bitstream.

**Other regulatory measures:**

- 2.37 For FTTH connection charges, ComReg is of the view that Eircom should have the flexibility to recover the customer specific costs of the connection related investments from a combination of an initial upfront connection charge, a charge for migration to another service provider and a recurring rental charge, but that the new connection charge and the charge for migration to another service provider should be subject to two conditions:
- (i) The charges for new connections and migrations to another service provider should be the same;
  - (ii) The combination of a new connection charge and a charge for migration to another service provider should not exceed the level that would allow Eircom to recover its customer specific connection related investment over the lifetime of the underlying assets, given the same assumptions about customer churn as are used in the margin squeeze tests.
- 2.38 Therefore, the obligations set out above would apply to Eircom unless some other mechanism was agreed by ComReg as described in Chapter 13.
- 2.39 For further details please refer to Chapter 13 of this Decision document.

**European Commission:**

- 2.40 ComReg notified the European Commission ('EC'), the Body of European Regulators for Electronic Communications ("BEREC"), and other National Regulatory Authorities ("NRAs") on 12 September 2018<sup>27</sup> regarding the draft measure.
- 2.41 On 11 October 2018 the EC provided a comments letter to ComReg. The letter is set out at Annex 9 of this Decision document. The EC raised one comment concerning the need to review the retail access market, which has been considered by ComReg in Annex 8 of the 2018 Bundles Decision.

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<sup>27</sup> The draft measures concerning Bundles was notified on 11 September 2018 and the draft measures on the pricing of standalone services in the WLA and WCA markets was notified on 12 September 2018 although both notified measures were registered by the European Commission as being 11 September 2018.

**Conclusion:**

- 2.42 ComReg believes that the pricing framework set out in this Decision document should strike the right balance between ensuring Eircom's recovery of costs while it should also send the appropriate investment signals to Eircom and other operators for efficient infrastructure investment where it is considered appropriate. This document when considered in conjunction with the 2018 WLA / WCA Market Review Decision, the 2016 Access Pricing Decision and the 2018 Bundles Decision should ensure that competition is incentivised and fostered in the long-term so that end users benefit from a wide variety of choice at affordable prices.

## Chapter 3

# 3 Background

## 3.1 Overview

3.1 This chapter provides an overview of the wholesale access services, under the following headings:

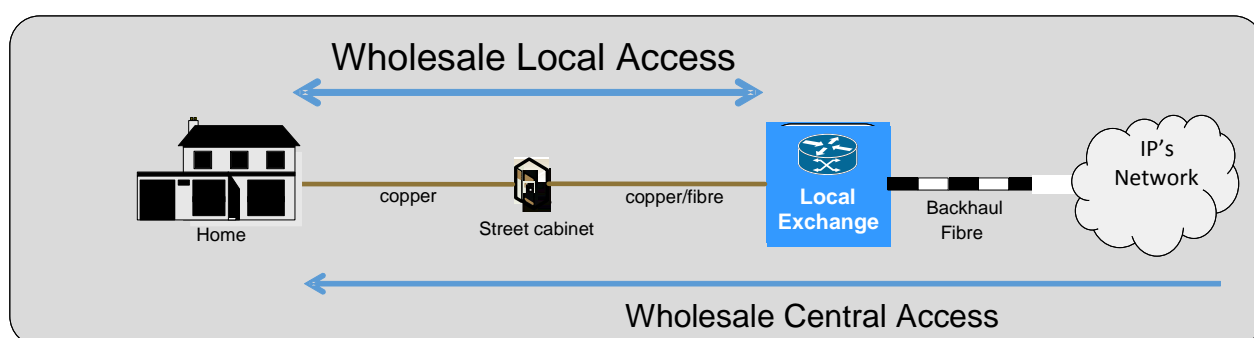
- Technical background;
- Competition concerns; and
- Current regulatory price controls.

3.2 Each is discussed in turn below.

## 3.2 Technical background

3.3 Figure 2 below explains the WLA market and WCA market, and how they are related. The WLA Market typically comprises the connection between the local exchange/ aggregation node and the end user's premises, while the WCA market relates to the full connection from an Other Alternative Operator's ('OAO's') network to the end user's premise.

**Figure 2: Example of typical provision of WLA and WCA services**



### 3.2.1 WLA services:

3.4 **LLU:** is where an OAO rents access to the local loop and uses it to supply services to its end users either on a wholesale or retail basis.

3.5 **SLU:** is an implementation of unbundled access to the sub-loop. It excludes the portion of the local loop between the exchange and street cabinet. It includes the

provision of access to a tie cable or other connection and appropriate handover for the purposes of making use of the sub loop from an adjacent cabinet.

- 3.6 **Line Share:** means the product whereby the high frequency capacity of a line is provided to OAOs, as described in Annex C, Service Schedule 103 Appendix 1 to Eircom's Access Reference Offer ('**ARO**').
- 3.7 **Civil Engineering Infrastructure:** (also known as passive access infrastructure) means the physical access path facilities deployed by Eircom to host cables such as copper wires, optical fibre and co-axial cables. It includes, but is not limited to, subterranean or above-ground assets such as sub-ducts, ducts, chambers and poles.
- 3.8 **Dark fibre:** is optical fibre that is currently installed in the local access network but is not in use. Dark Fibre means unlit Eircom fibre in Eircom's access network.
- 3.9 **VUA:** means the wholesale active access product provided by Eircom. It is an enhanced Layer 2 product which allows the handover or interconnection of aggregate end users' connections at the MPoP<sup>28</sup>. It allows the OAO a level of control similar to that afforded to the OAO connecting their own equipment to an unbundled Local Loop.
- 3.10 **Exchange launched very-high-bit-rate digital subscriber line** (known as 'EVDSL') or in the context of the WLA Market known as "**Exchange launched VUA**": means that the active equipment that is required to provide VUA is housed in an Eircom Exchange building or equivalent.

### 3.2.2 WCA services:

- 3.11 **Current generation Bitstream:** means wholesale central access offered or provided exclusively over Eircom's copper access network infrastructure and its associated facilities.
- 3.12 **Current generation bitstream managed backhaul ('BMB')**: is a specific implementation of the Bitstream wholesale product. The BMB product is described in detail in Eircom's product description V35 dated 13 June 2017.
- 3.13 **Current Generation standalone broadband / SABB:** means a broadband service delivered without a Public Switched Telephone Network ('**PSTN**') voice telephony service.
- 3.14 **End-to-End Bitstream:** is end-to-end resale of Bitstream (current generation and next generation) which allows the OAO (also known as the Access Seeker) to purchase WCA without the need to have its own infrastructure for example

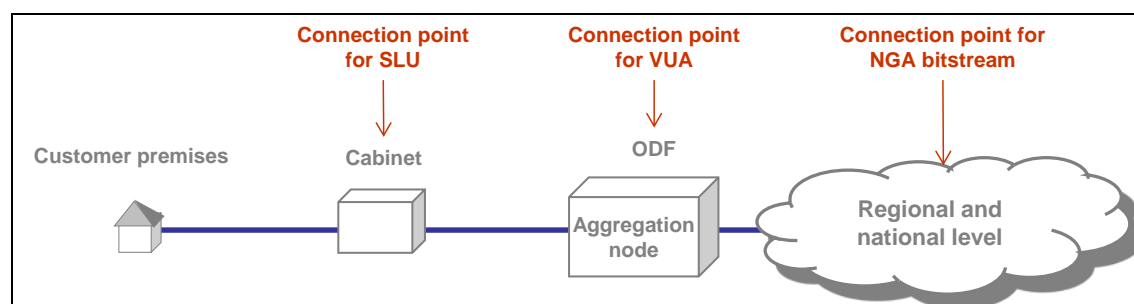
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<sup>28</sup> Multiple Points of Presence.

Backhaul. Eircom currently provides a resale broadband product to OAOs, which ComReg has termed “End-to-End Bitstream” or “White Label Bitstream”. This product allows an operator (a reseller) with no infrastructure or corresponding internet service provider (‘ISP’) service to offer a broadband service (and related services) at the retail level. The key underlying wholesale inputs of this End-to-End Bitstream service are currently regulated while the provision of the End-to-End Bitstream product is not.

- 3.15 **NGA Bitstream:** means wholesale central access provided over Eircom’s FTTC based Bitstream and FTTH based Bitstream and its associated facilities.
- 3.16 **EVDSL or in the context of the WCA Markets known as “Exchange launched Bitstream”:** means that the active equipment that is required to provide the service is housed in an Eircom Exchange building or equivalent.
- 3.17 In terms of the different connection points between services in the WLA Market and in the WCA Markets, please see Figure 3 which illustrates the difference in connection points between SLU (WLA market), VUA (WLA market) and NGA Bitstream (WCA market).

**Figure 3: Connection points for WLA and WCA services**



Source: TERA Consultants

### 3.3 Competition concerns

#### 3.3.1 Overview

- 3.18 The European Commission has identified a number of markets as being susceptible to *ex ante* regulation. In the 2018 WLA / WCA Market Review Decision, ComReg reached the view that Eircom has SMP in the WLA Market (nationally) and in the Regional WCA Market. This is discussed in more detail in Chapter 4 of this document.
- 3.19 Eircom’s wholesale products / services (in the respective markets) are purchased by OAOs in order to provide downstream retail services to end-users. These downstream retail offerings compete with Eircom’s own downstream retail arm.

- 3.20 In fixed telecoms markets, the access network is one of the most difficult parts of the telecommunications network for the incumbent's (i.e., Eircom's) competitors to replicate economically. As in other countries, the local access network in Ireland is characterised by a large degree of sunk costs incurred over a significant period of time and with some assets continuing to provide services after a number of decades.
- 3.21 The high cost of building an alternative copper or fibre network acts as a barrier to entry for potential new market entrants. In particular, the low population density typical of rural parts of Ireland means that infrastructure-based competition in rural fixed line networks is not likely to be economically efficient even in the long term. Therefore, the most economically efficient outcome for the Irish fixed line market necessitates an OAO obtaining access to Eircom's network, either by purchasing active services such as SB-WLR or ADSL or, in the case of the NBP provider, by gaining access to Eircom's poles and ducts to deploy its own NGA network.
- 3.22 As noted in Section 6 and in Section 11 of the 2018 WLA / WCA Market Review Decision, Eircom has the ability and incentive to engage in a range of anti-competitive pricing behaviours to the ultimate detriment of competition and end users.
- 3.23 Absent appropriate preventative remedies several related competition problems<sup>29</sup> may arise involving the SMP undertaking's conduct, including:
- Exploiting end users by virtue of its SMP position through, for example, setting excessive wholesale charges. This would raise the input costs for those OAOs that purchase Eircom's wholesale services. Given that such above cost wholesale prices may then be passed on by such OAOs to their retail end users via higher retail prices, it could ultimately have the potential to harm the development of effective competition in the downstream market, potentially through the actual or effective exclusion of downstream competitors;
  - Leveraging its market power into adjacent vertically or horizontally related markets through price and non-price means with the effect of foreclosing or excluding competitors in downstream retail and/or upstream wholesale markets. Eircom, as a vertically-integrated operator with SMP, has the incentive to use its market power in upstream markets to affect the competitive conditions in downstream wholesale and/or retail markets, in particular, through its ability to control the key inputs used by wholesale customers — which compete against Eircom in such

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<sup>29</sup> ComReg would note that it is neither necessary to catalogue examples of actual abuse, nor to provide exhaustive examples of potential abuse.

markets. This could result in a distortion of or restriction in competition in these downstream markets, ultimately resulting in harm to end users, potentially in the form of higher prices, lower output/sales, reduced quality or reduced consumer choice; and

- Engaging in behaviours, similar to those identified above in the context of leveraging, which delay/deter network investment and entry into the upstream and/or downstream markets.

3.24 On the basis of the competition problems discussed in Section 6 and Section 11 of the 2018 WLA / WCA Market Review Decision and as summarised at paragraph 3.23 above, a number of regulatory obligations were imposed on Eircom in the WLA Market and Regional WCA Market, including a price control obligation. Please also see Chapter 4 of this Decision for a summary.

3.25 The existing regulatory price controls associated with WLA services and WCA services are detailed in Chapter 3 of the Consultation Document. A summary of the existing and current regulatory price controls are provided in the next section of this chapter.

## 3.4 Existing and current regulatory price controls

### 3.4.1 WLA services

#### LLU / SLU:

3.26 The existing cost orientation obligation for LLU and SLU was set out in ComReg Decision D05/10<sup>30</sup> (referred to in this document as the '**WPNIA Market Decision**') and which was further specified in the 2016 Access Pricing Decision (D03/16).

3.27 In the 2016 Access Pricing Decision ComReg specified that for LLU, the monthly national rental price is based on a BU-LRAIC+ model for the larger exchange areas ('**LEA**')<sup>31</sup>. A BU-LRAIC+ approach is applied to those assets that cannot be reused for NGA services and Eircom's TD data is applied to those assets that can be reused for NGA services (e.g., ducts and poles) using the revised copper

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<sup>30</sup> ComReg Document No 10/39: 'Market Review: Wholesale (Physical) Network Infrastructure Access (Market 4) – Further Response to ComReg Document No 08/104, Response to ComReg Document No 09/42 and Decision', dated 20 May 2010.

<sup>31</sup> The LEA has the meaning as set out in Section 2.1 of the Decision Instrument contained in Annex 3 of the ComReg Decision D04/13. In summary, the LEA is typically an exchange area being served with Eircom's current generation retail broadband products, NGA services as well as services from an alternative infrastructure-based provider(s) or LLU-based services, in Urban (or more densely populated) areas of the country.



access model ('**Revised CAM**'). The LLU monthly rental prices are set out in Chapter 13 of the 2016 Access Pricing Decision.

- 3.28 In the 2016 Access Pricing Decision ComReg specified that for SLU, the monthly national rental price is based on a national BU-LRAIC+ model. The BU-LRAIC+ costs are applied to those assets that cannot be reused for NGA services and Eircom's TD data is applied to those assets that can be reused for NGA services (e.g., ducts and poles), using the Revised CAM. The SLU monthly rental prices are set out in Chapter 13 of the 2016 Access Pricing Decision.
- 3.29 In the 2018 WLA / WCA Market Review Decision, ComReg re-imposed the obligation of cost orientation for LLU and SLU based on the obligations further specified in the 2016 Access Pricing Decision.

#### **Line Share:**

- 3.30 The existing cost orientation obligation for Line Share was set out in the WPNIA Market Decision and which was further specified in the 2016 Access Pricing Decision such that the Line Share price is based on the incremental costs of providing the line share service. The maximum monthly rental price for Line Share is set out in Chapter 13 of the 2016 Access Pricing Decision.
- 3.31 In the 2018 WLA / WCA Market Review Decision, ComReg re-imposed the obligation of cost orientation for Line Share, as further specified in the 2016 Access Pricing Decision.

#### **Civil engineering infrastructure (duct and pole access):**

- 3.32 The existing cost orientation obligation for duct and pole access was set out in ComReg Decision D03/13<sup>32</sup> on next generation access (referred to throughout this document as the '**2013 NGA Decision**') and which was further specified in the 2016 Access Pricing Decision.
- 3.33 In the 2016 Access Pricing Decision ComReg specified that for duct access, the maximum prices for duct access is based on a blend of Eircom's TD costs for those ducts that can be reused for NGA and the long-run view (or BU-LRAIC+ costs) of replacement of ducts for the provision of NGA services. Please see Figure 23 and Figure 24 in Chapter 13 of the 2016 Access Pricing Decision for duct access prices.
- 3.34 In the 2016 Access Pricing Decision ComReg specified that for pole access, the maximum price is based on a blend of Eircom's TD costs for those poles that can be reused for NGA (and including Eircom's forecasted capital spend on poles

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<sup>32</sup> ComReg Decision No D03/13, ComReg Document No 13/11 'Remedies in Next Generation Access Markets'; dated 31 January 2013 ('**2013 NGA Decision**').

over the next 3 years) and the long run view (or BU-LRAIC+ costs) of replacement of poles for the provision of NGA services.

- 3.35 The maximum annual prices for pole access is set out in Figure 22 in Chapter 13 of the 2016 Access Pricing Decision.
- 3.36 In the 2018 WLA / WCA Market Review Decision, ComReg re-imposed the obligation of cost orientation for duct and pole access, based on the obligations further specified in the 2016 Access Pricing Decision.

**Dark fibre:**

- 3.37 The existing cost orientation obligation for dark fibre was set out in the 2013 NGA Decision and which was further specified in the 2016 Access Pricing Decision.
- 3.38 In the 2016 Access Pricing Decision ComReg specified that for dark fibre the maximum price is based on a blend of Eircom's TD costs for those assets that can be reused for NGA and the BU-LRAIC+ costs for those assets that cannot be reused for NGA services. The obligation to offer dark fibre only applies in those circumstances where access to civil engineering infrastructure (ducts and poles) is not available and where dark fibre is reasonably available. Please see Figure 25 of Chapter 13 of the 2016 Access Pricing Decision for the prices.
- 3.39 In the 2018 WLA / WCA Market Review Decision, ComReg re-imposed the obligation of cost orientation for dark fibre access, based on the obligations further specified in the 2016 Access Pricing Decision.

**VUA:**

- 3.40 Up until now VUA has been subject to an existing margin squeeze obligation as further specified in the 2013 NGA Decision.
- 3.41 In the 2018 WLA / WCA Market Review Decision, ComReg specified that a cost orientation obligation should apply to FTTC based VUA (and EVDSL). For FTTH based VUA ComReg specified that Eircom should be subject to a margin squeeze obligation; a wholesale margin squeeze obligation between FTTH based VUA and FTTH based Bitstream and in addition, a standalone retail margin squeeze test between FTTH based VUA and the retail product delivered by FTTH based VUA in the footprint of the Urban WCA Market. Please see Section 7 of the 2018 WLA / WCA Market Review Decision for further details.
- 3.42 In this Decision document we have further specified the appropriate methodology, modelling approach and prices for FTTC based VUA (and EVDSL). Please see Chapters 5, 6, 7 and 14 of this document regarding the costing methodology, modelling approach and prices for FTTC based VUA (and EVDSL).

- 3.43 For FTTH based VUA we have further specified the appropriate margin squeeze principles that should apply for the wholesale margin squeeze test between FTTH based VUA and FTTH based Bitstream and in addition, the standalone retail margin squeeze test between FTTH based VUA and the retail product delivered by FTTH based VUA in the footprint of the Urban WCA Market. Chapter 10 of this document sets out the margin squeeze principles for both tests.

#### **WLA ancillary services:**

- 3.44 The existing cost orientation obligation for ancillary services in the WPNIA (now the WLA) Market was set out in the WPNIA Market Decision and the 2013 NGA Decision. The cost orientation obligation for ancillary services was further specified in the 2016 Access Pricing Decision for both current generation and next generation ancillary services.
- 3.45 In the 2016 Access Pricing Decision ComReg specified that Eircom can recover no more than its actual incurred costs (adjusted for efficiencies) plus a reasonable rate of return associated with the provision of these services, in line with the Ancillary Services Cost Model.
- 3.46 In the 2018 WLA / WCA Market Review Decision, ComReg re-imposed the obligation of cost orientation for ancillary services in the WLA market, as further specified in the 2016 Access Pricing Decision.
- 3.47 In Chapter 13 of this document ComReg has further specified the cost orientation obligation regarding interconnection and WEIL services. ComReg has also determined how the cost of connections should be recovered going forward, in particular for FTTH NGA services.

### **3.4.2 WCA services**

#### **Bitstream and Bitstream managed backhaul ('BMB'):**

- 3.48 The existing cost orientation obligation for Bitstream and BMB services was set out in ComReg's Decision D11/14<sup>33</sup> (referred to throughout this document as the '**2014 WBA Pricing Decision**') whereby Eircom has been subject to a national cost orientation obligation and a subnational cost orientation obligation outside the LEA (referred to in this document as '**Outside the LEA**')<sup>34</sup>. In addition, Eircom has also been subject to an existing margin squeeze obligation i.e., a retail

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<sup>33</sup> ComReg Document No 14/73R, Decision No D11/14 "Wholesale Broadband Access: Price control obligation in relation to current generation Bitstream", dated 9 July 2014.

<sup>34</sup> Outside the LEA typically means those exchanges which are in the more sub-urban, rural and remote areas of Ireland. This area has typically higher costs for potential entrants due to longer local loop lengths, greater distance to provide backhaul, and fewer economies of aggregation. Please also see Chapter 4, paragraphs 4.20-4.21 of the Consultation (17/26).

margin squeeze test in the LEA<sup>35</sup> and Outside the LEA based on the 2014 WBA Pricing Decision. Separately, Eircom has also been subject to an existing Bitstream price floor i.e., a wholesale margin squeeze obligations between LLU / Line Share and current generation Bitstream based on ComReg Decision D06/12<sup>36</sup> (referred to in this document as the '**2012 WBA Price Floors Decision**').

- 3.49 In the 2018 WLA / WCA Market Review Decision, ComReg specified that a cost orientation obligation should continue to apply to current generation Bitstream and BMB services in the Regional WCA Market. Please see Section 12 of the 2018 WLA / WCA Market Review Decision. ComReg also decided in the 2018 WLA / WCA Market Review Decision not to further specify a standalone retail margin squeeze test between current generation WCA services and retail services delivered by current generation WCA services. However, a retail margin squeeze obligation applies between current generation WCA services and current generation retail services delivered by current generation WCA services across the Regional WCA Market, whether sold singly or in bundle, in the overall retail margin squeeze test as further specified in the 2018 Bundles Decision.
- 3.50 In this Decision document ComReg has further specified the cost orientation obligation for current generation Bitstream and BMB services in the Regional WCA Market to determine the appropriate costing methodology, the cost modelling approach and the prices. Please see Chapters 5, 8, 9 and 14 of this document regarding the further specification of the cost orientation obligation and modelling approach for current generation services as well as the current generation Bitstream and BMB prices.

**Current generation standalone broadband ('SABB'):**

- 3.51 Eircom is subject to an existing cost orientation obligation for Current Generation SABB (as described at paragraph 3.13) as set out in the 2014 WBA Pricing Decision. The cost orientation obligation for Current Generation SABB was more recently further specified in the 2016 Access Pricing Decision such that Eircom can recover no more than its actual incurred costs (adjusted for efficiencies) plus a reasonable rate of return for the provision of SABB Outside the LEA and with active assets based on BU-LRAIC+ costs.

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<sup>35</sup> The LEA is typically an exchange area being served with Eircom's current generation retail broadband products, NGA services as well as services from an alternative infrastructure-based provider(s) or LLU-based services. The technical considerations (or 5 criteria) used when determining whether an exchange is in the LEA, or not, are set out in Section 2.1 of the Decision Instrument contained in Annex 3 of ComReg Decision D04/13 (2013 Bundles Decision).

<sup>36</sup> ComReg Document No 12/32: Wholesale Broadband Access: Further specification to the price control obligation and an amendment to the transparency obligation; dated 5 April 2012 ('**2012 WBA Price Floors Decision**').

- 3.52 In the 2018 WLA / WCA Market Review Decision, ComReg re-imposed the obligation of cost orientation for Current Generation SABB, as further specified in the 2016 Access Pricing Decision.
- 3.53 In this Decision document we revisit one of the obligations regarding Current Generation SABB Outside the LEA, as set out in the 2016 Access Pricing Decision (D03/16), where Eircom currently has the flexibility to reduce the price for SABB Outside the LEA so long as the price does not fall below the BU-LRAIC+ costs in the "Modified LEA"<sup>37</sup>. Please see Chapter 12 of this document for further details.

#### **NGA Bitstream:**

- 3.54 Up until now NGA Bitstream has been subject to an existing margin squeeze obligation as further specified in the 2013 NGA Decision.
- 3.55 In the 2018 WLA / WCA Market Review Decision ComReg specified that a cost orientation obligation should apply for FTTC based Bitstream (and EVDSL). In addition, ComReg specified a standalone retail margin squeeze obligation between FTTH based Bitstream and the retail product delivered by FTTH based Bitstream.
- 3.56 In this Decision document we have further specified the appropriate methodology, modelling approach and prices for FTTC based Bitstream (and EVDSL). Please see Chapters 5, 6, 7 and 14 of this document on the costing methodology, cost modelling approach and the prices for FTTC based Bitstream (and EVDSL). Chapter 11 of this Decision specifies the principles for the standalone retail margin squeeze test for FTTH based Bitstream.

#### **WCA ancillary services:**

- 3.57 The existing cost orientation obligation for WCA ancillary services was set out in the 2013 NGA Decision. The cost orientation obligation for ancillary services was further specified in the 2016 Access Pricing Decision for both current generation and next generation ancillary services.
- 3.58 In the 2016 Access Pricing Decision ComReg specified that Eircom can recover no more than its actual incurred costs (adjusted for efficiencies) plus a reasonable rate of return associated with the provision of these services.
- 3.59 In the 2018 WLA / WCA Market Review Decision, ComReg re-imposed the obligation of cost orientation for ancillary services in the WCA market, as further specified in the 2016 Access Pricing Decision.

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<sup>37</sup> See Annex 14 of the 2016 Access Pricing Decision for the list of exchanges.

3.60 In Chapter 13 of this document we have further specified the cost orientation obligation regarding interconnection and WEIL services. We have also determined how the cost of connections should be recovered going forward, in particular for FTTH NGA services.

### 3.5 Consultation Process:

3.61 On 7 April 2017 ComReg published the Consultation (17/26) seeking views from interested parties on a number of proposals including *inter alia* the appropriate costing methodology, modelling approach and draft wholesale prices for FTTC services (including EVDSL). In addition, ComReg sought views on changing the costing methodology for current generation Bitstream and BMB services from historic costs to a BU-LRAIC+ methodology. ComReg also sought views on the margin squeeze principles for the margin squeeze tests in the WLA and WCA markets.

3.62 Following a request, ComReg made access available to the non-confidential models associated with the Consultation. Please refer to ComReg Information Notice 17/45 for further details. This allowed for further transparency regarding the modelling work undertaken by ComReg as part of the consultation process and it also meant that other operators could have access to similar information (albeit that some information was redacted due to the confidentiality of the data) to that of Eircom.

3.63 During the consultation period Eircom sought an extension to the consultation response deadline. Please refer to Information Notice 17/33<sup>38</sup> which extended the deadline for response from 2 June to 19 June 2017. This was further extended to 26 June 2017 following publication of ComReg Document No. 17/51 (referred to in this document as the '**2017 Bundles Consultation**'). Please refer to Information notice 17/52 published on 9 June 2017.

3.64 On 26 June 2017 we received 8 responses to the Consultation as follows:

- Eircom Limited ("**Eircom**").
- Sky Ireland Limited ("**Sky**").
- Vodafone Ireland Limited ("**Vodafone**")
- e-Nasc Éireann Teoranta ("**Enet**").
- SIRO ("**SIRO**").

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<sup>38</sup> Consultation and Draft Decision - ComReg Document 17/26: ComReg grants an extension to the consultation period; dated 26 April 2017.

- Virgin Media Ireland Limited (“**Virgin Media**”).
- Alternative Operators in the Telecommunications Market (“**ALTO**”).
- BT Communications Ireland Limited (“**BT**”).

3.65 Eircom’s submission also included reports from two external consultants:

- CEG (**‘the CEG Report’**); and
- Communications Chambers (**‘the Communications Chambers Report’**).

3.66 Sky’s submission included a report from Analysys Mason (**‘the AM Report’**).

3.67 The non-confidential submissions to the Consultation are published separately in ComReg Document 17/26sR.

3.68 On 8 September 2017, Eircom submitted a note to ComReg setting out its concerns regarding the treatment of access network costs in the context of the FTTC pricing proposals set out in the Consultation (17/26). A non-confidential version of the note is published at Annex 8. The issues raised are addressed by ComReg in Chapter 6 and also in Annex 12<sup>39</sup>.

3.69 On 15 November 2017, Eircom submitted its views on the published non-confidential submissions contained in ComReg Document 17/26s. A non-confidential version of this document is published at Annex 8. On 11 October 2018 and on 26 October 2018 Eircom submitted letter correspondence to ComReg. The non-confidential versions of the letters as well as ComReg’s response to them is included in Annex 8 of this Decision document.

3.70 On 24 November 2017, Vodafone submitted a letter regarding connection costs. A non-confidential version of the letter is published at Annex 8. Connection costs are discussed at Chapter 13 of this Decision.

3.71 On 26 January 2018, Sky submitted a letter to ComReg which sets out its concerns regarding access to the cost models as well as a number of market developments in the WLA Market, in particular, since it last made a submission as part of the current consultation process. The points raised in Sky’s letter are addressed in the main body of this document at Chapter 6 and also in Annex 12. A non-confidential version of the letter is published at Annex 8.

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<sup>39</sup> Also referred to as the Cost Modelling Annex.



- 3.72 On 13 July 2018, Sky submitted a letter to ComReg on the cost models and in particular their concerns that ComReg proposes to adopt a price for FTTC based services which significantly departs from the prices set out in the chapter based on ComReg's notification of the draft measures to the European Commission relating to the WLA and WCA market review. The points raised in Sky's letter are addressed in the main body of this document and also in Annex 12. The letter is published at Annex 8.
- 3.73 ComReg has taken full account of all of the responses in reaching its final decision. In discussing the submissions, below, ComReg has not outlined each and every point of submission, but has set out the main points raised and, where appropriate, responded to those submissions.
- 3.74 In Chapter 1 of the Consultation, ComReg gave respondents the opportunity to provide any further views regarding the price proposals set out in the 2016 WLA/WCA Market Review Consultation in light of the pricing obligations further specified in the Consultation (17/26). The responses, and ComReg's assessment of respondents' views, are summarised below.

### 3.5.1 Respondents' Views

- 3.75 Respondents' views and ComReg's assessment of them are summarised under the following themes:
- (a) Overall approach;
  - (b) Market definition and assessment;
  - (c) Competition problems; and
  - (d) Price control remedies.

#### **Overall approach**

- 3.76 Eircom claimed that, in the 2016 WLA/WCA Market Review Consultation, ComReg had failed to adequately assess whether remedies (including pricing remedies) proposed in one market (such as the WLA Market) would address competition concerns or cause unintended consequences in another (such as the WCA Markets). Eircom stated that, by way of an example, there was no need for a next generation ('**NG**') Bitstream price control because an operator could access VUA, and this, together with access to services in the market for Wholesale High Quality Access ('**WHQA**'), meant that there was a competitive NG Bitstream market. Eircom further proposed that the Regional WCA Market should further distinguish between current generation ('**CG**') services and NG services, with regulation targeted at CG services.



- 3.77 Eircom questioned ComReg’s powers to undertake what it characterises as *de facto* regulation of the retail market. In Eircom’s view, the specification of retail margin squeeze tests in combination with cost orientation at a wholesale level is outside the scope of ComReg’s powers in the context of the Market Review, and would require regulation under the Universal Services Regulations, and the conduct of a three criteria test. Furthermore, Eircom suggested that the implementation of a margin squeeze test between End-to-End Bitstream and Bitstream in the Regional WCA Market would require an assessment of whether it was justified to regulate “*competitive services*”.

### **Market definition and assessment**

- 3.78 Vodafone stated that, while it broadly agreed with ComReg’s pricing proposals as expressed in the 2016 WLA/WCA Market Review Consultation, it did not agree with the deregulation of the Urban WCA Market. Vodafone suggested that if ComReg decided to proceed with the deregulation of the Urban WCA Market, it should be implemented more gradually than planned, and should include measures to monitor the impact of the withdrawal of regulation as it occurred.
- 3.79 BT stated that the Urban WCA Market had been incorrectly dimensioned, and that some exchanges included in the Urban WCA Market should be included in the Regional WCA Market. In BT’s view, WLA services are not economically viable in some exchanges in the Urban WCA Market. BT’s prime concern is [§< [REDACTED]], stating that “...our direct experience in using 3<sup>rd</sup> party solutions to reach exchanges has proven to be expensive, [§< [REDACTED]] [REDACTED] ]

- 3.80 Eircom considered that market developments since the publication of the WLA and WCA Market Reviews have increased the level of competition in the market.

### **Competition problems**

- 3.81 Vodafone raised the issue of the actual switching costs associated with changing wholesale provider, and stated that barriers to switching restrict competition in the WCA Markets.
- 3.82 Sky questioned what measures ComReg would consider should Eircom increase the price of its FTTH services. Sky referenced Eircom’s price increases for FTTC services, which were introduced in the presence of *ex ante* remedies, and which Sky considered constituted windfall profits which had a knock-on effect on retail pricing.

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<sup>40</sup> BT submission, page 2.

### Price control remedies

- 3.83 In Eircom's view, the application of a cost orientation obligation at this stage in the roll-out of FTTC is unprecedented across Europe, and no other SMP operator is subject to concurrent cost orientation and margin squeeze obligations on FTTC based services. Eircom referred to the CEG Report which it had commissioned for further detail.
- 3.84 The CEG Report claimed that ComReg's proposals for FTTC based services were extensive and intrusive, and stated that cost orientation is not applied to FTTC based VUA in markets where the incumbent has a share of less than 37% of the retail broadband market, and concurrent margin squeeze and cost orientation rules were not applied where the incumbent has a share of less than 44% of the retail market. The CEG Report calculated that Eircom's retail market share was 33%.
- 3.85 Eircom questioned the assessment of relative pricing constraints on NGA services carried out in the 2016 WLA/WCA Market Review Consultation, and referred to supporting material in the CEG Report and the Communications Chambers Report. On this issue, the CEG Report considered that price increases for FTTC are not evidence of a lack of constraint on Eircom's pricing, but rather reflect a rebalancing to recover from cuts in SB-WLR.<sup>41</sup> According to the CEG Report, regulated LLU prices and the presence of rival networks constrain Eircom's pricing of FTTH and FTTC services, and this is the case in urban and rural areas.<sup>42</sup> The Communications Chambers Report also contested ComReg's view that price increases can be evidence of lack of constraint, and suggested that, instead, this could be a case of penetration pricing.
- 3.86 The issue of regulatory consistency was raised by Eircom, who questioned the impact that a change from a margin squeeze approach to a cost orientation obligation would have on investment in FTTC based services. Eircom referred to the CEG Report for further detail. The CEG Report presented its analysis of Eircom's 'fair bet'<sup>43</sup> on its fibre investments. The analysis proposed that cost orientation was being applied earlier in the investment cycle in Ireland than in other European countries, and would accordingly chill investment by all infrastructure providers. The analysis concluded that, to allow Eircom a fair bet, no cost based regulation should be imposed before [§< ██████████ ].
- 3.87 Virgin Media also disagreed with ComReg's proposal to impose a cost orientation obligation on FTTC based services. In particular, [§< ██████████ ]

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<sup>41</sup> Single billing – Wholesale Line Rental.

<sup>42</sup> The CEG Report, paragraph 62.

<sup>43</sup> An investment is considered to be a 'fair bet' when expected return is equal to the cost of capital, at the time of investment. This allows the investor to benefit from the risk of demand being higher than expected balanced against the risk of returns below the cost of capital if demand is low.



- 3.88 Eircom claimed that ComReg had provided no credible factual analysis to show that the underlying demand uncertainty which was previously thought to necessitate pricing flexibility no longer exists. Eircom referred to the Communications Chambers Report to support its view. The Communications Chambers Report argued that demand uncertainty was likely to be as, or more, uncertain than it was in 2013, particularly given the 50 year time horizon proposed by ComReg. The CEG Report also raised questions on demand uncertainty, and argued that competitive deployment of FTTC based VUA was likely to continue, and this generated uncertainty regarding future demand.
- 3.89 Eircom claimed that a further consideration not appreciated in ComReg's analysis is the anchoring of prices across competing technologies. Eircom stated that much of the existing open eir FTTC footprint overlaps with DOCSIS and FTTH deployments made by competing infrastructure providers. Eircom considered that, from the pricing of the retail operators using these platforms it is clear that there is currently no retail price premium available from their entry-level broadband service, even where the entry-level speed is substantially above that provided by open eir FTTC. Eircom submitted that the most relevant example of this is Virgin Media's entry level broadband proposition of 240 Mbps which is priced at the same level as eir retail's FTTC service that offers speeds of no more than 100 Mbps.<sup>44</sup> This indicates that there is currently no price premium available at the wholesale level either for the entry-level service from a platform that delivers higher speeds. Eircom referred to comparative examples in the Communications Chambers Report and stated that these suggest that in Ireland there will be a very limited return available over the period of the price control for open eir to overbuild FTTC with FTTH. In Eircom's view, an assessment of each pricing remedy and its interaction with other pricing remedies and competitive constraints in the market would have concluded that a margin squeeze control on FTTC and FTTH in areas with no alternative networks would be sufficient.
- 3.90 Eircom also proposed that ComReg should consider a wider range of regulatory options than a binary cost orientation or the status quo, and referred to the Communications Chambers Report for further detail. In summary, this report proposed alternatives including a safeguard price cap based on the current price of FTTC; a move to a higher quality anchor product; or the removal of other controls if cost orientation was adopted for FTTC<sup>45</sup>.

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<sup>44</sup> See <https://www.virginmedia.ie/broadband/buy-a-broadband-package/#bundles> and <https://www.eir.ie/broadband/>

<sup>45</sup> Communications Chambers Report, pages 32 to 34.

- 3.91 Sky stated that the basis on which ComReg proposed to forbear from requiring cost orientation on FTTH was questionable. This view was elaborated in the AM Report commissioned by Sky, which proposed that, prior to FTTH maturity, ComReg should monitor and potentially regulate FTTH based VUA in the same way as LLU and FTTC based VUA. The AM Report also proposed that FTTH based VUA should be cost oriented in the national broadband plan ('NBP') areas, and justified this with reference to the 2013 Non-Discrimination Recommendation, in that there would be no demonstrable retail price constraint in those areas absent service-based competition, and so the criteria for forbearing from cost orientation obligations would not be met.
- 3.92 BT suggested that there was a need for a margin squeeze test between VUA based services in the WLA Market and Bitstream. In BT's view, this is necessary to prevent Eircom from reducing the price of Bitstream to a level which would foreclose wholesale competition in both the Urban and Regional WCA Markets.

### **3.5.2 ComReg's assessment of respondents' views**

- 3.93 ComReg has fully considered all views expressed in response to Question 1 in the Consultation. The assessment below follows the headings identified when summarising respondents' views.
- 3.94 ComReg notes that, in some cases, issues raised are more appropriately dealt with in the 2018 WLA / WCA Market Review Decision. In other cases, issues raised are dealt with later in this Decision. Where applicable, reference is made below to the appropriate location of the discussion.

#### **Overall approach**

- 3.95 ComReg does not agree with Eircom's point, as outlined at paragraph 3.76 above, regarding its view that ComReg failed to adequately assess how measures imposed in the WLA Market would impact on the WCA Markets. ComReg's assessment of the sufficiency of remedies in the WCA Markets assumes no *ex ante* regulation in the WCA Markets, but assumes *ex ante* regulation in the upstream WLA Market. This means that ComReg's assessment of the WCA Markets takes into account measures imposed in the WLA Market. Please see paragraphs 9.3, 10.10, 10.140 and 11.103 of the 2016 WLA / WCA Market Review Consultation and Section 9, paragraphs 9.190, 9.282 and 9.300 of the 2018 WLA / WCA Market Review Decision.
- 3.96 Specifically in relation to the pricing remedies, ComReg concluded in the 2018 WLA / WCA Market Review Decision that Eircom should be subject to an obligation not to cause a margin squeeze between WLA services and WCA services, and in particular between FTTH based VUA and FTTH based

Bitstream.<sup>46</sup> This measure addresses Eircom's market power in the WLA Market, and its ability and incentive to leverage that power into downstream wholesale markets.

- 3.97 ComReg does not agree with Eircom's point, as outlined at paragraph 3.76 above, that the availability of VUA coupled with access to Wholesale High Quality Access ('WHQA') services means that there is no requirement for the regulation of NG Bitstream. Firstly, Eircom has a high wholesale market share [§< ██████████ ██████████ ] in the Regional WCA Market. Secondly, while ComReg accepts that there are general trends towards an increasing use of VUA and a decreasing use of Bitstream, there is still a significant user base for NG Bitstream services, and ComReg has put in place measures that prevent Eircom from acting in an anti-competitive manner towards Access Seekers who are addressing the retail market using NG Bitstream wholesale inputs. Current market data shows that there are a large number of customers [§< ██████████ ██████████ ] and [§< ██████████ ██████████ ] using FTTC based Bitstream in the Regional WCA Market. However, of the 141 Aggregation node sites (also referred to in this document as Local VUA sites) Vodafone is only connected at [§< ██████████ ██████████ ] sites while BT is only connected at [§< ██████████ ██████████ ] sites. As a result Vodafone could only serve [§< ██████████ ██████████ ] customers by VUA and BT could only serve [§< ██████████ ██████████ ] customers, presently. Furthermore, Vodafone and BT cannot seamlessly switch to FTTC based VUA in the event of excess pricing of FTTC based Bitstream and hence this renders a constraint from VUA to (non-regulated) NGA bitstream as weak or non-existent. Hence, ComReg considers that there is a need for a price control obligation (by way of cost orientation) for FTTC based Bitstream in the Regional WCA Market, despite Eircom's claims. Therefore, as determined in the 2018 WLA / WCA Market Review Decision NG Bitstream shall continue to be subject to regulatory obligations in the Regional WCA Market. It is also important to note that WHQA / Leased Lines fall outside the relevant WLA and WCA Markets, as defined in Section 4 and Section 9 of the 2018 WLA / WCA Market Review Decision.
- 3.98 With regard to Eircom's point, as outlined at paragraph 3.76 above, that the Regional WCA Market should be further divided into NG and CG services, ComReg does not agree. ComReg's reasoning was set out in detail in Section 10, paragraphs 10.24-10.39 and 10.53-10.59 of the 2016 WLA/WCA Market Review Consultation, and is confirmed in Section 9, paragraphs 9.130 to 9.142 of the 2018 WLA / WCA Market Review Decision. In summary, ComReg's analysis concluded that NG and CG services fall within the same product market, because a wholesale Access Seeker of a copper network based Bitstream service would be likely to find a FTTx based Bitstream service to be an effective

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<sup>46</sup> See paragraph 7.1374 of the 2018 WLA / WCA Market Review Decision.

substitute, by means of a chain of substitution<sup>47</sup>. Therefore, there is no reason to define separate markets for NG and CG services.

- 3.99 ComReg does not agree with Eircom's views, as outlined at paragraph 3.77 above, that ComReg's proposals are outside the scope of ComReg's powers in the context of the Market Review and would require regulation under the Universal Services Regulations, and the conduct of a three criteria test. Furthermore, ComReg does not agree that its approach is a *de facto* regulation of the retail market. In the 2018 WLA / WCA Market Review Decision Eircom has been designated with SMP in the WLA Market and the Regional WCA Market. As a result, Eircom not only has the ability, but also has an incentive, to engage in vertical leveraging and / or foreclosure type behaviours. For example, to impede downstream competitors through price (e.g., excessive / discriminatory pricing) and / or non-price anti-competitive behaviours. Eircom could leverage its market power into adjacent vertically or horizontally related markets through price and non-price means with the effect of foreclosing or excluding competitors in downstream retail and/or upstream wholesale markets. Under the Framework Regulations ComReg is obliged to impose those regulatory obligations that are required to remedy the potential competition problems. Therefore, in the 2018 WLA / WCA Market Review Decision, at Section 7 (WLA market remedies) and at Section 12 (WCA market remedies), the obligation not to cause a retail margin squeeze was imposed on Eircom in the WLA Market and the Regional WCA Market to prevent potential market leveraging by Eircom. This Decision is a further specification of that obligation, for standalone FTTH based services.
- 3.100 With regard to Eircom's views, as outlined at paragraph 3.77 above, that implementation of a margin squeeze test between Bitstream and End-to-End Bitstream<sup>48</sup> in the Regional WCA Market would require an assessment of whether it was justified to regulate "*competitive services*", ComReg points out that while the key underlying wholesale inputs to the End-to-End Bitstream services have been regulated up to now, the provision of the End-to-End Bitstream product itself is not regulated. This was set out in Chapter 11, paragraph 11.9 of the Consultation. In the course of the consultation process, ComReg has taken account of the views of respondents and reviewed its approach and has decided that an obligation in the Regional WCA Market not to cause a margin squeeze between Bitstream and End-to-End Bitstream is no longer warranted. This adaptation recognises that End-to-End Bitstream is a low volume product and that its use is decreasing. It currently represents a very small percentage of the overall lines provided by Eircom to Access Seekers, including

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<sup>47</sup> It is acknowledged that substitution is likely to be one-way due to the higher download speeds available from NGA networks. See paragraphs 10.37 to 10.38 of the 2016 WLA/WCA Market Review Consultation.

<sup>48</sup> Resale of CG and NG Bitstream which allows the Access Seeker to purchase wholesale access without the need for its own infrastructure. The key underlying wholesale inputs are regulated, but the overall provision of End-to-End Bitstream is not.



to Eircom's own downstream retail business. Further, ComReg notes that the majority of exchange areas where End-to-End products are provided fall within the newly designated Urban WCA Market, which has been found to be competitive. Please see Section 12 of the 2018 WLA / WCA Market Review Decision, and Chapter 11 of this Decision for further details.

- 3.101 ComReg noted the point made in the CEG Report, as outlined at paragraph 3.85 above, that price increases for FTTC are not evidence of a lack of constraint on Eircom's pricing, but rather reflect a rebalancing to recover from cuts in SB-WLR. ComReg is of the view that while Eircom should be allowed to recover its efficient costs including a rate of return on WLR, the excessive over recovery of costs in the context of FTTC based NGA services is the key issue which ComReg is addressing in this Decision. The prices for FTTC based services (VUA / Bitstream / EVDSL) should not reflect continued and excessive over recovery of costs.

### **Market definition and assessment**

- 3.102 In relation to Vodafone's point, as outlined at paragraph 3.78 above, regarding the deregulation of the Urban WCA Market and the gradual implementation, ComReg refers to the analysis concluded in the 2018 WLA / WCA Market Review Decision, Section 13, paragraphs 13.36 to 13.37 and paragraphs 13.42 to 13.46.
- 3.103 With regard to Eircom's views, as outlined at paragraph 3.80 above, that market developments since the time of the WLA and WCA Market Reviews have increased the level of competition in the market, these points are fully addressed in Section 11, paragraphs 11.27 to 11.35 of the 2018 WLA / WCA Market Review Decision.
- 3.104 Further to BT's point, as outlined at paragraph 3.79 above, that some exchanges included in the Urban WCA Market should instead be included in the Regional WCA Market, ComReg has discussed in detail the delineation of the Urban and Regional WCA Markets in the 2016 WLAWCA Market Review Consultation<sup>49</sup> and in the 2018 WLA / WCA Market Review Decision<sup>50</sup>. The geographic differentiation between the Urban WCA Market and the Regional WCA Market is based on the application of a set of 5 cumulative criteria (set out in the 2018 WLA / WCA Market Review Decision) which assess competitive conditions in exchange areas. ComReg considers that its approach has been thorough and objective, and has used data provided by operators on which to base its assessment.

- 3.105 With reference to BT's concern, as outlined at paragraph 3.79 above, [REDACTED]

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<sup>49</sup> See Section 10 and Appendices 5 and 6 of the 2016 WLA / WCA Market Review Consultation.

<sup>50</sup> See Section 9 and Appendices 10 and 11 of the 2018 WLA / WCA Market Review Decision.

### Competition problems

- 3.106 In relation to Vodafone's point, as outlined at paragraph 3.81 above, on the costs of switching wholesale provider, ComReg considers that switching wholesale provider is a commercial decision which is not considered in this Decision. The wholesale prices set out in this Decision are to encourage operators to make the appropriate investment decisions and also to encourage competition in the market place.
- 3.107 ComReg notes Sky's concern, as outlined at paragraph 3.82 above, that Eircom could increase prices for FTTH based services, and its reference to Eircom's price increases for FTTC based services even in the presence of *ex ante* obligations. ComReg has considered potential competition problems in the WLA Market in Section 7 of the 2018 WLA / WCA Market Review Decision, and in the Regional WCA Market in Section 12 of the 2018 WLA / WCA Market Review Decision, and recognises that it must keep Eircom's pricing of FTTH based services under review.

### Price control remedies

- 3.108 ComReg notes Virgin Media's submission, as outlined at paragraph 3.87 above, and Eircom's views, as outlined at paragraph 3.83 above, about imposing a cost orientation obligation on FTTC based services. ComReg also notes that Sky, Vodafone and BT generally supported the imposition of a cost orientation obligation on FTTC based services, and that Sky and the AM Report (referenced at paragraph 3.91 above) proposed that the obligation should be further extended to FTTH based services.
- 3.109 It is ComReg's view that a cost orientation obligation on FTTC based services is required, and is justified and proportionate. In the 2013 NGA Decision (D03/13), ComReg considered that a cost orientation obligation was not then appropriate, given the level of uncertainty associated with the rollout of FTTC, both in terms of costs and penetration levels. However, since then, several circumstances have changed. Firstly, the market definitions have changed, in that at the time of the market review of the wholesale broadband access market in ComReg Decision D06/11<sup>51</sup> (referred to throughout this document as the '**2011 WBA Market Review Decision**') and the 2013 NGA Decision, VUA was considered to be part of the then WBA Market, whereas in the 2018 WLA / WCA Market Review Decision, VUA is included in the WLA Market. Secondly, ComReg considered at that time that there were sufficient retail pricing constraints from cable and prospectively from LLU based retail and wholesale services (if the right regulatory protections were in place) to warrant a more flexible pricing approach. ComReg considered at the time that this could have been achieved by allowing Eircom flexibility on wholesale NGA pricing in the then WBA Market, subject to

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<sup>51</sup> ComReg Decision No D06/11, ComReg Document No 11/49 'Market Review: Wholesale Broadband Access (Market 5)', dated 8 July 2011 ('**2011 WBA Market Review Decision**').



meeting a margin squeeze test against retail prices, while ensuring no foreclosure of LLU based retail or wholesale services. Accordingly, a margin squeeze regime was implemented for Eircom's FTTH and FTTC based services as a means of also encouraging investment in fibre networks. ComReg is no longer of the view that Eircom's prices are sufficiently constrained, and indeed ComReg has evidence of the lack of a demonstrable retail price constraint, either from alternative operators or from Eircom's own copper network. In addition, economic replicability has been shown not to be sufficient to constrain Eircom's pricing. Please also see discussion in 2018 WLA / WCA Market Review Decision. ComReg's response to Eircom's views, as outlined at paragraph 3.85 above, regarding the extent of constraints on Eircom's pricing is fully discussed in the 2018 WLA / WCA Market Review Decision.<sup>52</sup>

- 3.110 Furthermore, as FTTC roll out is almost complete, ComReg considers there is greater certainty around current and forecasted levels of demand and costs<sup>53</sup>. ComReg's modelling exercise indicates that the prices currently charged by Eircom for FTTC based VUA and FTTC based Bitstream are well above cost-oriented prices, which reinforces the need for a verifiable and robust cost model. In addition, ComReg has taken account of the 2013 Non-Discrimination Recommendation, which underpins the 2013 NGA Decision, and sets out a number of conditions<sup>54</sup> which must be met in order for a regulator to decide not to impose or maintain regulated wholesale access prices. It is ComReg's view<sup>55</sup> that Eircom has not adequately and transparently met its obligations relating to non-discrimination, and that this further justifies the need for a cost orientation obligation on FTTC based VUA services in the WLA Market, and FTTC based Bitstream services in the Regional WCA Market.
- 3.111 Therefore, as detailed in the 2018 WLA / WCA Market Review Decision, and outlined above, ComReg considers that a margin squeeze test alone has not been sufficient to address competition problems in the supply of FTTC based VUA and FTTC based Bitstream, and that a cost orientation obligation is required.
- 3.112 ComReg notes that both Sky and the AM Report, as outlined at paragraph 3.91 above, expressed a view that cost orientation should also be applied to FTTH based services. Both submissions justified this view with reference to Eircom's pricing of FTTC based services, which they believed was excessive and occurred even in the presence of *ex ante* regulation. ComReg maintains, as decided in the 2018 WLA / WCA Market Review Decision, that a cost orientation obligation on FTTH based services would be premature. Development and roll-out is still

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<sup>52</sup> See Section 7 (WLA Market) paragraphs 7.1300-7.1313 and Section 12 (Regional WCA Market) paragraphs 12.308-12.309 of the 2018 WLA / WCA Market Review Decision.

<sup>53</sup> See Chapter 6 of this Decision.

<sup>54</sup> See paragraph 49 of the 2013 Non-Discrimination Recommendation.

<sup>55</sup> See paragraphs 7.1314-7.1319 of the 2018 WLA / WCA Market Review Decision.

at an early stage, and ComReg does not want to stifle investment in the market, and seeks to encourage investment by Eircom and by other operators. In order to ensure that Access Seekers can compete in the retail market when buying FTTH based wholesale inputs, ComReg has imposed three specific margin squeeze tests in the 2018 WLA / WCA Market Review Decision. These are a margin squeeze test between FTTH based VUA and FTTH based Bitstream; a margin squeeze test between FTTH based VUA and retail products delivered by FTTH based VUA and sold singly in the footprint corresponding to the Urban WCA Market; and a margin squeeze test between FTTH based Bitstream and retail products delivered by FTTH based Bitstream and sold singly in the Regional WCA Market. Please see Section 7 (WLA pricing remedies) and Section 12 (WCA pricing remedies) in the 2018 WLA / WCA Market Review Decision and also Chapters 10 and 11 of this Decision for details on the margin squeeze tests. ComReg will continue to monitor Eircom's pricing of FTTH based services in order to ensure that it does not price excessively.

- 3.113 As outlined at paragraph 3.91 above, the AM Report also proposed that FTTH based VUA should be cost oriented in the NBP area. ComReg explained in the 2018 WLA / WCA Market Review Decision<sup>56</sup> that its decision to impose cost orientation on FTTC based services was in line with the 2013 Non-Discrimination Recommendation. However, ComReg maintains that the uncertainty around FTTH based services means that it is premature to consider a cost orientation obligation. In addition, and as noted at Section 7, paragraph 7.1360 of the 2018 WLA / WCA Market Review Decision, in the areas where FTTH is currently planned to be rolled out there is little or no competing infrastructure through which a sufficiently meaningful competitive constraint could be exercised on Eircom's pricing over the period of the current market review. ComReg plans to keep this under review over the review period and consider whether more stringent price control obligations are required in the future (including when considered alongside other factors).
- 3.114 With reference to the comments from Eircom, as outlined at paragraph 3.86 above, and Virgin Media's views, as outlined at paragraph 3.87 above, on the risks of a cost orientation obligation on FTTC based services, ComReg recognises that if an alternative operator plans to build its own NG access network, a regulated access price can act as a price constraint, and affect the return on investment. A similar effect could be considered with regard to Eircom's investment, where Eircom could reasonably expect a 'fair bet' in terms of its decision to invest. ComReg recognised the uncertainty around potential demand for FTTC based services when it previously refrained from imposing cost orientation. This means that Eircom has not been subject to a cost orientation obligation on FTTC based services since it began its roll-out in 2013, and

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<sup>56</sup> Section 7, paragraphs 7.1298 to 7.1321 of the 2018 WLA/WCA Market Review Decision.

according to the CEG Report, its decision to invest was made 2 years prior to this. Investment in FTTC is now by-and-large complete.

- 3.115 ComReg notes that the CEG Report's analysis included a consideration of how soon after initial launch other NRAs imposed cost orientation on FTTC based services, and the CEG Report concluded that ComReg's approach was relatively early in the FTTC lifecycle.<sup>57</sup> The CEG Report calculated that the average length of time between initial launch and cost orientation was 6.8 years, but noted that *"The regulatory decisions in some of these countries also do not appear to be based on a rigorous analysis of the approach required to protect investment incentives."*<sup>58</sup> ComReg reiterates that, like most other NRAs, it initially refrained from imposing a cost orientation obligation on any fibre services, but decided in the 2018 WLA / WCA Market Review Decision, that cost orientation obligations on FTTC based services are justified and proportionate for the reasons set out at Section 7 and Section 12 of the 2018 WLA / WCA Market Review Decision. In addition, ComReg has been able to take advantage of lessons learned from other NRAs where FTTC roll-out had already commenced in their jurisdictions.
- 3.116 ComReg notes that a consideration of fair bet is principally about assessing risk, and is an *ex ante* assessment whereby an investor can decide if the investment risk is worth taking. ComReg notes also that the 2010 NGA Recommendation stated that the investment risk for FTTC is significantly lower than that for FTTH.<sup>59</sup> In concluding that cost orientation is required for FTTC based services, ComReg notes that the regulated access price includes a reasonable rate of return or weighted average cost of capital ('**WACC**') that takes into account the risk of investing in these kind of assets.<sup>60</sup> ComReg considers that its approach to price controls in the WLA market and in the Regional WCA Market has balanced measures to encourage infrastructure investment with measures to ensure that prices for Access Seekers are reasonable, and notes that the use of the BU-LRAIC+ costing methodology (discussed at Chapter 5 of this Decision) should set the right balance between ensuring return on investment and setting the correct build or buy signals. As a consequence, efficient infrastructure deployment can be profitable (from the SMP operator's or from an alternative players' perspective) in the presence of this price constraint. Therefore, ComReg does not consider that cost orientation will undermine investment in NGA networks. The ultimate goal is to ensure that end users benefit from increased choice and fair prices.

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<sup>57</sup> CEG Report, paragraphs 141-176.

<sup>58</sup> CEG Report, paragraph 159.

<sup>59</sup> See discussion of risk premium in the TERA Report, dated 7 April 2017, which accompanied the Consultation.

<sup>60</sup> Please note that ComReg plans to review the WACC rate, with a consultation planned for Q1 2019. ComReg reserves the right to require prices to be updated depending on the outcome of any decision ComReg may take on the WACC rate as a result of that consultation process.

- 3.117 ComReg has considered views from Eircom, as outlined at paragraph 3.83 above, and further detailed in the CEG Report, as outlined at paragraph 3.84 above, regarding the comparison of ComReg's pricing approach with that of other European jurisdictions. First of all, as set out in the 2018 WLA / WCA Market Review Decision<sup>61</sup>, ComReg has taken account of the views of respondents, and has reconsidered its approach, with regard to the standalone retail margin squeeze tests. ComReg is applying only margin squeeze obligations to FTTH based services, and is not applying a concurrent cost orientation obligation. For FTTC based services, ComReg is applying a cost orientation obligation, but is not further specifying a separate margin squeeze test for FTTC based services which are sold singly.<sup>62</sup> ComReg therefore considers that given the points noted above, particularly with regard to ComReg's decision that a standalone retail margin squeeze test for FTTC services is no longer required, ComReg's pricing approach is no longer consistent with the comparative assessment set out in the CEG Report. Further, ComReg suggests that the comparison which has been carried out is of limited use because it is a static snapshot which does not take account of the rationale for other NRAs actions. In any case, ComReg has put forward a set of remedies designed to address actual and potential competition problems in the WLA and Regional WCA Markets in Ireland which are justified, appropriate and proportionate.
- 3.118 ComReg has considered the points raised in the Communications Chambers Report, as outlined at paragraph 3.85 above, which suggested that price increases were not necessarily evidence of a lack of constraint on Eircom's pricing, but could be due to other factors such as penetration pricing. ComReg acknowledges that while a price increase in itself is not necessarily an abuse of market power we consider that the prices for FTTC services during the existing price control period has led to an over recovery of costs. Please see paragraph 3.101 above.
- 3.119 ComReg does not agree with Eircom's view, as outlined at paragraph 3.89 above, that the limited return available for overbuild of FTTC with FTTH over the price control period means a margin squeeze control on FTTH and FTTC in areas where there were no alternative networks should be sufficient. At paragraph 3.109 above ComReg outlines how it came to the decision that it was not sufficient to rely on a margin squeeze obligation for FTTC based services, but that a margin squeeze approach continues to be appropriate for FTTH based services. Please also see paragraphs 6.62 and 6.131 as well as Appendix 3, paragraphs A3.11-A3.18 of the 2018 WLA / WCA Market Review Decision.

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<sup>61</sup> See Section 7 (WLA Market) and Section 12 (Regional WCA Market) of the 2018 WLA/WCA Market Review Decision.

<sup>62</sup> All FTTC based retail services (sold singly or in a bundle) will be included in the overall retail margin squeeze tests as further specified in the 2018 Bundles Decision.

- 3.120 ComReg does not agree with Eircom's view, as outlined at paragraph 3.88 above, and supported by analysis in the Communications Chambers Report and the CEG Report that cost orientation was not appropriate due to the fact that the uncertainty around demand and costs for FTTC based services was likely to persist. During the consultation process, ComReg has taken respondents' views into account and has reviewed and revised its modelling assumptions about demand and costs associated with FTTC. Further, as discussed in the TERA report (at Annex 5), FTTC unit costs are less sensitive to the NGA penetration rate compared to FTTH since it shares a part of the network (D-side copper) with Asymmetric Digital Subscriber Line ('**ADSL**') and other copper based services, and the effect of unpredictable demand is less.<sup>63</sup> This process is discussed in Chapter 6 of this Decision, and detailed changes to the NGA Cost Model are explained in Chapter 6 and the Cost Modelling Annex (Annex 12). ComReg therefore maintains that its approach makes it easier to forecast demand and volumes for FTTC services, and certainly does not preclude the imposition of a cost orientation obligation.
- 3.121 ComReg notes that, as outlined at paragraph 3.90 above, Eircom and the Communications Chambers Report proposed that ComReg should have considered various alternative regulatory options. ComReg does not agree with these respondents' views that it only considered the status quo or cost orientation as options for FTTC based services. In the 2016 WLA/WCA Market Review Consultation<sup>64</sup>, ComReg considered a number of pricing options, including forbearance, cost orientation, retail minus and margin squeeze before coming to its preliminary view. The approach which ComReg has taken through the market review process has been to propose remedies which are designed to address competition problems which may potentially arise as a consequence of Eircom's ability and incentive to act in an anti-competitive manner on account of its market power.
- 3.122 With regard to Eircom's views, as outlined at paragraph 3.88 above, that the potential benefits of pricing flexibility would be lost if cost orientation were to be imposed on FTTC based services, ComReg would like to point out that Eircom may be allowed, in exceptional circumstances, to charge a lower price for FTTC based VUA (and FTTC based Bitstream). Eircom could reduce the price for FTTC based VUA in exceptional cases so long as it complies with the regulatory approval mechanism and the price floor specified in Chapter 12 of this Decision. Any reduction to the price for FTTC based VUA would also have to be reflected in the price for FTTC based Bitstream given that VUA is a significant cost element

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<sup>63</sup> TERA Report, Section 3.3.

<sup>64</sup> See Section 8 (WLA Market) and Section 13 (Regional WCA Market) of the 2016 WLA/WCA Market Review Consultation.

in the cost stack for FTTC based Bitstream. Please refer to Chapter 12, subsection 12.4 of this Decision.

- 3.123 With regard to BT's proposal, as outlined at paragraph 3.92 above, that there should be a margin squeeze test between VUA in the WLA Market and Bitstream, ComReg notes that a general obligation not to cause a margin squeeze between WLA services and WCA services was imposed on Eircom in Section 7 of the 2018 WLA / WCA Market Review Decision, such that Eircom shall have an obligation not to cause a margin/price squeeze between (a) WLA products, services and facilities it offers or provides and (b) products, services and facilities in wholesale markets downstream from the WLA Market. More specifically, Eircom is subject to a margin squeeze obligation between the price for FTTH based VUA in the WLA Market and the price for FTTH based Bitstream in the WCA Markets. Therefore, these obligations should ensure that Eircom recovers its own share of relevant costs.



## Chapter 4

# 4 Geographic issues

## 4.1 Introduction

4.1 In this chapter we summarise the outcome of the geographic issues across the WLA Market and the Regional WCA Market, based on the 2018 WLA / WCA Market Review Decision.

## 4.2 WLA Market

4.2 In the 2018 WLA / WCA Market Review Decision ComReg defined a market for Wholesale Local Access ('**WLA Market**') provided at a fixed location, which is national in its geographic scope, and includes LLU, SLU, Line Share and VULA (or referred to as VUA throughout this document) products.<sup>65</sup>

4.3 ComReg concluded, on the basis of analysing the available evidence, in the 2018 WLA / WCA Market Review Decision that Eircom has SMP in the WLA Market.

4.4 ComReg accordingly has imposed regulatory obligations on Eircom in the WLA Market. These regulatory obligations are intended to address identified potential competition problems arising from Eircom's SMP in these markets, in particular, its ability and incentive to behave in an anti-competitive manner. Ultimately, the regulatory obligations are designed to promote the development of retail and wholesale competition.

4.5 ComReg has imposed a number of remedies on Eircom in the WLA Market, including an access obligation, a transparency obligation, a non-discrimination obligation, a price control and cost accounting obligation and an accounting separation obligation.

4.6 In relation to the price control obligation, ComReg decided in the 2018 WLA / WCA Market Review Decision to: re-impose the existing cost-orientation obligations with respect to LLU, SLU, Line Share and CEI products, to impose a new cost-orientation obligation for FTTC based VUA and EVDSL and to update the obligations not to cause a margin squeeze. ComReg also decided to maintain the existing margin squeeze obligations for FTTH based VUA.

4.7 The detailed nature of the cost orientation obligations for FTTC-based VUA and the margin squeeze obligations are further specified in this Decision.

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<sup>65</sup> ComReg includes Eircom's self-supply of its services in this market.

### 4.3 WCA Market

- 4.8 As set out in the 2018 WLA / WCA Market Review Decision, ComReg established two separate geographic markets in the Wholesale Central Access market; an Urban WCA Market and a Regional WCA Market.
- 4.9 The product component of the WCA Market consists of Wholesale Central Access for mass-market products provided at a fixed location, which includes Bitstream products provided over a copper-only network and Bitstream products provided over FTTC and FTTH networks (together 'FTTx'). ComReg also includes the self-supply of retail broadband products provided over a CATV network, as well as retail broadband products supplied by certain SPs using purchased upstream WLA inputs.
- 4.10 The Urban WCA market is sub-national in its geographic scope and equates to 145 identified Exchange Areas<sup>66</sup>. The Regional WCA Market is sub-national in its geographic scope and equates to a unique set of 1,058 identified Exchange Areas which exhibit sufficiently different characteristics of competition relative to the Urban WCA Market.
- 4.11 ComReg concluded in the 2018 WLA / WCA Market Review Decision that Eircom has SMP in the Regional WCA Market while no service provider was found to have SMP in the Urban WCA Market. Therefore, the Urban WCA Market is no longer subject to *ex ante* regulation.
- 4.12 In the Regional WCA Market, ComReg imposed regulatory obligations on Eircom to address identified potential competition problems arising from Eircom's SMP in this market, in particular, its ability and incentive to behave in an anti-competitive manner. Ultimately, the regulatory obligations are designed to promote the development of retail and wholesale competition.
- 4.13 ComReg imposed a number of remedies on Eircom in the Regional WCA Market, including an access obligation, a transparency obligation, a non-discrimination obligation, a price control and cost accounting obligation and an accounting separation obligation.
- 4.14 In relation to the price control obligation, ComReg decided in the 2018 WLA / WCA Market Review Decision to impose a cost orientation obligation on current generation copper-based Bitstream and on next generation FTTC-based Bitstream and EVDSL as well as obligations not to cause a margin squeeze. ComReg also decided to maintain the existing margin squeeze obligations for FTTH based Bitstream. The detailed nature of the cost orientation obligations for

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<sup>66</sup> The 'Exchange Area' is the geographic area served by a particular Eircom exchange. Please see Section 1, paragraphs 1.55-1.56 and footnotes 42 and 43 of the 2018 WLA / WCA Market Review Decision for further details.



FTTC-based Bitstream and current generation Bitstream and BMB as well as the margin squeeze obligations are further specified in this Decision.

- 4.15 Aside from the above, to date, ComReg has defined two areas with varying prospective competitive conditions namely the LEA and Outside the LEA, in line with the criteria set out in ComReg Decision D04/13<sup>67</sup> (**‘2013 Bundles Decision’**). This had been used to differentiate our pricing approach in the existing WBA Market.
- 4.16 In the Consultation (17/26) ComReg proposed to continue to differentiate our pricing remedies in the Regional WCA Market to take account of the varying structural and competitive conditions prospectively between the more densely populated areas and the rural areas. ComReg proposed that those exchange areas that remained within what was the LEA (i.e. after excluding those exchange areas that now fall into the Urban WCA Market) should be referred to as **“Regional Area 1”** to reflect the fact that these exchange areas fall within the Regional WCA Market. ComReg proposed that the remaining exchange areas that comprised “Outside the LEA” should be renamed as **“Regional Area 2”** to reflect the fact that these exchange areas fall within the Regional WCA Market.
- 4.17 However, in the 2018 WLA / WCA Market Review Decision ComReg reviewed this analysis, and decided that such a distinction no longer served the intended purpose, and that there was merit in aligning exchanges used for pricing purposes with the exchange areas as identified in the defined WCA Markets. Therefore, going forward the price control obligation will apply to the Regional WCA Market, without further geographic differentiation.

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<sup>67</sup> ComReg Document No. 13/14: Price Regulation of Bundled Offers: Further specification of certain price control obligations in Market 1 and Market 4 dated 8 February 2013 (**‘2013 Bundles Decision’**).

## Chapter 5

# 5 Costing Methodology

## 5.1 Background

- 5.1 In this chapter ComReg sets out the appropriate costing methodology that should apply in relation to next generation FTTC based services (VUA, NGA Bitstream and EVDSL) and current generation Bitstream and BMB services, further to the imposition of cost orientation obligations in the 2018 WLA / WCA Market Review Decision.
- 5.2 Chapter 5<sup>68</sup> of the Consultation sets out ComReg's analysis of the various costing methodologies and preliminary views on the appropriate methodology to determine the level of costs for the provision of next generation FTTC based services as well as current generation Bitstream and BMB services.
- 5.3 The discussion in this chapter is set out under the following headings:
1. Costing methodologies; and
  2. Applying costing methodologies to assets.

## 5.2 Costing Methodologies

### 5.2.1 Position set out in the Consultation

- 5.4 As set out in Chapter 5 of the Consultation, the costing methodology determines which costs are included in the cost model and how this is transformed into a unit price. In determining the appropriate costing methodology ComReg considered three factors in the Consultation as follows:
1. Appropriate cost standard;
  2. Historic costs or current costs; and
  3. Appropriate cost model.

#### *Appropriate cost standard*

- 5.5 On the appropriate cost standard, ComReg proposed in the Consultation<sup>69</sup> that the LRAIC+ approach was appropriate to encourage efficient investment

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<sup>68</sup> See paragraphs 5.2 to 5.12 of the Consultation.

<sup>69</sup> See paragraphs 5.24 to 5.43 of the Consultation.

decisions in the access network while ensuring that an operator is capable of recovering (but not over-recovering) all of its costs.

- 5.6 For FTTC based VUA (and EVDSL) in the WLA market, ComReg proposed to adopt the LRAIC+ approach. LRAIC+ includes appropriate amounts of variable, fixed and common costs, which is the calculus faced by any operator when deciding to enter or expand. This approach should send the appropriate investment signals to alternative operators who may want to replicate the assets in question.
- 5.7 Similarly, for FTTC based Bitstream, ComReg considered that LRAIC+ should be used so as to provide the appropriate infrastructure investment incentives. The costs associated with FTTC based Bitstream include some of the same assets as those used for FTTC based VUA and therefore consistency is important. In addition, for FTTC based Bitstream there are also the costs for wholesale ethernet interconnect links ('**WEILs**') and backhaul. In determining the appropriate cost for FTTC based Bitstream, ComReg must ensure that it sets the appropriate incentives for OAOs to move to VUA. Therefore, the Consultation proposed to adjust Eircom's BU-LRAIC+ costs specific to the Bitstream element of FTTC based Bitstream e.g., backhaul costs and WEILs to reflect the market share of a similarly efficient operator ('**SEO**'), as a proxy for a REO. This was discussed further in Chapter 6 of the Consultation.
- 5.8 For current generation Bitstream and BMB services, in order to prevent excessive pricing while at the same time balancing the need to provide the appropriate investment signals to both Eircom and other operators, ComReg considered in Chapter 5 of the Consultation that the LRAIC+ approach should be applied going forward in relation to current generation Bitstream and BMB services in the Regional WCA Market.

#### *Historic or current costs*

- 5.9 The Consultation<sup>70</sup> considered the options of current and historic costs, and ComReg was of the preliminary view that the current cost approach was most appropriate, because this best promoted efficient infrastructure investment, including that of the incumbent.

#### *Appropriate cost model*

- 5.10 In considering the appropriate cost model, ComReg was of the preliminary view<sup>71</sup> that the bottom up ("**BU**") model employing a scorched node approach should be used in combination with the LRAIC+ costing methodology in order to determine the cost of provision of FTTC based VUA (including EVDSL), FTTC based

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<sup>70</sup> See paragraphs 5.44 to 5.55 of the Consultation.

<sup>71</sup> See paragraphs 5.56 to 5.73 of the Consultation.

Bitstream and current generation Bitstream and BMB services, in the Regional WCA Market.

## 5.2.2 Respondents' Views:

- 5.11 The majority of respondents generally agreed with ComReg's preliminary view that BU-LRAIC+ is the appropriate methodology to be applied to determine the appropriate level of costs associated with the provision of FTTC based VUA (including EVDSL<sup>72</sup>) in the WLA Market and for FTTC based Bitstream (including EVDSL) and current generation Bitstream and BMB in the Regional WCA Market.
- 5.12 Sky agreed with the use of BU-LRAIC+ because they considered that it was in line with the 2013 Non-Discrimination Recommendation. Furthermore, Sky agreed that the approach should apply to current generation services as the methodology promotes consistency with other services. The AM Report also agreed with the BU-LRAIC+ approach for FTTC services and for current generation services.
- 5.13 ALTO agreed with the use of BU-LRAIC+. ALTO made reference to Eircom raising NGA prices to recover margin lost on WLR and in its view this was a clear demonstration of dominance. In ALTO's view there is a lack of availability of alternative products and this is an active competition problem that needs urgent resolution from ComReg. These points were also expressed by Vodafone.
- 5.14 Vodafone agreed with ComReg's proposals on the use of BU-LRAIC+. Vodafone stated that if certain aspects of the use of LRAIC+ were not monitored correctly by ComReg, it could lead to Eircom being rewarded for investment that it does not ultimately make. In this regard Vodafone urged ComReg to closely scrutinise Eircom's actual costs, as reported in Eircom's own annual Regulatory Accounts and if prices have been set correctly then Eircom will neither, under recover or over recover its costs as reported in the annual Regulatory Accounts.

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<sup>72</sup> Also called Exchange Launched VUA.

- 5.15 Vodafone also stated that they agreed with ComReg's proposal that the current cost orientation obligations should continue to apply for current and next generation ancillary charges and interconnection services. In Vodafone's view, if these services were not subject to a price control obligation, there would be a risk of excessive pricing which would undermine any business case for investment. Vodafone also commented on the risk of excessive future pricing of FTTH and the need for ComReg to monitor the market closely during the lifetime of the review.
- 5.16 BT agreed with the use of the BU-LRAIC+ methodology as a means of bringing pricing stability and regulatory certainty. In their response BT also referenced what it referred to as "*inappropriate pricing behaviour from the incumbent*" in the WLA Market and cited a number of recent price increases which they believe highlights Eircom's dominance.
- 5.17 Eircom stated that HCA for current generation services and BU-LRAIC+ for NGA is consistent with 2013 Non-Discrimination Recommendation.
- 5.18 Eircom did not agree with the use of BU-LRAIC+ for current generation services in the Regional WCA Market given that the market for these services is in decline. Eircom considered that a HCA costing methodology achieves an appropriate balance of ensuring Eircom cannot charge excessive prices relative to an aged investment while ensuring that any investment in upgrading or maintaining the network can be recovered. In Eircom's view, assets are depreciated and unlikely to be replaced in the move towards NGA, and so a BU-LRAIC+ methodology would send inappropriate build / buy signals in a technology that is being surpassed by FTTx technologies, cable, wireless and mobile broadband.
- 5.19 The CEG Report considered that the price of CGA services should be set to ensure recovery of Eircom's actual costs and price reductions should be avoided as they would deter the migration of customers to the NGA services of Eircom and its competitors and risk undermining further NGA investment. In addition, the CEG Report stated that retaining HCA would ensure that there is no over or under recovery of Eircom's costs. Furthermore, they considered that there is no reason to shift to BU to encourage efficient new investment as new investment in CGA-based services is highly unlikely with LLU volumes declining rapidly. In fact, lower prices for CGA bitstream is more likely to undermine, than promote, new investment because it is likely to delay customer migration from CGA to NGA and reduce the expected return to NGA investment by Eircom and rival operators.
- 5.20 Eircom stated that the reasoning for the use of a HCA costing methodology in the 2014 WBA Pricing Decision (D11/14), focusing on the need to maintain consistency over regulatory periods, remains appropriate.

- 5.21 For FTTC, Eircom stated that it did not agree that cost orientation was appropriate for FTTC based VUA (including EVDSL), but agreed that if it were then BU-LRAIC+ would be the correct methodology to use. Eircom stated that if the BU-LRAIC+ methodology is used then the cost of the average access path should align with the price control for SB-WLR per the 2016 Access Pricing Decision. Eircom clarified that for EVDSL all access network assets used for PSTN<sup>73</sup> are reused for this service so the BU-LRAIC+ of the access path will equal the HCA costs of the SB-WLR access path. Furthermore, Eircom stated that in the case of FTTC an adjustment is required where [3< [REDACTED]] of the duct and trench assets are reused so the adjustment is limited to applying the BU-LRAIC+ methodology to [3< [REDACTED]] of duct and trench costs (for that element of the access path that conveys the fibre optic cable to the street cabinet housing the very high bit rate digital subscriber line ('VDSL') electronics).
- 5.22 Enet stated that they understood the rationale as set out but were of the view that anchoring FTTC wholesale pricing to the BU-LRAIC+ standard would inevitably lead to knock on reductions in all related wholesale prices including FTTH. Enet was of the view that this could possibly have a major impact on alternative providers of FTTH and could call planned investments into question. They were of the view that this issue needs further consideration by ComReg.

### 5.2.3 ComReg's Assessment of Respondents' Views:

- 5.23 ComReg notes that the majority of respondents agreed that BU-LRAIC+ is the appropriate methodology to be applied to determine the appropriate level of costs associated with the provision of FTTC based VUA (including EVDSL) in the WLA Market and for FTTC based Bitstream (including EVDSL) and current generation Bitstream and BMB in the Regional WCA Market. Eircom, the CEG Report and Enet raised some points of disagreement while some of the other respondents raised points for further consideration. ComReg's position with regards to the points raised by respondents are addressed below.
- 5.24 On the points raised by both Vodafone and ALTO, as outlined at paragraph 5.13 above, on the lack of availability of substitute products, ComReg would like to point out that the availability of alternative access products is outside the scope of this Decision. This Decision relates to the further specification of the price control obligations specified in the 2018 WLA / WCA Market Review Decision.
- 5.25 ComReg notes Vodafone's views, as outlined at paragraph 5.14 above, that that if certain aspects of the use of LRAIC+ were not monitored correctly by ComReg it could lead to Eircom being rewarded for investment that it does not

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<sup>73</sup> Public Switched Telephone Network.

ultimately make. ComReg further notes that Vodafone urged ComReg to closely scrutinise Eircom's actual costs, as reported in Eircom's own annual Regulatory Accounts. ComReg's approach ensures that assets which are likely to be replicated for the rollout of NGA services, i.e., Non-reusable Assets (cables, cabinets, final drops, MDFs, etc.) are set by reference to replacement costs or BU-LRAIC+ in order to send the appropriate signals for NGA investment. For Non-reusable Assets it is important to send the correct investment signal (build or buy), so that operators, including Eircom, are encouraged to take an efficient investment decision. ComReg believes that such a build-or-buy signal is best ensured by adopting a BU-LRAIC+ methodology, based on replacement costs. On the other hand, assets that are not likely to be replicated for the purposes of a NGA rollout i.e., Reusable Assets (ducts, poles, trenches, chambers) should be determined by reference to actual costs from the SMP operator's accounts<sup>74</sup>. This approach ensures that for Reusable Assets Eircom is not recovering more than they are investing in network infrastructure while allowing other operators to access this non-replicable infrastructure at an efficient price level. ComReg considers that this approach should facilitate cost recovery for the Reusable Assets. Therefore, our approach of using the BU-LRAIC+ costs for Non-reusable Assets focuses on the investment signals required for these Non-reusable Assets (rather than cost recovery) while the approach of using actual costs (or Eircom's Indexed RAB) for Reusable Assets focuses on ensuring cost recovery. This approach is consistent with the 2013 Non-Discrimination Recommendation as set out in detail in subsection 5.3 below.

- 5.26 ComReg agrees with Vodafone's point, as outlined at paragraph 5.15 above, that the current cost orientation obligations should continue to apply for current and next generation ancillary charges and interconnection services. The cost orientation obligation for ancillary services and interconnection services (current generation and next generation WLA and WCA services) is set out in the 2018 WLA / WCA Market Review Decision. For ancillary services, Eircom must ensure that it recovers no more than its actual incurred costs (adjusted for efficiencies) plus a reasonable rate of return associated with the provision of those ancillary services in the WLA Market and in the Regional WCA Market. Please see Section 7 and Section 12 of the 2018 WLA / WCA Market Review Decision for further details on the cost orientation obligation for ancillary services in the WLA Market and in the Regional WCA Market, respectively. In this Decision ComReg further specifies, in Chapter 13, that for interconnection services such as WEILS and Bitstream Ethernet Connection Service ('**BECS**'), Eircom should ensure that it recovers no more than the costs incurred by an efficient operator calculated based on a BU-LRAIC+ costing methodology. In

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<sup>74</sup> This is the Eircom regulatory asset base ('RAB') approach as discussed at Chapter 5, paragraphs 5.80-5.88 of the Consultation.

addition, ComReg has set out principles for the recovery of FTTH connections and migrations. Please see Chapter 13 for further details.

- 5.27 As outlined at paragraph 5.15 above, Vodafone also raised concerns on the risk of excessive future pricing for FTTH and the need for ComReg to monitor the market closely during the lifetime of the review. The margin squeeze obligations for FTTH services were implemented in the 2018 WLA / WCA Market Review Decision (Section 7 (FTTH based VUA) and in Section 12 (FTTH based Bitstream) and the principles of the tests are further specified in Chapter 10 (FTTH based VUA) and in Chapter 11 (FTTH based Bitstream) of this Decision document. ComReg proposes to keep the pricing of FTTH under review during the price control period and ComReg will continue to monitor the relevant price trends in this regard.
- 5.28 ComReg does not agree with Eircom's point, as outlined at paragraph 5.17 above, that current generation services should be based on historical costs and next generation services should be based on BU-LRAIC+ consistent with the 2013 Non-Discrimination Recommendation. The 2013 Non-Discrimination Recommendation, in particular paragraph 30, specifies that *"For the purposes of setting **copper** and **NGA** wholesale access prices where cost orientation is imposed as a remedy... NRAs should adopt **a bottom-up long-run incremental costs-plus (BULRIC+) costing methodology** which includes a bottom up modelling approach using LRIC as the cost model and with the addition of a mark-up for the recovery of common costs."* **[Emphasis added]**. It is therefore clear from Paragraph 30 of the 2013 Non-Discrimination Recommendation that both copper (current generation services) and NGA services should be based on the BU-LRAIC+ methodology.
- 5.29 ComReg notes Eircom's views, as outlined at paragraph 5.18 above, that a BU-LRAIC+ methodology is not appropriate to inform cost oriented prices for CGA in the Regional WCA market and that these assets are depreciated and unlikely to be replaced in the move towards NGA, and so a BU-LRAIC+ methodology would send inappropriate build / buy signals. In addition, ComReg notes the views set out in the CEG Report, as outlined at paragraph 5.19 above, that the price of CGA services should be set to ensure recovery of Eircom's actual costs and price reductions avoided as they would deter the migration of customers to the NGA services. The CEG Report also considered that HCA would ensure no over or under recovery of Eircom's costs and that there is no reason to shift to BU to encourage efficient new investment as new investment in CGA-based services is highly unlikely with LLU volumes declining rapidly. Vodafone, as outlined at paragraph 5.14 above, also considered that if certain aspects of the use of LRAIC+ were not monitored correctly by ComReg, it could lead to Eircom being rewarded for investment that it does not ultimately make.



- 5.30 ComReg's approach for determining the costs relevant to current generation Bitstream and BMB services in the Regional WCA Market is to ensure that assets which are likely to be replicated for the rollout of NGA services, i.e., Non-reusable Assets (cables, cabinets, final drops, MDFs, etc.) are set by reference to replacement costs or BU-LRAIC+ in order to send the appropriate signals for NGA investment in the Regional WCA Market. On the other hand, assets that are not likely to be replicated for the purposes of a NGA rollout i.e., Reusable Assets (ducts, poles, trenches, chambers) should be determined by reference to actual costs from the SMP operator's accounts<sup>75</sup>. This approach is consistent with Paragraph 30 of the 2013 Non-Discrimination Recommendation i.e., using the BU-LRAIC+ methodology generally and also Paragraph 34<sup>76</sup> of the 2013 Non-Discrimination Recommendation i.e., using the regulatory asset base<sup>77</sup> ('RAB') approach derived from Eircom's accounts for Reusable Assets. Treatment of different asset categories i.e., Reusable Assets and Non-reusable Assets is discussed further in subsection 5.3 below.
- 5.31 Given the level of NGA investment in Ireland at present, ComReg's approach of using BU-LRAIC+ for current generation Bitstream and BMB services in the Regional WCA Market is intended to better inform network operator's investment decisions. Furthermore, current generation Bitstream prices that are below current network build costs for replacement of current generation services would make it more difficult to transition customers from CGA to NGA thereby further distorting the incentives to invest in NGA. ComReg considers that certain current generation assets for Bitstream and BMB services in the Regional WCA Market will need to be replaced if customers are to transition to NGA and these assets i.e., Non-reusable Assets should be based on the BU-LRAIC+ methodology. For Reusable Assets, the fact that these are both very costly to deploy and have long life-times means that their duplication should be avoided — as such parallel networks are not appropriate from an economic efficiency perspective. Therefore, no infrastructure based competition is expected to develop for these assets and cost recovery should be the key objective. This approach ensures that for Reusable Assets Eircom is not recovering more than what they are investing in network infrastructure while allowing other operators to access this non-replicable infrastructure at an

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<sup>75</sup> This is the Eircom RAB approach as discussed at Chapter 5, paragraphs 5.80-5.88 of the Consultation.

<sup>76</sup> NRAs should value reusable legacy civil engineering assets and their corresponding RAB on the basis of the indexation method. Specifically, NRAs should set the RAB for this type of assets at the regulatory accounting value net of the accumulated depreciation at the time of calculation, indexed by an appropriate price index, such as the retail price index. NRAs should examine the accounts of the SMP operator where available in order to determine whether they are sufficiently reliable as a basis to reconstruct the regulatory accounting value. They should otherwise conduct a valuation on the basis of a benchmark of best practices in comparable Member States. NRAs should not include reusable legacy civil engineering assets that are fully depreciated but still in use.

<sup>77</sup> Chapter 5, subsection 5.4 of the Consultation.

efficient price level. ComReg considers that this approach should facilitate cost recovery for the Reusable Assets.

- 5.32 Therefore, our approach for current generation Bitstream and BMB services in the Regional WCA Market ensures that those assets that need to be replaced i.e., Non-reusable Assets are based on the BU-LRAIC+ methodology in order to provide the appropriate investment signals to the market place while those assets that can be reused i.e., Reusable Assets are set by reference to actual costs by way of Eircom's accounts to ensure cost recovery. This approach is consistent with the 2013 Non-Discrimination Recommendation.
- 5.33 ComReg notes Eircom's point, as outlined at paragraph 5.20 above, that ComReg should be ensuring a consistent regulatory approach over review periods with reference to the HCA methodology specified in the 2014 WBA Pricing Decision. ComReg has a number of points to make.
- 5.34 In the 2014 WBA Pricing Decision CGA Bitstream was the more dominant broadband platform in large parts of the country. Since then there has been a significant level of investment in NGA broadband infrastructure by a number of network operators with further investment planned. As a result, demand for current generation Bitstream and BMB services is expected to continue to decline. ComReg's objective is to ensure that current generation Bitstream and BMB prices do not distort the investment signals for NGA broadband investment by all operators. As investment decisions are best informed by a BU-LRAIC+ approach (and with the RAB approach derived from Eircom's accounts for Reusable Assets), ComReg is of the view that, at a time of unprecedented investment in a range of NGA technologies by a number of different operators, regulatory consistency is best served by adopting a BU-LRAIC+ approach (and with the RAB approach derived from Eircom's accounts for Reusable Assets) for both CGA and NGA broadband services. Furthermore, our approach also ensures consistency with the European Commission's 2013 Non-Discrimination Recommendation. Please also see paragraph 5.30.
- 5.35 Furthermore, the exception of using top down historic costs in the case of SB-WLR, was based on the analysis set out in the 2016 Access Pricing Decision. ComReg decided in the 2016 Access Pricing Decision that the SB-WLR price should be based on the higher of: (i) Eircom's top down actual costs (adjusted for efficiencies) for the provision of SB-WLR nationally; or (ii) BU-LRAIC+ costs (with TD costs used for Reusable Assets) for the provision of SB-WLR in the Modified LEA. ComReg considers that the higher of TD costs of providing SB-WLR nationally or a combination of BU and TD costs in the Modified LEA maintains the correct build-or-buy signals in the Modified LEA (where there is varying prospective competitive conditions) and it ensures that Eircom does not over / under recover its actual efficiently incurred costs (plus a reasonable rate of return) nationally for SB-WLR. An SB-WLR price based on the BU-LRAIC+

methodology (with TD costs used for Reusable Assets) nationally would result in a higher price for SB-WLR due to the lower economies of scale and scope of those exchanges in more rural areas. Consequently, this approach would derive a higher national price than is required for appropriate build or buy signals and in particular in the more urban areas. In addition, relative to the actual costs Eircom incurs nationally such a pricing signal would result in Eircom over-recovering its actual efficiently incurred costs (plus a reasonable rate of return). Consequently, the BU-LRAIC+ approach was not considered to be appropriate in this case.

- 5.36 Further to Eircom's point, as outlined at paragraph 5.21 above, where it does not agree that cost orientation was appropriate for FTTC based VUA (including EVDSL), ComReg has set out the justification for cost orientation for FTTC based VUA in Section 7 of the 2018 WLA / WCA Market Review Decision.
- 5.37 ComReg also notes Eircom's views, as outlined at paragraph 5.21 above, that if the BU-LRAIC+ methodology is used for FTTC services then the cost of the average access path should align with the price control for SB-WLR per the 2016 Access Pricing Decision and for EVDSL the access path should equal the HCA costs of the SB-WLR access path. Eircom also stated that an adjustment is required where [3% ██████████] of the duct and trench assets are reused so the adjustment is limited to applying the BU-LRAIC+ methodology to [3% ██████████] of duct and trench costs. To clarify, the point regarding the alignment of the cost of the average access path between FTTC and SB-WLR is dealt with in Chapter 6, paragraphs 6.209 to 6.233. In terms of the adjustment for reuse and replacement of duct and trenches, ComReg can confirm that the reuse and replacement adjustments have been applied in the NGA Cost Model in line with the approach in the Revised CAM in the 2016 Access Pricing Decision. In other words, for [3% ██████████] of ducts and trenches we assume that these need to be replaced and are therefore based on the BU-LRAIC+ methodology.
- 5.38 ComReg does not agree with Enet's point, as outlined at paragraph 5.22 above, that anchoring FTTC wholesale pricing to the BU-LRAIC+ standard would inevitably lead to knock on reductions in all related wholesale prices including FTTH and that this could possibly have a major impact on planned investments by alternative providers of FTTH. Firstly, FTTC based services are determined on the basis of a cost orientation obligation where the level of costs is set by reference to the BU-LRAIC+ methodology<sup>78</sup> so as to provide the appropriate investment signals to alternative operators who may want to replicate the assets in question while ensuring that FTTC prices are reflective of efficient costs. Please see Chapter 5, subsection 5.3 of the Consultation for a more detailed discussion on the preferred BU-LRAIC+ approach for determining the

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<sup>78</sup> TD actual costs are used for Reusable Assets as discussed at Subsection 5.3 of this document.

appropriate level of costs for FTTC based services. On the other hand FTTH based prices are set on the basis of a margin squeeze obligation, i.e., a wholesale margin squeeze obligation between the price for FTTH based VUA in the WLA Market and the price for FTTH based Bitstream in the WCA Markets and a separate retail margin squeeze obligation between the price for FTTH based VUA in the WLA Market in the footprint of the Urban WCA Market and the price of the retail product delivered by FTTH based VUA when sold singly. The details of the margin squeeze tests for FTTH services are set out in Chapters 10 and 11 of this Decision.

- 5.39 Hence, for FTTC services the prices should be reflective of BU-LRAIC+ costs (and with the RAB approach for Reusable Assets as discussed below at subsection 5.3). For FTTH, Eircom has pricing flexibility in relation to FTTH based services so long as it complies with the margin squeeze tests.<sup>79</sup> Therefore, the prices for FTTC and the prices for FTTH are set independently as a result of the different price controls already specified in the 2018 WLA / WCA Market Review Decision and which are further specified in this Decision. To put it another way, the FTTH operator still has the pricing flexibility to charge more to reflect the enhanced functionality of the FTTH service over and above the functionality offered by the FTTC based service. Indeed, ComReg expects that the price for FTTH should be higher than the price for FTTC due to low demand for FTTH at the beginning of the deployment phase and the higher investment required in FTTH. Furthermore, there is a price floor for FTTH. The price floor protects the market from below-cost pricing by Eircom for FTTH based VUA. ComReg recognises that in certain areas Eircom may have an incentive to price its FTTH based VUA service below costs in order to discourage alternative operators from investing in the FTTH network. Therefore, ComReg considers that there is a need to introduce a price floor so that Eircom cannot price FTTH based VUA at too low a level in order to prevent predatory behaviour in this area. This is discussed in Chapter 12. Therefore, the price controls specified for FTTC based services and FTTH based services are independent while ensuring that continued investment is encouraged in each service, as appropriate. Please also see Appendix 3, paragraphs A3.11-A3.18 of the 2018 WLA / WCA Market Review Decision.
- 5.40 Having considered the submissions from respondents ComReg remains of the view that the BU-LRAIC+ costing methodology should be used to determine the costs associated with the provision of FTTC based VUA (including EVDSL) in the WLA Market and for FTTC based Bitstream (including EVDSL) and current generation Bitstream and BMB services in the Regional WCA Market for the reasons set out above at paragraphs 5.23 to 5.39 and also at Chapter 5, paragraphs 5.13 to 5.74.

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<sup>79</sup> Please see Chapter 10 and Chapter 11 on the margin squeeze tests.

## 5.2.4 ComReg's Position:

- 5.41 The BU-LRAIC+ costing methodology shall be used to determine the costs associated with the provision of FTTC based VUA (and EVDSL) in the WLA Market and for FTTC based Bitstream (and EVDSL) and current generation Bitstream and BMB services in the Regional WCA Market.

## 5.3 Applying costing methodologies to assets

### 5.3.1 Position set out in the Consultation:

- 5.42 In Chapter 5 of the Consultation<sup>80</sup>, ComReg considered whether different costing methodologies should be applied to different types of assets in the access and core networks. ComReg was of the preliminary view that determining a costing methodology for each asset irrespective of the service was the appropriate methodology for deriving the costs associated with next generation FTTC based services (and EVDSL) and current generation Bitstream and BMB services. Please see Figure 8 in Chapter 5 in the Consultation for an assessment of the various assets associated with the services under review.
- 5.43 In Chapter 5 of the Consultation we recognised that there are reusable civil engineering assets, including duct, poles and chambers that Eircom can reuse for the provision of NGA. We refer to these assets as Reusable Assets. In the Consultation we proposed that Reusable Assets should be valued by way of Eircom's accounts and with an asset price index applied. This approach is referred to as '**Eircom's Indexed Regulatory Asset Base (RAB)**'. We proposed to use the approach taken by ComReg in the Revised CAM in the 2016 Access Pricing Decision so as to ensure consistency across all current generation and next generation services.
- 5.44 In summary, pole costs are based on Eircom's Indexed RAB on the basis of 92% reuse of Eircom's pole base (absent NGA rollout) using projected TD costs. In addition, there is a provision of an additional 8% for pole replacement due to NGA deployment based on BU-LRAIC+ costs. For ducts access costs, ComReg assumed a 95% reuse of Eircom's duct base (absent NGA rollout) using projected TD costs while an additional 5% is provisioned for duct replacement due to NGA deployment based on BU-LRAIC+ costs. This is consistent with the approach set out in Chapter 4 of the 2016 Access Pricing Decision.
- 5.45 In Chapter 5 of the Consultation ComReg specified that there are assets that cannot be reused to accommodate the provision of NGA services and these

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<sup>80</sup> See paragraphs 5.75 to 5.101 of the Consultation.

include other passive local loop assets such as network termination unit ('**NTU**'), final drops, joints, D-side cables, E-side cables, cabinets and main distribution frames ('**MDFs**'). In addition, we recognised that in some cases there are non-reusable civil engineering assets (ducts, poles, chambers) which cannot be reused for NGA. We refer to 'other passive local loop assets' and 'non-reusable civil engineering assets' as '**Non-reusable Assets**'. The proposed approach for Non-reusable Assets is to use the BU-LRAIC+ methodology in line with the approach already used in the Revised CAM in the 2016 Access Pricing Decision.

- 5.46 For active / other assets e.g., DSLAMs, and BRAS (referred to as '**Active Assets**'), ComReg proposed that in order to encourage OAOs to climb the ladder of investment and migrate to NGA based services, the costs of Active Assets should be based on BU-LRAIC+. This is also consistent with the approach taken in the 2016 Access Pricing Decision.

### 5.3.2 Respondents' Views

- 5.47 The majority of respondents agreed in principle with the proposed costing methodology for Reusable Assets, Non-reusable Assets and active/other assets in the provision of FTTC based VUA (including EVDSL), FTTC based Bitstream and current generation Bitstream and BMB services. However, some specific issues were raised by respondents and these are set out in more detail below.
- 5.48 Vodafone agreed with ComReg's preliminary views. They stated that they had some concerns around ensuring that the forward looking approach for non-reusable assets and for active/other assets is applied appropriately and as forecast. They stated that an annual review is required by ComReg to ensure investments are actually made.
- 5.49 Eircom agreed with the policy of using the RAB approach (as in the Revised CAM) to costing reusable assets for FTTC/EVDSL/VUA/Bitstream, and noted that the Revised CAM model did allow for the accelerated depreciation of pole replacement, and the impact of previous change in pole asset lives. For non-reusable assets Eircom agreed with the use of BU-LRAIC+. In the case of BMB services Eircom proposed that there is a sound economic case to retain the historic cost approach that has applied since ComReg Decision D11/14.
- 5.50 ALTO and BT agreed with the concept and methodology but stated that there was concern that there is no fit-for-purpose solution from Eircom for the same ducts to carry the fibres of alternative operators. BT stated that it was incorrect for ComReg to assume that the costing definition of reusable by itself allows others to use the ducts.



- 5.51 SIRO agreed generally but highlighted concerns over the use of historic rather than replacement cost in the RAB approach used in the Revised CAM stating that it may result in prices being set at a level which created a barrier to alternative infrastructure investment.
- 5.52 Sky stated that it was unclear why ComReg had determined that all D-side assets are deemed “non-reusable assets” given that it was clear that FTTC based NGA uses SLU as an input. Sky was of the view that in FTTC areas these assets should be deemed to be reusable with the reuse factor to be determined based on actual replacement of copper cables when Eircom rolled out FTTC. The AM Report stated that in FTTC areas (i.e., areas where there is no FTTH and no NBP) those D-side “other passive local loop assets” are being reused by Eircom and treating these assets as entirely non-reusable is therefore not consistent with the real situation. The AM Report also stated that ComReg should modify its methodology and treat at least a share of D-side “other passive local loop assets” in FTTC areas as reusable.
- 5.53 Sky proposed that, in NBP areas, where D-side copper assets will neither be reused nor replaced when they reach the end of their asset life, there is no need to value copper on a replacement cost basis (LRAIC+). Sky considered that rewarding Eircom with a replacement cost on copper that will clearly not be replaced amounts to a state subsidy on top of what they are bidding for under NBP. Sky proposed that ComReg should amend its approach to copper replacement costing in the CAM. The AM Report also raised these points.
- 5.54 The AM Report requested clarification in relation to a number of matters. The AM Report asserted that:
- Figure 8 may contain an error as it does not include a local loop in the components of CGA Bitstream;
  - The sources of the following are not clear i.e., reuse factor of 92% for poles and reuse factor of 95% for trenches.
- 5.55 Enet stated that the use of BU-LRAIC+ should not result in price reductions for FTTC based services which would have the effect of undermining planned FTTH investments by other operators.

### **5.3.3 ComReg’s Assessment of Respondents’ Views:**

- 5.56 ComReg notes that the majority of respondents agreed in principle with the proposed costing methodology to be applied to the different asset categories. The specific points raised by respondents are addressed by ComReg in turn below.



- 5.57 As outlined at paragraph 5.48 above, Vodafone had some concerns around ensuring that the forward looking approach for non-reusable assets and for active/other assets is applied appropriately and as forecast. They stated that an annual review is required by ComReg to ensure investments are actually made. For Non-reusable Assets it is important to send the correct investment signal (build or buy), so that operators, including Eircom, are encouraged to take an efficient investment decision. ComReg believes that such a build-or-buy signal is best ensured by adopting a BU-LRAIC+ methodology, based on replacement costs. Unlike the Reusable Assets, the copper cables or Non-reusable Assets, are likely to be replaced by optical fibre — at least on the E-side. ComReg considers that in these areas OAOs should be encouraged to invest in the alternative NGA-based infrastructure. Similarly, for Active Assets<sup>81</sup>, OAOs should be encouraged to climb the ladder of investment and migrate to NGA based services, in the relevant areas, therefore the costs relating to Active Assets need to promote efficient infrastructure investment. The BU-LRAIC+ approach for Active Assets should provide the appropriate pricing signal for replacement of such assets given the short lifetimes and the fact that they must be replaced more often than cables and civil engineering assets. Therefore, ComReg considers that our approach of the BU-LRAIC+ methodology in relation to Non-reusable Assets and Active Assets is appropriate and is consistent with Paragraph 33<sup>82</sup> of the 2013 Non-Discrimination Recommendation.
- 5.58 In terms of Vodafone's point, as outlined at paragraph 5.48 above, on the need for an annual review, this point has been addressed at paragraph 5.25 above. In addition, Eircom is required to carry out an annual review in terms of the inputs, costs and assumptions of the models (which are defined in Chapter 6 and Chapter 8 of this Decision). This review is an opportunity for Eircom to highlight any exceptional changes or differences in the model(s) to ComReg. This should provide reasonable price certainty and stability to the marketplace. Where issues are apparent as a result of such a review, a more detailed assessment may be necessary where ComReg may need to assess historic data and forecasted data. Please see Chapter 12 for further details on the annual review. Separately, and in line with the 2016 Access Pricing Decision, Eircom is also required to provide an annual reconciliation statement to ComReg in relation to its actual pole investment compared with the poles investment assumptions made in the Revised CAM. Given the link between the Revised CAM and the NGA Cost Model in relation to the use of civil engineering assets (poles, ducts), any potential changes to the Revised CAM in this regard will also be considered in the context of the NGA Cost Model. ComReg will

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<sup>81</sup> These include such assets as DSLAMs and BRAS.

<sup>82</sup> NRAs should value all assets constituting the RAB of the modelled network on the basis of replacement costs, except for reusable legacy civil engineering assets.

continue to keep this under review.

- 5.59 ComReg does not agree with Eircom's views, as outlined at paragraph 5.49 above, that for current generation BMB services there is a sound economic case to retain the HCA approach that has applied since ComReg Decision D11/14. Please see our reasons set out at paragraphs 5.30-5.31 above.
- 5.60 ALTO and BT both expressed concerns, as outlined at paragraph 5.50 above, that there is no fit for purpose solution from Eircom for the same ducts to carry the fibres of alternative operators. ComReg would like to clarify that the provision of alternative access products is outside the scope of this pricing Decision.
- 5.61 As outlined at paragraph 5.51 above, SIRO expressed concerns over the use of historic rather than replacement cost in the RAB approach used in the Revised CAM stating that it may result in prices being set at a level which created a barrier to alternative infrastructure investment. ComReg would like to clarify a number of points.
- 5.62 Non-reusable Assets and Active Assets are based on replacements costs (or BU-LRAIC+ methodology). Please see paragraph 5.57. Reusable Assets are based on a Regulatory Asset Base ('RAB') approach derived from the SMP operator's accounts. Paragraph 34 of the 2013 Non-Discrimination Recommendation states that: *"NRAs should value reusable legacy civil engineering assets and their corresponding RAB on the basis of the indexation method. Specifically, NRAs should set the RAB for this type of assets at the regulatory accounting value net of the accumulated depreciation at the time of calculation, indexed by an appropriate price index, such as the retail price index. NRAs should examine the accounts of the SMP operator where available in order to determine whether they are sufficiently reliable as a basis to reconstruct the regulatory accounting value. They should otherwise conduct a valuation on the basis of a benchmark of best practices in comparable Member States. NRAs should not include reusable legacy civil engineering assets that are fully depreciated but still in use"*.
- 5.63 This approach ensures that for Reusable Assets Eircom is not recovering more than what they are investing in network infrastructure while allowing other operators to access this non-replicable infrastructure at an efficient price level. ComReg considers that this approach should facilitate cost recovery for the Reusable Assets. This approach is consistent with the approach taken in the Revised CAM in the 2016 Access Pricing Decision when setting the prices for other access services e.g., LLU and SLU. Consistency across the various cost models is important to ensure that the prices reflect similar costing principles. For further details on the RAB approach applied in this Decision please see

Chapter 4 of ComReg Document 15/67<sup>83</sup> and the 2016 Access Pricing Decision (D03/16).

- 5.64 As outlined at paragraph 5.52 above, both Sky and the AM Report considered that in FTTC areas D-side copper assets should not be classified as non-reusable but instead should be classified as reusable assets given that D-side copper assets are being reused by Eircom. Furthermore, the AM Report proposed that ComReg should modify its methodology and treat at least a share of D-side “other passive local loop assets” in FTTC areas as reusable. In addition, at paragraph 5.53, Sky and the AM Report stated that in NBP areas where D-side copper assets will neither be reused nor replaced when they reach the end of their asset life, there is no need to value copper on a replacement cost basis (LRAIC+) and that ComReg should amend its approach to copper replacement costing in the CAM.
- 5.65 Firstly, Paragraph 33 of the 2013 Non-Discrimination Recommendation states that “NRAs should value all assets constituting the RAB of the modelled network on the basis of replacement costs, **except for reusable legacy civil engineering assets.**” [**emphasis added**] Hence, our approach is consistent with that set out in the 2013 Non-Discrimination Recommendation. Furthermore, Paragraph 31 of the 2013 Non-Discrimination Recommendation further specifies that a BU-LRIC+ costing methodology should be used:

*“NRAs should adopt a BU LRIC+ costing methodology that estimates the current cost that a hypothetical efficient operator would incur to build a modern efficient network, which is an NGA network...”*

- 5.66 The difference between Reusable Assets and Non-reusable Assets is that copper cables will be replaced by fibre cables in the future while trenches and ducts can be reused for NGA purposes. Even if, to date, copper cables are only being replaced by fibre cables by Eircom in the Exchange side (or E-side) of the network, there are plans by operators, including SIRO and Eircom, to further deploy fibre up to the home (FTTH). In terms of the NBP, ComReg does not agree with the view that D-side copper assets will not be replaced in the NBP areas. The NBP is expected to provide a NGA network capable of meeting the requirements of the NBP and that this is most likely going to require replacing Eircom’s copper D-side network with a fibre based technology.<sup>84</sup> Therefore, the rationale is to consider that all cables (Distribution side (or D-Side) and E-Side) will at some stage in the medium to long term be replaced by fibre. Hence,

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<sup>83</sup> ComReg Document No. 15/67 “Eircom’s Wholesale Access Services: further specification and amendment of price control obligations in Market 4 and Market 5 and further specification of price control obligation in Market 2”, dated 3 July 2015.

<sup>84</sup> Please note that the line lengths considered in the NGA Cost Model are limited to 1.5km from the cabinet and 3km from the exchange and as a result longer lines in the NBP area are excluded from the cost base for FTTC based VUA. Please see Chapter 6 for further details.

copper cables are defined as Non-reusable Assets.

- 5.67 Furthermore, for Non-reusable Assets, it is important to send the correct build-or-buy signal, so that an OAO is encouraged to take an efficient investment decision. ComReg believes that such a build-or-buy signal is best ensured by adopting a BU LRAIC+ methodology, based on replacement costs. Please see Chapter 5 of the Consultation for further details on the BU-LRAIC+ methodology and how it achieves the appropriate investment signals.
- 5.68 As outlined at paragraph 5.54 above, the AM Report requested clarity on two points. In relation to their point that Figure 8 in the Consultation may contain an error as it does not include a local loop in the components of CGA Bitstream, ComReg would like to clarify that the current generation Bitstream service that we refer to in the table and which is the subject of this pricing Decision is the non-physical Bitstream access at a fixed location (i.e., the incremental costs on top of WLR / POTS) and not Bitstream provided over the local loop (i.e., Current Generation SABB). Therefore, there is no error in the table regarding current generation Bitstream.
- 5.69 With regard to the point raised in the AM Report, as outlined at paragraph 5.54 above, concerning the sources of the reuse factor of 92% for poles and reuse factor of 95% for trenches, ComReg refers to Chapter 4 of the 2016 Access Pricing Decision (D03/16). In essence, the reuse factors are assumptions that ComReg used in 2016 Access Pricing Decision when ComReg determined the cost oriented prices for other current generation access services e.g., LLU, SLU, civil engineering assets and SB-WLR. The details on the reuse and replacement factors are set out in Chapter 4, paragraphs 4.131 to 4.138 of ComReg Document 15/67 and a further analysis is contained in Chapter 4, paragraphs 4.138 to 4.159 of the 2016 Access Pricing Decision (D03/16).
- 5.70 Enet's point, as outlined at paragraph 5.55 above, is addressed at paragraphs 5.38-5.39.
- 5.71 Having considered the submissions from respondents ComReg remains of the view that the BU-LRAIC+ methodology should be used for determining the asset costs for Non-reusable Assets and Active Assets while the RAB approach as derived from Eircom's accounts should be used for determining the asset costs for Reusable Assets for the reasons set out above at paragraphs 5.56 to 5.70 and also at Chapter 5, paragraphs 5.75 to 5.104 of the Consultation.

### **5.3.4 ComReg's Position:**

- 5.72 For Reusable Assets, the RAB approach used in the Revised CAM in the 2016 Access Pricing Decision shall be applied to the relevant assets.

- 5.73 For Non-reusable Assets, a BU-LRAIC+ methodology shall be applied to the relevant assets.
- 5.74 For Active Assets, a BU-LRAIC+ methodology shall be applied.

## Chapter 6

# 6 Cost Modelling: NGA Cost Model

## 6.1 Background

- 6.1 This chapter looks at the modelling approach used to determine the appropriate level of costs associated with FTTC based VUA (including EVDSL) and FTTC based Bitstream (including EVDSL). The model for determining the costs and prices associated with FTTC based services is referred to throughout this Decision as the '**NGA Cost Model**'.
- 6.2 In Chapter 6 of the Consultation, ComReg discussed the network services to be modelled, including FTTC based VUA (and EVDSL) and FTTC based Bitstream (and EVDSL), and the network architecture in order to determine the number of assets required to meet the service demand. ComReg also considered the level of investment and the costs associated with running the network.
- 6.3 In this chapter, ComReg addresses the main issues and concerns that were raised by respondents in relation to the general principles and key parameters that informed the cost modelling approach in the NGA Cost Model. Issues that were raised relating to the specific application of those principles in the NGA Cost Model are addressed by ComReg in Annex 12 (also referred to throughout this document as the '**Cost Modelling Annex**') of this Decision. For example, ComReg's general approach to the application of the Economic Depreciation in the NGA Cost Model is discussed in this chapter, but any issues relating to how that approach is applied to specific assets or addressing possible errors identified by respondents in the model formulae used in the Economic Depreciation calculations are discussed in the Cost Modelling Annex.
- 6.4 This chapter also details the amendments that ComReg has made to some of the inputs and key parameters in the NGA Cost Model, following further consideration of issues raised by respondents. These amendments include:
- Updating demand forecasts to be more consistent with latest information on market forecasts and the technology choices involved in Eircom's rural 300k extension network.
  - Deriving VDSL specific SLU and LLU inputs with a maximum SLU line length of 1.5km (compared to 2.5km as consulted on) and LLU line length of 3km (compared to 5km as consulted on).

- Applying a scale adjustment to the SLU and LLU outputs from the Revised CAM to ensure that the unit cost calculations are more consistent with the number of lines that are served by Eircom's NGA services.
- Calculation of a common cost per service to ensure consistent common cost recovery between POTS based FTTC services and standalone broadband services.
- A revision to the basis of calculating the incremental costs for POTS based FTTC service.
- A revision to the price trends for the NGA link between the local exchange and the FTTC cabinet.

6.5 This chapter is discussed under the following headings:

1. Model timeframe and service demand;
2. Network costing (including FTTC based VUA and EVDSL);
3. Cost specific to FTTC based Bitstream;
4. POTS based NGA services; and
5. Determination of cost per service.

## **6.1 Model timeframe and service demand**

### **6.1.1 Position set out in the Consultation:**

- 6.6 The physical architecture of an FTTC NGA network is similar to that of the traditional CGA copper network. As a result, many of the relevant assets have already been modelled in the Revised CAM developed in the 2016 Access Pricing Decision.
- 6.7 As set out in the Consultation, the access network is dimensioned on a bottom-up basis using a "scorched node" approach and is based on Eircom's exchange positions / locations as well as the street cabinet positions of Eircom's access network. The NGA Cost Model benefits from the fact that all of this information was previously analysed in the 2016 Access Pricing Decision in the Revised CAM. The Revised CAM established the shortest path to connect an end user to a street cabinet and the shortest path from each street cabinet to the exchange. It also optimises the assets needed to roll out the access network and reflects how network operators plan their networks. Please see Chapter 5



of the 2016 Access Pricing Decision and ComReg Document No 15/67<sup>85</sup> for further details on the network dimensioning for the access network.

- 6.8 While the objective of the NGA Cost Model is to determine the costs for FTTC (including EVDSL) services, in Chapter 6 of the Consultation ComReg considered whether it should assess the likely demand and costs relevant to all technologies provided over the NGA network, i.e. FTTC, EVDSL and FTTH, to be consistent with the fact that FTTC, EVDSL and FTTH will be operated by Eircom in its access network over the next few years. The deployment of FTTH will give rise to economies of scope and scale that will have a bearing on the level of costs that should be relevant for FTTC and EVDSL services. Consequently, in the Consultation ComReg was of the preliminary view that it was appropriate to reflect FTTH service demands and costs in the NGA Cost Model. However, the intention was to derive cost oriented prices only for FTTC and EVDSL services, because reasonably robust information was available on the cost and demand characteristics for such services. In contrast, a large degree of uncertainty still prevails with regard to the costs and demand for FTTH services and so it was proposed in the Consultation to continue with a margin squeeze approach to setting FTTH prices.
- 6.9 Figure 12 and Figure 13 in Chapter 6 of the Consultation illustrate the network architecture relevant to FTTC services. Please also see subsection 6.4 of the Consultation for further details.
- 6.10 In terms of service demand, as a starting point the draft NGA Cost Model<sup>86</sup> referenced the information on the number of DSL lines for each Eircom site and each technology, for both current generation and next generation services. The data used in the draft NGA Cost Model was based on an assessment of broadband volumes on Eircom's network in December 2016. ComReg also requested Eircom to provide a forecast of how broadband demand was expected to develop over the coming years both by technology and by site. Eircom's forecast data was assessed by ComReg and TERA and ComReg made modifications to Eircom's forecasts to align with how ComReg anticipated demand for broadband services might develop over the next decade in light of the technology and deployment assumptions underpinning the NGA Cost Model and the NGN Core Model. In arriving at this forecast in the draft NGA Cost Model ComReg made a number of assumptions<sup>87</sup>.

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<sup>85</sup> ComReg Document No. 15/67 "Consultation and Draft Decision: Eircom's Wholesale Access Services – Further specification and amendment of price control obligations in Market 4 and Market 5 and further specification of price control obligation in Market 2", dated 3 July 2015.

<sup>86</sup> The NGA Cost Model discussed on a preliminary basis in the Consultation is described as the draft NGA Cost Model.

<sup>87</sup> See paragraph 6.37 of the Consultation.

- 6.11 The draft NGA Cost Model considered a timeframe of 50 years from 2013 to 2062. The model start date of 2013 was chosen as this was when Eircom first launched FTTC and EVDSL based NGA services. Typically, a BU-LRAIC+ model that uses Economic Depreciation to annualise costs should extend over a time-frame that is at least as long as the network elements (or assets) with the longest asset life. In the case of an NGA network the longest asset life tends to be associated with underground infrastructure such as duct and trenches and elements such as the cabinet plinth, all of which are assumed to have an asset life of 40 years. ComReg was of the preliminary view that a time-period of fifty years should apply to the draft NGA Cost Model.
- 6.12 Please see Chapter 6, subsection 6.5 of the Consultation for ComReg's preliminary views on the service demand, model timeframe and services volumes.
- 6.13 Respondents' views and ComReg's assessment of respondents' views are discussed below under the appropriate headings.

### **6.1.1 Respondents' Views:**

- 6.14 At Section 6.5.2 of the Consultation respondents were asked for their views regarding the proposed timeframe of the NGA Cost Model and views on the proposed approach and assumptions used in determining the service volumes/demand for FTTC VUA (including EVDSL) and FTTC based Bitstream in the NGA Cost Model.
- 6.15 The majority of respondents had concerns with the assumptions used in determining the service volumes/demand for FTTC based VUA (including EVDSL) and FTTC based Bitstream in the NGA Cost Model and Eircom, in particular, disagreed with the proposed timeframe of the NGA Cost Model.

#### **Demand forecasts**

- 6.16 ALTO disagreed with ComReg's approach to forecasting demand stating that, in its view, it is too early for ComReg to make the rollout assumptions it has, given the level of uncertainty around the NBP and the impact of Eircom's decision to rollout to 300k homes in the former NBP area. BT also made a similar point.
- 6.17 ALTO did not agree with the assumption that FTTC rollout ceased in December 2016, noting that Eircom was still reporting the deployment of new FTTC cabinets to industry in June 2017.
- 6.18 ALTO also referred to Eircom's agreement with the Department of Communications, Climate, Action and Environment ('DCCAE') to deploy a commercial NGA network to pass 300k premises that were originally part of the

NBP tender process and noted that both FTTC and FTTH technologies are capable of meeting the department's requirement for the NBP. Noting that Eircom is trialling "*longer distance cabinet based VDSL*"; ALTO also considered that "*it would be surprising that Eir would always commercially choose the more expensive FTTH option that also is more difficult to deploy.*"<sup>88</sup>

6.19 ALTO also mentioned ALTO member studies of the industry which shows:

*"that at some locations both FTTC and FTTH is available and is it reasonable these double costs should be considered and excluded in any model as clearly it must have been a commercial and not a regulatory decision to double supply"*<sup>89</sup>.

6.20 BT also raised similar concerns to ALTO on the assumption that eircom's FTTC rollout is complete by December 2016 and also argued that FTTC is capable of meeting Eircom's commitment to the 300k.

6.21 Sky expressed the view that the assumption that Eircom's 2026 broadband line base will be similar in size to the 2016 broadband base is conservative given (a) Virgin Media's base is in decline, (b) Eircom's investment in 300k homes for FTTH, (c) Eircom may win one or both lots of the NBP and (d) Ireland's growing population.

6.22 Sky noted, in a subsequent letter to ComReg, that Eircom's FTTC growth was in excess of 40% in the 12 months to 2017 Q3. The letter also noted that Virgin Media's customer base only increased by 7,000 during this period, even though it had recently added an additional 50,000 homes to its footprint. These growth trends suggested to Sky that Virgin Media was not "*providing a constraint on Eircom's market power*". Sky further argued that "*even if the rate of growth, to take an extremely conservative view, were to half next year and half again the year after that again, its FTTC base by 2020 would still climb to c675k. On that basis an assumed FTTC base over the review period of 750-800k would not be unreasonable*"<sup>90</sup>.

6.23 The Sky letter also referenced the fact that Eircom has announced plans to deploy "super-vectoring" technology in its VDSL footprint that will allow it achieve speeds of up to 250 Mbps, and argued that "*this makes the prospect of Virgin Media (or indeed FTTH providers) eating into Eircom's subscriber base ever less likely.*"

6.24 Vodafone also disagreed with some of the forecast assumptions used in the model and considered that ComReg's estimate of c.5% decline in overall

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<sup>88</sup> Alto Response, page 6.

<sup>89</sup> Alto Response, page 6.

<sup>90</sup> Sky letter to ComReg, 26 January 2018, paragraph 6.

volumes on Eircom's network appeared unlikely based on recent trends. Vodafone noted that in the period between Q1 2014 and Q4 2016 fixed broadband subscriptions increased by 12.17% overall. Vodafone also commented that the modelled line volumes appeared overly conservative (based on the reductions being overstated) and therefore argued that the broadband prices could lead to an over recovery by Eircom. Vodafone suggested that ComReg should monitor the actual growth in the market and adjust prices on a forward looking basis to reflect volume increases that are greater than the model forecast.

- 6.25 SIRO, on the other hand, stated that it had some concerns that ComReg had underestimated the impact of the existence of rival platforms on the demand for Eircom's NGA services with the result that "*the price will be determined as lower than would be the case with a lower market share*<sup>91</sup>". SIRO noted that the assumptions used in the NGA Cost Model implied that Eircom's NGA network will retain 70% of customers and thus the price will be determined as lower than would be the case with a lower market share for Eircom's wholesale NGA services. SIRO also suggested that the current embedded alternative infrastructure of Virgin Media had already established a precedent in this area and should be considered in setting the assumption for market shares by rival platforms.
- 6.26 Eircom commented that ComReg's forecast volumes failed to take proper account of competing investments in FTTH, DOCSIS<sup>92</sup> and 5G FWA<sup>93</sup> by rival operators and that the NGA Cost Model also underestimated the likely loss of Eircom's lines to rival platforms. Eircom stated that ComReg was proposing that Eircom can grow their penetration rate with VDSL which is not a future proof technology – unlike FTTH. Consequently, Eircom's view was that the NGA Cost Model overstated usage of Eircom's assets and hence decreased underlying service prices.
- 6.27 Eircom also expressed concern that the approach to calculating demand by technology at the individual exchange level is inappropriate and misrepresents the migration from Eircom's line base to the FTTC, EVDSL and FTTH platforms on its own network as well as the accumulated line loss to rival platforms. Furthermore, Eircom argued that the existence of anchoring across the broadband product range meant that, in its view, lower FTTC /EVDSL prices would impact on the ability of all operators to earn a premium from services such as FTTH, and so on their willingness to invest in these technologies.

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<sup>91</sup> SIRO Response, Question 4.

<sup>92</sup> Data Over Cable Service Interface Specification.

<sup>93</sup> Fixed Wireless Access.

- 6.28 The CEG Report noted a number of concerns with the NGA Cost Model, including concerns relating to demand, such as the approach used to model the migration of customers between different technologies on the Eircom network and between the Eircom network and rival platforms. The CEG Report concluded that the NGA model underestimates the line loss to rival platforms and incorrectly models the migration between technologies on Eircom's network.

### **Model timeframe**

- 6.29 Eircom also disagreed with the proposed timeframe of 50 years. In Eircom's view this is unjustified given the expectation regarding the life of the underlying investments, on the basis that FTTH is regarded as the long term technology for broadband provision. Eircom expected that VDSL will have long ceased being the technology of choice for the majority of customers over a 50 year timeframe, and so Eircom proposed that ComReg should be prudent and model a significantly shorter period, e.g. 20 years.
- 6.30 The CEG Report also stated that FTTC specific costs on the NGA Cost Model should be modelled over a period reflecting the lifespan of FTTC services and considered "that all subscribers are likely to have to migrate off FTTC services to FTTH, 5G or other new technologies by 2035<sup>94</sup>". The CEG Report recommended that ComReg should revisit its approach and apply a NPV-neutral approach over a modelling period that is no greater than 20 years, arguing that 20 years is "*a much more reasonable timeframe to be confident the services will continue to be in use compared with the current 50-year modelling period*"<sup>95</sup>.

### **Economic depreciation**

- 6.31 Eircom stated that there were two fundamental inherent assumptions behind the method of Economic Depreciation used by ComReg in the draft NGA Cost Model and that, in Eircom's view, these assumptions were inconsistent with both the behaviour of an economic market and with the planned term of the price control remedy. The first assumption is that there needs to be a consistent price level sufficient to deliver cost recovery of FTTC network elements after 2020 from WLA VUA revenues. The second is that the same set of wholesale customers will use the open eir FTTC network in the price control period from 2013-2020 and in the period after 2020 when no price control is proposed.
- 6.32 Eircom expressed the view that "*in a competitive market an efficient network operator will attempt to recover all costs of service provision. If it is impossible*

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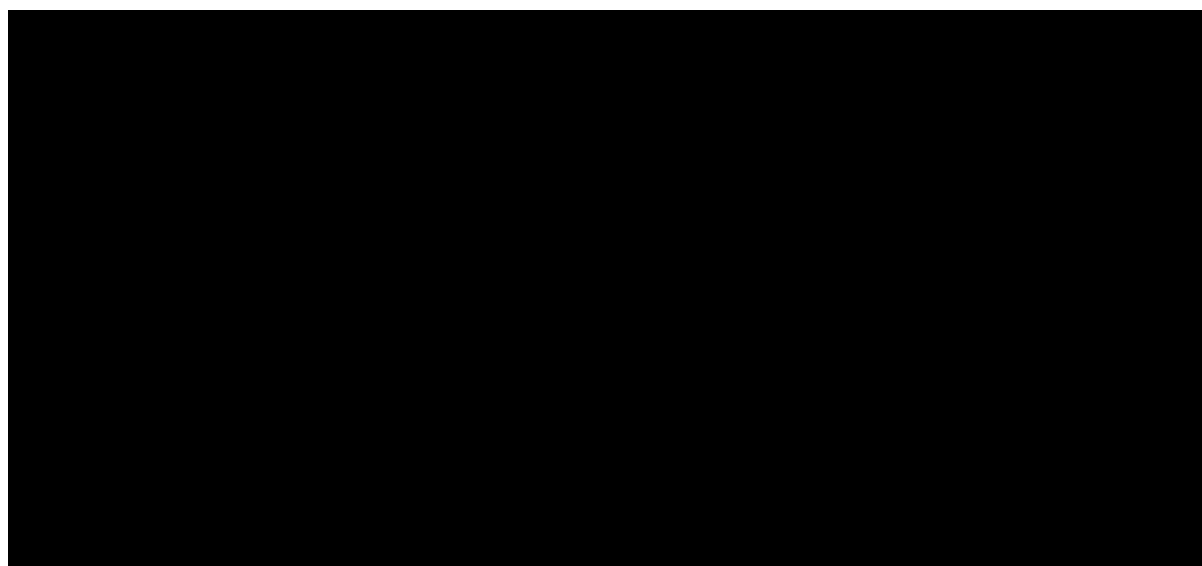
<sup>94</sup> The CEG Report, §220.

<sup>95</sup> Ibid, § 303.

*to forecast over a longer time period ... prices have to be set in line with short-medium term forecasts of demand and actual costs<sup>96</sup>.*

- 6.33 To support this claim Eircom included an analysis of the average DSLAM unit costs as calculated in a series of 8 year sections over the 50 years of the modelling period, which showed that the balanced average in the first 8 year section, from 2013 to 2020, is significantly higher than the averages in each of the subsequent 8 year sections:

**Figure 4: Eircom analysis of average DSLAM unit costs [X [REDACTED]**



- 6.34 Eircom noted that the graph “*illustrates the higher average cost of service provision in the first phase and a stable, lower level average cost of the later phases, as is normal with economic trends e.g., in maturity curves after pricing of new products<sup>97</sup>*”. Eircom further stated “*that the cost modelling period should be identical with the price regulation period. In this case the average rate of the discounted costs and ‘discounted usage’ is equal to the average across years 2013-2020<sup>98</sup>*”.

- 6.35 The CEG Report stated that the depreciation approach in the NGA Cost Model will not ensure cost recovery if maintained over several regulatory reviews and risks leading to an under- or over-recovery of the cost of particular assets depending on their price trends and the regulatory price setting periods.

**Other issues raised:**

- 6.36 Sky provided a general comment on the level of redaction in the model around demand assumptions and commented on the inability of operators other than

<sup>96</sup> Eircom response, §93.

<sup>97</sup> Eircom response, § 95.

<sup>98</sup> Eircom Annex (Review of Cost Models), paragraph 41.



Eircom to comment in a meaningful way. In Sky's view, it is not clear what competitive advantage could be gained from OAO awareness of demand inputs. Sky also noted that:

*“Presumably this information has been shared with Eircom and if there is any perceived advantage for a retail provider having access to this information, then ComReg has taken a view that this is an advantage that should only be afforded to Eircom including its retail arm.<sup>99</sup>”*

- 6.37 Enet provided a response similar to that for previous questions, stating that the use of BU-LRAIC+ should not result in price reductions for FTTC based services which would have the effect of undermining planned investment in FTTH.

## 6.1.2 ComReg's Assessment of Respondents' Views

- 6.38 ComReg notes that the majority of respondents disagreed with the proposed timeframe of the NGA Cost Model and the assumptions used in determining the service volumes/demand for FTTC based VUA (including EVDSL) and FTTC based Bitstream (including EVDSL) in the NGA Cost Model.

### Demand forecasts

- 6.39 ComReg notes ALTO and BT's disagreement, as outlined at paragraphs 6.16-6.20 above, with the rollout assumptions in the Consultation, particularly the assumption that the rollout of FTTC ceased in December 2016 and that a site with no NGA lines in December 2016 would be served by NBP or FTTH, as ALTO's view was that Eircom was still reporting the deployment of new cabinets to industry as at June 2017.
- 6.40 However, the scorched node approach that underpins the NGA Cost Model means ComReg based the deployment assumptions in the NGA Cost Model on Eircom's FTTC and EVDSL deployment plans in each local exchange area<sup>100</sup> rather than the actual number of cabinets installed at that time. In addition, the NGA Cost Model will dimension the number of DSLAMs to be deployed in an exchange based on the assumed demand in a year and additional DSLAMs can be deployed as the demand for FTTC services increases. In fact, due to the demand assumptions in the NGA Cost Model, the maximum number of DSLAMs is not achieved until 2018.
- 6.41 Also, in relation to ALTO's point on the uncertainty around the NBP arising from Eircom's decision to deploy its 300k network, ComReg's assessment is that the potential impact of the future provision of fixed broadband services in the NBP Intervention Area ('IA') on the cost of VDSL services in the commercial or excluded area is limited. The reason that the NBP is addressing the supply of

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<sup>99</sup> Sky response, paragraph 9.

<sup>100</sup> An exchange area refers to the area in Eircom's network that is served by the local exchange.



NGA services to customers in the NBP IA is because no operator is planning to offer NGA broadband services in this area and consequently the supply of such services are deemed to be non-commercial. It is also not expected that any potential NBP customer can avail of viable FTTC/EVDSL services given the distance these customers are from the local exchange and the technical limitations of the VDSL services. Consequently, ComReg expects the future provision of NGA services in the NBP IA will only result in a reduction in Eircom's CGA broadband base as the premises in the NBP IA are not being passed by any of Eircom's NGA networks.

- 6.42 With regard to the concern raised in ALTO's response, as outlined at paragraph 6.18 above, that Eircom's decision to deploy both FTTC and FTTH technologies at a site could lead to additional costs being included for regulatory cost recovery, ComReg has reviewed Eircom's NGA deployment plans and, given the population dispersion that is evident in many areas of the country, ComReg believes that it is appropriate to model more than one technology to serve a local exchange area. Although ALTO is correct in stating that both FTTC and FTTH are technically capable of meeting the DCCAE's minimum speed requirements for the NBP, it is also the case that the ability of a VDSL based technology such as FTTC to meet those requirements is heavily dependent on the distance the customer is from the DSLAM.
- 6.43 In many rural exchange areas there is insufficient scale to justify the deployment of an FTTC cabinet and, in those circumstances, it is reasonable for Eircom to use different technologies in the same exchange area. For example, EVDSL could be used to serve those premises that are closest to the exchange MDF by deploying a DSLAM in the exchange, FTTC could be used to serve clusters of customers that are further from the exchange and FTTH could be used to target more isolated premises that are far enough from the exchange or FTTC DSLAMs to make a VDSL service unviable. Indeed, in its response to the Consultation Eircom commented that "*the vast majority of premises passed by the openeir NGA network are served by either FTTC/EVDSL or FTTH – **not both***"<sup>101</sup> (Eircom's emphasis).
- 6.44 Therefore, the NGA Cost Model does assume the deployment of more than one technology in the same exchange area but it is also assumed that the technologies are being used to target different sets of customers within those exchange areas. Similarly, those premises that are to be targeted as part of the NBP are deemed to be beyond the reach of a commercial NGA service and so are neither targeted by Eircom's VDSL deployments nor its rural FTTH deployment.

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<sup>101</sup> Eircom response, paragraph 47.

- 6.45 Accordingly, while Eircom's copper access network can be considered to be capable of serving all of the premises in the exchange area (as the Universal Service Provider, Eircom's copper network is expected to serve all premises in the country, which Eircom estimates to be 2.35m), the customer base that can be served by its FTTC/EVDSL network is limited to those customers that are relatively close to a DSLAM (a sub-set of approximately 1.6m of the national premises) with a further sub set of customers served by FTTH in the rural 300k network <sup>102</sup>. Consequently, Eircom is passing 1.9m out of 2.35 premises with an NGA service, and it is not unreasonable for a local exchange area in Eircom's access network to include some customers that Eircom will serve using an FTTC based NGA service, others that will be served by EVDSL and another sub-set that will be served by FTTH as part of the 300k rural network.
- 6.46 Sky commented, as outlined at paragraph 6.21 above, on ComReg's assumption that Eircom's 2026 broadband line base will be similar in size to the 2016 broadband base and expressed a view that this was conservative given a number of points, each of which are addressed below.
- a. ComReg disagrees with Sky's point, as outlined at paragraph 6.21 above, that there is little evidence of Virgin Media's broadband base increasing. ComReg notes that Virgin Media is expanding its network into new exchange areas where Eircom would not have previously faced competition from another fixed line broadband provider. Virgin Media recently announced that it had added over 100,000 additional premises to its network footprint in the last two years with the result that its fibre network now passes 900,000 premises, and that it expects to pass another 100,000 over the next two years <sup>103</sup>. As noted at paragraph 6.22 above, Sky has pointed out that Virgin Media's overall base had only grown by 7,000 in a period during which it added 50,000 homes to its footprint. However, [redacted] ] and ComReg remains of the view that it is reasonable to expect that Virgin Media will be successful in gaining some market share in those areas that it is using FTTH to expand its network footprint.
  - b. Sky, as outlined at paragraph 6.21 above, also expects Eircom's investment in the 300k homes for FTTH to increase its overall broadband customer base. ComReg agree with this view, as some broadband customers in the 300k footprint may switch to Eircom's FTTH service from a mobile or Fixed Wireless Access ('FWA') service, although a significant number are likely to be existing CGA customers. ComReg previously assumed that FTTH was

<sup>102</sup> See eir's fibre footprint on slide 10 of eir's quarterly results for Q1, 2018: [https://www.eir.ie/.content/pdf/IR/presentations/2017\\_2018/quarter1/eir\\_1st\\_quarter\\_results\\_presentation\\_FY1718\\_2.pdf](https://www.eir.ie/.content/pdf/IR/presentations/2017_2018/quarter1/eir_1st_quarter_results_presentation_FY1718_2.pdf)

<sup>103</sup> <https://www.virginmedia.ie/about-us/press/2018/virgin-media-announces-landmark-figure-of-900-000-premises-now-passed/>

the only technology used to serve the 300k but, after seeking further information from Eircom on the 300k deployment, this assumption has been revised so that [30-35] % of the 300k customer base is now served by EVDSL. Consequently, the demand forecasts in the NGA Cost Model have been amended to account for the number of premises that are passed by the 300k network, the technological choices Eircom is making to pass these premises and the impact that this is likely to have on the overall demand for FTTH and EVDSL services based on the assumed levels of take-up. As a result, future EVDSL demand is now assumed to be higher than previously modelled.

- c. With regard to Sky's point, as outlined at paragraph 6.21 above, on the potential impact of the NBP on Eircom's broadband demand, please see ComReg's view as to why the NBP is not expected to have a significant impact on the cost of providing FTTC and EVDSL services in paragraph 6.41 above.
- d. ComReg agrees with Sky's views, as outlined at paragraph 6.21 above, that the expected increase in population should increase the size of the broadband market. However, ComReg also expects that Eircom will face more competition in an increasing proportion of this market from a larger number of broadband operators (including a potential NBP) than it has experienced to date. Consequently, some of Eircom's existing broadband base in the commercial NGA footprints will migrate to the newly deployed rival networks while all of the demand in the NBP area, which is currently served by ADSL, will ultimately be served by FWA or the NBP. In ComReg's view this platform competition will counter the effect of the larger broadband market on Eircom's future broadband demand.

6.47 In addition to Sky, Vodafone also considered, as outlined at paragraph 6.24 above, that the NGA Cost Model is under-estimating future broadband demand on the Eircom network. Vodafone noted that overall broadband volumes increased by over 12% between Q1 2014 and Q4 2016 and that ComReg's assumption "*that overall broadband volumes on eir's network would reduce by c. 5% appears unlikely based on recent trends*"<sup>104</sup>. In finalising the demand forecasts in the NGA Cost Model ComReg and its advisors did revisit the assumptions on future market growth and the potential impact such growth would have on broadband volumes on Eircom's network when combined with assumptions on Eircom's expected market share.

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<sup>104</sup> Vodafone response, § 26.

**Figure 5: Quarterly data on DSL and VDSL**

	2014 Q1	2015 Q1	2016 Q1	2017 Q1	2018 Q1
DSL	687,049	604,630	505,639	414,473	340,350
VDSL	103,420	239,498	392,868	526,026	591,709
DSL/VDSL	790,469	844,128	898,507	940,499	932,059
Annual VDSL growth		132%	64%	34%	12%
Total Fixed broadband	1,212,735	1,270,909	1,321,114	1,372,795	1,410,912
Annual fixed growth	2.0%	4.8%	4.0%	3.9%	2.8%

Source: ComReg Quarterly Data.

- 6.48 ComReg's quarterly key data report for Q1 2018 records total demand in the fixed broadband market of 1.4m, with 592k of this demand provided using VDSL<sup>105</sup>. While this represents a 12% growth year on year in VDSL demand there is also evidence in the quarterly data that the VDSL rate of growth is slowing. This slowdown is consistent with migration trends from older to newer technologies, and the assumption in the NGA Cost Model is that the majority of migration to VDSL takes place in the first four years after service launch.
- 6.49 The evolution of VDSL demand up to Q1 2018 also indicates that assuming that the rate of VDSL growth observed in 2017 were to half in the following year and half again in the subsequent year is not an "extremely conservative view", as per Sky's description noted in paragraph 6.22 above, but is actually the pattern of growth that can be expected at this stage of the migration cycle given that Eircom first deployed its FTTC network in 2013.
- 6.50 Consequently, ComReg believes that Sky's position, as outlined at paragraph 6.22 above, that Eircom could attain an FTTC base over the price review period of 750-800k given the overall size of the market, is unlikely to occur. Rather ComReg projects that the FTTC and EVDSL base is unlikely to exceed 700k during the price control period when consideration is given to the extent of rival network competition, the fact that customers in the NBP IA cannot avail of a viable FTTC/EVDSL service and that the majority of customers in the 300k area are served with FTTH. ComReg also expects that broadband volumes on Eircom's network will increase up to 2021 but then start to decrease in the following years, mainly as a result of the residual ADSL base in the NBP IA migrating onto the NBP provider's platform.
- 6.51 While Sky and Vodafone had concerns that the NGA Cost Model might understate the level of broadband demand on Eircom's network, SIRO (as outlined at paragraph 6.25 above) expects Eircom to face greater line loss in those exchange areas where new rival platform build is taking place, with the

<sup>105</sup> ComReg Document No 18/49, Figure 3.1.1.

result that it considers modelled demand to be higher and the derived unit price lower than it should be.

- 6.52 Eircom and the CEG Report, as outlined at paragraphs 6.26 and 6.28 above, also considered that the NGA Cost Model underestimated the line loss to rival operators, including to DOCSIS and 5G fixed wireless access.
- 6.53 In terms of assessing the impact on the customer base due to increased competition from rival operators, ComReg notes SIRO's suggestion (as outlined at paragraph 6.25 above) that the current embedded alternative infrastructure of Virgin Media had already established a precedent and should be considered in setting the assumption for market shares by rival platforms. However, in most areas where Virgin Media originally deployed its DOCSIS network it would have had first-mover advantage in terms of NGA deployment and this is not the case with more recent rival network build. Consequently, historical market share data may not provide an exact precedent for the impact of more recent deployments by rival operators.
- 6.54 As outlined at paragraph 6.27 above, Eircom raised concerns with ComReg's approach to estimating demand by technology at the individual exchange level. These concerns related both to the formulae used to determine migration from CGA to NGA at each exchange site and the approach used to estimate the level of line loss to other rival platforms.
- 6.55 ComReg and its advisors (TERA) reviewed the model calculations in light of the issues raised by Eircom and the CEG Report and consequently made some adjustments to the formulae that determined the rate of migration between technologies on the Eircom network, and between the Eircom network and rival platforms. However, despite the concerns raised by Eircom and the CEG Report with the details of the approaches used to determine migration between platforms and technologies in the draft NGA Cost Model that supported the Consultation, it was still the case that the overall level of Eircom's broadband demand in this version of the model was not significantly different from the demand forecasts previously provided by Eircom. Consequently, while the formula errors noted in the CEG Report have been corrected and forecast parameters have been amended in light of further information provided by Eircom, ComReg remains of the view that the general approach used to forecast demand in the NGA Cost Model is reasonable.
- 6.56 In relations to Eircom's point, as outlined at paragraph 6.26 above, that ComReg is proposing that Eircom can grow its broadband base up to 2026 using VDSL, ComReg note that projected VDSL demand in the final NGA Cost Model in this Decision is assumed to peak by 2019 and FTTH is the only technology on Eircom's network that experiences growth thereafter. Also, as outlined at paragraph 6.63 below, Eircom's market share of the fixed broadband

market is modelled to decrease between 2016 and 2026 in the face of increased competition from rival platforms, including NBP, but the overall fixed broadband market is also expected to grow and it is this growth in the overall market that helps to offset the impact of increased platform competition on Eircom's broadband base.

- 6.57 Further to Vodafone's point, as outlined at paragraph 6.24 above, that ComReg should monitor the actual growth in the market and adjust prices on a forward looking basis to reflect volume increases that are greater than the model forecast, ComReg notes that a more stable pricing regime is ensured if the price adjustments are confined to only significant and sustainable deviations from the modelled levels of costs or network volumes. The LLU and SLU inputs comprise the most significant element of VUA related costs and these elements are costed in the Revised CAM and, as set out in the 2016 Access Pricing Decision (D03/16), where the key inputs and parameters in the Revised CAM should be kept under review by Eircom on an annual basis<sup>106</sup>.
- 6.58 In considering Eircom's point, as outlined at paragraph 6.26 above, that VDSL is not future proofed, ComReg notes that the 2013 Non-Discrimination Recommendation states that:

*"When setting the economic life of the assets in a modelled FTTC network NRAs should take into account the expected technological and network developments of the different network components."*<sup>107</sup>

- 6.59 The technical capability of the VDSL technology continues to evolve and, as noted in paragraph 6.23, Eircom is preparing to introduce "Supervectoring" enhancements to its FTTC platforms that could deliver speeds of 250 Mbps, which should help prolong the life of its VDSL platform.
- 6.60 Furthermore, because ComReg is modelling VDSL as an anchor technology, it has adopted the assumption in the NGA Cost Model that Eircom will continue to use copper based VDSL technologies to target the 1.6m customers it currently passes with VDSL rather than overlay its VDSL platform with an FTTH solution. An anchor technology approach can be adopted in a cost model even when there is a prospect of a major shift in technology and it involves setting the prices based on the hypothetical use of the more established technology. Ofcom has previously adopted the anchor technology approach when reviewing WBA prices, arguing that:

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<sup>106</sup> See paragraphs 12.17 to 12.21 of the 2016 Access Pricing Decision.

<sup>107</sup> 2013 Non-Discrimination Recommendation, paragraph 41.



*"The price (and quality) of existing services are 'anchored' by the legacy technology, even if the services are actually provided over new technology. The key principle of this approach is to allow the dominant provider the pricing flexibility to charge more to reflect any enhanced functionality of the new service. In turn, this creates the incentives for the investment required to advance service characteristics which are directly related to customers' willingness to pay for improvements in quality<sup>108</sup>."*

- 6.61 As outlined at paragraph 6.27 above, Eircom also noted the anchoring effect that FTTC prices have for all NGA services. In its response, Eircom referenced an offer of a minimum 240 Mbps service by Virgin Media that is priced at the same level as Eircom retail's FTTC service that offers speeds of no more than 100 Mbps as evidence that there is:

*"currently no price premium available at the wholesale level either for the entry-level service from a platform that delivers higher speeds. There may be a small increase in wholesale ARPU available from a portfolio of FTTH access services at different speeds due to the small minority of retail customers who are prepared to pay a price premium for the substantially higher line speed available from the premium FTTH VUA inputs".<sup>109</sup>*

- 6.62 Furthermore, Eircom considers, as outlined at paragraph 6.27 above, that the existence of anchoring across the broadband product range meant that lower FTTC / EVDSL prices would impact on the ability of all operators to earn a premium from services such as FTTH, and so on their willingness to invest in these technologies. However, ComReg's position is that setting cost oriented FTTC / EVDSL prices using a BU-LRAIC+ approach should better inform the investment decisions of all operators. Furthermore, ComReg do not accept that the demand forecasts in the NGA Cost Model overstate the usage of network assets as Eircom suggest, as ComReg and its advisors (TERA) have given due consideration to both the impact of planned investments in new technologies and platforms on Eircom's market share and to the potential for the growth in the overall market to grow demand on all platforms including Eircom's. Please also see Appendix 3, paragraphs A3.11-A3.18 of the 2018 WLA / WCA Market Review Decision.
- 6.63 To finalise the forecasts in the NGA Cost Model ComReg and its advisors (TERA) considered both the extent that the overall fixed line broadband market was expected to grow up to 2026 and the likely impact that expanding network deployments by rival operators together with deployment of the NBP would have on Eircom's share of this market. ComReg now assumes that the fixed

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<sup>108</sup> <http://stakeholders.ofcom.org.uk/binaries/consultations/823069/summary/condoc.pdf>, page 22, paragraph 3.47.

<sup>109</sup> Eircom's response, paragraph 47.



broadband market would grow at an average rate of 2.6% a year up from 2018, so that overall demand is projected to pass 1.7 million by 2026. It is also assumed that rival platforms, including NBP, will account for approximately 50% of national demand at this time<sup>110</sup>. The NBP operator is also expected to be the only fixed network provider in the NBP IA and no rival operator is expected to build a fixed network broadband offering to compete with Eircom's rural 300k network, so the only competition will be from mobile and FWA for the customer base passed by Eircom's rural 300k network. At the local exchange level the migration between technologies is assumed to be informed by the migration profile and the demand for Eircom's broadband services will be impacted by the increased competition from rival platform expansion. It is also assumed that, on completion of the deployment of the rural 300k network there will be no further overlay of FTTC or EVDSL with FTTH.

- 6.64 In summary, ComReg and its advisors (TERA) have considered the views of all respondents on demand forecasts together with the latest available market data, and are of the opinion that the amendments to the demand forecasts now implemented in the NGA Cost Model achieve an appropriate balance between recognising the potential for future growth in the fixed broadband market, as emphasised in the responses from service providers such as Vodafone and Sky, and allowing for the likely impact of the increased competition from rival platforms on Eircom's existing broadband base as emphasised in the responses from Eircom and the other network providers.
- 6.65 As a consequence of these amendments, FTTC/EVDSL demand in the NGA Cost Model is forecast to be on average 7% higher over the price control period, when compared with the demand forecasts in the version of the draft NGA Cost model that supported the Consultation. The increase in FTTC/VDSL demand results in a €0.22 reduction in the average VUA charges. Please see Figure 10 in Chapter 7. The impact of changes in forecasted demand on FTTC based Bitstream is a reduction in the average price for national handover of €1.72. Please see Figure 11 in Chapter 7. The impact of changes in forecasted demand on current generation Bitstream services ranged from an average reduction of €0.91 for current generation Bitstream national handover, an average reduction of €0.66 for current generation Bitstream regional handover and an average reduction of €0.47 for Bitstream IP. Please see Figure 14 in Chapter 9.

### **Model Timeframe**

- 6.66 ComReg notes Eircom's views, as outlined at paragraph 6.29 above, that the 50 year model timeframe is unjustified given that FTTH is regarded as the long term technology for broadband provision. Eircom also argue that a 50 year time frame will mean that the model will not ensure cost recovery if maintained over

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<sup>110</sup> Eircom's share of the wholesale fixed broadband market in Q1 2018 is over 60%.

several regulatory reviews as the depreciation approach pushes cost recovery of some assets into the future, so that relatively fewer costs are recovered in the current periods.

- 6.67 Furthermore, ComReg notes the views in the CEG Report, as outlined at paragraph 6.30 above, that VDSL will have long ceased being the technology of choice for the majority of customers over a 50 year timeframe, and so ComReg should be prudent and model a significantly shorter period, e.g. 20 years. The CEG Report assessed that the impact of shortening the model time frame in the NGA Cost Model that accompanied the Consultation from 50 to 20 years would be a relatively small increase in the price of VUA from (see CEG Report, Figure 14: Impact of requiring the recovery of costs for the FTTC and EVDSL specific DSLAM assets by 2035).
- 6.68 However, ComReg considers that a depreciation period of 50 years is appropriate for the NGA Cost Model in order to avoid investment cycle effects and also to avoid high prices in the early years after service launch due to unit costs being higher at this stage as demand has yet to reach efficient scale on the network. Applying a longer period in the NGA Cost Model also means that the calculations provide a better approximation to the present value of network revenues and costs. This is because the impact of future investments and revenues that arise in the later periods of the model timeframe are heavily discounted by the WACC when determining the present value. Indeed, the effect of this discounting is suggested by the relatively small increase in the overall VUA price that the shortened timeframe has in the CEG Report's revised calculations.
- 6.69 ComReg is of also the view that the prices derived across the 50 year time frame in the NGA Cost Model do ensure cost recovery for Eircom in a timely manner as all of the initial investments (including investment in longer lived assets such as plinths, power feeds and cables) are recovered within the 20 year time period that is proposed by Eircom and the CEG Report. The cost recovery in the later periods of the time horizon relates to the later cycles of investments made when the original assets are assumed to be replaced or upgraded. Further discussion on model time frames and cost recovery can be found in paragraphs 6.127 to 6.130.

### **Economic depreciation**

- 6.70 As outlined at paragraphs 6.31 and 6.32 above, Eircom stated that the Economic Depreciation assumptions were inconsistent with both the behaviour of an economic market and with the planned term of the price control remedy. However, ComReg is of the view that Eircom's position does not reflect how cost recovery takes place under Economic Depreciation. In particular, Eircom's position that the cost modelling period should be identical to the price regulation period would require that prices are highest when the network is first deployed.

However, this requirement does not seem to align with Eircom's own behaviour in the market as it is in conflict with the penetration pricing strategy that Eircom has argued is a common feature of nascent technologies in justifying its adoption of lower prices to grow demand when it first started to deploy its NGA network<sup>111</sup>.

- 6.71 Further to the views set out in the CEG Report, as outlined at paragraph 6.35 above, that the depreciation approach used in the model will lead to under- or over-recovery of the costs of particular assets, the approach in the NGA Cost Model does allow for the recovery of all asset costs across the model time period and, as noted in paragraph 6.69, it allows for the recovery of some assets over a period that is shorter than the asset lifetime. Further discussion on the Economic Depreciation approach used in the NGA Cost Model is included in paragraphs 6.118 to 6.122 and in paragraphs 6.127 to 6.130 and the consequences of using an Economic Depreciation approach for the timing of cost recovery of specific assets is further discussed in paragraphs 6.168 to 6.173.

#### **Other**

- 6.72 As outlined at paragraphs 6.36 above, Sky commented on the level of redaction in the NGA Cost Model around demand assumptions and commented on the inability of operators other than Eircom to comment in a meaningful way. ComReg notes that it is always necessary to find a balance between the need to provide transparency on the key modelling parameters and the need to protect operator's confidential data. The NGA Cost Model contains data provided by Eircom on a confidential basis, which cannot be disclosed to other third parties. Following a number of requests, ComReg made access available to the non-confidential models associated with the Consultation. Please refer to ComReg Information Notice 17/45 for further details. This allowed for further transparency regarding the modelling work undertaken by ComReg as part of the consultation process and it also meant that other operators could have access to similar information (albeit that some information was redacted due to the confidentiality of the data) as Eircom.
- 6.73 With respect to Sky's comment, as outlined at paragraph 6.36 above, that Eircom's retail arm is the only retailer provided with access to the model, ComReg wishes to clarify that the confidential version of the NGA Cost Model is only shared with Eircom wholesale and is not to be disclosed to Eircom's retail arm. ComReg is continuing to address the need for additional safeguards to prevent the inappropriate sharing of information between Eircom's wholesale and retail arms through its review of Eircom's Regulatory Governance Model ('RGM').

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<sup>111</sup> Eircom response, paragraph 11.

- 6.74 Regarding Enet's point, as outlined at paragraph 6.37 above, that the BU-LRAIC+ approach should not result in price reductions for FTTC based services that have the effect of undermining planned FTTH investments by OAOs, please see paragraph 6.62 above and Chapter 5, paragraphs 5.38-5.39.
- 6.75 Having considered the views of respondents and assessed the latest available demand and network deployment data, ComReg has made some amendments to the demand forecasts in the NGA Cost Model. However, ComReg remains of the view that the general approach to demand modelling, as outlined in the Consultation, at subsection 6.5, and as discussed above at paragraphs 6.39-6.65 remains appropriate. ComReg is also of the view that the NGA Cost Model should continue to use an Economic Depreciation approach over a timeframe of 50 years from 2013 to 2062, for the reasons already set out in the Consultation at paragraphs 6.38-6.42 and as discussed above at paragraphs 6.66-6.71.

### **6.1.3 ComReg's Position:**

- 6.76 ComReg has made some amendments to the demand forecasts in the NGA Cost Model, but the general approach to demand modelling, as outlined in the Consultation at Chapter 6, remains reasonable.
- 6.77 The NGA Cost Model should continue to use the Economic Depreciation approach over a timeframe of 50 years from 2013 to 2062.

## **6.2 Network costing (FTTC based VUA (incl. EVDSL))**

### **6.2.1 Position set out in the Consultation**

- 6.78 Once the demand on the network has been used to dimension the network inventory the next phase is determining the total investment and the associated annualised cost. The annualised cost of the network is a blend of the proposed BU-LRAIC+ costs for Non-reusable Assets and Active Assets and Eircom's Indexed RAB for Reusable Assets (as derived from the 2016 Access Pricing Revised CAM).
- 6.79 The fixed line telecoms weighted average cost of capital ('**WACC**')<sup>112</sup> of 8.18%<sup>113</sup> is also applied to the costs in the NGA Cost Model to allow for a

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<sup>112</sup> Please note that ComReg plans to review the WACC rate, with a consultation planned for Q1 2019. ComReg reserves the right to require prices to be updated depending on the outcome of any decision ComReg may take on the WACC rate as a result of that consultation process.

<sup>113</sup> ComReg Document No 14/136 "Cost of capital", dated 18 December 2014 ('**2014 WACC Decision**').

reasonable rate of return in line with Regulation 13(2) of the Access Regulations<sup>114</sup>.

- 6.80 Please see Chapter 6, subsection 6.6 of the Consultation for ComReg's preliminary views on the network costs, including capital costs, operating costs and depreciation methodologies.
- 6.81 The main cost categories associated with the provision of FTTC based VUA and EVDSL are set out in Section 6.7 and in Figure 16 of the Consultation.
- 6.82 Respondents' views and ComReg's assessment of respondents' views are discussed below.

## 6.2.2 Respondents' views

- 6.83 There were mixed views amongst respondents regarding the proposed modelling approach for determining the demand and cost inputs associated with the provision of FTTC based VUA, including Remote VUA, Local VUA and EVDSL services.
- 6.84 While Vodafone agreed in principle with the proposed modelling approach, it raised concerns that they did not have access to the detailed models to allow them to fully assess whether ComReg's proposed modelling approach is correct for determining demand and cost inputs. BT and ALTO also raised these concerns on access to the detailed models. BT stated that detailed models can be provided at an earlier date and there is no obvious reason why key information has not been made available to industry until this late stage in the process.
- 6.85 Vodafone also considered that the use of the tilted annuity modelling for capital related costs is the most appropriate approach. However Vodafone outlined that they were "*struggling to understand the rationale*" for using Economic Depreciation for certain FTTC related assets. Consequently, Vodafone submitted that it would welcome additional justification and information from ComReg to facilitate a better understanding of the logic for the use of Economic Depreciation over the use of a tilted annuity and its impact on prices.
- 6.86 Vodafone repeated the point that ComReg should perform an annual reconciliation between the modelled costs/volumes and Eircom's Regulatory Accounts during the price control period and be prepared to make adjustments to the proposed prices if, for example, capital investment, operating costs or

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<sup>114</sup> S.I. No 334 of 2011 European Communities (Electronic Communications Networks and Services) (Access) Regulations 2011.

network volumes are materially different to those modelled, noting that *“This would prevent any potential gaming of the current cost modelling<sup>115</sup>”*.

- 6.87 Vodafone also commented on the use of maximum line lengths of 2.5km to determine SLU costs stating that it understood the logic for this but that the number of FTTC lines in the range of 1.5km to 2.5km when compared to the number of lines less than 1.5km should inform the pricing and said they would welcome more details on the proportion of additional costs now being included.
- 6.88 The AM Report considered that the use of Economic Depreciation to derive the costs of VUA components is reasonable *“given the significant changes over time in the level of demand for broadband services”* but noted that its implementation could be improved. The AM Report highlighted that it had reviewed the public version of the model and observed that the Economic Depreciation calculation does not appear to apply the asset cost trend to the discounted unit cost of the asset (discounted costs/discounted volume of subscribers) to calculate a price that changes over time. The AM Report adds that *“We suggest that a price which is constant for every year of the cost model is not consistent with an ED method reflecting the economic value of the assets (i.e. the asset cost trend)”<sup>116</sup>*.
- 6.89 The AM Report also considered that the dimensioning of FTTC DSLAMs could be more modular by having separate assets for the FTTC DSLAM chassis, additional cards and shelves and that *“ComReg should consider the modelling the same DSLAMs for EVDSL and CGA to avoid asset duplication in exchanges<sup>117</sup>”*.
- 6.90 The AM Report further stated that the inclusion of a longer SLU line length is problematic and that by *“including lines between 1.5km and 2.5km in length in the calculation, ComReg increases the cost of FTTC services for OAOs”*. In addition, the AM Report considered that the use of national SLU and LLU inputs as NGA inputs is not reasonable as FTTC services are not available nationwide and the average SLU and LLU line length is likely to be longer in non-NGA areas than NGA areas and risks over-estimating the costs of FTTC wholesale services. The AM Report proposed that *“an alternative would be for ComReg to define and use VDSL-specific SLU and LLU products as inputs for FTTC VUA and bitstream products<sup>118</sup>”*.
- 6.91 The AM Report also considered that the cost of VUA should be based on Eircom or EEO costs stating that: *“ComReg uses a different operator basis for the “pure” VUA components and the “inter-aggregated link” components...it is*

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<sup>115</sup> Vodafone Response, §33.

<sup>116</sup> The AM Report, § 4.1.2.

<sup>117</sup> The AM Report, § 4.

<sup>118</sup> The AM Report, § 4.1.4.



*not consistent to use a different operator definition for different parts of the network.”*

6.92 The AM Report also sought clarity on the following points:

- (a) ComReg should clarify what paragraph 6.3 of the Consultation means when it describes use of NGA margin squeeze model “cost stack” and how that is consistent with the BU approach.
- (b) ComReg should clarify and ensure that the more expensive SR12s are only modelled if there is a sufficiently high amount of traffic. Otherwise, the cheaper ESS12s should be modelled.
- (c) Paragraph 6.54 of the Consultation does not indicate whether any efficiency checks / adjustments have been made to the cost model inputs derived from Eircom’s data (i.e., design and planning costs, network management systems, cost of migrating end users from CGA services to NGA services, etc.). It is also not clear whether ‘design and planning costs’ are assumed to be incurred only once per assets or if these costs are assumed to be incurred every time the asset is replaced.
- (d) ComReg should be more transparent in what is included in the ‘cost of migrating end users from CGA services to NGA services’ that forms part of the monthly rental cost and how this avoids double counting with non-recurring fees charged upfront.
- (e) By reference to paragraph 6.77 of the Consultation ComReg should disclose where it made efficiency adjustments, of what magnitude and on what basis.
- (f) Furthermore, the AM Report notes that paragraph 6.137 of the Consultation states “...*Please note that the FTTC based VUA costs are based on the BU-LRAIC+ costs of Eircom and are not reflective of a SEO.*” which it claims directly contradicts paragraph 6.110 and 6.135 and that they assume there is an error at paragraph 6.137.

6.93 Sky’s response referenced the points raised in the AM Report with respect to the dimensioning of DSLAMs, SLU line lengths and the use of national LLU and SLU inputs.

6.94 Enet reiterated their view that the use of BU-LRAIC+ should not result in price reductions for FTTC based services which would have the effect of undermining planned FTTH investments by other operators.

6.95 BT queried why special mention and consideration is being given to cabinet design costs in the NGA Cost Model, noting that “*the equipment within the*



*cabinet is standard vendor supply and any design would be included in the cost of that equipment<sup>119</sup>.*

- 6.96 BT also noted that, while the physical components being considered in the model appeared to be correct, there was insufficient detail in the non-confidential version of the model to determine if the costing of these components is correct.
- 6.97 BT also remarked that the reference in paragraph 6.46 of the Consultation (17/26) to the rollout of FTTC DSLAMs being almost complete is not consistent with reports to industry that *“DSLAM’s are still being commissioned well into 2017 although at a slower rate”*. BT also stated that as the 300k Government Agreement leaves the option of FTTC and FTTH being used for this rollout, ComReg needs to keep this under review.
- 6.98 ALTO made similar points to those made in BT’s response.
- 6.99 Eircom commented that, as demand volumes are overstated, for the reasons outlined in its response to Question 4, and because costs are amortised over volumes that are overstated, this *“has the effect of artificially and wrongly reducing the level of unit prices<sup>120</sup>”*.
- 6.100 Eircom also argued that, in its view, the NGA Cost Model incorrectly deferred cost recovery of VDSL electronics through a time series of fixed prices throughout the period, whereby full recovery of the investment in VDSL electronics is completely and unreasonably delayed to a period where demand uncertainty was considered to be highest. Eircom did not consider it realistic to expect that an operator would continually reinvest at a loss, and that it was likely that FTTH would grow and substitute for VDSL.
- 6.101 Eircom also stated that it fundamentally disagrees with ComReg’s proposed modelling approach for determining the demand and costs inputs and provided a Cost Modelling Annex (entitled “Review of Cost Models (ComReg 17/26)”) where it discussed these concerns in further detail and identified what it considered to be a number of modelling errors.
- 6.102 In the Cost Modelling Annex Eircom argued that ComReg has significantly understated the migration /connection cost for first time customers which move from CGA to NGA and, *“given our view of future FTTC demand, a [ $\frac{1}{2}$ < [REDACTED] ] year amortisation period is unreasonable to recover connection costs and*

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<sup>119</sup> BT Response, page 10.

<sup>120</sup> Eircom response, §97.

*a shorter period should be considered. ComReg has not justified this period and in the model it is presented as an assumption by its advisers.<sup>121</sup>*

- 6.103 ComReg's use of a tilted annuity with a positive price trend of [§< [REDACTED]]% to recover these migration /connection costs was also a concern to Eircom, who argued that *"a tilted annuity introduces an unacceptable level of risk regarding the future cost recovery of connection costs given that the charges are back loaded and future FTTC demand is uncertain<sup>122</sup>."* However, Eircom also criticised ComReg for applying a zero price trend for the cabinet plinth (and cabinet cross connect plant, including duct and power) as *"we do not think that, for this item the assumption that price inflation will be offset by technology and product improvement by vendors is a valid one and therefore the price trend applied should reflect a positive price trend as a result of the increased cost of labour.<sup>123</sup>"*
- 6.104 ComReg's approach to modelling fault repair costs in the NGA Cost Model was also criticised by Eircom as the modelled level of costs did not *"allow for a higher level of repair costs required to meet forward-looking service levels<sup>124</sup>."*
- 6.105 In relation to the modelling of capex costs, Eircom found that the use of *"an economic depreciation" approach to treat capital amortisation in the NGA model* is *"wholly inadequate"* and *"inconsistently applied"*, citing the example of the amortisation of the cabinet plinth, where the approach applied is deemed to be *"the inverse of the economic rationale."* Eircom was particularly concerned that ComReg has applied a [§< [REDACTED]] year amortisation period to assets such as the FTTC cabinet plinth that are *"no longer required when FTTC is replaced with FTTH"*, and that such *"investment should be recovered over the shorter economic life of the FTTC service<sup>125</sup>."*
- 6.106 In its review of the draft NGA Cost Model and the NGN Core Model, Eircom has argued that there are a number of inconsistencies in the application of unit cost data and other parameters in these models; e.g. in the NGA Cost Model there is an inconsistency in that costs extracted from the Revised CAM for the model year 2016 are applied retrospectively to 2013, while the WACC appears to be applied as a price trend for the D-Side assets of the FTTH network. Eircom also noted that the engineering rules in the NGA Cost Model *"do not reflect eir's FTTH deployment"*.
- 6.107 Eircom also highlighted that common costs have been modelled with no adjustment to reflect inflation and argued that the level of costs should increase

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<sup>121</sup> Eircom Annex (Review of Cost Models), § 28.

<sup>122</sup> Ibid, §29.

<sup>123</sup> Ibid, §37.

<sup>124</sup> Ibid, §31.

<sup>125</sup> Eircom Annex (Review of Cost Models), paragraphs 32-35.

each year by CPI with the expectation that CPI will be positive in future years. The CEG Report estimates that:

*“For a zero growth rate in common costs, eir would have to achieve efficiency gains that offset inflation. If eir’s common costs were to rise from FY2016 levels at an annual rate of 0.7%, to reflect CPI in March 2017, they would have risen to € [redacted] in 2026 and € [redacted] in 2052, increases of [redacted] % and [redacted] % respectively that would need to be offset by efficiency gains”<sup>126</sup>.*

- 6.108 An additional concern for Eircom in relation to the modelling of common costs is that ComReg has modelled the level of common costs based on an analysis of the Wholesale Fixed Broadband Access market in the Regulated Accounts for FY2015/16, “where a significant share of eir’s revenues are still derived from fixed telephony. However, with the decline in legacy services and eir becoming increasingly broadband-centric, a greater share of common costs will need to be recovered from broadband revenues - and NGA broadband revenue in particular. Therefore, capping the costs at the current level will lead to an under recovery in the future<sup>127</sup>”.
- 6.109 Eircom also disagreed with the inclusion of the common costs associated with DSLAM equipment in the NGN Core Model as Eircom argued that all common costs relating to customer facing equipment should be modelled in the NGA Cost Model.
- 6.110 ComReg’s approach to modelling operating costs as fixed over the model time frame is also considered unreasonable by Eircom, as it “requires eir to generate operating efficiencies that cancel out nominal pay increases or any upward adjustments to contractor arrangements...What would be reasonable to assume is that, at least over the growth period considered by ComReg (i.e. up to 2026) and while eir migrates between technologies, such level of efficiency gains will fall short of inflationary pressures, as maintenance and pay are mostly driven by pay costs<sup>128</sup>”.
- 6.111 Eircom also has a concern with the modelling of broadband fault repair, which is based on an analysis of eircom’s regulatory accounts: “The analysis suggests that [redacted] % of the costs are, in fact, made up of indirect (e.g. customer care) and common costs...However, ComReg has taken the approach that indirect and common costs are variable with volumes by calculating a cost per line, which include these costs<sup>129</sup>. Eircom also state that [redacted] % of these costs are currently absorbed by CGA and as the

<sup>126</sup> The CEG Report, page 88, §308.

<sup>127</sup> Eircom Annex (Review of Cost Models), §60.

<sup>128</sup> Eircom Annex (Review of Cost Models), §58.

<sup>129</sup> Eircom Annex (Review of Cost Models), §53.

customers migrate to NGA the modelled approach is bound to generate an under-recovery of indirect and common costs. Eircom also argue that, as the maintenance costs associated with DSLAMs include an element of costs that are indirect and common, *“ComReg should have modelled these costs as a fixed cost and not as a cost that varies with number of DSLAMs<sup>130</sup>”*.

6.112 The modelling of accommodation costs as a per unit cost for VDSL is also criticised by Eircom as it is set at the level reported in the FY2015/16 Regulated Accounts and will result in an under-recovery of these costs in the future as customers move away from traditional services to new services.

6.113 Eircom also raised a potential concern with the pricing approach to WEIL services as traffic handover is increasingly taking place at the regional level requiring an increase in interconnection facilities that could prompt a need to recover common costs from interconnection services.

6.114 In relation to network dimensioning and the calculation of the capital costs associated with network equipment Eircom noted that the engineering rules that have been assumed for FTTH deployment in the draft NGA Cost Model do not reflect Eircom’s FTTH engineering deployment. The draft NGA Cost Model assumes a single splitter layer deployment while Eircom’s FTTH deployment consists of a two-stage splitting for rural areas. This results in differences in asset requirement and capital costs for FTTH as calculated in the draft NGA Cost Model from the actual costs incurred by Eircom.

6.115 Eircom also argued that the dimensioning of DSLAM assets: *“needs to be developed to recognise the combined effects of migration from FTTC to eir FTTH and the migration of demand to other NGA infrastructures as these are extended into the DSLAM area. This effect cannot be modelled by using a single efficient fill per DSLAM...When the NGA model includes projected declines in demand ...there must be an adjustment to DSLAM unit costs.<sup>131</sup>”*

### 6.2.3 ComReg’s assessment of respondents views

6.116 ComReg notes that there were mixed views amongst respondents regarding the proposed modelling approach for determining the demand and cost inputs associated with the provision of FTTC based VUA, including Remote VUA, Local VUA and EVDSL services.

6.117 The concerns raised by respondents regarding access to the detailed models has been addressed at paragraph 6.72 above.

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<sup>130</sup> Eircom Annex (Review of Cost Models), §56.

<sup>131</sup> Eircom Annex (Review of Cost Models), §39.

- 6.118 ComReg notes Vodafone's point, as outlined at paragraph 6.85 above, that the use of the tilted annuity modelling for capital related costs is the most appropriate approach and "*are struggling to understand the rationale*" for using Economic Depreciation for certain FTTC related assets. ComReg considers that an Economic Depreciation approach is appropriate for VDSL related assets in the NGA Cost Model given that significant changes to both NGA asset deployment and NGA service demand that are assumed to take place as initial investment in FTTC/EVDSL technologies is modelled to be followed by rapid customer growth on this platform. As noted by BEREC "*The economic depreciation methodology takes into account both price changes and output changes. It becomes more appropriate when, besides asset's price changes, there is an expectation of changes in output which may affect unit costs evolution*<sup>132</sup>".
- 6.119 Although tilted annuities determine cost recovery in a way that reflects how the underlying costs of production evolve over time, the method is less appropriate when both the level of demand and the rate of investment is evolving rapidly as is the case with FTTC and EVDSL in Ireland since 2013. While all fixed networks, including Eircom's core network and copper access network, are experiencing changes in traffic demand, the impact of these changes on the unit cost evolution is not as significant as it is for the assets such as the VDSL electronics and FTTC cabinets that are modelled in the NGA Cost Model.
- 6.120 In the case of Eircom's core NGN network the average traffic per user may be increasing but the most significant contribution to the costs of this network is still determined by the geographic location of the core nodes and the infrastructure, such as cables and trenches, required to connect those nodes. Therefore, even as average traffic levels increase the majority of costs still tend to be fixed and the average cost per the various services supported on the network (broadband, leased lines and voice) do not evolve as rapidly as the increases in average traffic demand per service. For that reason, ComReg considers that using a tilted annuity approach to derive costs in the NGN Core Model remains a reasonable approach.
- 6.121 Similarly, Eircom's copper access network is long established and is unlikely to experience significant changes in the average cost per service over the time period of the price control. For this reason, ComReg consider that using tilted annuities to determine the unit costs of the copper and fibre related inputs that form part of FTTC prices is appropriate.

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<sup>132</sup> BEREC Guidance on the regulatory accounting approach to the economic replicability test (i.e. ex-ante/sector specific margin squeeze tests), 5 December 2014.

- 6.122 However, in the case of the NGA Cost Model, Eircom only started to deploy its FTTC and EVDSL network in 2013 and both the number of nodes deployed and the average number of active subscribers connected to those nodes has increased significantly in the years after initial network deployment. If a simple tilted annuity approach is adopted the unit costs are calculated to be higher after the initial stages of deployment as the FTTC/EVDSL assets are used less intensively. Then the calculated unit costs will decline significantly in subsequent periods as the increasing subscriber base means the network is operated at a more efficient level. Hence, setting prices based on tilted annuities would result in higher than average prices in the early years after initial deployment and inhibit the operator's ability to grow demand when the network is being deployed and make it difficult to achieve efficient economies of scale.
- 6.123 With respect to Vodafone's request for ComReg to perform an annual reconciliation between the modelled costs/volumes and Eircom's separated accounts, please see Chapter 5, paragraphs 5.25 and 5.58. (<https://www.comreg.ie/media/2018/11/Note1.pdf>).
- 6.124 ComReg notes that Vodafone (see 6.87), the AM Report (see 6.90) and Sky (see 6.93) all raised concerns with the use of a maximum line lengths of 2.5km for the SLU input the VUA costs in the NGA Cost Model, while the AM Report and Sky also considered that using national SLU and LLU inputs could over-estimate the derived FTTC costs and suggested that ComReg define VDSL-specific SLU and LLU inputs for use in the NGA Cost Model (see 6.90). To address these concerns, and to address other concerns raised by Eircom (and the CEG Report)<sup>133</sup> in relation to copper cost recovery, ComReg has undertaken a comprehensive review of the approach taken to derive the SLU and LLU cost inputs that are used in the NGA Cost Model. As a result of this review ComReg has defined VDSL-specific SLU and LLU inputs with a maximum SLU line length of 1.5km (compared to 2.5km as consulted on) and LLU line length of 3km (compared to 5km as consulted on). This approach to access cost recovery is discussed in more detail in paragraphs 6.209 to 6.233 as part of ComReg's assessment of the response to question 7, and the impact on prices is outlined in paragraph 6.236.
- 6.125 As outlined in paragraph 6.88 above, the AM Report considered Economic Depreciation to be a reasonable approach for deriving the cost of VUA components but raised a number of technical issues with its application in the NGA Cost model. These issues are addressed in the Cost Modelling Annex, (please see paragraphs A 1.81 to A 1.84 of the Annex 12).

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<sup>133</sup> See points raised at paragraphs 6.189 - 6.198 below.



- 6.126 The points raised in the AM Report with respect to modelling of DSLAMs in paragraph 6.89 above, are addressed in the Cost Modelling Annex (see paragraphs A 1.36-A 1.39).
- 6.127 ComReg notes Eircom's point, as outlined at paragraph 6.99 above, that the modelling approach for amortising specific capex and fixed costs was flawed given the future demand modelling concerns noted by Eircom above (see paragraph 6.26 to 6.30). However, as summarised in 6.63 above, ComReg has reviewed the forecast demand in the NGA Cost Model and are of the view that the level of demand volumes are not overstated in the manner that Eircom suggest and ComReg considers that the modelled volumes can be used to inform the level of unit prices.
- 6.128 As outlined at paragraph 6.100 above, Eircom also stated it was expected to continually invest while making a loss and that the Economic Depreciation approach adopted in the NGA Cost Model incorrectly deferred cost recovery through a time series of fixed prices throughout the period, whereby full recovery of the investment in VDSL related assets is pushed out into the future to a period where demand uncertainty is at its highest. However, ComReg considers that the Economic Depreciation approach used in the NGA Cost Model is appropriate as it links the timing of asset cost recovery with the output of the assets and this is consistent with the commercial realities faced by any network operator. The output of the assets is dependent on the demand for the services supported by the asset as it this service demand which provides the revenues that fund the recovery of investment costs.
- 6.129 Furthermore, the consequences of any demand uncertainty in the later years of the model timeframe in the NGA Cost Model are less of an issue for service pricing because under the Economic Depreciation approach adopted in the NGA Cost model the WACC rate is used to discount future demand/revenues and future expenditure to present value terms. Consequently, while there might be greater uncertainty associated with the demand forecasts in the later periods of the model time frame, there is also a greater degree of discounting applied to that demand so the impact of any future uncertainty on the present values and on the prices calculated in the NGA Cost Model is greatly reduced.
- 6.130 It is also the case, as noted in paragraph 6.69 above, that the initial investment in VDSL related assets that is undertaken when the FTTC/EVDSL network is first deployed, is fully recovered in the first 20 years of the model timeframe and the cost recovery that arises in later years, when demand uncertainty is considered to be highest, relates to investments in the replacement of those assets that have reached the end of their asset lives.



- 6.131 As discussed in paragraph 6.60, the NGA Cost Model considers VDSL as an anchor technology and so VDSL demand is assumed to exist into the last year of the 50 year model timeframe. However, this does not imply that Eircom is prevented from investing in alternative technologies such as FTTH in this period. ComReg's approach to setting cost oriented prices for VDSL services using a BU-LRAIC+ methodology, based on replacement costs, should help inform those investment decisions and Eircom has the pricing flexibility to recover the costs for any enhanced functionality that such investment delivers. Please also see Appendix 3, paragraphs A3.11-A3.18 of the 2018 WLA / WCA Market Review Decision.
- 6.132 With regard to the point raised in the AM Report, as outlined at paragraph 6.91 above, that the cost of VUA should be based on Eircom or EEO costs please see Chapter 7, paragraphs 7.103-7.104 of this Decision document.
- 6.133 In relation to the number of clarifications sought in the AM Report, as outlined at paragraph 6.92 above, please see our response to each of them below:
- (a) With regard to the reference to the cost stack in the existing margin squeeze model, ComReg is referring to the different cost elements / categories to derive the costs for FTTC and EVDSL VUA. These were described in Section 6.7 and listed in Figure 16 of the Consultation.
  - (b) In relation to whether SR12s or the cheaper ESS12s are modelled, ComReg can confirm that all aggregation nodes are ESS12, whereas the SR12 equipment is used for edge nodes (used at the regional level where regional traffic is combined). This approach seems broadly consistent with the views in the AM Report.
  - (c) The efficiency adjustments are discussed in Annex 12 at paragraphs A 1.58-A 1.80.
  - (d) The cost of migrating end users from CGA services to NGA services is discussed at paragraphs A 1.13.
  - (e) The efficiency adjustments are discussed in Annex 12 at paragraphs A 1.58-A 1.80.
  - (f) In relation to the issue on a different cost base for different parts of the network, the main rationale to consider where inter-aggregation node links should be set on a SEO basis is to incentive OAOs to go higher up the investment ladder by rolling-out a denser Core network. The idea is to send build or buy signals by setting the price for these links at a SEO basis and this is what has been implemented in the models. Please also see Chapter 7, paragraphs 7.103-7.104.

- 6.134 ComReg also notes the concerns, as outlined in paragraphs 6.101 to 6.115 above, that Eircom has raised in the “Review of Cost Models”, provided as part of its response. For ComReg’s assessment of each of these concerns please see the following paragraphs at Annex 12: migration cost recovery at paragraphs A 1.7-A 1.11, FTTC plinth cost recovery at paragraph A 1.32; Opex and common costs at paragraphs A 1.46 - A 1.77, FTTH modelling at paragraphs A 1.42-A 1.45, NGA link capex at paragraphs A 1.105-A 1.120 and the pricing approach for WEILs at paragraphs A 1.89-A 1.90.
- 6.135 Finally, ComReg updated the price trends for the fibre cables that inform the costs of the NGA link between the local exchange and FTTC cabinet to ensure that these trends were more consistent with recent data and the price trends used in similar BU-LRAIC+ models. As a result, the price trends for fibre access cables were revised from [€< ██████████ ], which reduced the cost of the NGA link input into the VUA cost stack. The charges for wholesale specific costs were also updated to be consistent with the latest information in Eircom’s Regulatory Accounts. Implementing both these changes has led to a €0.54 reduction in VUA prices across the price control period. Please see Figure 10 in Chapter 7.
- 6.136 Having considered the respondents’ views, ComReg remains of the view that the proposed modelling approach for determining the demand and cost inputs associated with the provision of FTTC based VUA, including Remote VUA, Local VUA and EVDSL services remains appropriate, except for the main changes noted below, for the reasons set out in Chapter 6, subsection 6.7 of the Consultation and as discussed at paragraphs 6.116-6.135 above.

#### **6.2.4 ComReg’s Position**

- 6.137 The modelling approach, set out in Chapter 6 of the Consultation, for determining the demand and cost inputs associated with the provision of FTTC based VUA, including Remote VUA, Local VUA and EVDSL services remains appropriate, except for the following key changes:
- VDSL specific LLU and SLU cost inputs have been defined, where the maximum line length is now set at 1.5 km for SLU (from 2.5km) and for 3kms for LLU (from 5km).
  - Some corrections to model formulae and amendments to the cost modelling approach for VDSL specific assets have also been implemented to address

either issues that were raised by respondents or to update parameters to be consistent with latest available data.

## 6.3 Costs specific to FTTC-based Bitstream

### 6.3.1 Position set out in the Consultation

6.138 In the Consultation<sup>134</sup>, ComReg set out the cost categories associated with the provision of FTTC based Bitstream, including:

- VUA FTTC assets;
- WEILs; and
- Backhaul (including core node/backbone costs).

6.139 ComReg proposed that in order to ensure that the appropriate incentives were set for OAOs to move to VUA, Eircom's BU-LRAIC+ costs specific to Bitstream (such as backhaul and WEILS) should be adjusted to reflect a hypothetical operator with a 25% market share.

6.140 The proposed cost for FTTC based Bitstream was therefore based on the sum of:

- The VUA cost stack based on Eircom's BU-LRAIC+ costs; and
- the BU-LRAIC+ costs for WEILS and backhaul costs, adjusted for the scale of a REO (or SEO) operator with a 25% retail broadband market share.

6.141 Please see Section 6.8 and Figure 17 of the Consultation for further details.

### 6.3.2 Respondents' Views

6.142 A number of respondents disagreed with the proposed inputs and assumptions in the NGA Cost Model for determining the costs associated with the provision of FTTC based Bitstream. Other respondents raised issues for further consideration by ComReg.

6.143 Several respondents objected to ComReg's proposal to use REO<sup>135</sup> data.

6.144 Sky stated that the use of a 25% REO results in prices that are above Eircom's efficiently incurred costs which they believe is a significant concession to Eircom. The AM Report recommended that ComReg adopt Eircom's scale for all cost components of FTTC-bitstream and in their view it is not consistent to use a different operator definition for different parts of the network. Furthermore, the AM Report noted that, in the UK, Ofcom incorporate an allowance for the higher bandwidth costs of OAOs "*within the margin squeeze test*" downstream

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<sup>134</sup> See Section 6.8 of the Consultation.

<sup>135</sup> See Chapter 6, paragraphs 6.129-6.132 of the Consultation for a discussion on REO.

*margin” as opposed to the wholesale price of regulated incumbent network access”<sup>136</sup>.*

6.145 BT also raised the difficulty for OAOs in capturing appropriate data to inform REO based assessments noting that “*other regulators have given up trying to collect such data and the reliability of aspects such as revenues is still highly questionable in our view*”.

6.146 BT noted that ComReg has based the model assumptions on a retail provider with 25% market share that purchases VUA directly and BT considered that this is not representative of all operators. Most operators have not achieved 25% market share while BT is an intermediate wholesaler that does not have a share of the retail customer base. Consequently, the approach to calculating FTTC based Bitstream costs in the NGA Cost Model needs to be refined to take account of the “*intermediate wholesale market that exists in Ireland*”<sup>137</sup>.

6.147 BT also stated that [§<

].

6.148 ALTO stated that they did not agree with the inputs and assumptions used in the NGA Cost Model to determine the costs of Bitstream and highlighted the difficulties for OAOs in capturing the data ComReg would need to inform a REO based approach.

6.149 Vodafone also noted the difficulties for ComReg in capturing the data to inform a REO based approach from operators with no experience in the provision of such data. While Vodafone agreed that adopting a model on the basis of the current cost a hypothetical efficient operator would incur is the correct approach and in line with the EC 2013 recommendation, it also commented on the lack of access to “*a transparent and traceable model*”. Vodafone also stated that the use of 25% market share may be too high and not reflective of a true view of the current market conditions.

6.150 Eircom did not agree with the proposed inputs and assumptions and considered that ComReg has made a series of fundamental errors in the NGA Cost Model. Eircom was also critical of the lack of “*a comprehensive document describing the operation of the model*” and stated that the “*NGA Cost Model contains elements and assumptions that have no role in calculating the unit costs proposed as the basis for a price control by cost-orientation of open eir FTTC and VDSL services*”.

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<sup>136</sup> The AM Report, § 4.2.1.

<sup>137</sup> BT Response, § 2.a, page 11.

- 6.151 A fundamental concern for Eircom in this regard is that the costs of operating the access network for FTTC and VDSL services will be the same as those derived in Revised CAM that is used to inform access prices set in ComReg D03/16. In particular, Eircom noted that since the Revised CAM was finalised in 2016, improved SLAs for fault clearance in the access network have been agreed with industry so *“the operating costs modelled for the access network delivering FTTC and VDSL services must now be increased in the NGA Cost Model to reflect the additional resources required to enable eir’s compliance with the SLA<sup>138</sup>”*
- 6.152 Eircom also consider that assumptions regarding future VDSL demand in the draft NGA Cost Model are *“fundamentally flawed”* and that the Economic Depreciation approach that relies on these assumptions are *“inconsistently applied”*. As an example, Eircom noted that *“the category of “VDSL electronics” is amortised over a 50 year period, taking into account the replacement capital during this period while “aggregation equipment” is amortised over a period equal to the asset life of the ODF. The rationale for this disparity has not been justified by ComReg. Economic reasoning would require assets with expected shorter lives to be recovered quicker than those with longer expected lives<sup>139</sup>”*.
- 6.153 Eircom argued that this approach is the inverse of economic reasoning and highlighted that the FTTC cabinet plinth, duct, cross connect cabinet will become stranded assets as FTTH evolves, while FTTH will continue to use the same aggregation nodes. Consequently, *“ComReg needs to consider shortening significantly the associated lives for the plinth and cross connections and apply a cost recovery mechanism across the board that is consistent with declining VDSL demand<sup>140</sup>”*.
- 6.154 Eircom also reiterated its concern over the use of a 50 year Economic Depreciation timeframe and that *“A full itemisation of the issues of concern with the NGA Cost Model is appended to this response as “Review of Cost Models (ComReg 17/26)”<sup>141</sup>”*.

### 6.3.3 ComReg’s Assessment of Respondents’ Views:

- 6.155 ComReg notes that a number of respondents had concerns with the proposed inputs and assumptions in the NGA Cost Model regarding the costs associated with the provision of FTTC based Bitstream.
- 6.156 As outlined above, BT, ALTO and Vodafone, in paragraphs 6.145, 6.148, and 6.149 respectively, all raised concerns that OAOs would not be in position to

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<sup>138</sup> Eircom Response, § 103.

<sup>139</sup> Ibid, § 105.

<sup>140</sup> Eircom Response, § 106.

<sup>141</sup> Ibid, § 102.

provide robust data to ComReg to inform an REO assessment of Bitstream related costs. To clarify, the cost base that is used to determine the appropriate level of costs specific to Bitstream is the SEO cost base. In the Consultation<sup>142</sup>, ComReg explained that while it aspired to use REO data, it recognised that accurate and verifiable OAO data is difficult to obtain. For this reason, ComReg proposed to use an SEO approach as a proxy for an REO approach. Both the REO and SEO approaches reflect the need to adjust for differences in economies of scale and scope available to market entrants. However, while the REO requires OAO cost data, the SEO approach can use Eircom's cost data provided it is adjusted to the scale / scope of a hypothetical new entrant and we describe this approach as the SEO approach. ComReg notes further that its SEO approach is consistent with the 2013 Non-Discrimination Recommendation, which indicates that:

*"Downstream costs are estimated on the basis of the costs of the SMP operator's own downstream business (EEO test). ...NRAs may make adjustments for scale to the SMP operator's downstream costs in order to ensure that economic replicability is a realistic prospect."*<sup>143</sup>

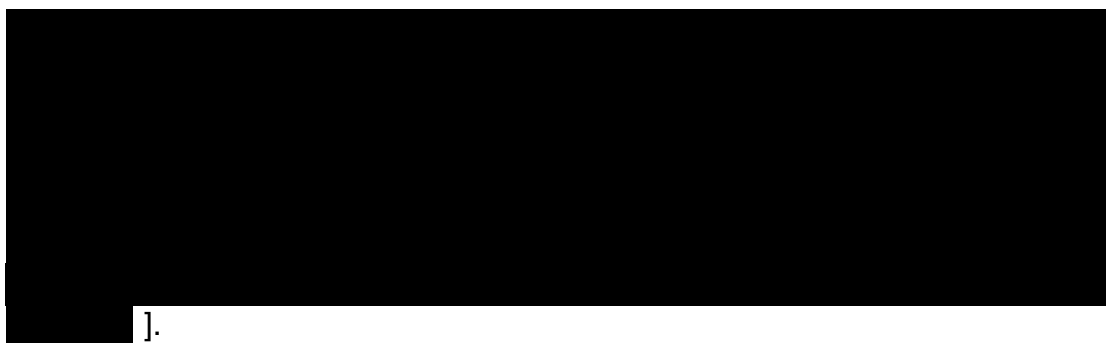
6.157 ComReg has also recognised in Chapter 6, paragraph 6.133 of the Consultation that to use Eircom's unit costs (or EEO approach) based on a larger installed customer base would not encourage VUA based entry and therefore would not encourage appropriate infrastructure competition. In essence, the SEO (or REO) cost base (where the Bitstream costs are adjusted in order to reflect an operator with a 25% market share) ensures that the costs for Bitstream are always higher than the costs for VUA and therefore operators are encouraged to invest in VUA, where feasible. In comparison, the EEO cost base would result in OAOs remaining on Bitstream as this approach would mean that Bitstream would be costed at a lower level and therefore operators would not be incentivised to climb the ladder of investment, i.e., to invest in VUA.

6.158 ComReg does not agree with BT's views, as outlined at paragraph 6.146 above, that we need to take into account what it defined as an "intermediate wholesale market". This Decision document is a further specification of the price control obligations and it does not consider the defined markets. The outcome of the market review and the defined markets for WLA and WCA is set out in the 2018 WLA / WCA Market Review Decision.

6.159 We note BT's concerns, as outlined at paragraph 6.147 above, that the model does not consider [REDACTED]

<sup>142</sup> See paragraphs 6.129 to 6.134 of the Consultation.

<sup>143</sup> Annex II, 2013 Non-Discrimination Recommendation.



- 6.160 With regards to Vodafone's point, as outlined at paragraph 6.149 above, regarding access to a transparent and traceable model, please see paragraph 6.72 above where this point has been addressed.
- 6.161 ComReg notes Vodafone's submission, as outlined at paragraph 6.149 above, that the use of 25% market share may be too high and not reflective of a true view of the current market conditions. To clarify, the 25% retail broadband market share that is used is not intended to correspond to the market share of any particular operator that is active in the market today. Rather it is intended to reflect a market share consistent with an operator achieving efficient scale in the medium term. ComReg considers that the use of a SEO (or REO) cost base in conjunction with a 25% market share is appropriate as the objective is to promote investment in VUA by alternative operators. The SEO approach recognises that even in the long-run, alternative operators may not be able to compete with the SMP operator due to structural diseconomies of scale and scope, and the nature of the market. If ComReg sets the market share too low, there could be a risk of not incentivising operators to grow sufficiently.
- 6.162 In addition, ComReg aims to avoid inefficient entry to the market and we consider that a market share of 25% should be applied when adopting the SEO (or REO) cost base and we plan to keep this under review. On the other hand the risk of having too high a market share assumption is to create a duopoly situation in this segment of the market. A 25% market share is consistent with a market made up of 4 operators with symmetric market shares (100%/4) or with a market made up of 3 operators with asymmetric market shares.
- 6.163 ComReg considers that a market share of 25% is more consistent with the objective of incentivising infrastructure based competition with more than two operators and balances the need to take economies of scale differences into account between Eircom and other operators while encouraging investment in VUA. Therefore, ComReg remains of the view that a 25% market share assumptions appears reasonable.
- 6.164 Further to the views expressed by Sky and in the AM Report, as outlined at paragraph 6.144 above, that a 25% REO results in prices that are above Eircom's efficiently incurred costs, ComReg considers that setting FTTC-based



prices to recover Eircom's efficiently incurred costs would not provide incentives to OAOs to deploy in regional exchanges as the OAO could only invest if it was capable of matching Eircom's economies of scale. Consequently, using a 25% market share adjustment is intended to encourage greater investment by OAOs as the long term interests of end-users is best served by facilitating infrastructure based competition.

- 6.165 ComReg also notes the proposal in the AM Report, as outlined in paragraph 6.144 above, that the higher bandwidth costs of an OAO should only be included within the downstream margin squeeze test as 'downstream margin' as opposed to the wholesale access price. ComReg considers that such an approach, would help resellers compete with Eircom Retail but it would not provide the same investment incentives to OAOs. Consequently, reflecting the higher costs of the OAO in the wholesale price is more aligned with ComReg's objective to encourage OAOs to undertake the investment needed to deploy at regional exchanges.
- 6.166 ComReg notes Eircom's point, as outlined at paragraph 6.150 above, that a fit for purpose specification document has not been provided and as a result they are unsure of the cost allocation process. However, ComReg notes that the level of detail provided in the specification document and the document template for the NGA Cost Model are consistent with similar documentation previously provided to Eircom for the Revised CAM and NGN models. Nonetheless, ComReg and its advisors have reviewed the documentation and made revisions to the specification document to address, where appropriate, the matters raised by Eircom in its response.
- 6.167 With respect to Eircom's point, as outlined in paragraph 6.151 above, on the need to increase the level of operating costs in the NGA Cost Model to reflect the additional resources required to enable Eircom to comply with the SLAs recently adopted by industry, ComReg remains of the view that the existing level of operating costs in the NGA Cost Model is appropriate. ComReg is aware that Eircom has restructured its network assurance teams in recent years and we have undertaken further analysis of Eircom's operating and pay costs to assess the impact that recent cost saving measures adopted by the company are likely to have on the future costs of network operations. In light of this review, ComReg expects that Eircom should be in a position to achieve the target SLAs without incurring additional costs. For a more detailed discussion of this review please see paragraphs A 1.60-A 1.64 in the Cost Modelling Annex at Annex 12.
- 6.168 ComReg notes Eircom's submission, as outlined in paragraphs 6.152 and 6.153 above, that the Economic Depreciation approach in the NGA Cost Model is inconsistently applied to the various assets and that the rationale for this disparity has not been justified by ComReg. Eircom has highlighted the fact that

the asset life applied to some VDSL specific assets such as cabinet plinths is [REDACTED] years even though such assets would no longer be required if all the customers were to migrate to FTTH, while aggregation nodes, that can be used to support FTTH demands, have a much shorter asset life.

- 6.169 Eircom argued that economic reasoning requires assets with expected shorter asset lives to be recovered quicker than assets with longer asset lives and “ComReg has effectively applied an approach which is the inverse of this reasoning<sup>144</sup>”. However, ComReg considers that Eircom’s position is based on a misunderstanding of the role that asset lives play under the Economic Depreciation approach.
- 6.170 Under Economic Depreciation, the timing of cost recovery is not determined by the asset lives. Instead, cost recovery depends on the output of the assets as the revenue required to finance that recovery is dependent on the level of output generated by the asset while that output is, in turn, dependent on the demand for the services supported by the asset. This means that cost recovery under the Economic Depreciation approach will be accelerated at those times when the demand for these services is highest and delayed when the level of demand/revenues is relatively low.
- 6.171 Consequently, shortening the asset life of the plinth in the NGA Cost Model would not guarantee that the costs of the plinth are recovered over a shorter time frame but it would mean that Eircom would be assumed to have to invest to replace the plinth at an earlier date and this could potentially increase the level of capital expenditure that needs to be recovered. Indeed, the primary role that the asset life has under the Economic Depreciation approach is to inform the frequency at which assets need to be replaced. Aggregation nodes need to be replaced more frequently than cabinet plinths and have a shorter asset life than plinths in the NGA Cost model to reflect this.
- 6.172 As it is, assuming that FTTC specific assets such as plinths have an asset life of [REDACTED]  
[REDACTED]  
[REDACTED] ] The NGA Cost Model also applies a zero terminal value to the network so the cost of any investment in replacement plinths is fully recovered over the 50 year time frame, even if the plinth is modelled to be replaced in the final years of this period. Indeed, as noted in 6.71 above, one reason why Economic Depreciation requires a relatively long time frame is to help minimise the impact that any investment in the replacement of assets at the end of the model timeframe will have on the derived prices, as the present value of such

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<sup>144</sup> Eircom response, § 105.

cash flows will be heavily discounted by the application of the WACC in the calculations.

6.173 Therefore, Eircom's inference that the NGA Cost Model recovers the cost of aggregation nodes before the costs of VDSL specific assets such as plinths is not correct as the cost recovery for both types of assets will be dependent on the level of demand that they support and not the asset life. Consequently, ComReg does not accept Eircom's argument that the Economic Depreciation approach adopted for cost recovery in the NGA Cost Model is the inverse of economic reasoning and ComReg remains of the view that it is appropriate for use in the NGA Cost Model over a 50 year timeframe.

6.174 Having considered the submissions from respondents ComReg remains of the view that for the costs for FTTC based Bitstream should be based on the sum of: VUA costs based on Eircom's BU-LRAIC+ costs and the BU-LRAIC+ costs for WEILS and backhaul adjusted for the scale of a SEO operator with a 25% retail broadband market share, for the reasons set out above at paragraphs 6.155 to 6.173 and also at Chapter 6, paragraphs 6.127 to 6.143 of the Consultation.

## ComReg's Position

6.175 The cost for FTTC based Bitstream should be based on the sum of:

- The VUA cost stack based on Eircom's BU-LRAIC+ costs; and
- The BU-LRAIC+ costs for WEILS and backhaul costs, adjusted for the scale of a SEO operator with a 25% retail broadband market share. This adjustment reflects the costs of an SEO.

## 6.4 POTS based NGA services

### 6.4.1 Position set out in the Consultation:

6.176 As set out in the Consultation, when a voice service is sold with VUA or NGA Bitstream it is referred to as a plain old telephone service ('**POTS**') based NGA service.

6.177 In Chapter 6 of the Consultation, ComReg proposed that the average additional costs associated with a POTS based NGA service (VUA or NGA Bitstream) should be a weighted average of the additional costs for FTTC based VUA service and the EVDSL based VUA service as represented in the following table.

**Figure 6: Additional POTS based VUA Costs**

	EVDSL	FTTC
LLU -SLU		✓
POTS line card	✓	✓
Weighing	x %	1-x %

6.178 Based on the relative VUA line volumes assumed in the NGA Cost Model, ComReg proposed in the Consultation that the estimated additional costs associated with the POTS based FTTC NGA services were €4.96. Please see subsection 6.9 of the Consultation Document for further details.

#### 6.4.2 Respondents' Views:

6.179 Of those that responded, Vodafone, BT and ALTO agreed generally with the proposed approach for determining the port rental costs for POTS based FTTC NGA services and the proposed additional port rental price for POTS based FTTC of €4.96, while Sky, the AM Report and Eircom disagreed.

6.180 BT and ALTO agreed with the proposed approach, with BT stating that it *“effectively set stable investment window where a return on investment can be obtained by volume operators that migrate to VoIP based voice services... Without such a window the risk of deploying VoIP is high as demonstrated by the lateness of the market moving from WLR<sup>145</sup>”*.

6.181 Vodafone agreed with the proposed approach stating that they welcomed the shift from SB-WLR as the anchor product. Vodafone also commented that they would strongly suggest that ComReg use the results of Eircom's regulatory accounts as the basis for the calculation of the incremental POTS costs. The reason given is that as full LLU cost is recovered in the EVDSL charge there is a risk of double charge if this change is not implemented. Vodafone also noted that, for the last 5 financial years, wholesale fixed access returns have been in excess of the regulated return allowable on capital employed by circa €133 million and urged ComReg to identify the incremental costs and revenues of POTS over the LLU and/or VUA costs.

6.182 Vodafone also stated that they would welcome ComReg using REO data from OAOs in the determination of costs and that they would respond to any such request.

<sup>145</sup> BT Response, page 11, paragraph 7.1

- 6.183 Sky considered that the €4.96 figure was overstated as customers using POTS based FTTC would pay for the feeder trench twice based on the allocation methodology. Sky asserted that having two feeder cables was inefficient and the reasons Eircom do this is “*because the copper feeder is a sunk cost so the cost of continuing to use/maintain is cheaper than upgrading DSLAMs to Multi Service Access Nodes (MSAN)*”<sup>146</sup>.
- 6.184 The AM Report also commented that the modelling of POTS based FTTC does not reflect efficient dimensioning, as the calculation in the model:
- “...means that the customers selecting POTS-based NGA pay twice for the feeder trench and pays both for a copper based feeder cable and for a fibre feeder cable. This is not efficient and reflects the dated architecture of eircom’s network...If eircom faced the forward-looking cost of either deploying a new copper feed or upgrading DSLAMs to MSANs, we believe that it would adopt the latter as the modern, efficient choice”*<sup>147</sup>.
- 6.185 Sky also stated that where copper feeder is valued at replacement cost the problem of double charging is exacerbated. Furthermore, Sky noted that if Eircom were given a choice between copper and MSAN they would choose the latter yet Eircom is being allowed to recover replacement costs of copper as a reusable asset which resulted in a higher price which should be revised downwards.
- 6.186 The AM Report also noted “*that, in the NGN model, voice services are handled by DSLAMs. This contradicts the use of two feeder networks for POTS-based FTTC NGA services*” and suggested that ComReg should modify the modelling approach to either model voice provision as an MEA<sup>148</sup> with no copper feed needed or model voice provision in the traditional way but treat the entire copper network as a reusable asset.
- 6.187 The AM Report commented that POTS-based FTTH requires the OAOs to buy a full WLR component on top of the FTTH component, which results in the duplication of both the feeder and distribution networks.
- 6.188 In the Sky letter to ComReg in January 2018, Sky provided further comments on the Consultation (17/26) in light of new information<sup>149</sup>. Some of the issues raised by Sky in this letter related to POTS based VUA, including a concern that [redacted].

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<sup>146</sup> Sky Response, § 13.

<sup>147</sup> AM Report, §4.3.1

<sup>148</sup> Modern Equivalent Asset.

<sup>149</sup> Sky letter, 26 January 2018.

- 6.189 Eircom did not agree with ComReg's proposed approach, stating that the approach for POTS based FTTC based NGA should be consistent with previous decisions – specifically the 2016 Access Pricing Decision, which, in particular, set the price for wholesale access to the PSTN *“to recover exactly the national average cost of the copper loops in each year of the price control”*.
- 6.190 Eircom considered that in the case of POTS based EVDSL, all of the costs of the VDSL electronics and the costs of the Aggregation node where the VUA service is handed off must be recovered from the POTS based VUA revenue. In addition, in the case of POTS based FTTC, a small correction is required for the double recovery of access network costs between the PSTN rental and the fibre link from the PSTN exchange to the street cabinet. Eircom stated that the POTS based VUA rental must recover all of the costs of the VDSL electronics and fibre connection from the DSLAM to the VUA handover point.
- 6.191 Eircom argued that:
- “ComReg incorrectly starts by modelling only the access network costs specific to the FTTC and EVDSL implementations as stand-alone NGA services and then adding back only the costs of the specific network elements required to add a PSTN capability to the stand-alone VUA. This is inconsistent with the approach recently adopted in ComReg Decision D03/16”<sup>150</sup>.*
- 6.192 Eircom also stated that the lack of consistency between the 2016 Access Pricing Decision and the modelling approach proposed for NGA has the effect of reducing the revenues available to Eircom from the combinations of PSTN Access, POTS based VUA and stand-alone VUA and is contrary to any of the desired regulatory outcomes envisioned by Regulation 6 of the Access Regulations or the requirement under Article 13 of the European Access Directive to allow operators a reasonable return on adequate capital employed.
- 6.193 In a supplementary submission by Eircom on the proposed treatment of access costs in the Consultation<sup>151</sup>, Eircom argued that, in order to ensure the same level of cost recovery that is allowed for in the SB-WLR prices set under the 2016 Access Pricing Decision, there needs to be a significant increase in the copper costs recovered from FTTC and EVDSL services. Otherwise SB-WLR prices will have to increase to recognise that the more economic customers with shorter line lengths are migrating to FTTC and EVDSL thereby increasing the average line length and cost of the remaining SB-WLR customers beyond the levels allowed for in the 2016 Access Pricing Decision cost modelling.

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<sup>150</sup> Eircom Response, paragraph 109.

<sup>151</sup> Eircom submission, “Treatment of access network costs in FTTC pricing proposed in Consultation ComReg 17/26”. This submission expanded on Eircom's concerns relating to access cost recovery that were raised in Eircom's response and in the CEG Report.

6.194 The CEG Report noted that ComReg set a national price for SB-WLR in D03/16 and that:

*“the national SB-WLR price based on nationally averaged costs enables ComReg to help fund the provision of SB-WLR in higher cost rural areas through earning a margin in the SB-WLR price in urban areas over the cost of providing SB-WLR in urban areas.*

*However, ComReg is now proposing prices for FTTC and EVDSL WLA and WCA services based on the relatively low cost of urban sub-loops for FTTC and short loop lengths for EVDSL. This would mean that the margin that Eircom earns on a SB-WLR line in urban areas that is necessary for national cost recovery would be lost when that line is used for stand-alone VDSL VUA and POTS-based VDSL VUA.<sup>152</sup>”*

6.195 The CEG Report also noted that the national average cost of the local access network in the SB-WLR price is derived as a weighted average across Eircom’s 1,148 exchanges, for which the actual costs range between €10 and €25 depending on the geo-type in which they are located. However, the approach taken in NGA Cost Model prices wholesale FTTC and EVDSL services using an allocation of local access network costs well below that used in SB-WLR pricing, as it is based on sub-loop lengths less than 2.5km and LLU lines within the LEA.

6.196 The CEG Report also argued that this pricing approach to FTTC and VDSL would mean the margin on a SB-WLR line in urban areas that was necessary for national cost recovery is lost when that line is used for standalone VDSL VUA or POTS based VDSL VUA. It was argued that Eircom will then be unable to recover its costs as the average costs of the remaining SB-WLR lines will be higher than the national average cost that was derived in D03/16 for SB-WLR.

6.197 The CEG Report proceeds to argue that ComReg’s proposed prices for standalone VDSL VUA or POTS based VDSL VUA would result “in a significant amount of stranded revenue” and that this would require the wholesale SB-WLR price to rise by between €< [REDACTED] ] - €< [REDACTED] ] above the levels set in D03/16<sup>153</sup>.

6.198 In its September submission<sup>154</sup>, Eircom estimated that the approach to copper cost recovery proposed in the Consultation for the FTTC/EVDSL prices would result in an under-recovery for Eircom of €< [REDACTED] ]m in access costs

<sup>152</sup> The CEG Report, § 284-285.

<sup>153</sup> The CEG Report, § 297.

<sup>154</sup> Eircom Submission: “170509 JOC Access Network Cost Recovery and FTTC pricing in ComReg 17\_26”. This paper assessed the financial impact on Eircom of ComReg’s proposal to base the charges for VUA on specified LLU and SLU inputs rather than the nationally averaged costs of the copper loop that informed the SB-WLR charges set under D03/16. Please see non-confidential version at Annex 8 of this Decision.



(€< [redacted] ]m for wholesale services sold externally and €< [redacted] ]m for services sold via Eircom Retail) based on service volumes in the financial year 2017/2018, with this figure expected to rise each year as more customers migrate to VDSL. Eircom concluded that “ComReg must re-visit the cost treatment and indicative prices from 17/26 and allow for the recovery of the full national average cost of an access path from both the stand-alone FTTC price and the sum of the PSTN plus POTS-based FTTC prices<sup>155</sup>”.

### 6.4.3 ComReg’s Assessment of Respondents’ Views:

- 6.199 ComReg notes that there was mixed views amongst respondents in relation to the proposed approach for determining the rental costs for POTS based FTTC/EVDSL NGA services and the proposed additional rental price for POTS based FTTC/EVDSL of €4.96. While BT and Vodafone are in general agreement with the approach taken, Sky and Eircom, together with their advisors, raise a number of concerns.
- 6.200 ComReg does not agree with the point raised by Sky (noted in paragraph 6.183 above) and in the AM Report, as outlined at paragraph 6.184, that the customer choosing POTS-based VUA ends up paying twice for the feeder trench when the service is delivered over FTTC. The Revised CAM is used to derive the costs of the fibre and copper feeds between the local exchange and FTTC cabinet and, in doing so, it allocates the cost of the trench between both cables.
- 6.201 However, the majority of trench costs arise because of the track length and so trenching can be considered as a relatively fixed cost. Consequently, a decision to retire all the copper feeds from the exchanges to the FTTC cabinets would not give rise to significant access network cost savings in terms of trench costs but it would mean that, as a copper feeder cable no longer uses the trench, all the costs of the feeder trench would have to be absorbed by the fibre cable. To account for this fact, the inputs into the NGA Cost Model that are derived in the Revised CAM have now been adjusted to ensure the same level of recovery of trench costs is achieved in the case of a standalone FTTC service and a POTS-based FTTC service.
- 6.202 Sky also submitted, as outlined in paragraph 6.183, that the reason Eircom continue to use two different feeder cables is because Eircom consider the Exchange-side (E-side) copper feed to be a sunk cost. However, ComReg notes that the Eircom copper access network is not only required to support FTTC services but it also continues to be needed to support other copper based services such as ADSL, EVDSL and SB-WLR.

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<sup>155</sup> Eircom submission: “Treatment of access network costs in FTTC pricing proposed in Consultation ComReg 17/26”, Conclusion.

- 6.203 The AM Report, as outlined in paragraph 6.184 above, expressed the view that, if Eircom faced the forward looking cost of either deploying a new copper feed or upgrading DSLAMs, Eircom would choose to upgrade the DSLAM. However, even if Eircom were to upgrade DSLAMs it will still have to maintain the copper feeder cables to support SB-WLR and ADSL services and, given the high level of fixed costs that exist in the access network, removing the FTTC customer base from the E-side copper cables is unlikely to generate significant cost savings over the price control period.
- 6.204 Sky, as outlined at paragraph 6.185 above, argued that using replacement costs for the copper feeder cable exacerbated the problem of double charging for POTS based FTTC. The AM Report also raised this point, as outlined at paragraph 6.186 above. However, ComReg is satisfied that the approach that it is taking to deriving the costs of the copper feed ensures that no such double charging for POTS based FTTC exists. Furthermore, the decision to use a BU-LRAIC+ basis for the cost inputs into the NGA Cost Model is predicated on the need to correctly inform the build or buy decisions of all network operators and revaluing copper on the basis of a reusable asset would not be consistent with this objective. Please see further details at Chapter 5. It should also be noted that, although the capital costs in a BU-LRAIC+ valuation are higher than the legacy costs, the costs of maintaining the network are lower as new copper cables are assumed to have a lower levels of faults and that the lower operating costs mitigate the effect of using the replacement cost to value capital cost of the copper feed.
- 6.205 In relation to the point raised in the AM Report, as outlined in paragraph 6.187 above, that POTS-based FTTH requires the OAOs to buy a full WLR component on top of the FTTH component, ComReg is not proposing to set cost oriented prices for FTTH based VUA at this stage. Instead, Eircom is obliged to set FTTH based prices in line with the margin squeeze obligations determined by ComReg.
- 6.206 ComReg also notes that the Sky letter, referenced in paragraph 6.188 above, raises some concerns that are related to the charges for POTS Based VUA. These concerns are discussed in paragraphs A 1.91-A 1.104 of the Cost Modelling Annex at Annex 12.
- 6.207 Regarding Vodafone's suggestion, as outlined at paragraph 6.181 above, that ComReg should require Eircom to report the incremental costs and revenues of POTS over LLU and/or VUA costs in the regulatory accounts, ComReg notes that the charges for VDSL VUA services are based on a BU-LRAIC+ approach, while the regulatory accounts are prepared on a Top-Down HCA basis and no longer report on incremental costs. However, as ComReg's position is that the charges for POTS-based VUA and standalone VUA are not based on the national average costs of a copper loop, Eircom will need to revise the allocation

of copper access costs/transfers in the regulatory accounts to distinguish between the use of copper related network elements by FTTC/EVDSL services as distinct from the nationally priced SB-WLR services, which should help ComReg to better understand the future level of returns being achieved in relation to these services.

6.208 Vodafone, as outlined in paragraph 6.182 above, also stated that they would welcome the use of REO data to determine costs. However, ComReg is of the view that a REO approach is not an appropriate basis to derive the costs associated with POTS based VUA as Eircom is the only operator with an extensive copper access network in Ireland.

6.209 ComReg notes the concerns raised in the Eircom response in the CEG Report, as outlined at paragraphs 6.189 to 6.198 above, around access cost recovery and its view of the lack of consistency between the 2016 Access Pricing Decision and the modelling approach proposed for NGA. ComReg also notes the point in the CEG Report, referenced in paragraph 6.194, that the prices for FTTC and EVDSL are based on the costs of SLU and LLU inputs that are lower than the national average cost that informed the SB-WLR prices set under the 2016 Access Pricing Decision. However, it remains the case that the technical limitations of the VDSL services results in the average length of the lines that are used to support FTTC and EVDSL VUA services being different to the average length of the lines that are used for SB-WLR and ADSL.

6.210 In fact, it is possible to consider that line length is a key factor in determining how a customer on the Eircom network is likely to be served with broadband over the period of the price control:

- Eircom is using FTTC and EVDSL technologies to target customers with relatively short line lengths in cities, towns and villages;
- Eircom has also made the decision to target a further sub-set of rural customers with an FTTH service as part of Eircom's rural 300k network extension programme, as these customers are beyond the range of a technically viable FTTC or EVDSL service;
- The remaining customers in the more isolated areas furthest from the exchange will not be served by Eircom's NGA deployments and will have to await the state subsidised NBP for a high speed broadband service. Until then, this line base will continue to be served with copper based fixed access services such as SB-WLR and CGA broadband using ADSL or opt for a mobile or FWA broadband service.

- 6.211 The average line cost will be lowest for the customers that are served with FTTC and EVDSL as these are clustered together closer to the exchanges while the line base that will be served by the NBP have the highest average cost due to longer line lengths and lower line densities. Consequently, ComReg is of the view that the cost oriented prices for FTTC and EVDSL based VUA services, including POTS based VUA, need to reflect the average costs and characteristics of the line base that is specific to these services and the average cost of this line base is different to the national average cost that informed the prices for SB-WLR services under the 2016 Access Pricing Decision (D03/16). ComReg's preliminary view in Chapter 6 of the Consultation was that this cost was best approximated in the NGA Cost Model by using an SLU cost input with a maximum line length of 2.5km and basing the full loop cost on the LLU prices derived in the 2016 Access Pricing Decision (D03/16).
- 6.212 Nonetheless, ComReg accepts the points raised in the CEG Report, as outlined in paragraph 6.194 above, that using these SLU and LLU inputs to inform FTTC and EVDSL based VUA services will reduce the margins that Eircom have been earning from services sold on lower cost lines in urban areas, which has helped fund the provision of services in higher cost rural areas. However, ComReg does not accept Eircom's position (outlined in paragraph 6.198) that in order to prevent any potential short fall in access cost recovery FTTC/EVDSL customers should be required to recover the average national costs of the copper network. A national average cost approach is only appropriate for a national service such as SB-WLR and not the FTTC/EVDSL services, which, due to line length constraints, are not capable of serving the entire national customer base. In particular, adopting a national average cost approach would mean that the wholesale FTTC/EVDSL charges are recovering costs over and above the costs that an operator would incur to serve those customers and this would distort the build or buy price signals for OAOs that are targeting the same customer base.
- 6.213 For the build or buy signals to be relevant the charges should only reflect the geographic limits of the access network that is required to pass and connect the targeted base. Including additional margin to help cross subsidise the more expensive customers that might be served on longer lines in the access network beyond that footprint would distort these investment signals. Therefore, rather than base the SLU and LLU inputs in the NGA Cost Model on the average national access cost, ComReg's view is that the costs should be based on the line lengths and the line densities that are compatible with the VDSL services they support. Consequently, ComReg has revisited both the line lengths and the line densities that inform the unit cost calculations that are carried out in the Revised CAM to derive the inputs into the NGA Cost Model to ensure that the costs of these inputs better reflect the future costs of providing FTTC and EVDSL based VUA services.

- 6.214 To this end, ComReg has revised the maximum line lengths in the updated NGA Cost Model to 1.5kms (down from 3kms) for the SLU inputs used to inform stand-alone FTTC charges and to 3kms<sup>156</sup> (down from 5kms) for the LLU inputs used to inform EVDSL and POTS based VUA charges, on the basis that these line lengths are more typical of the maximum line lengths currently being used in providing FTTC and EVDSL services.
- 6.215 Capping the maximum SLU lengths at 1.5km should help address the concern raised in the AM Report (see paragraph 6.90) that using national costs risks overestimating the costs of FTTC wholesale services. By capping the line lengths of the SLU and LLU cost inputs into the NGA Cost Model, ComReg ensures that the costs that are specific to the longer lines that are not capable of supporting viable VDSL services are excluded from the cost analysis. Also, capping the maximum line lengths in this way helps ensure that the hypothetical network in the NGA Cost Model more closely aligns with the line base and network footprint that has a prospect of network competition from rival operators, which is focused on cities and around regional towns.
- 6.216 Also, as the NGA Cost Model seeks to derive the costs relevant to serving customers in this commercial footprint, ComReg is of the view that it is no longer appropriate to derive the unit costs for the SLU and LLU inputs with reference to the entire customer base in an exchange area as was the case in the Revised CAM in the 2016 Access Pricing Decision. Instead, the unit cost inputs for use in the NGA Cost Model for FTTC/EVDSL cost modelling are adjusted to reflect the standalone costs of the network required to pass the customers within the footprint that can be targeted by these services and to recover those costs specifically from the customer numbers that can avail of a commercial NGA service. This scale adjustment is derived with reference to the number of premises that are being targeted with commercial NGA services compared with the total number of premises nationally.
- 6.217 The unit costs in the Revised CAM used to set cost oriented prices in the 2016 Access Pricing Decision (D03/16) were derived with reference to all the lines in an exchange area, including those longer lines serving premises that are furthest from the exchange. However, as noted in paragraph 6.45, Eircom is only passing circa 1.9m with its NGA services, while the number of premises nationally is estimated to be 2.35m. Therefore, ComReg has applied a scale adjustment to the unit costs that are calculated in the Revised CAM to recognise the fact that Eircom's NGA network is targeting a more limited line base. This scale adjustment has been determined as approximately  $1.9/2.35 = 80\%$  to be consistent with the share of the national premises that are being passed by

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<sup>156</sup> A 5km line length was considered appropriate for LLU as the characteristics of the LLU service were first determined at a time when ADSL was the only fixed line broadband technology. ComReg is also aware the Eircom's rural 300k network is using FTTH to target such customers.

Eircom's NGA network.

- 6.218 Eircom's copper access network supports a total of 1.3m active copper lines nationally and applying the scale adjustment recognises that, due to line lengths and densities, a significant sub set of these lines will never be used to support a commercial NGA broadband service. This adjustment is equivalent to dividing the total cost of infrastructure used to address DSL subscribers or potential subscribers by 1.1m (1.3\*80%) instead of the total 1.3m as proposed in the Consultation. The Consultation approach meant that all lines bore a share of the cost of the infrastructure in the DSL footprint, whether they were used to provide service in that footprint or whether they merely traversed it in order to provide CGA or voice only services beyond it. The revised approach means that those lines which traverse the NGA footprint (broadly speaking those lines which are in the proposed NBP footprint) will not share a portion of the cost of the network attributable to the NGA footprint - although lines in Eircom's commercial FTTH footprint will continue to share costs.
- 6.219 Applying this scale adjustment means that input costs for FTTC/EVDSL reference the unit costs associated with serving customers in the commercial NGA footprint while an assessment of the costs relevant to, for example, an NBP deployment in non-commercial areas need only consider the costs of extending the network beyond the commercial footprint, i.e. the network that is specifically used to deliver services to customers in the NBP IA.
- 6.220 Adopting this approach in the NGA Cost Model should better inform the build or buy decisions faced by all network operators as it more closely aligns with the iterative approach to investment that can be observed in the decisions made by network operators deploying NGA networks in Ireland. For example, Eircom has taken issue with a comment made in ALTO's response to the Consultation that it has "cherry picked" the 300,000 premises for FTTH by noting that open eir "is rolling out its fibre network to these 300,000 premises on the basis that it can do so commercially and in a cost effective manner" and the CEG Report, notes that:

*"Investment in fibre networks is modular in nature, with the need to update, maintain and extend the existing network over time to cater for demand. For example, eir have applied several investment tranches to build out its network since the eir board decision to proceed with the initial network build<sup>157</sup>".*

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<sup>157</sup> The CEG Report, paragraph 175.

- 6.221 This approach also recognises that the uneconomic characteristics of serving customers in the more remote rural areas that typifies the NBP IA means that there is no margin available from the revenue generated in these areas to contribute to the cost recovery of assets located in the commercial footprint. An assessment of customers as being either economic or uneconomic is determined with reference to the additional costs incurred in serving those customers compared with the additional revenues those customers generate and so does not include the common and joint costs that are incurred in serving the commercial customer base<sup>158</sup>.
- 6.222 The approach has the additional benefit of allowing for greater stability of prices in the medium term. It helps address Eircom's point that there would be a risk of stranded cost as providers migrate from WLR inclusive services to standalone NGA services in future as the amount of required cross subsidy from more densely populated areas to more rural areas will be smaller than would otherwise be the case. Second it reduces the risk that developments in the NBP area in future, such as for example copper switch off, would create instability in NGA prices in the commercial footprint.
- 6.223 Using the Revised CAM, ComReg has undertaken an analysis of the average incremental line cost in different parts of Eircom's access network and found that the average cost of the lines in the extended network beyond the 3km line length that informs FTTC/EVDSL based VUA charges is over [redacted] the national average cost that informs the SB-WLR price and almost [redacted] times higher than the average cost of the shorter lines within the 3km footprint.

**Figure 7: Access network cost by footprint [redacted]**



- 6.224 This difference in the line cost in each footprint is consistent with the fact that, as noted in paragraph 6.217, the commercial area can serve 80% of national premises but accounts for less than [redacted]% of the total access costs (excluding common costs<sup>159</sup>). This means that over [redacted]% of the access network costs are incurred in extending the network to serve the premises in

<sup>158</sup> For example, the net cost for a USO assessment is determined by assessing the long-run profitability of the USP when it is serving all areas and customers compared with the profitability it would achieve if services to uneconomic areas and customers were not provided.

<sup>159</sup> The access network common costs include general overheads, network rates and local exchange buildings.



the 3km footprint. In the NGA Cost Model ComReg assumes that all the costs of the 3km footprint are recovered from the lines that are capable of supporting a commercial NGA service, giving rise to an average cost of [€< █████ ] per month (excluding common costs).

- 6.225 The additional [€< █████ ]% of access network costs are the incremental costs required to extend the network to serve premises that are further than 3km from the exchange and, as outlined in paragraph 6.212 to 6.215, VDSL services are no longer making a contribution to the recovery of these costs as the associated infrastructure is not used to support VDSL services. The uneconomic characteristics of providing access services to this dispersed customer base is indicated by the high average costs incurred in extending the network to reach them. The average monthly incremental costs in the non-commercial footprint is over €< █████ ] per line, which is [€< █████ ] the average national cost of almost €< █████ ] that informs the SB-WLR price, and almost [€< █████ ] times the average LLU cost that is used to inform the VUA charges.
- 6.226 Consequently, there is no margin from the longer line revenues to contribute to the recovery of access costs within the 3km footprint or to the recovery of general overheads and common costs. Therefore, it is necessary to recover all common costs from the commercial line base, and ComReg has also revised the approach to common cost recovery so that it is done on the basis of a cost per service. This means that the SLU and LLU cost inputs into the NGA Cost Model are calculated to recover the same level of access network common and shared<sup>160</sup> costs from both services<sup>161</sup>.
- 6.227 Furthermore, ensuring that the SLU and LLU costs are calculated to recover the same level of access network common and shared costs from both services. should help address the concerns that Sky have raised regarding customers paying twice for the feeder trench (see paragraph 6.183) and [€< █████ ] (see paragraph 6.188). It should also help address Eircom's concerns regarding cost recovery (see paragraphs 6.189 to 6.198) as future recovery of the access network common and shared costs is maintained across access services and will not be affected by customers migrating from a POTS based FTTC service to a standalone FTTC service.
- 6.228 In addition to revising the line lengths and densities of the SLU and LLU inputs in the NGA Cost Model, ComReg has also amended the basis for determining

<sup>160</sup> The access network shared costs between exchange side copper and fibre include the feeder trench, cable chamber and network operating costs.

<sup>161</sup> One consequence of this approach to common cost recovery is that it recognises that all services offered in the non-commercial area cannot be expected to make a contribution to Eircom's common costs as these costs are already fully recovered from the services offered in the commercial area. As a result, the prices that Eircom might charge an NBP operator for access to poles and ducts in the Intervention Area do not need to include a common cost mark-up and so should be lower than the prices set by ComReg for duct and pole access under the 2016 Access Pricing Decision (D03/16), which did include such a mark-up.

the additional cost associated with the copper feeder cable that is required when a POTS based FTTC service is sold.

- 6.229 Previously, this cost was derived as the difference between the LLU and the SLU cost inputs, which is conceptually correct as the SLU service uses the infrastructure from the cabinet to the customer while LLU uses all the infrastructure from the exchange to the customer and so the difference between both services should encompass the infrastructure associated with the feeder cable between the exchange and the cabinet. However, the LLU cost was derived from a version of the Revised CAM where the maximum line length was set as 5km, while the SLU input was derived from a separate version of the model where the SLU line length was capped at 2.5km. Consequently, as the inputs were derived from two different versions of the Revised CAM the possibility existed that the differential between the LLU and SLU cost inputs did not equate to the costs of the copper feeder cable and, in fact, the costs were overstated. To address this, ComReg now derives the costs of the feeder cable with reference to the LLU and SLU costs as calculated in the 3km LLU version of the Revised CAM.
- 6.230 As a result of the amended approach to determining the SLU and LLU inputs in the NGA Cost Model the derived unit costs have increased, although they are still less than the national average costs that inform the SB-WLR prices, as indicated in the following table:

**Figure 8: SLU and LLU inputs**

NGA Cost Model input 2018	Previous approach	Revised approach	National average
LLU	€> [REDACTED] ]	€> [REDACTED] ]	€> [REDACTED] ]
SLU	€> [REDACTED] ]	€> [REDACTED] ]	€> [REDACTED] ]

- 6.231 In finalising the charges for POTS based VUA, ComReg has also derived an annual charge that evolves each year as this better aligns with the evolution of the underlying costs and service volumes.
- 6.232 ComReg is of the view that the revised approach to deriving the SLU and LLU costs inputs better informs the build or buy decisions for all operators deploying commercial NGA networks. Nevertheless, as the derived costs are still below the national average costs that inform the SB-WLR prices, any risk that Eircom may not be able to fully recover its access network costs is reduced but not eliminated.

6.233 However, ComReg is also aware that, since the SB-WLR prices were set under the 2016 Access Pricing Decision (D03/16), there are inevitably going to be changes in terms of service demand and network costs that can have implications for the average efficiently incurred SB-WLR cost that should inform future prices. Therefore, the 2016 Access Pricing Decision includes a measure whereby Eircom should annually review the key parameters and assumptions of the Revised CAM in the 2016 Access Pricing Decision to ensure that the derived SB-WLR prices are still oriented towards costs, with the potential to introduce price adjustments for SB-WLR should significant and sustainable deviations from the modelled levels of costs or network parameters be identified. Consequently, any issues of over or under cost recovery and the possible implications these would have for the level SB-WLR prices can be assessed as part of this annual review.

6.234 Having considered the submissions from respondents, ComReg remains of view that the charges for a POTS based FTTC/EVDSL service (VUA or NGA Bitstream) should be a weighted average of the additional costs for FTTC based VUA service and the EVDSL based VUA service with the weighting reflecting the relative demand for FTTC and EVDSL services, for the reasons set out in Chapter 6, subsection 6.9 of the Consultation and the reason set out above, except for the changes discussed above and as summarised below.

#### **6.4.4 ComReg's Position:**

6.235 The charges for a POTS based FTTC/EVDSL service (VUA or NGA Bitstream) should be a weighted average of the additional costs for FTTC based VUA service and the EVDSL based VUA service with the weighting reflecting the relative demand for FTTC and EVDSL services, except for the following changes:

- VDSL specific LLU and SLU cost inputs have been defined, which have a maximum line length set at 1.5 km for SLU (from 2.5km) and for 3kms for LLU (from 5km).
- A scale adjustment has been applied to the Revised CAM outputs to be consistent with the line base to be served by commercial NGA Services.
- For FTTC, the additional costs relevant to POTS based VUA include the incremental copper loop cost. This cost is associated with copper feeder cable between the exchange and the cabinet and can be derived as the difference between the cost of the SLU and LLU costs that are derived in the Revised CAM with a maximum line of 3km.

- For EVDSL POTS based VUA services there are no incremental copper costs as the relevant copper related costs necessary to support a POTS based VUA service are already recovered in the EVDSL charge.
- The same level of the access network common and shared costs should be recovered from the standalone VUA service and the POTS based VUA service.
- Both the FTTC and EVDSL POTS based VUA services should recover the additional cost of the POTS line card that is included in the SB-WLR price and derived in the Revised CAM in the 2016 Access Pricing Decision.
- The charges for POTS base VUA should evolve each year to reflect the annual changes in the underlying unit costs.

6.236 The revised approach for determining the costs of the SLU and LLU inputs outlined in paragraphs 6.214 to 6.230, has led to an increase in the local copper access costs that are recovered from the VUA charges and to a reduction in the POTS based VUA charge for FTTC/EVDSL services, when compared with the charges derived in Consultation. The average standalone FTTC/EVDSL VUA charge over the price control period has increased by €3.97 (see Figure 10 in Chapter 7) while the average POTS based VUA charge has decreased by €2.18.

6.237 The revised basis for deriving the costs of the SLU and LLU inputs in the NGA Cost Model recognises the need for standalone broadband services to recover an increasing share of access costs in the future as customers migrate from CGA to POTS based VUA and from POTS based VUA to standalone NGA services, thereby offsetting the need for further price increases beyond those set out in this Decision.

6.238 In Chapter 14 of this Decision we have set out the monthly POTS based VUA charges for each year of the price control period (2018/19-2021/22) as well as the prices that may apply beyond the price control period i.e., 2022/23 and 2023/24.

## 6.5 Determination of cost per service

### 6.5.1 Position set out in the Consultation:

6.239 As discussed in Chapter 6 of the Consultation, the NGA Cost Model uses an Economic Depreciation approach to derive the annual costs of NGA services. Economic Depreciation is determined for each network component and considers both changes in asset prices and changes in service demand which in turn allows for a stable average cost per subscriber per month across the model timeframe.

6.240 When calculating Economic Depreciation, the NGA Cost Model calculates an average cost that is constant for every year of the cost model or a price that evolves in line with the changes to the price of the underlying network asset.

6.241 Consequently, ComReg considered three options in terms of setting the prices for FTTC based NGA services as follows:

- Option 1: Determine a price per year for each service;
- Option 2: Determine one average price for each service over the price control period; and
- Option 3: Use a glide path.

6.242 ComReg proposed that Option 1 was most appropriate because determining a consistent monthly or annual charge for each year of the price control period achieved the objectives of price certainty, stability and predictability.

### 6.5.2 Respondents' Views:

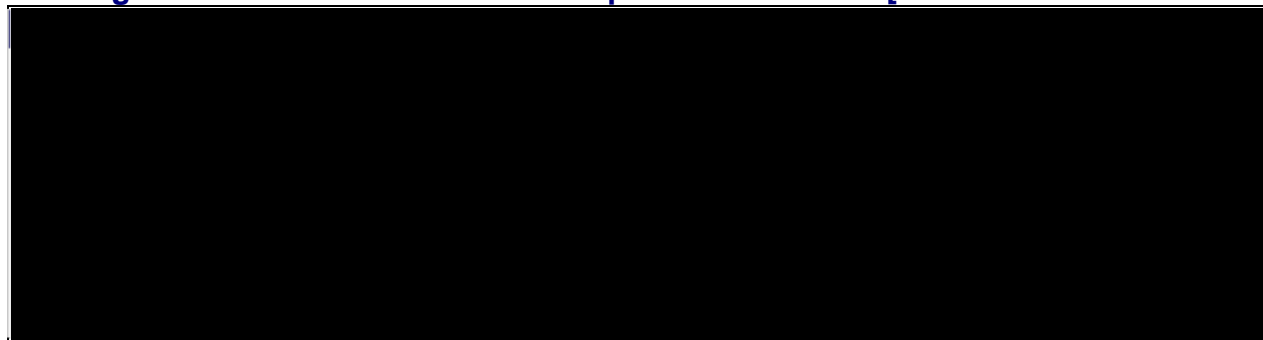
6.243 The majority of respondents agreed with the view that a consistent monthly or annual charge should apply for each year of the price control period.

6.244 Sky agreed with a consistent monthly or annual charge for each year of the price control period but questioned the magnitude of the annual increases being proposed over the review period. Sky also noted that ComReg has not attempted to explain the level of increases in terms of asset price trends and argued that such information should not be considered to be confidential. Sky also commented on the level of redaction within the models.

- 6.245 The AM Report noted that upward direction in the prices proposed for NGA seems to indicate that the price of the underlying assets increase over time and stated that ComReg should fully explain the magnitude of increases over time for NGA services. This should include disclosing what price trends are used (by asset) and which assets contribute to the costs over time. The AM Report also commented that if assets prices are expected to be increasing in Ireland, this is relevant to the wider telecoms industry and not something that Eircom should consider to be confidential or commercially sensitive.
- 6.246 ALTO agreed with the proposed consistent monthly/annual charge and stated that it should apply over the period of the price control unless material issues arose warranting a review within the period.
- 6.247 Vodafone agreed with the proposed option, stating it was most appropriate for price setting as it offers transparency, consistency, stability, and predictability for operators.
- 6.248 BT agreed with ComReg's proposal, and stated that it should apply over the period of the price control unless material issues arose warranting a review within the period.
- 6.249 Eircom disagreed with setting the price control for any Eircom NGA service by cost orientation but accepted that there should be consistency in the price control methodology across products and where those prices are controlled annually by ceilings then prices should be set for each year of the control period.

### **6.5.3 ComReg's Assessment of Respondents' Views:**

- 6.250 ComReg notes the general agreement from respondents that a consistent monthly or annual charge for each year of the price control period should apply in line with the annual costs in the NGA Cost Model and the NGN Core Model.
- 6.251 ComReg notes Sky's point, as outlined at paragraph 6.244 and the points outlined in the AM Report in paragraph 6.245, on the need to justify the annual increases to prices and also the point in the AM Report that this should also include disclosing what price trends are used (by asset) and which assets contribute to the costs over time. Figure 9 below provides a breakdown of the annual costs of the main elements that are used to provide a VUA service:

**Figure 9: Main annual costs in the provision of VUA: [X**

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- 6.252 The main drivers of the year on year increases in the annual VUA prices relate to the costs of elements for the local loop (SLU for FTTC and LLU for EVDSL) while the costs associated with the inter-aggregation node links and exchange node links account for circa 10-15% of the overall VUA costs. A significant reason for the increase in local loop costs is that the infrastructure costs of poles and ducts are increasing year on year. In line with the 2013 Non-Discrimination Recommendation, ComReg has applied a BU-LRAIC+ approach to those assets that cannot be reused for NGA services and Eircom's Top Down (TD) data is applied to those assets that can be reused for NGA services. The cost trend for assets such as duct and poles tend to be upward but this trend is higher in the Eircom accounts due to the impact of replacing older assets that are fully depreciated with new assets reflecting current costs.
- 6.253 In Eircom's accounts, the asset life for poles was 15 years and the asset life for ducts was 30 years up to 2009, when ComReg directed that Eircom should increase the asset life for poles to 30 years and increase the asset life for duct to 40 years<sup>162</sup>. This means that the costs of a significant proportion of the duct and poles that are currently in use in Eircom's network are fully written down and have zero costs in Eircom's TD accounts. However, when Eircom replace a pole or a section of duct the full cost of the new asset is recorded on Eircom's Fixed Asset Register and amortised over the revised asset lives. Hence, the annual increases in the recorded costs of poles and ducts are higher than the price trends of the underlying assets.
- 6.254 In response to Sky's point, as outlined at paragraph 6.244 above, where it questions the basis on which ComReg view future equipment price trends to be commercially sensitive, ComReg would like to clarify that the equipment price trends are based on data received from Eircom on a confidential / commercially sensitive basis and therefore cannot be disclosed.

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<sup>162</sup> ComReg reviewed Eircom's asset lives in 2009, see ComReg Decision D03/09.



- 6.255 In relation to Sky's point at paragraph 6.244 on the level of redactions in the model, please see paragraph 6.72 above.
- 6.256 ComReg notes that Eircom objects, as outlined at paragraph 6.249 above, in principle to the imposition of a cost orientation obligation on NGA services. ComReg has addressed this point in Chapter 3, paragraphs 3.108-3.111 of this Decision.
- 6.257 Having considered the submissions from respondents ComReg remains of the view that a consistent monthly or annual charge for each year of the price control period should apply in line with the annual costs in the NGA Cost Model and NGN Core Model for the reasons set out at paragraphs 6.250 – 6.256 above and also at Chapter 6, paragraphs 6.154 - 6.168 of the Consultation.

#### **6.5.4 ComReg's Position:**

- 6.258 A consistent monthly or annual charge for each year of the price control period should apply in line with the annual costs in the NGA Cost Model and NGN Core Model.
- 6.259 Please see Chapter 14 (and also Annex 7) for the FTTC prices, the current generation Bitstream and BMB services as well as the POTS based FTTC prices for each year of the price control period (2018/19-2021/22) and also for the indicative prices for the first two years after the price control period i.e., 2022/23 and 2023/24.

## Chapter 7

# 7 Pricing approach for FTTC based NGA services

## 7.1 Background

- 7.1 In this chapter we determine the approach for setting the price(s) for FTTC based VUA (including EVDSL) in the WLA market and FTTC based Bitstream (including EVDSL) in the Regional WCA market.
- 7.2 This chapter combines our decision on the appropriate costing methodologies (Chapter 5) and dimensioning the NGA Cost Model (Chapter 6) to determine the output rental price(s) for FTTC based VUA (including EVDSL) and FTTC based Bitstream (including EVDSL).
- 7.3 The respective discussion in this chapter is considered under the following headings:
1. Pricing approach for FTTC based VUA (and EVDSL);
  2. Link between cost oriented FTTC based VUA and LLU; and
  3. Pricing approach for FTTC based Bitstream (and EVDSL).

## 7.2 Pricing approach for FTTC based VUA (and EVDSL)

- 7.4 The discussion in this section is set out under the following three subheadings:
- A. FTTC based VUA pricing methodology;
  - B. Exceptional price reductions;
  - C. Appropriate footprint.

### A. FTTC based VUA pricing methodology

#### 7.2.1 Position set out in the Consultation:

- 7.5 In Chapter 7 of the Consultation ComReg proposed a monthly rental price for FTTC based VUA (including EVDSL) of €16.50 (incl. faults and provisioning costs) for 2017/18.

- 7.6 ComReg was of the preliminary view that the monthly rental price for FTTC based VUA price (including EVDSL) should be based on the BU-LRAIC+ costs for those assets that cannot be reused for NGA services (Non-reusable Assets) and with Eircom's Indexed RAB for those assets that can be reused for NGA services (Reusable Assets).
- 7.7 Our proposed approach calculated the national price of FTTC based VUA (including EVDSL) in those exchanges where Eircom had rolled out its FTTC and EVDSL network. The aggregated FTTC based VUA and EVDSL based VUA price was derived based on the average cost of a line in active FTTC and EVDSL deployed exchanges i.e., 776 exchanges in the WLA Market at the time of the Consultation.
- 7.8 This option was based on the average cost of a line in those areas where an active FTTC and EVDSL service has been deployed by Eircom and it assumed that promotion of efficient infrastructure investment was only relevant in these regions. ComReg's proposed approach also considered that FTTC requires significantly more investment to be recovered than EVDSL. However, as the VUA price is aggregated for FTTC and EVDSL technologies, calculating the cost only over those areas where either FTTC or EVDSL have been deployed appears more in line with the cost causality principle as a number of exchanges have EVDSL and no FTTC.
- 7.9 Please refer to the Consultation, Chapter 7, paragraphs 7.15-7.57 for further details on the FTTC based VUA pricing approach.

## 7.2.2 Respondents' Views:

- 7.10 BT, ALTO, Vodafone and SIRO generally agreed with a single monthly rental charge for FTTC based VUA (including EVDSL) based on the BU-LRAIC+ methodology generally and Eircom's Indexed RAB for Reusable Assets in those exchanges where Eircom has deployed active FTTC and EVDSL lines while Eircom, Enet and Sky raised some concerns with the approach.
- 7.11 While BT and ALTO both agreed with ComReg's preliminary view for setting the monthly charge for FTTC/EVDSL based VUA they raised concerns on the ComReg assumption on the reusable asset services available to other operators. They both made reference to paragraph 7.23<sup>163</sup> of the Consultation, where BT stated that "*... The problem assuming re-usable assets are available for other operators is that the services being offered are not fit-for-purpose and we do not anticipate they will be for the lifetime of the market review and this pricing proposal...Hence if ComReg are using re-usable assets in assuming*

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<sup>163</sup> "...For Reusable Assets it would be inefficient for operators to build new civil infrastructure such as duct and poles when it is possible to re-use the existing assets by buying access to them from Eircom..."

*REO pricing for other operators that would be wrong as such are not genuinely available now and are not likely to be for many years.*<sup>164</sup>

- 7.12 Vodafone agreed with the proposed approach but also stressed that ComReg should remain vigilant to ensure that the forward looking portion of charges based on future investments, costs and volumes actually occurs as modelled by ComReg and that whatever is attributed to reusable assets (on a BU-LRAIC+ basis) is monitored to ensure these investment are actually made. Vodafone stressed the importance of a requirement to closely monitor actual costs incurred to ensure that there is no over recovery.
- 7.13 SIRO stated that they were generally supportive of the methodology, but expressed concern around ComReg's proposal to base VUA pricing only on the exchanges with active FTTC/EVDSL lines rather than all VUA sites. It considered that setting the price based on a smaller number of exchanges does not give alternative operators *"an appropriate incentive to invest in infrastructure to serve additional exchange areas. Setting the price based on a smaller number of exchanges essentially lowers the incentive for alternative operators to invest, given the lower potential return.*<sup>165</sup>
- 7.14 Eircom reiterated that any approach used to determine cost oriented FTTC needed to be consistent with the approach used to set cost oriented prices for other wholesale services delivered on the open eir network. In this regard, Eircom identified two distinct cost elements to the VUA services:
- First, the costs of the VDSL electronics and fibre backhaul to the VUA handover,
  - Second, the costs of the access network path from the VDSL DSLAM to the end-user premises.
- 7.15 For the electronics related elements, where recent investments have been made and demand is uncertain, Eircom considered that a BU-LRAIC+ methodology should apply. However, Eircom argued that the costs of the access network path that comprise the second element should be based on the adjusted HCA TD approach established for SB-WLR under ComReg's 2016 Access Pricing Decision, and argued that *"this consistency is required to ensure compliance with the key principle of cost recovery stated in paragraph 26 of the 2013 EC Recommendation on costing methodologies*<sup>166</sup>.
- 7.16 Enet was of the view that ComReg's proposal *"to put in place a single, i.e. flat rate, monthly charge for FTTC-based VUA does not make sense from an economic perspective and is not welfare enhancing"*. Enet expressed the view

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<sup>164</sup> BT non-confidential response, pages 9/10.

<sup>165</sup> SIRO Response, page 3.

<sup>166</sup> Eircom response, § 116.

that, from a welfare perspective, the flat rate VUA product will inevitably conflict with the tiered pricing of Bitstream services to create obvious margin squeeze issues. *“In enet’s opinion, the only way to avoid an inevitable margin squeeze in this area is for ComReg to move away from a flat-rate VUA price and instead to adopt a tiered approach to VUA pricing. enet would suggest that three tiers – 150 Mbps, 300Mbps and 1 Gbps should be established for pricing purposes. The base price for VUA should then be set by reference to the lowest tier price for Bitstream services<sup>167</sup>”*.

- 7.17 Sky referred to the concerns it raised previously in responses to Questions 3, 5 and 8. These included ComReg’s treatment of all D-Side copper assets as being non-reusable, the costing of SLU inputs and the dimensioning of DSLAM’s.

### **7.2.3 ComReg’s Assessment of Respondents’ Views:**

- 7.18 ComReg notes that the majority of respondents generally agreed with a single monthly rental charge for FTTC based VUA (including EVDSL) based on the BU-LRAIC+ methodology generally and Eircom’s Indexed RAB for Reusable Assets in those exchanges where Eircom has deployed active FTTC and EVDSL lines.
- 7.19 ComReg notes BT and ALTO’s views, as outlined at paragraph 7.11 above, on the assumption in the NGA Cost Model on the re-use of assets by other operators. The issue raised by BT and ALTO appears to be an access related issue regarding fit for purpose access by other operators to civil infrastructure (e.g., ducts and poles) which is outside the scope of this Decision. The approach set out at paragraph 7.23 of the Consultation relates to the treatment of Reusable Assets (ducts and poles) and Non-Reusable Assets in setting the prices for FTTC based VUA (including EVDSL). Please see Chapter 5, subsection 5.3 of this Decision for the details on the treatment of Reusable Assets in the NGA Cost Model used to determine the price for FTTC based VUA (including EVDSL).
- 7.20 ComReg notes Vodafone’s suggestion, as outlined at paragraph 7.12 above, that ComReg should closely monitor actual costs incurred to ensure that there is no over recovery. As already noted in Chapter 5, ComReg’s approach ensures that assets which are likely to be replicated for the rollout of NGA services, i.e., Non-reusable Assets (cables, cabinets, final drops, MDFs, etc.) are set by reference to replacement costs or BU-LRAIC+ in order to send the appropriate signals for NGA investment. For Non-reusable Assets it is important to send the correct investment signal (build or buy), so that operators, including Eircom, are encouraged to take an efficient investment decision. ComReg

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<sup>167</sup> Enet response, page 6.

believes that such a build-or-buy signal is best ensured by adopting a BU LRAIC+ methodology, based on replacement costs. On the other hand, assets that are not likely to be replicated for the purposes of a NGA rollout i.e., Reusable Assets (ducts, poles, trenches, chambers) should be determined by reference to actual costs from the SMP operator's accounts<sup>168</sup>. This approach ensures that for Reusable Assets Eircom is not recovering more than they are investing in network infrastructure while allowing other operators to access this non-replicable infrastructure at an efficient price level. ComReg considers that this approach should facilitate cost recovery for the Reusable Assets. Therefore, our approach of using the BU-LRAIC+ costs for Non-reusable Assets focuses on the investment signals required for these Non-reusable Assets (rather than cost recovery) while the approach of using actual costs (or Eircom's Indexed RAB) for Reusable Assets focuses on ensuring cost recovery. This approach is consistent with the 2013 Non-Discrimination Recommendation.

- 7.21 ComReg notes SIRO's comments, as outlined at paragraph 7.13 above, where they expressed concerns around ComReg's proposal to base VUA pricing only on the exchanges with active FTTC/EVDSL lines rather than all VUA sites. In the Consultation ComReg considered the option of basing the price for FTTC based VUA (including EVDSL) on all active and non-active FTTC sites (i.e., all 1024 exchanges). This option would assume that all Local VUA and Remote VUA sites (totalling 1024 exchanges) would be likely to have FTTC services deployed at them. However, as take up of FTTC based VUA is unlikely in rural exchanges given the lack of economies of scale and scope in this area, ComReg considers that the objective of promoting efficient infrastructure investment is not as relevant in these exchanges. By basing the FTTC based VUA price (including EVDSL) on all active and non-active FTTC sites this could raise the FTTC based VUA price to a non-competitive level in particular in those areas where FTTC based VUA may be viable i.e., in more densely populated (urban) areas. In addition, investment in FTTC based VUA by private operators is not expected to be commercially viable in more rural areas given the high cost of lines. This is indicated by the fact that subsidies are needed for very high speed access networks to be deployed in remote areas. Therefore, in these areas the need to promote efficient infrastructure investment is less relevant. Indeed the higher prices that arise from using all FTTC active and non-active sites could deter OAOs from investing in areas where such investment is commercially viable. Furthermore, using national costs to inform the price would result in Eircom over recovering its costs as the price reflects the higher than average cost in the more remote areas. Therefore, ComReg remains of the view that using all active and non-active FTTC sites is not consistent with the

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<sup>168</sup> This is the Eircom RAB approach as discussed at Chapter 5, paragraphs 5.80-5.88 of the Consultation.

objectives of encouraging competition and incentivising viable investment by Eircom or other operators.

- 7.22 ComReg considers that the areas served by Eircom's FTTC/EVDSL services in the NGA Cost Model is consistent with those areas where a real prospect of infrastructure based competition from rival operators exists. As discussed in Chapter 6 of this Decision, the NGA Cost Model assumes that Eircom is deploying FTTC/EVDSL to pass 1.6m premises and this includes all the premises being targeted by rival network operators.
- 7.23 ComReg agrees with Eircom's view, as outlined at paragraph 7.14 above, that the costs of the VDSL electronics and fibre backhaul to the VUA handover should be based on the BU-LRAIC+ methodology and this is consistent with the approach taken in the NGA Cost Model. However, ComReg does not agree with Eircom that it is necessary to adopt a TD-HCA approach to cost the access network path used in the VDSL service so as to maintain consistency with the pricing approach adopted for SB-WLR in the 2016 Access Pricing Decision, as outlined at paragraphs 7.14-7.15 above. The FTTC and EVDSL services modelled in the NGA Cost Model are restricted to access lines with relatively short line lengths and this is different from the national SB-WLR service considered in the 2016 Access Pricing Decision, which is provided to all customers regardless of line length. Consequently, many of the assets used to deliver national SB-WLR services are not used to support FTTC or EVDSL services and the costs of such assets should not be recovered as part of the FTTC/EVDSL price. Please also see Chapter 6, paragraphs 6.209 to 6.233 of this Decision for further details.
- 7.24 In response to Enet's concern, as outlined at paragraph 7.16 above, that wholesale prices for FTTC based VUA and EVDSL should be set on a tiered basis rather than as a single flat-rate charge, ComReg would point out that Eircom has not previously adopted a tiered approach for FTTC based VUA services. In any event ComReg considers that there are insufficient cost and /or functional variances associated with FTTC based VUA to warrant tiered pricing for FTTC / EVDSL services with price points that are differentiated by profile or speed. However, should VDSL prove capable of supporting such price differentiation in the future ComReg may consider any reasonable proposals in this regard in the future but in the meantime ComReg considers that a single FTTC /EVDSL price is appropriate. Further discussion on tiered pricing can be found in paragraphs 10.34 to 10.39.
- 7.25 ComReg has addressed Sky's comments, as outlined at paragraph 7.17 above, in Chapter 5 and Chapter 6 of this Decision.
- 7.26 Having considered the respondents' views, ComReg remains of the view that a single monthly rental charge for FTTC based VUA (including EVDSL) derived



based on the BU-LRAIC+ methodology and with Eircom's Indexed RAB for Reusable Assets in those exchanges where Eircom has deployed active FTTC and EVDSL lines remains appropriate, for the reasons set out in paragraphs 7.18 to 7.25 above and also at Chapter 7, paragraphs 7.15 to 7.57 of the Consultation.

- 7.27 Figure 10 below shows the changes (with paragraph references to the explanation of those changes) to the FTTC based VUA (including EVDSL) since the consultation (17/26).

**Figure 10: FTTC based VUA (incl. EVDSL) price**

Description	Para ref	National €
Average price per 17/26		16.86*
<b><u>Adjustments following Consultation 17/26:</u></b>		
<b>Adjustment to local loop costs and access network cost recovery</b>	6.209 - 6.233	3.97
<b>NGA link unit costs – update to price trend</b>	6.135	(0.54)
<b>Leased lines forecasted volumes</b>	8.55	(0.29)
<b>Forecasted network demand</b>	6.38 - 6.65	(0.22)
<b>Other</b>	-	(0.23)
<b><u>FTTC based VUA (incl. EVDSL) average national price 2017-2020</u></b>		<b>19.55*</b>

\*Includes fault repair and provisioning costs

- 7.28 The FTTC based VUA (including EVDSL) monthly prices for each year of the price control period (2018/19-2021/22) and the indicative prices for 2022/23 and 2023/24 are set out in Chapter 14, Figure 15.

## 7.2.4 ComReg's Position

- 7.29 For FTTC based VUA (including EVDSL), the rental charge shall be derived based on the BU-LRAIC+ methodology and with Eircom's Indexed RAB for Reusable Assets in those exchanges where Eircom has deployed active FTTC and EVDSL lines (i.e., 776 exchanges).

- 7.30 The FTTC based VUA (including EVDSL) monthly rental prices for the price control period (2018/19-2021/22) and the indicative prices for 2022/23 and 2023/24 are set out in Chapter 14, Figure 15.

## **B. Exceptional price reductions**

### **7.2.5 Position set out in the Consultation:**

- 7.31 In Chapter 7 ComReg proposed that in exceptional circumstances ComReg may consider allowing Eircom to set the FTTC based VUA price below the regulated price level provided it seeks ComReg's approval to proceed in advance and does not breach the price floor requirements described in Chapter 12 of the Consultation<sup>169</sup>. In addition, ComReg proposed that any reduction to the price for FTTC based VUA should also be reflected in the price for FTTC based Bitstream.
- 7.32 Please see Chapter 12 paragraphs 7.40-7.41 of the Consultation for further details.

### **7.2.6 Respondents' views:**

- 7.33 Sky, BT, ALTO and Vodafone agreed that in the exceptional case where Eircom is allowed to charge a lower price for FTTC based VUA, that any such reduction should also be reflected in the FTTC based Bitstream price subject to a price floor (at Chapter 12) and subject to ComReg's regulatory approval. Eircom raised some concerns with ComReg's proposal and these are summarised below.
- 7.34 Sky agreed with ComReg's proposal, noting that the proposal is a form of contingency plan and suggested the need for a similar plan for FTTH.
- 7.35 BT and ALTO suggested an addition to this proposal, each stating that any reductions in component parts of FTTC based VUA such as SLU should also apply to all services that use such a common component, for example, LLU and WLR. Vodafone similarly made this proposal.
- 7.36 Vodafone agreed with ComReg's preliminary view, stating that they would welcome additional detail from ComReg to ensure that the model correctly modelled the incremental impact that changes in FTTC based VUA prices have on FTTC based Bitstream prices.
- 7.37 Eircom expressed a view that there was no need for a price control for FTTC based Bitstream once the FTTC based VUA price was controlled by cost

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<sup>169</sup> The regulatory approval mechanism for exceptional price reductions for FTTC based VUA is described in Chapter 12 of this Decision.

orientation. Eircom commented that there was no requirement for a reduction in VUA prices to require an equivalent reduction in Bitstream port prices. Eircom outlined its view that should open eir increase the margin or economic space between FTTC VUA and FTTC Bitstream service by reducing FTTC VUA prices “those operators with extensive VUA reach would simply arbitrage that margin”<sup>170</sup>.

- 7.38 In Eircom’s view, ComReg has not adequately identified the nature of the problem it is trying to address. Eircom argued that the proposal to maintain economic space between WLA and WCA services is inconsistent with the “ladder of investment” concept. In particular, Eircom’s response noted an emerging trend of migration from NGA Bitstream to VUA as operators combine open eir NGA VUA with their own backhaul capacity to self-provide or sell on Bitstream to services to Service Providers (SPs). A lower price for VUA would increase the margin between VUA and Bitstream services thereby further encouraging the move by OAOs to VUA based access that would facilitate the deepest level of competition in the market and put downward pressure on Bitstream prices in the process. Eircom submitted that:

*“This is because an operator can fully compete as a retailer and/or wholesaler in the same footprint as eir in the NGA Bitstream market by accessing 141 VUA handover sites. VUA regulation coupled with the competitive nature of the market for modern interface wholesale high quality access services (“MI WHQA services”) means that there also is a competitive market for the provision of Bitstream service to all VUA access seekers”<sup>171</sup>.*

### **7.2.7 ComReg’s assessment of Respondents’ views:**

- 7.39 ComReg notes that the majority of respondents agreed that in the exceptional case where Eircom is allowed to charge a lower price for FTTC based VUA, that any such reduction should also be reflected in the FTTC based Bitstream price subject to a price floor (at Chapter 12) and subject to ComReg’s regulatory approval.
- 7.40 ComReg notes Sky’s views, as outlined at paragraph 7.34 above, that a similar contingency plan to that adopted for FTTC based VUA should also apply to FTTH based services. As set out in Chapter 12 of this Decision, a similar exceptional measure applies to FTTH based VUA. In summary, Eircom may be permitted to reduce prices below the regulated FTTH based VUA price level to align with lower levels set by an alternative operator’s FTTH based VUA price (or an alternative operator’s retail price minus retail and relevant network costs). A request from Eircom based on exceptional circumstances to price below its

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<sup>170</sup> Eircom Response, paragraph 120.

<sup>171</sup> Ibid, paragraph 45.

average costs in a specific geographic area will be subject to a number of pre-conditions being met, as well as ComReg's approval and that the proposed price does not go below the overall price floor. Please see Chapter 12, subsection 12.4 of this Decision for further details.

- 7.41 The views expressed by BT and ALTO, as outlined at paragraph 7.35 above, that a reduction in the price for FTTC based VUA should be mirrored in a reduction of the prices of all services that use common component parts is addressed in subsection 7.3 below.
- 7.42 ComReg notes Vodafone's point, as outlined at paragraph 7.36 above, where it welcomed additional details on the incremental impact that changes in FTTC based VUA prices have on FTTC based Bitstream prices. To clarify, the regulated price for both FTTC based VUA and FTTC based Bitstream are cost oriented and as VUA is a significant cost element in the cost stack for FTTC based Bitstream, any reduction to the price for FTTC based VUA should also be reflected in the price for FTTC based Bitstream to maintain a sufficient space between the two services. Therefore, the issue raised by Vodafone on incremental costs is not relevant.
- 7.43 ComReg also notes Eircom's submission, as outlined at paragraphs 7.37-7.38 above, that there is no need for a price control for FTTC based Bitstream once the FTTC based VUA price was controlled by cost orientation and in particular, that there was no requirement for a reduction in VUA prices to require an equivalent reduction in Bitstream port prices to restore the margin between both services. Furthermore, Eircom stated that ComReg had not adequately identified the nature of the problem it is trying to address and that the proposal to maintain economic space between WLA and WCA services is inconsistent with the "ladder of investment" concept. Please see ComReg's justification of the price control obligation, which was further specified as a cost orientation obligation, for FTTC based Bitstream in the 2018 WLA / WCA Market Review Decision, Section 12, paragraphs 12.306 to 12.323.
- 7.44 ComReg, in disagreeing with Eircom's submission, considers that as the regulated price for both FTTC based VUA and FTTC based Bitstream are cost oriented and as VUA is a significant cost element in the cost stack for FTTC based Bitstream, any reduction to the price for FTTC based VUA should also be reflected in the price for FTTC based Bitstream. The same would apply where a price reduction is proposed to FTTC based Bitstream, the reduction would also have to apply to FTTC based VUA.
- 7.45 Furthermore, ComReg considers that from a regulatory perspective it is important that the appropriate incentives are maintained to encourage OAOs to 'climb the ladder of investment'. In order for these incentives to exist, OAOs must have sufficient margins or 'economic space' between different wholesale

products or 'rungs' on the ladder of investment. This should promote the development of effective retail competition which is capable of constraining the integrated incumbent on an ongoing and sustainable basis. In order to ensure an appropriate economic space between the different steps of the ladder of investment Eircom would have to decrease the prices of related wholesale access services at the same time. This approach should ensure that there are no undue cost disadvantages for entrants in using certain wholesale services relative to others that might prevent them from climbing up the "ladder of investment". For example, a sufficient space between FTTC based VUA and FTTC based Bitstream may be beneficial to a small scale or new market entrant who in the early stages of development initially purchases Bitstream, where it does not have the capacity to commit to significant interconnection investments in multiple locations to address a national market via VUA, but with a view to moving to VUA in the medium to longterm. Therefore, our approach should ensure that the pricing of WLA and WCA products should be such that the OAO or new market entrant is encouraged to move up the ladder of investment, as and when appropriate.

- 7.46 Having considered the respondents' views, ComReg remains of the view that in the exceptional case where Eircom may be allowed to reduce the price for FTTC based VUA that any such reduction should also be reflected in the price for FTTC based Bitstream subject to the price floor requirements (at Chapter 12) and also subject to ComReg's regulatory approval, for the reasons set out in paragraphs 7.39 to 7.45 above and also at Chapter 7, paragraphs 7.40 to 7.41 of the Consultation.

### **7.2.8 ComReg's Position:**

- 7.47 In exceptional circumstances Eircom may be allowed to charge a lower price for FTTC based VUA so long as it complies with the regulatory approval mechanism and the price floor specified in Chapter 12 of this Decision. Furthermore, any such reduction to the price of FTTC based VUA shall also be reflected in the price for FTTC based Bitstream.

## **C. Appropriate footprint**

### **7.2.9 Position set out in the Consultation:**

7.48 In Chapter 7 of the Consultation ComReg proposed that for the purposes of the Decision that the footprint (based on the number of sites with active / working FTTC and EVDSL lines) should be fixed for setting the FTTC based VUA (including EVDSL) price for the price control period. In essence, the FTTC based VUA price would not fluctuate with movements in the number of exchanges during the price control period in order to provide greater certainty and price stability to operators in terms of infrastructure investment over the next few years.

7.49 Please see Chapter 7, paragraph 7.39 of the Consultation for further details.

### **7.2.10 Respondents' views:**

7.50 Vodafone and BT generally agreed that the FTTC based VUA and EVDSL footprint used to inform the single FTTC based VUA monthly price should be locked-in at the time of the decision for the entire price control period while ALTO and Eircom disagreed.

7.51 Vodafone agreed that the monthly rental price control period needs to be locked in to provide certainty, transparency and consistency to Service Providers. Vodafone also noted that it is important that operators have price certainty in making strategic decisions and that the current pricing structure undermines the case for further investment. Vodafone stated that prices should be controlled with reference to the "*costs incurred during the lifetime of the price control period to ensure that there is no over recovery*<sup>172</sup>".

7.52 BT agreed with ComReg's preliminary view, but with some reservations. BT agreed that sufficient VDSL rollout had been achieved for the purposes of setting the single FTTC based VUA monthly price, subject to the proviso that costs should be monitored on an annual basis by ComReg for material changes.

7.53 ALTO did not agree with ComReg's preliminary view, stating that the rollout of VUA and EVDSL was likely to continue. They also believed that some of the 300k premises were likely to include some FTTC. ALTO also referred to the DCCAE NBP agreement, which specifies 30MB downstream and 6MB upstream and noted that FTTC is also capable of meeting this requirement.

7.54 Eircom stated that, in its view, there are arguments both for and against locking in the footprints and considered that this, in itself, illustrates that cost orientation

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<sup>172</sup> Vodafone Response, paragraph 52.

for VUA “is premature as it highlights the difficulty of applying static regulation to a still developing market<sup>173</sup>”. Eircom noted that any extension by open eir beyond its existing and committed EVDSL and FTTC deployments would increase the average unit cost and if ComReg set a price based on the unit cost of the locked in footprint it would effectively remove the incentive for open eir to deploy on a wider basis.

*“For example, higher unit costs would arise if open eir deployed VDSL at smaller cabinets or in circumstances where it chose to “cabinetise” groups of direct fed lines serving premises too distant from their MDF for EVDSL — to deliver a faster service than ADSL”<sup>174</sup>.*

- 7.55 Therefore, to avoid deterring investment Eircom considered that the modelled footprint should not be locked-in but should instead be updated in a timely manner based on the expected network reach so as to allow Eircom to recover its efficiently incurred costs.

### **7.2.11 ComReg’s Assessment of Respondents’ Views:**

- 7.56 ComReg notes that Vodafone and BT generally agreed that the FTTC and EVDSL footprint should be locked-in for the purposes of setting the single FTTC based VUA (including EVDSL) rental price for the price control period, while Eircom and ALTO disagreed.
- 7.57 Vodafone’s view, as outlined at paragraph 7.51 above, that the prices should be set by reference to the costs incurred during the lifetime of the price control period to ensure that there is no over recovery, has already been considered by ComReg at paragraph 7.20.
- 7.58 ComReg notes the concerns raised by both ALTO and BT, as outlined at paragraphs 7.52 and paragraph 7.53 respectively above, that the rollout of FTTC and VDSL is likely to continue, with ALTO noting that at least some of the Eircom 300k rural network will be served with FTTC. ComReg would like to clarify that the footprint used in the consultation was based on 776 active FTTC and EVDSL sites (exchanges). No further updates to the active FTTC and EVDSL exchanges have been noted since the Consultation. Therefore, the footprint for determining the price for FTTC based VUA (including EVDSL) is based on 776 exchanges. The footprint of 776 exchanges is those areas where an active FTTC and EVDSL service has been deployed by Eircom and it assumes the promotion of efficient infrastructure investment is only relevant in these regions. To expand the footprint to all active and non-active FTTC and EVDSL exchanges would mean that we assume that FTTC services are likely to be deployed at all 1024 exchanges. However, as uptake of FTTC based VUA

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<sup>173</sup> Eircom Response, paragraph 122.

<sup>174</sup> Ibid, paragraph 123.



is unlikely in rural areas given the lack of economies of scale and scope, the objective of promoting efficient infrastructure investment is not as relevant in these exchanges. Furthermore, by assuming deployment at all exchanges the price could be raised to a non-competitive level in those areas where FTTC based VUA may be more viable i.e., in urban areas. In addition, this would also result in Eircom over recovering its costs as the prices reflects the higher than average cost in the more remote areas. Therefore, we consider that the 776 exchanges is a reasonable footprint to adopt in the NGA Cost model for establishing the FTTC based VUA price for the duration of the price control period. Please also see Chapter 6, paragraphs 6.38-6.65 of this Decision for further discussion on the approach taken on demand forecasting in the NGA Cost Model.

- 7.59 ComReg does not agree with Eircom's views, as outlined at paragraph 7.54 above, that any decision by Eircom to deploy FTTC or EVDSL beyond its existing and committed NGA deployments will increase unit costs. It is ComReg's view that those customers not targeted by Eircom's existing or committed NGA deployments tend to be located in isolated areas that are some distance from an exchange with the result that a VDSL service is not viable from either a commercial or technical perspective. This is further evidenced by the fact that Eircom is mainly deploying FTTH to pass premises in the rural 300k network rollout. Consequently, ComReg considers that any extension of VDSL services beyond the footprint that is modelled to set FTTC/eVDSL prices is unlikely to be at a scale that would materially impact on unit costs. However, as set out at Chapter 12, Eircom should review the models annually and if any significant / material changes are identified then these should be brought to the attention of ComReg. Please see Chapter 12, subsection 12.2 for further details.
- 7.60 Furthermore, Eircom's suggestion, as outlined at paragraph 7.55 above, that the footprint should not be locked-in but should instead be updated in a timely manner based on the expected network reach, would introduce unnecessary significant price uncertainty to the market in ComReg's view. By fixing the footprint to a set number of exchanges ComReg ensures that the price for FTTC based VUA (including EVDSL) would not fluctuate with movements in the number of exchanges during the price control period. ComReg considers that its approach provides certainty and price stability to operators in terms of infrastructure investment over the next number of years. Therefore, ComReg remains of the view that the footprint should be locked-in at 776 exchanges for the purposes of determining the FTTC based VUA (including EVDSL) price for the price control period.

- 7.61 Having considered the respondents' views, ComReg remains of the view that the FTTC based VUA and EVDSL footprint should be locked-in for the purposes of setting the single FTTC based VUA (including EVDSL) rental price for the price control period, for the reasons set out in paragraphs 7.56 to 7.60 above and also at Chapter 7, paragraphs 7.33 to 7.36 of the Consultation.

### **7.2.12 ComReg's position:**

- 7.62 The exchange footprint for the purposes of setting the price for FTTC based VUA and EVDSL over the price control period shall be fixed at 776 exchanges based on current active FTTC and EVDSL exchanges, as set out at Annex 10.

## **7.3 Link between cost oriented FTTC based VUA and LLU**

### **7.3.1 Position set out in the Consultation:**

- 7.63 In the Consultation<sup>175</sup>, ComReg proposed to maintain a link between the prices for FTTC based VUA and LLU by virtue of the cost orientation obligation.
- 7.64 The technology on the D-Side, i.e., between the cabinet and the end user, is the same for both products. However, for FTTC based VUA the cost on the E-Side (before the cabinet) differs in terms of technology. The FTTC based VUA cost is deployed by replacing E-Side copper with fibre while for EVDSL based VUA and LLU the E-Side copper cost remains relevant<sup>176</sup>.
- 7.65 As illustrated in Figure 21 of the Consultation, sub loop is shared between FTTC based VUA and LLU and in addition, the cost of civil engineering infrastructure (ducts, trenches and poles) on the E-side is also shared (or at least partially shared) between FTTC based VUA and LLU. The costs specific to FTTC based VUA include E-side fibre cables and joints and ODF<sup>177</sup> costs while E-side copper cables and joints and MDF costs are relevant only to EVDSL based VUA and LLU.
- 7.66 As a result, if the costs on the D-Side increase, then the cost of SLU, LLU, EVDSL based VUA and FTTC based VUA will increase. This ensures that there is a consistent price differential between the various products which should provide efficient investment incentives for operators. This approach also ensures that regulation is technologically neutral i.e., for a given exchange, operators can choose the most appropriate technology, either copper- or fibre-based.

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<sup>175</sup> See paragraphs 7.58 to 7.66 of the Consultation.

<sup>176</sup> See Figure 21 in Chapter 7 of the Consultation.

<sup>177</sup> Optical Distribution Frame.

- 7.67 In the Consultation, ComReg considered that any change to the price for SLU would also influence the price of both LLU and the cost oriented price for FTTC based VUA (including EVDSL). However, the impact of a change in the costs of E-Side copper is less clear cut as such a change would impact the costs of LLU and EVDSL based VUA but not the costs of SLU or standalone FTTC based VUA.
- 7.68 ComReg was of the preliminary view that it is appropriate to maintain a link between the prices for FTTC based VUA (including EVDSL) and LLU in order to provide the appropriate investment incentives to operators. Therefore, any changes (increases or reductions) to the underlying costs of those assets/components common to both services (e.g., SLU) should be applied consistently to the price of both services.

### **7.3.2 Respondents' Views:**

- 7.69 The majority of respondents agreed that it is appropriate to maintain a link between the price for FTTC based VUA (including EVDSL) and the price for LLU such that any changes to the underlying costs (e.g., SLU) should be applied consistently to the price of both services, while Eircom raised a number of concerns which are outlined below.
- 7.70 Both BT and ALTO stated that they supported maintaining the link as it helped to protect the investment that operators have made in LLU services which still have many years of economic life remaining.
- 7.71 Vodafone agreed with ComReg's preliminary view and stated that there was a need to ensure that a sufficient gap (economic space) was maintained between VUA and LLU to send the appropriate investment signals to the market. Vodafone also noted that it assumes that the confidential model links the incremental impact that price changes in FTTC based VUA have on the LLU prices, which would further support this argument.
- 7.72 Sky referenced its response to question 5, where it argued that the inclusion of longer SLU lines (up to 2.5km) were inappropriate as is the use of national SLU and LLU inputs as NGA inputs. Sky also noted that the dimensioning of DSLAMs / OLTs does not appear to follow a truly bottom up approach.

- 7.73 Eircom expressed a view that the costs modelled for either SLU or ULMP had no relevance to the setting of a price ceiling for FTTC based VUA, where the service is price controlled by cost orientation and that the relevant cost is the national average cost for all access paths in service in the relevant year that informs the SB-WLR price established under the 2016 Access Pricing Decision. In particular, Eircom argued that when SB-WLR was sold with POTS based VUA or replaced by standalone FTTC VUA, there was a need for consistency with the SB-WLR price control “*to ensure cost recovery sufficient for open air to operate and re-invest in the national access network*<sup>178</sup>”.
- 7.74 Eircom further commented that it appeared that ComReg was trying to encourage LLU investments and considered that such an approach was misguided as, in their view, it was abundantly clear from ComReg’s own published data that LLU is a dying product with steadily declining volumes since mid-2013. Eircom stated that the only link between ULMP and SLU prices and VDSL prices was to ensure that VUA prices were, in theory, not so low as to exclude an unbundling operator. Even then, Eircom considered that this was only a “hypothetical requirement” as the limited reach of VDSL technologies when compared with ADSL together with the capacity restrictions at the VDSL cabinet gave rise to seriously adverse effects on the economic viability of investment by a new entrant using LLU.
- 7.75 Enet agreed that the link was appropriate in the short term but commented that ComReg would need to consider over the medium term when the best time would be to sever that link as in time it would no longer be justified.

### **7.3.3 ComReg’s Assessment of Respondents’ Views:**

- 7.76 ComReg notes that the majority of respondents agreed with ComReg’s proposal to maintain a link between the prices for FTTC based VUA (including EVDSL) and the price for LLU service such that any changes to the underlying costs (e.g., SLU) should be applied consistently to the price of both services.
- 7.77 While Vodafone agreed with the principle of maintaining a link between the prices for FTTC based VUA (including EVDSL) and the price for LLU service such that any changes to the underlying costs (e.g., SLU) should be applied consistently to the price of both services, it stated, as outlined at paragraph 7.71 above, that it assumed that the confidential model links the incremental impact that price changes in FTTC based VUA have on the LLU prices. To clarify, the Revised CAM in the 2016 Access Pricing Decision and the NGA Cost Model in this Decision are separate models under separate Decisions. While there is a link between both models different assumptions can be applied in each one (e.g., different line lengths). The impact of any changes to the assumptions or

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<sup>178</sup> Eircom response, paragraph 127.

parameters would have to be assessed in both models. Please see Chapter 6 for further details on the underlying assumptions on the NGA Cost Model and the linkage between the two models.

- 7.78 Sky reiterated its response to an earlier question (question 5) related to Chapter 6 on the dimensioning of DSLAMs / OLTs. Please see the Cost Modelling Annex (Annex 12) paragraphs A 1.36-A 1.39.
- 7.79 Eircom's views, as outlined at paragraph 7.73 above, that the FTTC/EVDSL price should reference the average cost of Eircom's national copper network, have been addressed in Chapter 6, paragraphs 6.209 - 6.233 of this Decision.
- 7.80 We note Eircom's point, as outlined at paragraph 7.74 above, that ComReg appears to be trying to encourage LLU investments. Since NGA networks are in competition with copper networks, the consistency of pricing approaches between FTTC based wholesale products and current generation wholesale products helps operators to make an efficient choice as to the most optimal wholesale product. Therefore, we remain of the view that a link should be maintained between the price for FTTC based VUA (including EVDSL) and the price for LLU such that any changes to the underlying costs common to both services (e.g., SLU) should be applied consistently to the prices of both services.
- 7.81 We also acknowledge the point made by Enet, as outlined at paragraph 7.75 above, that ComReg would need to consider over the medium term when the best time would be to sever that link (between the price for FTTC based VUA (including EVDSL) and the price for LLU) as in time it would no longer be justified. ComReg will keep this matter under review.
- 7.82 Having considered the views of respondents, ComReg remains of the view that a link should be maintained between the price for FTTC based VUA (including EVDSL) and the price for LLU such that any changes to the underlying costs common to both services (e.g., SLU) should be applied consistently to the prices of both services, for the reasons set out at paragraphs 7.76-7.81 and in Chapter 7, paragraphs 7.58-7.66 of the Consultation.

#### **7.3.4 ComReg's Position:**

- 7.83 Eircom shall ensure that a link is maintained between the price for FTTC based VUA (including EVDSL) and the price for LLU such that any changes to the underlying costs common to both services (e.g., SLU) should be applied consistently to the prices of both services. ComReg will use best efforts to keep the relevant models and associated prices up-to-date in a timely manner.

## 7.4 Pricing approach for FTTC based Bitstream and EVDSL

7.84 The discussion in this section is set out under the following three subheadings:

- A. FTTC based Bitstream pricing methodology;
- B. Exceptional price reductions;
- C. Appropriate footprint.

### A. FTTC based Bitstream pricing methodology

#### 7.4.1 Position set out in the Consultation:

7.85 In Chapter 7 of the Consultation ComReg proposed a monthly rental price for FTTC based Bitstream of €18.99 (including faults and provisioning costs) and a usage charge of €0.34 for 2017/18<sup>179</sup>. The price derived for a national handover variant of FTTC based Bitstream was a monthly rental price of €21.22 and a usage charge of €0.78 for the same period.

7.86 ComReg was of the preliminary view that the monthly rental charge for FTTC based Bitstream should be based on the BU-LRAIC+ methodology for those assets that cannot be reused for NGA services (Non-reusable Assets) and Eircom's Indexed RAB applied to Reusable Assets based on those Local VUA sites yet to be unbundled in the Regional WCA Market, and with an adjustment to Bitstream specific costs to reflect the scale of a hypothetical SEO with a 25% retail broadband market share.

7.87 ComReg was of the preliminary view that the Local VUA sites in the Regional WCA Market which are yet to be unbundled (i.e., 48 Local VUA sites or 397 exchanges) should be used as the appropriate footprint for determining the FTTC based Bitstream price as this corresponds with the footprint where new investment is most likely to take place. At the time of the Consultation there were 141 Local VUA sites nationally, with 63 of the Local VUA sites in the Urban WCA Market (which ComReg proposed to deregulate in the context of the WCA market as per the 2016 WLA / WCA Market Review Consultation). Therefore, there were 78 Local VUA sites for consideration. Of those 78 Local VUA sites, 48 Local VUA sites were yet to be unbundled. The 48 Local VUA sites related to 397 exchanges (i.e., the exchanges connected to the Aggregation node sites).

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<sup>179</sup> These prices are based on an assumed mix of 90% regional handover and 10% national handover.

- 7.88 ComReg considered that its proposed approach ensured that there was a sufficient gap / margin between FTTC based Bitstream and FTTC based VUA so that an alternative operator was encouraged to invest in VUA in those sites or exchanges where VUA was currently not available. Therefore, this approach ensured that the appropriate investment signals were provided in the relevant areas i.e., in those exchanges which had not been unbundled to date but which were commercially viable for alternative operator investment.
- 7.89 Please see the Consultation, Chapter 7, paragraphs 7.67 to 7.91 for further details of the proposed FTTC based Bitstream pricing approach.

#### **7.4.2 Respondents' Views:**

- 7.90 Vodafone agreed with ComReg's preliminary view but noted that they had significant concerns regarding ComReg's deregulation of the Urban WCA Market. Vodafone also stated that, in their view, the use of 25% retail market share may be higher than a representative market share for a hypothetical operators for FTTC based services and may allow Eircom to 'game the market' by selectively reducing their retail margin on certain markets in order to squeeze out OAOs.
- 7.91 BT also agreed with ComReg's preliminary view, given "the instability in NGA prices to date".
- 7.92 ALTO agreed with ComReg's proposals, but stated that they envisaged further VUA sites being accessed and so ALTO considered that this regulation should be changed to a cost plus floor regulation with a margin squeeze test put in place to prevent margin squeeze.
- 7.93 Sky agreed with ComReg's preliminary view, on the basis that the approach was consistent with the 2013 Non-Discrimination Recommendation. However, Sky stated that it did not agree with the adjustment to reflect the scale of a hypothetical SEO.
- 7.94 The AM Report commented that the costs of FTTC based Bitstream should be based on all local VUA sites in the Regional WCA market rather than the yet to be unbundled local VUA sites in the Regional WCA market. In their view, using costs calculated based on only 48 yet to be unbundled local VUA exchanges and then applying this to the 78 local VUA exchanges in the Regional WCA market created a discrepancy.
- 7.95 Eircom submitted that it does not have SMP in the "market for FTTC Bitstream". Eircom stated, that if cost-orientation were appropriate, which Eircom disputed, that Bitstream prices should be based on higher costs associated with local



VUA sites not yet unbundled as they are the most likely sites to face new demand and should be used to set the cost based prices.

- 7.96 Eircom did not agree that a price floor based on the costs of Bitstream and WEIL interconnection adjusted for SEO (25% Market share) should apply. In Eircom's view, this would be designed to protect a new entrant buying VUA and building its own backhaul network, and justified on the basis of Eircom having SMP. However, Eircom believes it does not have SMP for FTTC Bitstream, so there is no need for this remedy.
- 7.97 Eircom asserted that there is an error in NGA model where the calculation of the port costs for NGA Bitstream is inflated by the inclusion of the cost of the WEIL, which Eircom charges for separately.
- 7.98 Enet commented that the use of BU-LRAIC should not result in price reductions for FTTC based services which would have the effect of undermining planned FTTH investments by other operators.

### **7.4.3 ComReg's Assessment of Respondents' Views**

- 7.99 ComReg notes that the majority of Respondents agreed with ComReg's preliminary views that the monthly rental charge for FTTC based Bitstream should be based on the BU-LRAIC+ methodology and Eircom's Indexed RAB applied to Reusable Assets based on those Local VUA sites yet to be unbundled in the Regional WCA Market and with an adjustment to Bitstream specific costs to reflect the scale of a hypothetical SEO with a 25% retail broadband market share.
- 7.100 Vodafone's point, as outlined at paragraph 7.90 above, regarding deregulation of the Urban WCA Market is addressed by ComReg in Section 13 of the 2018 WLA / WCA Market Review Decision. The point raised by Vodafone regarding the use of 25% retail market share, has been addressed in Chapter 6, paragraphs 6.161-6.163.
- 7.101 ComReg does not agree with ALTO's view, as outlined at paragraph 7.92 above, that regulation should be changed to a cost plus floor regulation with a margin squeeze test. ComReg considers that a margin squeeze test alone has not been sufficient to address competition problems in the provision of FTTC based Bitstream, and therefore ComReg has imposed a cost orientation obligation on FTTC based services for the reasons set out in Section 12 of the 2018 WLA / WCA Market Review Decision. As set out in Section 12, paragraph 12.334 of the 2018 WLA / WCA Market Review Decision ComReg notes its expectation that other measures (including obligations of access and transparency, as well as cost orientation) should be sufficient, and so there will be no standalone margin squeeze test between FTTC based services and retail

services delivered by FTTC when sold singly. However, FTTC services, sold singly and in a bundle, will be assessed in the retail margin squeeze test for bundles, in the 2018 Bundles Decision.

- 7.102 ComReg notes that while Sky agreed generally, as outlined at paragraph 7.93 above, it did not agree with the adjustment to reflect the scale of a hypothetical SEO. In addition, the AM Report also noted that it is not consistent to use a different operator definition for different parts of the network.
- 7.103 To clarify, ComReg's objective is to encourage other operators to go higher up the investment ladder and to encourage competition. As set out in Chapter 5 of this Decision, the BU-LRAIC+ approach is appropriate for promoting efficient infrastructure investment for FTTC based NGA services generally. However, in order to ensure that ComReg sets the appropriate incentives for OAOs to climb the investment ladder, ComReg must make an adjustment to Eircom's market share in order to reflect an operator with a 25% market share in the context of FTTC based Bitstream. In this regard, ComReg must adjust Eircom's BU-LRAIC+ costs specific to Bitstream e.g., backhaul costs and WEILs, in order to reflect a hypothetical operator with a 25% market share. This adjustment then reflects the costs of a SEO. A SEO means an operator which shares the same basic cost function as Eircom but does not yet enjoy the same economies of scale and scope as Eircom.<sup>180</sup> Eircom's costs (specific to Bitstream) are then adjusted (inflated) to reflect the lower level of economies of scale and scope available to a hypothetical entrant with a retail broadband market share of 25%. Therefore, this approach is applicable in order to incentivise other operators to ascend the investment ladder, by rolling-out a denser Core network. The rationale is to send a build or buy signal, by setting the price for these links on an SEO basis and this is what has been implemented in the models.
- 7.104 Furthermore, ComReg considers that to use Eircom's unit costs (EEO cost base) based on a larger installed customer base would not encourage VUA based entry and therefore would not encourage appropriate infrastructure competition. This would result in OAOs remaining on Bitstream to provide retail broadband products, which would reduce the potential for market differentiation and dynamic efficiency gains to the detriment of end users. ComReg considers that the 25% retail market share should represent a hypothetical operator in the retail broadband market. The market share adjustment results in lower line volumes being considered in the SEO scenario relative to the Eircom's volume base. As a result the unit costs for FTTC based Bitstream are higher given the high level of fixed costs that is typical of telecoms networks. Hence, our

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<sup>180</sup> The REO is similar to the SEO standard given that they both reflect the fact that OAOs have not achieved the same economies of scope and scale as the SMP operator. However, accurate and verifiable REO data is difficult to obtain. The information available to us based on Eircom's costs has been more reliable and robust, especially given Eircom's regulatory accounting obligations.

adjustment to the Bitstream specific costs ensures that the price for FTTC based Bitstream is always higher than the price for FTTC based VUA and that there is a sufficient margin / space between FTTC based Bitstream and FTTC based VUA so that an OAO is encouraged to move up the investment ladder. Please also see Chapter 6, paragraph 6.133(f).

- 7.105 The AM Report noted, as outlined at paragraph 7.94 above, that the costs of FTTC based Bitstream should be based on all Local VUA sites in the Regional WCA Market rather than the yet to be unbundled local VUA sites. We also note that while ALTO agreed with ComReg's approach for setting the price for FTTC based Bitstream it envisaged further VUA sites being accessed, as outlined at paragraph 7.92 above.
- 7.106 In the Consultation, ComReg considered both options suggested by the AM Report for determining the FTTC based Bitstream price, and calculated the preliminary prices that resulted from each option<sup>181</sup>. By taking all Local VUA sites (141 sites) the preliminary port price for FTTC based Bitstream was €18.51 whereas a preliminary port price of €18.99 related to those Local VUA sites yet to be unbundled (48 sites). By basing the FTTC based Bitstream price on the 141 Local VUA sites, the costs are lower due to the higher economies of scale at these sites and therefore the price is lower, compared to the sites yet to be unbundled. Consequently, the footprint of the 141 VUA sites does not favour VUA deployment (as the proposed price for FTTC based Bitstream would be lower relative to the FTTC based VUA price and the OAO would have less margin to exploit if it decided to adopt VUA rather than Bitstream). Furthermore, the 141 Local VUA sites includes 63 sites that are part of the Urban WCA Market which are now deregulated (and therefore no longer subject to regulatory obligations). In addition, there are 30 local VUA sites which are already unbundled. Therefore, the only remaining addressable sites are the 48 Local VUA sites yet to be unbundled.
- 7.107 The preliminary price of €18.99 at those sites yet to be unbundled (48 sites) reflects the higher backhaul costs for Bitstream in the sites yet to be unbundled as those sites comprise lower density exchanges with less economies of scale. As those sites yet to be unbundled represent areas where OAOs may consider investing to extend their network footprints, ComReg is of the view that the costs of deploying at these sites are the most relevant for the investment decisions that alternative network operators may consider in the future. Hence, setting the FTTC based Bitstream prices with reference to cost in those sites yet to be unbundled (48 sites) is designed to support the incentive for OAOs to progress on the ladder of investment, and encourage infrastructure based competition in the Regional WCA Market to the ultimate benefit of end-users. Therefore,

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<sup>181</sup> Chapter 7, Figure 22 of the Consultation.

ComReg considers that the appropriate footprint to determine the costs for FTTC based Bitstream is the 48 sites yet to be unbundled.

- 7.108 ComReg does not agree with Eircom's views, as outlined at paragraph 7.95 above, that it does not have SMP in the "market for FTTC Bitstream". Furthermore, Eircom considers that it does not have SMP for FTTC based Bitstream and therefore there is no need for such a pricing remedy (a price floor based on the costs of Bitstream and WEIL interconnection adjusted for SEO (25% market share)). ComReg would like to point out that ComReg has carried out its market reviews on the WLA Market and WCA Markets and Eircom has been found to have SMP in the WLA Market, nationally and in the Regional WCA Market. Please see Sections 5 and 10 of the 2018 WLA / WCA Market Review Decision for further details. As a result of the finding of SMP on Eircom, a number of *ex ante* regulatory obligations have been imposed on them, including the obligation of a price control. As set out in Section 12 of the 2018 WLA / WCA Market Review Decision, Eircom is subject to the obligation of cost orientation for FTTC based Bitstream services in the Regional WCA Market. This Decision further specifies the cost orientation obligation in the context of FTTC based services, amongst other services.
- 7.109 In relation to Enet's views, as outlined at paragraph 7.98 above, that the use of BU-LRAIC+ should not result in price reductions for FTTC based services which would have the effect of undermining planned FTTH investments by other operators, please see ComReg's response at Chapter 5, paragraphs 5.38-5.39.
- 7.110 ComReg confirms that the calculation of the port costs in the NGA Cost Model has been revised to recognise the WEIL prices outlined in Eircom's Bitstream Access Reference Offer ('**BARO**') price list, further to Eircom's views as outlined at paragraph 7.97 above.
- 7.111 Having considered the views of respondents, ComReg remains of the view that that the monthly rental charge for FTTC based Bitstream (including EVDSL) should be based on the BU-LRAIC+ methodology and Eircom's Indexed RAB applied to Reusable Assets based on those Local VUA sites yet to be unbundled in the Regional WCA Market and with an adjustment to Bitstream specific costs to reflect the scale of a hypothetical SEO with a 25% retail broadband market share for the reasons set out at paragraphs 7.99-7.110 and in Chapter 7, paragraphs 7.15 to 7.57 of the Consultation.
- 7.112 Figure 11 below shows the changes (and with paragraph references to the explanation of those changes) to the FTTC based Bitstream (including EVDSL) since the consultation (17/26).

**Figure 11: FTTC based Bitstream (including EVDSL) price**

Description	Para ref	VUA	Per port Nat HO €	Per Mbps Nat HO €	Per port Reg HO €	Per Mbps Reg HO €
<b>Average FTTC based Bitstream price per 17/26</b>			21.66*	0.62	19.13*	0.23
<i>Changes associated with FTTC based VUA</i>	<i>See 7.27</i>	16.86 19.55	2.69		2.69	
<b><u>Incremental adjustments since 17/26:</u></b>						
Peak traffic levels allocated between NGA and CGA broadband	A 1.131 - A 1.134		3.65	-	1.47	-
Forecast network demand	6.38- 6.65		(1.72)	-	(0.84)	-
Routing factors	8.58- 8.62		(1.08)	(0.07)	(0.42)	-
Cost duplication for Bitstream backhaul	8.57		(0.76)	-	(0.38)	-
Other	-		(0.12)	0.04	0.19	(0.02)
<b>Average FTTC based Bitstream 2017-2020</b>			<b>24.32*</b>	<b>0.59</b>	<b>21.84*</b>	<b>0.21</b>

\*Including fault repair and provisioning costs

7.113 The FTTC based Bitstream (including EVDSL) monthly rental prices for the price control period (2018/19-2021/22) and the indicative prices for 2022/23 and 2023/24 are set out in Chapter 14, Figure 15.

#### **7.4.4 ComReg's Position:**

- 7.114 The monthly rental charge for FTTC based Bitstream (including EVDSL) shall be based on the BU-LRAIC+ methodology and Eircom's Indexed RAB applied to Reusable Assets based on those Local VUA sites yet to be unbundled (i.e., 48 Local VUA sites or 382<sup>182</sup> exchanges connected to those 48 aggregation node / Local VUA sites) in the Regional WCA Market, and with an adjustment to Bitstream specific costs to reflect the scale of a hypothetical SEO with a 25% retail broadband market share.
- 7.115 The FTTC based Bitstream (including EVDSL) monthly rental prices for the price control period (2018/19-2021/22) and the indicative prices for 2022/23 and 2023/24 are set out in Chapter 14, Figure 15.

### **B. Exceptional price reductions**

#### **7.4.5 Position set out in the Consultation:**

- 7.116 In Chapter 7 of the Consultation ComReg proposed that in exceptional circumstances Eircom may be allowed to reduce the price for FTTC based Bitstream so long as it complies with the regulatory approval mechanism and the price floor requirements as out in Chapter 12. Furthermore, ComReg proposed that any reduction to the price of FTTC based Bitstream should also be reflected in the price for FTTC based VUA in order to maintain a sufficient space between the two services.
- 7.117 Please see Chapter 7, paragraphs 7.86-7.87 of the Consultation for further details.

#### **7.4.6 Respondents' views:**

- 7.118 The majority of respondents agreed that in the exceptional case where Eircom is allowed to reduce the price for FTTC based Bitstream that any such reduction is reflected in the price for FTTC based VUA, subject to the price floor requirements in Chapter 12 and ComReg's regulatory approval.
- 7.119 Sky agreed stating that Eircom ought to be allowed and even required to reduce the price of Bitstream services even if the price of the service does not reflect the underlying cost of the service.

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<sup>182</sup> ComReg had estimated 397 exchanges in the Consultation but a more detailed review of the linkage between the 48 Local VUA sites and the exchanges connected to them shows that there are 382 exchanges linked to those 48 Local VUA sites based on the details in the NGN Core Model.

- 7.120 ALTO agreed with ComReg's preliminary view, stating that there is otherwise a material risk of margin squeeze against operators using VUA.
- 7.121 ALTO and BT also considered that LLU pricing should reduce if components of the price reduction are shared with LLU such as SLU.
- 7.122 Vodafone also agreed with ComReg's preliminary view stating that "*given the link between the representative cost stacks it is only logical that a reduction in one leads to a reduction in the other*".
- 7.123 Eircom stated that in their view the "FTTC Bitstream market" is competitive, and so there is no requirement for *ex ante* price controls. Eircom also stated that ComReg's reasoning for requiring a regulatory approval mechanism is, in itself, evidence that ComReg has prematurely moved to cost-orientation for FTTC-based NGA services.
- 7.124 Eircom considered that a restriction on Eircom's ability to price below the regulated bitstream price would undermine its legitimate ability to compete. Eircom claims that ComReg proposes to deliberately set the bitstream price at a level above Eircom's costs including by reference to an SEO operator with a 25% share and based on the average costs of all sites yet to be unbundled. Eircom stated that it should be allowed to compete with other infrastructures and with VUA-based competitors by having the flexibility to price down to its costs.
- 7.125 Eircom also suggested that *ex post* remedies could be relied upon to ensure appropriate wholesale prices are maintained between different platforms and technologies.
- 7.126 Enet submitted that the use of BU-LRAIC+ should not result in price reductions for FTTC based services which would have the effect of undermining planned FTTH investments by other operators.

#### **7.4.7 ComReg's assessment of Respondents' views:**

- 7.127 ComReg notes that Sky, Vodafone, ALTO and BT generally agreed that in exceptional cases Eircom should be allowed to reduce the price for FTTC based Bitstream, so long as any such reduction is reflected in the price for FTTC based VUA and subject to the price floor requirements set out in Chapter 12 of the Consultation and subject to ComReg's regulatory approval. Eircom and Enet raised issues for further consideration and these are addressed in turn below.
- 7.128 With regard to BT and ALTO's views, as outlined at paragraph 7.121 above, that LLU pricing should reduce if components of the price reduction are shared



with LLU such as SLU, please see subsection 7.3 above where ComReg has addressed the link between the price for FTTC based VUA and LLU.

- 7.129 ComReg does not agree with Eircom view's, as outlined at paragraph 7.123 above, that the "FTTC Bitstream market" is competitive, and so there is no requirement for *ex ante* price controls. Please see paragraph 7.108 above where ComReg has addressed this point.
- 7.130 Furthermore, ComReg disagrees with Eircom's point, as outlined at paragraph 7.123 above, that ComReg's reasoning for requiring a regulatory approval mechanism is, in itself, evidence that ComReg has prematurely moved to cost-orientation for FTTC-based NGA services.
- 7.131 The main objective of a regulatory approval mechanism for FTTC services, as discussed in Chapter 12 of the Consultation, is that in exceptional circumstances Eircom may be allowed to reduce the price for FTTC based VUA (including EVDSL) below the regulated price in order for it to align with another operator's price in order to be competitive subject to the caveats and price floor requirements at Chapter 12 of this Decision. There may be exceptional circumstances where a price reduction below the regulated price at the wholesale level is deemed proportionate and justified to allow Eircom Retail and the OAOs that use the relevant wholesale service as an input in their retail offerings to compete with the services provided over an alternative platform. Lower prices should also benefit the interests of end-users. Furthermore, Section 7 (paragraphs 7.1288 to 7.1332) and Section 12 (paragraphs 12.306 to 12.323) of the 2018 WLA / WCA Market Review Decision sets out the reasons why cost orientation is deemed to be the appropriate pricing remedy at this time. Therefore, the reasons for requiring a regulatory approval mechanism are not related to Eircom's claim that ComReg has prematurely moved to cost orientation for FTTC based NGA services. In fact, in the 2016 Access Pricing Decision ComReg implemented a regulatory approval mechanism for SB-WLR, further to the imposition of the cost orientation obligation on those services. The regulatory approval mechanism for FTTC services is discussed further at Chapter 12 of this Decision.
- 7.132 Having considered Eircom's submission, as outlined at paragraph 7.124 above, ComReg is of the view that in certain circumstances a restriction on Eircom's ability to price below the regulated bitstream price would undermine its legitimate ability to compete. To clarify, the regulatory approval mechanism, discussed at Chapter 12, subsection 12.4 of this Decision, is the exceptional measure set out by ComReg which may allow Eircom in exceptional cases to reduce the price for FTTC services below the regulated price in order to compete with other operators but subject to pre-conditions and a price floor requirement. Please see Chapter 12, subsection 12.4 for further details.

- 7.133 ComReg does not agree with Eircom's claim, as outlined at paragraph 7.124 above, that ComReg deliberately set the Bitstream price at a level above Eircom's costs including by reference to an SEO operator with a 25% share and based on the average costs of all sites yet to be unbundled. Please see paragraphs 7.102-7.104 above as well as Chapter 6, paragraphs 6.129-6.135 of the Consultation for the reasons for the adjustment to the Bitstream related costs.
- 7.134 As already set out in Chapter 12, subsection 12.4 of this Decision, ComReg has taken into account Eircom's concerns, as outlined at paragraph 7.124, that it should be allowed to compete with other infrastructures and with VUA-based competitors by having the flexibility to price down to its costs. The exceptional regulatory approval mechanism has a number of pre-conditions as well as a price floor requirement which Eircom must adhere to. Please see Chapter 12, subsection 12.4 for further details.
- 7.135 ComReg disagrees with Eircom's suggestion, as outlined at paragraph 7.125 above, that *ex post* remedies could be relied upon to ensure that appropriate wholesale prices are maintained. ComReg considers that the *ex-post* enforcement provided under competition law would be inadequate and consequently ComReg considers that the express imposition of *ex ante* regulatory obligations, in particular the obligation of cost orientation, would be more appropriate. Given the identified risk of potential excessive pricing arising from Eircom's SMP, it was further considered that identifying issues only after it had occurred would not sufficiently protect against possible market foreclosure and the associated consumer harm. Therefore, the *ex ante* price control obligations imposed on Eircom in relation to FTTC based Bitstream in the Regional WCA Market in the 2018 WLA / WCA Market Review Decision are deemed to be appropriate and justified.
- 7.136 In relation to Enet's views, as outlined at paragraph 7.126 above, that the use of BU-LRAIC+ should not result in price reductions for FTTC based services which would have the effect of undermining planned FTTH investments by other operators, please see ComReg's response at Chapter 5, paragraphs 5.38-5.39.
- 7.137 Having considered the views of respondents, ComReg remains of the view that that in exceptional cases Eircom should be allowed to reduce the price for FTTC based Bitstream, so long as any such reduction is reflected in the price for FTTC based VUA and subject to the price floor requirements set out in Chapter 12 of the Consultation and subject to ComReg's regulatory approval for the reasons set out at paragraphs 7.127 to 7.136 above and in Chapter 7, paragraphs 7.15 to 7.57 of the Consultation.

#### **7.4.8 ComReg's position:**

7.138 Eircom shall ensure that in the exceptional case where it may be allowed to charge a lower price for FTTC based Bitstream that any such reduction should be reflected in the price for FTTC based VUA, subject to the price floors requirements in Chapter 12 of this Decision, and ComReg's regulatory approval.

### **C. Appropriate footprint**

#### **7.4.9 Position set out in the Consultation:**

7.139 In Chapter 7 of the Consultation ComReg proposed that the footprint of exchanges yet to be unbundled in the Regional WCA Market should be fixed for the price control period, at the time of the Decision. In essence, the FTTC based Bitstream price would not fluctuate with movements in the number of exchanges during the price control period in order to provide certainty and price stability to operators in terms of infrastructure investment over the next few years.

7.140 Please see Chapter 7, paragraph 7.85 of the Consultation for further details.

#### **7.4.10 Respondents' views:**

7.141 ALTO, BT and Vodafone generally agreed that the footprint should be locked-in, but raised some issues for further consideration.

7.142 BT stated that they considered that ComReg has chosen an incorrect footprint as WLA VUA is not always viable in the Urban WCA Area. BT considered that the FTTC based Bitstream footprint once corrected should be locked-in for the price control period in order to bring price stability.

7.143 ALTO and BT proposed that ComReg should reserve the right to review the footprint if significant further rollout occurs after the Decision.

7.144 While Vodafone broadly agreed that the footprint for FTTC based Bitstream should be locked-in, it urged ComReg to monitor Eircom to ensure Eircom's adherence to the agreed footprint and that it services the regions indicated. In addition, Vodafone noted that if the regions in the footprint are not serviced then ComReg needs to take action. Vodafone also stated that if ComReg was to avoid the unnecessary deregulation of the Urban WCA Market then those exchanges should be included for the modelling purposes of FTTC based Bitstream.

- 7.145 Eircom expressed a view that there is no need for a price control for FTTC based Bitstream in any geographic part of the market. They stated that where NGA VUA prices are controlled nationally, this, together with a competitive market for MI WHQA<sup>183</sup>, ensured competition in the Bitstream market. In Eircom's view, on this basis there is no need to lock in the price of the FTTC based footprint.
- 7.146 Enet reiterated their point that the use of BU-LRAIC+ should not result in price reductions for FTTC based services which would have the effect of undermining planned FTTH investments by alternative operators.

#### **7.4.11 ComReg's assessment of Respondents' Views:**

- 7.147 ComReg notes that the majority of respondents agreed that the FTTC based Bitstream footprint should be locked-in at the date of the Decision for the purposes of setting the FTTC based Bitstream monthly rental price in the Regional WCA Market for the price control period.
- 7.148 ComReg has considered BT's views, as outlined at paragraph 7.142 above, that ComReg has chosen an incorrect footprint as WLA VUA is not always viable in the WCA urban area and that this needs to be corrected. ComReg is of the view that BT's point that WLA VUA is not always viable in the WCA urban area appears to be a product / access related issue and is therefore outside the scope of this pricing Decision. In any event, it should be noted that the footprint of exchanges used to set the price for FTTC based Bitstream excludes the sites associated with the Urban WCA Market, given that it is deregulated.
- 7.149 ComReg notes ALTO and BT's views, as outlined at paragraph 7.143 above, that ComReg should reserve the right to review the footprint if significant further rollout occurs after the Decision. ComReg also notes Vodafone's views, as outlined at paragraph 7.144 above, that ComReg should monitor Eircom's adherence to the agreed footprint and if the regions in the footprint are not serviced then ComReg needs to take action.
- 7.150 In response, ComReg is of the view that, firstly, the footprint used to determine the specific costs of FTTC based Bitstream is based on a somewhat narrow footprint of exchanges i.e., only those sites that are yet to be unbundled. As discussed at paragraph 7.106 above, the current 141 Local VUA enabled sites nationally includes 63 sites that are part of the Urban WCA Market which are now deregulated (and therefore no longer subject to regulatory obligations). In addition, there are 30 local VUA sites which are already unbundled. Therefore, the only remaining addressable sites to use in determining the FTTC based Bitstream specific costs are the 48 Local VUA enabled sites that have yet to be

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<sup>183</sup> Wholesale High Quality Access (Leased Lines).

unbundled i.e., no operators have unbundled these sites currently. The objective of the footprint of 48 Local VUA sites in order to set the price for FTTC based Bitstream is to provide the right investment signals to other operators in those 48 Local VUA sites in the Regional WCA Market where new investment is likely to occur. The footprint for determining the costs relevant to the provision of FTTC based VUA price is discussed separately at paragraphs 7.58-7.60.

- 7.151 Secondly, the objective of locking-in the footprint is to avoid the risk of price instability and provide market certainty, therefore supporting infrastructure investment decisions over the price control period. While ComReg does not intend to review the footprint (of those sites that are yet to be unbundled) during the price control period, Eircom has access to the NGA Cost Model and Eircom will be fully aware of the actual level of unbundling undertaken by operators during the price control period as well as the addition of any further VUA enabled sites. Therefore, Eircom should keep this under review for any significant changes to the overall footprint over the price control period. In any event, Eircom is required to carry out an annual review of the inputs, costs and assumptions of the models (NGA Cost Model and NGN Core Model). This review is an opportunity for Eircom to highlight any exceptional changes or differences in the model(s) to ComReg. This should provide reasonable price certainty and stability to the marketplace. Where issues are apparent as a result of such a review, a more detailed assessment may be necessary. Please see Chapter 12 for further details on the annual review.
- 7.152 Vodafone's point, as outlined at paragraph 7.144 above, regarding deregulation of the Urban WCA Market, is discussed by ComReg in Section 13 of the 2018 WLA / WCA Market Review Decision.
- 7.153 ComReg does not agree with Eircom's view, as outlined at paragraph 7.145 above, that there is no need for a price control for FTTC based Bitstream in any geographic part of the market given that NGA VUA prices are controlled nationally and together with a competitive market for Wholesale High Quality Access ('**WHQA**') in the context of Leased Lines competition in the Bitstream market is ensured. Firstly, Eircom has a high wholesale market share [§< ██████████ ] in the Regional WCA Market. Secondly, current market data shows that there are a large number of customers [§< ██████████ ] and [§< ██████████ ] using FTTC based Bitstream in the Regional WCA Market. However, of the 141 Aggregation node sites (also referred to in this document as Local VUA sites) Vodafone is only connected at [§< ██████████ ] sites while BT is only connected at [§< ██████████ ] sites. As a result Vodafone could only serve [§< ██████████ ] customers by VUA and BT could only serve [§< ██████████ ] customers, presently. Furthermore, Vodafone and BT cannot seamlessly switch to FTTC based VUA in the event of excess pricing of FTTC based Bitstream and hence this renders a constraint from VUA to (non-

regulated) NGA bitstream as weak or non-existent. Hence, ComReg considers that there is a need for a price control obligation (by way of cost orientation) for FTTC based Bitstream in the Regional WCA Market, despite Eircom's claims.

7.154 In addition, in the 2018 WLA / WCA Market Review Decision ComReg concluded in Section 9 at paragraph 9.9 (and paragraph 9.146) that leased lines are not considered to be a sufficiently effective substitute for broadband services provided over copper, FTTx and CATV networks, at both the retail and wholesale levels<sup>184</sup>. In fact, Eircom did not argue for leased lines to be included in the relevant markets in response to the 2016 WLA / WCA Market Review Consultation. Therefore, ComReg does not agree with Eircom's view that activity in the leased line (Wholesale High Quality Access) market constrains Eircom's pricing of FTTC based Bitstream.

7.155 In relation to Enet's views, as outlined at paragraph 7.146 above, that the use of BU-LRAIC+ should not result in price reductions for FTTC based services which would have the effect of undermining planned FTTH investments by other operators, please see ComReg's response at Chapter 5, paragraphs 5.38-5.39.

7.156 Having considered the views of respondents, ComReg remains of the view that the FTTC based Bitstream footprint should be locked-in at the date of the Decision for the purposes of setting the FTTC based Bitstream monthly rental price in the Regional WCA Market for the price control period for the reasons set out at paragraphs 7.147 - 7.155 and in Chapter 7, paragraphs 7.15 to 7.57 of the Consultation.

#### **7.4.12 ComReg's position:**

7.157 The footprint for the purposes of setting the price for FTTC based Bitstream (including EVDSL) over the price control period shall be fixed at 48 Local VUA sites (or 382 exchanges) based on those sites yet to be unbundled, as set out at Annex 11.

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<sup>184</sup> See paragraphs 4.240 to 4.249, and paragraph 10.71 of the 2016 WLA/WCA Market Review Consultation.

## Chapter 8

# 8 Cost modelling: NGN Core Model

## 8.1 Background:

- 8.1 This chapter looks at the modelling approach in the next generation network ('NGN') core network model (referred to throughout this document as the '**NGN Core Model**') to determine the costs associated with Eircom's core network.
- 8.2 The NGN Core Model is used to determine the BU-LRAIC+ costs for the provision of core network services. The core network supports a range of services including voice, leased lines, current generation broadband (and next generation broadband) and IPTV<sup>185</sup> / multi-casting.
- 8.3 The main outputs of the NGN Core Model in the context of this Decision are Eircom's BU-LRAIC+ costs for current generation broadband services i.e., Bitstream and BMB services.
- 8.4 Furthermore, the NGN Core Model determines the costs of backhaul traffic for FTTC based Bitstream which is used as an input to the NGA Cost Model in Chapter 6. Similarly, the interaggregation link costs and the link costs between aggregation node and exchange for VUA is also determined in the NGN Core Model and then used in the NGA Cost Model.
- 8.5 In Chapter 8 of the Consultation, ComReg discussed how the core network is dimensioned, the projected demand on the network as well as level of capital and operating costs associated with running the network.
- 8.6 In this chapter, ComReg addresses the main issues and concerns that were raised by respondents in relation to the general principles and key parameters that informed the cost modelling approach in the NGA Core Model. Issues that were raised relating to the specific application of those principles in the cost models are addressed by ComReg in the Cost Modelling Annex at Annex 12 of this Decision.
- 8.7 It is important to highlight that there have been some adjustments / changes to the NGN Core Model since the Consultation to take account of feedback from respondents as part of the consultation process and also given further reviews of the model by ComReg and TERA. The main changes to the NGN Core Model includes updates to the following parameters / inputs:

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<sup>185</sup> Internet Protocol TV.



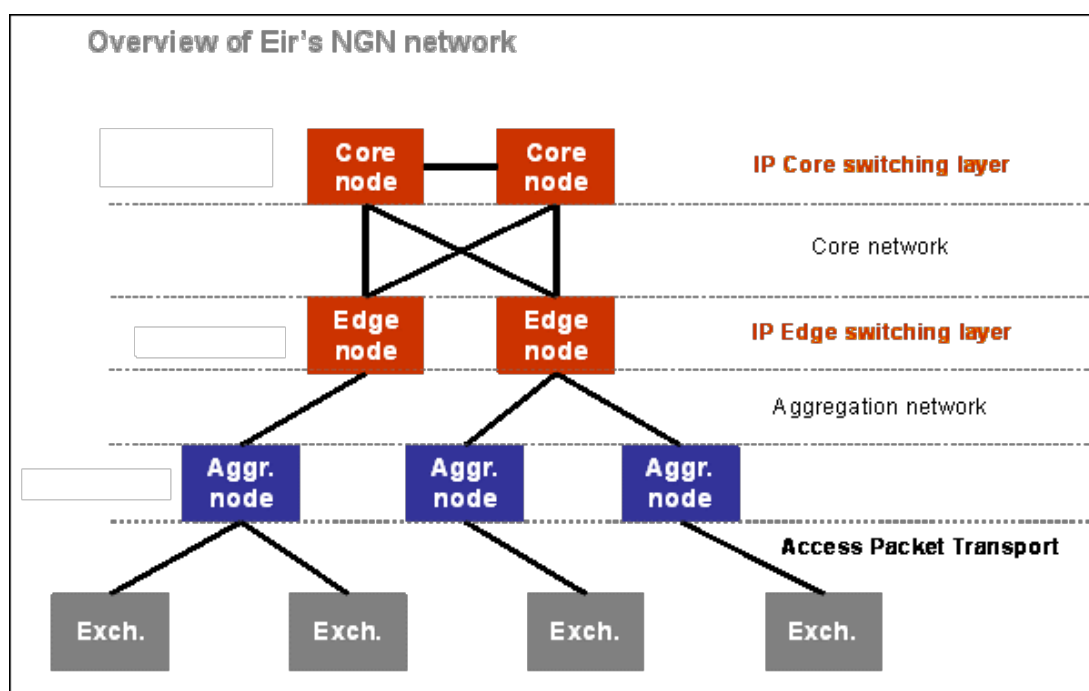
1. Peak traffic levels allocated between NGA and CGA broadband (see Annex 12, paragraphs A 1.131 - A 1.134);
  2. Forecast network demand (see Chapter 6, paragraphs 6.38-6.65);
  3. Line sensitive access network costs (see paragraph 8.53 below);
  4. Shared service costs (see paragraph 8.54 below);
  5. Leased line forecasts (see paragraph 8.55 below);
  6. Power and accommodation costs (see paragraph 8.56 below);
  7. Double counting of Bitstream backhaul costs (see paragraph 8.57); and
  8. Routing factors (see paragraphs 8.58-8.62).
- 8.8 Figure 14 in Chapter 9 reconciles the average price for current generation Bitstream and BMB services consulted on (in 17/26) to the average price determined in this Decision and it highlights the numerical impact of the various changes noted above.
- 8.9 Figure 11 in Chapter 7 reconciles the average incremental cost (to VUA) for FTTC based Bitstream consulted on (in 17/26) to the average incremental cost in this Decision and it highlights the numerical impact of the various changes (including the changes associated with forecasted network demand, double counting of Bitstream backhaul costs and routing factor changes as noted above).
- 8.10 The respective points are discussed under the following headings:
1. Network dimensioning, network demand and network costs;
  2. Allocation of fixed network costs.

## **8.2 Network dimensioning / network demand / network costs:**

### **8.2.1 Position set out in the Consultation:**

#### **Network dimensioning:**

- 8.11 To recap, Figure 12 below illustrates how Eircom's NGN core network is dimensioned.

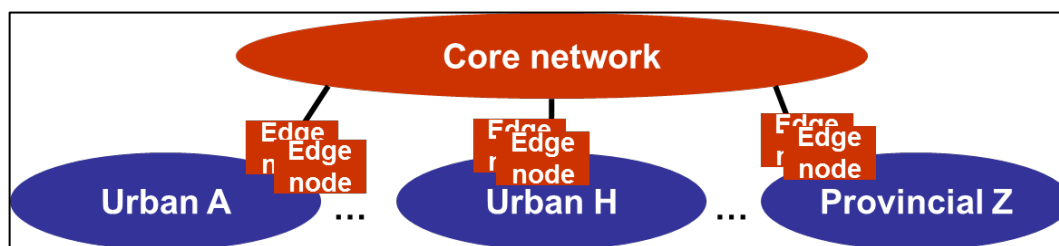
**Figure 12: Dimensioning of core network**

**Source: TERA**

- 8.12 As set out in Chapter 8 of the Consultation, Eircom deploys its NGN network in 20 aggregation regions, three of which are single aggregation nodes, each connected to a pair of IP edge nodes, for high capacity demands. In the remaining aggregation regions, several aggregation nodes are grouped together, constituting a region. Each aggregation region is managed by 2 IP edge nodes<sup>186</sup>, each being connected to every aggregation node in the region.
- 8.13 The regions are interconnected with the IP core switching layer network. The core network consists of 4 IP core node sites<sup>187</sup> and transport connections linking the edge nodes and core nodes. This is summarised in Figure 13 below.

<sup>186</sup> IP Edge routers are higher capacity routers which combine traffic demands from all Aggregation routers in each NGN network region. Each region has two such IP Edge routers for redundancy purposes. They filter traffic demands to determine if the originating traffic is destined for another Aggregation node within the same region, or to be directed to the Core Router to transit into another region as all IP Edge routers are connected to the 4 core routers at the top of the network hierarchy.

<sup>187</sup> Core routers are the largest capacity routers in the NGN hierarchy and provide a transit bridging connection between traffic flowing from one region to another, so providing connectivity between all the 20 regions in the network.

**Figure 13: Linking edge nodes to core network**

**Source: TERA**

- 8.14 In Chapter 8 of the Consultation ComReg proposed that the NGN Core Model should reflect Eircom's core network, as detailed in Figure 12 and Figure 13 above.
- 8.15 Please see subsection 8.3 of Chapter 8 of the Consultation for further details.

**Network demand:**

- 8.16 In relation to network demand ComReg assessed the actual and forecasted likely active subscribers on Eircom's core network using actual data, but also forecasted data provided by Eircom. This data was first compiled at a network site or exchange level and the exchange data is then aggregated to determine the level of demand in each of the 20 NGN network regions. The demand data includes leased line services, narrowband services (split between PSTN and ISDN) and broadband services including current and next generation broadband services. Next generation broadband is further split into FTTC / EVDSL and FTTH services.
- 8.17 The NGN Core Model calculated the number of end users for each service i.e., voice (PSTN/ISDN), broadband (current generation and next generation) and leased lines, for the period 2007 to 2022. The NGN Core Model can then be run for a particular year to dimension and cost the network based on the level of service demand that is calculated for that year. Note that the service demands detailed in the NGN Core Model aligns with those applied in the NGA Cost Model.
- 8.18 To determine the network capacity demands across the NGN Network for broadband services, the broadband end user demands are translated into network capacity demands by first assuming an average broadband Busy Hour kbps per line. This data was provided by Eircom for the years up to 2013 and was estimated by TERA for the subsequent years based on the projected number of CGA and NGA end users, the percentage of end users using each type of broadband service (Bitstream Internet Protocol ('IP'), BMB, FTTC, FTTH, etc.) and the average projected busy hour demand for each broadband service.

- 8.19 Network demand in the NGN Core Model is discussed at paragraphs 8.16 to 8.29 in Chapter 8 of the Consultation.
- 8.20 Routing factors used in the NGN Core Model are discussed at paragraphs 8.30 to 8.42 in Chapter 8 of the Consultation.
- 8.21 The throughput / traffic assumed in the NGN Core Model is discussed at paragraphs 8.43 to 8.46 in Chapter 8 the Consultation.
- 8.22 The network costs in the NGN Core Model are discussed at paragraphs 8.47 to 8.108 in Chapter 8 of the Consultation.

## **8.2.2 Respondents' Views:**

- 8.23 Several respondents broadly agreed with the principles, inputs and assumptions in the NGN Core Model for determining the costs associated with the provision of broadband services, while expressing specific points and qualifications as set out below. Eircom disagreed with ComReg's approach on the NGN Core Model for the reasons outlined below. ComReg has considered points on principles and assumptions below, and has considered detailed comments on specific aspects of the modelling in the Cost Modelling Annex (Annex 12).
- 8.24 While ALTO and BT generally agreed with the principles, inputs and assumptions used in the NGN Core Model they considered that there was an insufficient level of transparency on the details and therefore they argued that they could not determine whether the outcome is correct. In addition, ALTO and BT queried whether the voice traffic is modelled as being carried on the existing PSTN switch network or based on the hypothetical use of NGN, as they considered that there should be alignment with the actual networks rather than hypothetical networks.
- 8.25 Vodafone also broadly agreed with the principles, inputs and assumptions used in the NGN Core Model but stressed that it is difficult to assess this accurately without full insight into underlying model and the importance of certain inputs. Vodafone also commented that overall volumes and volume growth assumptions used by ComReg (overall broadband volumes on Eircom's network will reduce by c. 5% by 2026) would appear to be conservative and if anything the volumes and unit costs/prices would also appear to be conservative.

- 8.26 Vodafone stated that it would expect that there would be a full reconciliation between the historical cost over the longer term and the regulated accounts to ensure that Eircom is rewarded for investments and costs actually incurred and not rewarded in advance (by way of cost models) for such investments and costs that don't actually occur.
- 8.27 Sky considered that the backhaul for Bitstream services as currently calculated implied a cross subsidisation between leased lines and broadband and voice services. The AM Report elaborated on this point by referring to paragraph 8.82 of the Consultation where ComReg indicated that a '*fee or cost for each 1M/b of traversal cost*' is calculated for each type of router (aggregation, edge and core routers) by dividing total costs for router ports by the total traffic level. The AM Report also notes that this makes sense at the edge and core router level which are pure routing elements, but not for aggregation routers. The AM Report claims that part of the access-facing ports for aggregation routers are connectivity driven (e.g., ports used by leased lines) rather than (significantly) traffic-driven and by calculating an average cost for each 1 Mbit/s, the NGN Core Model creates a cross subsidy between leased lines, broadband and voice services. The AM Report concluded that a more appropriate allocation of assets costs to services causing them would avoid this.
- 8.28 The AM Report noted that the depreciation method used in the NGN Core Model is not consistent with that in the NGA Cost Model. The AM Report commented that it is not clear in Chapter 8 if the NGN Core Model uses Economic Depreciation and it refers to paragraph 8.18 which it considers could imply a tilted annuity approach. It outlined that ComReg did not explain the reason for using Economic Depreciation for NGA access services and a tilted annuity for core services. Furthermore, the AM Report also noted that "*...the tilted annuity adjusts only for assumed equipment price trends and not for demand growth. We expect there to be considerable demand growth in the core network... and hence the tilted annuity should also have a demand tilt to account for expected demand growth<sup>188</sup>.*"
- 8.29 Eircom did not agree with the proposed principles, inputs and assumptions in the NGN Core Model. Eircom considered that the NGN Core Model was not fit for purpose, claiming that it overstated overall customer demands and overstated the use of Eircom's network by that demand. In relation to the latter point, Eircom noted that when wholesale customers moved FTTC/EVDSL demands from Bitstream to VUA and provided their own backhaul infrastructure, the traffic was no longer carried on open eir's NGN network.

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<sup>188</sup> The AM Report, paragraph 6.1.2.

- 8.30 Eircom pointed out that VUA now represents [redacted] of the total NGA broadband base and that it expected this trend to continue. Eircom stated that "...ComReg have modelled unit costs for all network elements on the basis of peak bandwidth consumption. However, the use of VUA implies that demand for higher layers of the core network will be far lower than peak capacity<sup>189</sup>." The CEG Report also made a similar point suggesting that the model should be adjusted to reflect the share of NGA wholesale customers taking Bitstream and VUA services and the impact of this on modelling traffic and costs.
- 8.31 Eircom stated that in modelling the demand/use of Eircom's core network it had omitted two further important market developments. First, the regional handover product will reduce demand for higher layers of the core network and therefore this would increase the cost for national handover. Second, the forecast split of broadband traffic demands between wholesale and retail has had a relative decline since the 2014 figures used to inform the NGN Core Model. Therefore, Eircom stated that "the forecast split should be based on a continuing relative decline of the retail base and reduced use of the core network, as a result of VUA and regional handover<sup>190</sup>".
- 8.32 [redacted]  
[redacted]
- 8.33 [redacted]  
[redacted]
- 8.34 Enet expressed a view that the use of BU-LRAIC+ should not result in price reductions for FTTC services which would have the effect of undermining planned FTTH investments by other operators.

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<sup>189</sup> Eircom Annex (Review of Cost Models), paragraph 71.

<sup>190</sup> Eircom Annex (Review of Cost Models), paragraph 73.

<sup>191</sup> Eircom Annex (Review of Cost Models), paragraph 77.

<sup>192</sup> The CEG Report, paragraph 254 (confidential version) and paragraph 257 (non-confidential version).

### 8.2.3 ComReg's Assessment of Respondents' Views:

- 8.35 ComReg notes that while a number of respondents broadly agreed with the principles, inputs and assumptions used in the NGN Core Model, a number of specific points and qualifications were also raised. ComReg also notes Eircom's disagreement with its approach on the NGN Core Model, which is discussed below.
- 8.36 As outlined at paragraph 8.24 above, BT and ALTO had concerns in relation to the lack of transparency on the details in the NGN Core Model. Vodafone made a similar point, as outlined at paragraph 8.25 above. Please see ComReg's response on access to the non-confidential model at Chapter 6, paragraph 6.72.
- 8.37 With respect to ALTO and BT's query, as outlined at paragraph 8.24 above, on whether the PSTN traffic is modelled as being carried on the existing PSTN or based on a hypothetical NGN network, ComReg can confirm that the routing factors used for voice traffic in the NGN Core Model reflect the hypothetical NGN rather than the existing PSTN network. The traffic is therefore carried on the network based on routing factors reflecting a VOIP service. This approach aligns with the forward looking bottom up modelling approach, but also reflects the continuing rationalisation of Eircom's legacy switching network for voice services in favour of carriage of voice traffic across the core Ethernet network. In addition, the forward looking modelling approach recognises the integration of voice port services in DSLAMs, resulting in the increasing incidence of the carriage of voice traffic via VOIP.
- 8.38 Vodafone's point, as outlined at paragraph 8.25 above, that overall volumes and growth assumptions used by ComReg would appear to be conservative, is addressed in the demand discussion in Chapter 6, paragraphs 6.38-6.65.
- 8.39 With regard to Vodafone's views, as outlined at paragraph 8.26, regarding the need for a full reconciliation between the historical cost over the longer term and the regulated accounts, please see ComReg's response at Chapter 5, paragraphs 5.25 and 5.58.
- 8.40 ComReg notes the submission made by Sky and the AM Report, as outlined at paragraph 8.27 above, in relation to their claims about cross subsidisation between leased lines and broadband and voice services. To clarify, costs in the NGN Core Model are classified and allocated in three ways as follows:
- Costs unique to Broadband services i.e. DSLAM, etc., which are directly attributed to broadband services.



- Costs within the NGN Core Model relating to the ports of the network router hierarchy, or the largest cost element of the routers, which is regarded as having a direct causation relationship with summary traffic capacity demands, measured in Mbps. Such costs are apportioned based on the relativity of traffic demands and routing factors informing how various service traffic types shares the use of the network router costs. This ensures a non-discriminatory cost allocation process for these costs across traffic service types such as voice, broadband, leased lines, etc. However, the fixed cost components such as chassis and power units are included in the fixed cost component detailed below.
- Fixed cost components such as trench, fibre cable, buildings, the chassis and power units of network routers etc. do not vary in response to changes in service demand (either in terms of traffic carried on the network or customer numbers connected to the network). As these costs are fixed in terms of service volumes, cost causality does not support a particular cost allocation option with the result that cost can be attributed to the services types carried on the NGN network based on a range of cost driver options.<sup>193</sup>

8.41 Furthermore, in the Consultation<sup>194</sup>, ComReg outlined the variable network cost elements (which are inclusive of router port costs) and indicated that these costs are allocated to services on the basis of the traffic levels associated with each service. In most cases this is consistent with cost causation as a considerable share of the port variable costs are impacted by the number and capacity of router ports required to service the scale of aggregate traffic demands they are expected to carry.

8.42 It should also be noted that only a small share of the summary NGN network costs linked to router port costs are variable and attributed to services based on traffic, and the majority of the NGN network costs are fixed and attributed to services based on service volumes weighted by core network related to the average revenue per user ('**ARPU**'). In addition, these variable router costs are associated with the 3 different layers of the NGN hierarchy (i.e. Aggregation, Edge and Core nodes) and it is only customer facing ports on the Aggregation nodes that are sensitive to the service demands from the voice, broadband and leased line platforms. Consequently, most of the variable costs in the NGN are sensitive to aggregate traffic demands and traffic remains the appropriate basis for subsequent allocation to services.

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<sup>193</sup> See paragraphs 8.109 to 8.123 of the Consultation.

<sup>194</sup> See paragraph 8.113 of the Consultation.

- 8.43 Furthermore, it should be noted that leased line demands are in some cases multiplexed via the access packet transport ('**APT**') node infrastructure before interfacing with the aggregation node and this can reduce the number of aggregation ports required to support leased line service demands. An allocation of costs of the customer facing ports with reference to service demands would also need to consider other factors such as the capacity of the port and the number of port slots occupied at different nodes if a precise allocation to services is to be achieved.
- 8.44 In light of these complexities, and considering the relatively small share of NGN costs affected, ComReg is of the view that allocating all variable router costs on the basis of the relative traffic demands for each service is a reasonable basis and it should not give rise to any material cross subsidy between services.
- 8.45 With regard to the observation in the AM Report, as outlined at paragraph 8.27 above, that ComReg does not explain the reason for using Economic Depreciation in the NGA Cost Model and tilted annuities in the NGN Core Model, please refer to the discussion of Economic Depreciation and tilted annuity in Chapter 6, paragraphs 6.118-6.122 of this Decision.
- 8.46 ComReg also notes the point raised in the AM Report, as outlined at paragraph 8.28 above, that the tilted annuity should have a demand tilt to account for expected demand growth. ComReg agrees that a tilted annuity can be adjusted to take the expected evolution in demand across the NGN into account. However, as the majority of costs in the core network are considered to be fixed and are allocated to services on the basis of a per user metric, the impact of rising traffic demands in the NGN Core Model on cost allocations is limited to those assets that are dimensioned on the basis of throughput traffic for all services, measured in Mbps. The significant increase in peak traffic demands that is expected on the NGN network in the model timeframe is mainly due to increases in the average traffic per user (as users migrate from CGA to NGA broadband technologies or to higher speed leased lines) and there is significantly less fluctuation in the average number of users on the NGN. Consequently, the need to incorporate a traffic related growth trend into the tilted annuity formula is mitigated by the fact that the majority of the NGN costs are allocated to services with reference to the number of users rather than to the level of traffic. Hence, ComReg considers that the current tilted annuity approach remains appropriate.

8.47 In response to Eircom's concerns, as outlined at paragraphs 8.29 to 8.31 above, in relation to forecast demand and the need to reflect the impact of the higher use of VUA by other operators, ComReg notes that the implications of increased use of VUA and Regional handover is that there will be less use of the higher levels of the NGN network hierarchy by broadband traffic. This will in turn reduce the level of use of the Edge and Core routers by broadband traffic. The consequence of this is that the throughput traffic, as measured in Mbps, carried across the higher layers of the NGN network will incur higher costs due to lower economies of scale as more wholesale demand is handed-off or interconnected at lower levels of the network. This occurs with both VUA and regional handover broadband alternatives. However, the NGN Core Model must also consider the costs faced by an OAO replicating Eircom's higher network layers through leveraging its own existing network infrastructure. In this respect the NGN Core Model, includes an OAO scenario where the model considers demands from VUA and Bitstream Regional Handover products as being service demands predominantly for Bitstream National Handover. In doing so the combined cost recovery needed to emulate a retail product offering was considered. This also addresses the point raised in the CEG Report, as outlined at paragraph 8.30 above.

8.48 Hence, since the Consultation ComReg has updated the forecast data for customer demands in the NGN Core Model which now reflects the decline in Eircom's retail broadband customer volumes, further to Eircom's point as outlined at paragraph 8.31 above. This change is consistent with quarterly data gathered by ComReg as well as the customer volume trends (split between external and downstream broadband sales volumes), recorded in Eircom's Separated Accounts. In addition, the NGN Core Model has also been updated to take account of the increased use of VUA by other operators as well as an increase in regional handover. These changes are further detailed in the Cost Modelling Annex in Annex 12 at paragraphs A 1.135-A 1.139. Please also see Chapter 6, paragraphs 6.38-6.65 for a detailed discussion on demand forecasting.

8.49 As outlined at paragraph 8.32 above, [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

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<sup>195</sup> Eircom Annex (Review of Cost Models), paragraph 77.

[REDACTED]

8.50 ComReg also notes the concerns expressed in the CEG Report, as outlined at paragraph 8.33 above, [REDACTED]

8.51 ComReg notes Enet's views, as outlined at paragraph 8.34 above, that the use of BU-LRAIC+ should not lead to price reductions for FTTC based services which may undermine planned FTTH investments. This has been discussed in Chapter 5, paragraph 5.38-5.39 of this Decision.

8.52 In addition to the above and further to the views of respondents to the Consultation as well as further reviews by ComReg and TERA of the NGN Core Model, ComReg has noted a number of adjustments required to the NGN Core Model since the Consultation. These adjustments are set out below.

**Line sensitive access network costs:**

8.53 Line Sensitive costs for voice services were incorrectly included in the NGN Core Model, as noted by Eircom<sup>196</sup> in its response to the consultation. These costs are uniquely associated with the voice service access ports for WLR. Such costs do not relate to the common infrastructure cost incurred in the core network by voice traffic. Consequently, the costs associated with voice services have been discounted, to exclude this cost category and accordingly the summary voice revenues used in the process for allocation of fixed costs (discussed at section 8.3 below), were reduced pro-rata. The net impact was to reduce the ARPU for voice service relative to the corresponding ARPU values

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<sup>196</sup> Eircom Annex (Review of Cost Models), paragraph 81.

for leased line and broadband services. Finally, as the fixed costs in the NGN Core Model are attributed to the three services, based on the relative revenue values for each service group, the discounting of revenues for voice services, results in a re-distribution of fixed costs away from voice services, in favour of the other service groups including leased lines and broadband. Furthermore, the revenues associated with leased line services for the ARPU, between the original and revised NGN Core Model, were updated. The NGN Core Model in the Consultation incorrectly included leased line revenues for both connections and rentals. The only revenue that should have been considered was rental revenues. The main reason for this change is the fact that the NGN Core Model uses the product of forecast volumes and average rental revenue per user, while connection revenues per customer do not recur in forecast years and therefore should be excluded. This has been updated in the NGN Core Model, which has marginally reduced the share of fixed costs attributed to leased lines, in favour of broadband and voice service groups. The net impact of these changes is that on average for the period 2017-2020, the current generation Bitstream national handover port price increases by €0.44, the regional handover port price increases by €0.31 and the Bitstream IP price increases by €0.27. Please see Figure 14 in Chapter 9.

#### **Shared service costs:**

- 8.54 The NGN Core Model at the time of the Consultation applied the annual operating costs for Eircom's shared service function based on the relative scale of traffic levels (measured in Mbps), for voice, broadband and leased line services. A review of this approach indicates that such operating costs are fixed costs associated with managing the network and therefore more closely aligned to the fixed cost driver process (discussed at section 8.3 below) in the NGN Core Model. The NGN Core Model has been updated to reflect this change and the net impact is that a larger share of these cost are now attributable to voice and leased line services. This change results in a reduction in the share of costs attributable to broadband products. The net impact is that on average for the period 2017-2020, the current generation national handover port price is reduced by €0.26, the current generation regional handover port price is reduced by €0.24 and the Bitstream IP price reduced by €0.24. Please see Figure 14 in Chapter 9.

#### **Leased lines forecasted volumes:**

- 8.55 Since the Consultation ComReg has updated the forecasted demand for leased line services in the NGN Core Model, based on data from Eircom. A further review of the leased line volumes during the consultation process indicated that leased line forecasted volumes were understated and needed to be revised to be more consistent with current data gathered by ComReg as part of its quarterly reports as well as market data gathered for the purposes of the WLA

and WCA market review. ComReg requested Eircom to provide updated data on forecasted leased line volumes and the revised data supplied by Eircom has been applied in the NGN Core Model. This has resulted in a higher level of demand for these products in future years. This in turn has resulted in a lower share of costs being allocated to voice and broadband services. In the case of current generation Bitstream services, the net impact is that on average for the period 2017-2020, the current generation Bitstream national handover port price reduced by €0.41, the current generation Bitstream regional handover port price reduced by €0.31 and Bitstream IP reduced by €0.32. Please see Figure 14 in Chapter 9. The change to the leased lines forecasted volumes has also resulted in a reduction in the average price for FTTC based VUA of €0.29. Please see Figure 10 in Chapter 7.

#### **Power and accommodation costs:**

- 8.56 The NGN Core Model includes costs for power and accommodation based on the BU-LRAIC+ approach. However, it was noted that in addition to these costs, the operating costs sourced from the Eircom separated accounts and also included as an input to the NGN Core Model also included Eircom's own top-down (actual / historic) accommodation and power costs. This resulted in a double count of these costs. The correction of the double count has resulted in a reduction in costs attributable to all services. In the case of current generation Bitstream products, the net impact is that on average for the period 2017-2020, the current generation Bitstream national handover port price has reduced by €0.44, the current generation Bitstream regional handover port price has reduced by €0.31 and the Bitstream IP price reduced by €0.27. Please see Figure 14 in Chapter 9.

#### **Bitstream backhaul costs:**

- 8.57 As part of a further review of the NGN Core Model by ComReg and TERA since the Consultation, an error was noted where some network infrastructure costs associated with the use of the network by NGA Bitstream backhaul had been mistakenly double counted. The correction of this error resulted in a reduction in the incremental costs for FTTC based Bitstream i.e., by €0.76 for national handover and €0.38 for regional handover. Please see Figure 11 in Chapter 7. There was no impact on current generation Bitstream prices.

#### **Routing factors:**

- 8.58 The routing factors associated with broadband services generally were revised in the NGN Core Model, from the Consultation position, due to the changing mix of demands for national and regional handover and for VUA.

- 8.59 As set out in Chapter 8 of the Consultation, the routing factors associated with broadband services use of the NGN Core network, reflects a mix of national and regional handover for Bitstream products. These products are sold by Eircom to other operators in the wholesale market, and to Eircom's own retail division. The NGN Core Model at the time of the publication of the Consultation (17/26) reflected the expected mix of demand for broadband services between the demand to other operators and the demands of Eircom's own retail arm, which are more closely linked with national handover. In the Consultation we assumed that sales by Eircom to other operators resulted in 90% regional handover and with sales to Eircom's own retail arm at 10% national handover. Separately, in developing the NGN Core Model in the Consultation, the broadband demand mix applied in the model, was such that Eircom's retail broadband customer volumes accounted for the largest share of broadband demands on the network [3< ██████████ ], based on forecast data provided by Eircom for 2015/16.
- 8.60 Since then updated demand data provided by Eircom has clearly indicated that Eircom's own retail broadband volumes constituted a smaller share of broadband demands [3< ██████████ ]. Furthermore, Eircom, in its response to the consultation at paragraphs 8.29 to 8.31 above indicated the need to recognise that broadband forecast demands on the network consisted of national and regional handover, and also the growing share of NGA demands addressed through VUA.
- 8.61 Therefore, the NGN Core Model was updated to reflect a change in the mix of demands for broadband services, including national and regional handover and VUA. While the initial expectation was that migration to regional handover would reach 90%, recent data indicated the migration had been occurring at a slower rate than had been anticipated, but was more recently aligning with the initial estimates. The net impact has resulted in the changes in the use of the various layers of the NGN Core network hierarchy by broadband services, between regional handover, national handover and VUA demands. The routing factors associated with broadband services have been updated in the NGN Core Model as a result. This in turn changes the attribution of costs at each level of the network hierarchy, between broadband and other services, such as voice, and leased lines. Regional Handover is expected to account for [3< ██████ ] of wholesale CGA Bitstream demands in 2018, increasing to [3< ██████ ] from 2019 onward, and expected to stabilise at that threshold.
- 8.62 The net impact is that on average for the period 2017-2020, the FTTC based incremental Bitstream national handover port price reduced by €1.08 and the regional handover port price reduced by €0.42. Please see Figure 11 in Chapter 7. The change in routing factor had no change on FTTC based VUA and only a marginal impact on current generation Bitstream prices.



- 8.63 Please also refer to Annex 12 for further cost modelling changes associated with the NGN Core Model.
- 8.64 Having considered the respondents' views, ComReg remains of the view that in general the principles, inputs and assumptions in the NGN Core Model are reasonable and appropriate for the reasons set out above at paragraphs 8.35 to 8.51 and also at Chapter 8, paragraphs 8.12 to 8.108 of the Consultation. Please note that ComReg has made some amendments to certain inputs and assumptions as outlined at paragraphs 8.53-8.63.

#### **8.2.4 ComReg's Position:**

- 8.65 The network dimensioning approach and network costing approach in the NGN Core Model remains appropriate except for the updates as noted at paragraphs 8.53-8.63 above as well as the updates to the forecasted demand as discussed at Chapter 6, paragraphs 6.38-6.65.

### **8.3 Allocation of fixed network costs**

#### **8.3.1 Position set out in the Consultation:**

- 8.66 As noted in Chapter 8 of the Consultation, one of the main challenges in the core network cost calculation is to allocate the fixed network costs to each service.
- 8.67 In order to allocate fixed network costs among services, ComReg considered the following options in Chapter 8 of the Consultation:

**Option 1: Capacity based allocation approach:** For each asset, the cost is allocated to the services based on the peak hour traffic of each service making use of the asset.

**Option 2: Equi-repartition (1/3, 1/3, 1/3):** For each asset, the cost is equally distributed between the services on the network making use of the asset.

**Option 3: Based on revenue per user:** This option allocates fixed costs based on the number of users by service weighted by a snapshot of the average revenues of the various services taken at the beginning of the control period (based on the latest available Regulatory Accounts).

**Option 4: Based on total revenue:** This option is based on a snapshot of the revenues of the voice / broadband / IPTV/ leased lines services taken at the beginning of the control period (based on the latest available Regulatory Accounts).

- 8.68 ComReg was of the preliminary view that Option 3 was an appropriate means to allocate the fixed costs of the core network. Please see Chapter 8, subsection 8.5.8 of the Consultation for further details.

### 8.3.2 Respondents' Views:

- 8.69 While several respondents agreed in principle that traffic costs on the core network should be allocated based on revenue per user (option 3 above), some points of further consideration were raised by respondents.
- 8.70 ALTO, BT and Vodafone agreed with ComReg's proposed approach. However, Vodafone stated that it was difficult to assess the impact of the approach without better insight into the underlying model.
- 8.71 Sky commented that it is unclear what ComReg's definition of "revenue" and "forecast revenue per service type" is. In Sky's view, it was not clear whether ComReg was using Eircom-only data or whether it was a portfolio/mix of pricing and volume of services provided by all operators on the Eircom network. Sky called on ComReg to clearly outline the detail of what it means by allocation of costs based on revenue per user as this has not been done in the consultation.
- 8.72 Furthermore, Sky also referenced the conclusions of ComReg's Consultation 14/90 (Replicability Test<sup>197</sup>) which Sky claimed proposed permissibility of a degree of cross subsidisation from regulated to unregulated products. Sky expressed concern about the combination of the proposed Option 3 and the scope for a disconnect between a customer's willingness to pay and Eircom's retail commercial strategy. In Sky's view, future volume assumptions in terms of allocations should be made public.
- 8.73 The AM Report noted some issues common to Option 3 and Option 4. Firstly, using revenue per user creates circularity i.e., retail prices are partly driven by wholesale prices and Options 3 and 4 link wholesale prices back to retail prices. In addition, the AM Report stated that given the increasing popularity of bundles and given that revenue needs to be allocated between broadband, voice and IPTV services, it was not clear that the input data on revenue would truly reflect the willingness of consumers to pay for broadband services.

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<sup>197</sup> ComReg Document No 14/90 "Replicability test: further specification of the price control obligation not to cause a margin squeeze, Market 2 and Market 5", dated 28 August 2014.

- 8.74 The AM Report further expressed concern regarding the uncertainty around forecasting and if ComReg underestimates the take-up of for instance IPTV or leased lines, OAOs buying broadband services risk paying too much. The AM Report referred to ComReg's comment in paragraph 8.121 of the consultation that *"if the forecast traffic per user for a service increases significantly (...), the fixed costs allocated across each of the services will change"* and *"This contradicts the assumption of fixed revenue per user and also counters ComReg's own argument in 8.121 that "broadband and leased line services have increasing levels of traffic per end user but end users are generally not willing to pay a high price for this better service"<sup>198</sup>.*
- 8.75 The AM Report also suggested that *"ComReg should ensure that it has not over-stated the magnitude of long-run fixed costs in the NGN core model"* and it suggested approaches that could help achieve this, e.g. cables could be allocated to the ports they are connected to (and therefore indirectly allocated to the services using those ports) trenches or ducts could be allocated based on relative use of the trench by the various cables in the trench. The AM Report concluded that *"If ComReg's approach leads to a smaller set of long-run fixed costs in the NGN core model, then the question of how to allocate these costs will be much less sensitive, and an allocation based on EPMU (similar to non-network costs) would be one commonly adopted option"<sup>199</sup>.*
- 8.76 While Eircom agreed that an allocation of capital costs based on service revenues is a reasonable approach it noted a number of concerns for further consideration by ComReg.
- 8.77 In particular, Eircom noted that customers' willingness to pay for voice services would continue to decline and therefore the ability of voice services to be a revenue anchor for core network services would reduce significantly. Eircom claimed that as leased lines and broadband converge in terms of line speed business users will only pay the price premium for leased lines when their systems and processes require service availability and consistency of performance not available from mass market access products.

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<sup>198</sup> The AM Report, paragraph 6.2.1, page 19.

<sup>199</sup> The AM Report, paragraph 6.2.1, page 19.

- 8.78 Eircom also stated that applying a revenue based rule risked embedding circularity in the structure of revenues which undermined Eircom's pricing flexibility. Eircom suggested that leased line pricing had not been reviewed in 7 years while the market had become competitive, and that this indicated that reductions in leased line prices by open eir to retain market share meant that a revenue based approach would result in a higher share of the fixed costs of the NGN transferring to Bitstream and call conveyance, which would raise the unit costs for both.
- 8.79 Eircom considered that the broadband price reductions proposed in the consultation "*(through disallowing a full recovery of access costs against broadband), in turn reduce the share of fixed costs allocated to broadband, creating an artificial 'headroom' for further price reductions*"<sup>200</sup>.
- 8.80 Eircom also stated that ComReg needed to develop a correction mechanism to ensure the allocation of fixed network costs in proportion to revenues ensured legitimate cost recovery while also avoiding excessive pricing instability.
- 8.81 The CEG Report stated that the current revenue based approach or even the revenue per user approach carries a risk that costs will be allocated to voice that are not able to be recovered as voice revenues shrink and ComReg will need to adjust their modelling to reflect this expected reduction in the importance of voice services, to allow costs to better reflect the traffic mix to ensure sustainability.
- 8.82 Enet expressed a view that the use of BU-LRAIC should not result in price reductions for FTTC services which would have the effect of undermining planned FTTH investments by other operators.

### **8.3.3 ComReg's Assessment of Respondents' Views:**

- 8.83 ComReg notes that the majority of respondents agreed in principle that traffic costs on the core network should be allocated based on revenue per user (Option 3 in the Consultation), with some issues for further consideration, which are addressed below.
- 8.84 Vodafone's point, as outlined at paragraph 8.70 above, regarding insight to the underlying model, is addressed by ComReg at Chapter 6, paragraph 6.72 of this Decision.

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<sup>200</sup> Eircom Annex (Review of Cost Models), paragraph 79.

- 8.85 ComReg notes the concerns raised by Sky, as outlined at paragraph 8.71 above, regarding the definition of “revenue” and “forecast revenue per service type” and Sky’s view, that it was not clear whether ComReg was using Eircom-only data or data of all operators on the Eircom network.
- 8.86 To clarify, for the three main services on the NGN core network i.e., leased lines, voice and broadband services, the wholesale revenues are identified in Eircom’s Separated Accounts, which include the broadband revenues for both current generation and next generation services. These wholesale revenues relate to both sales to OAOs and to Eircom’s own downstream retail business. As some of these revenues relate to the use of the access network, this share of the revenue must be excluded from the calculations. Therefore, the balance is the revenues contributing to the use of the core network. This adjustment process involves identifying two components, total costs associated with the revenues in the relevant profit and loss account for broadband services within the accounts, but also the costs associated with use of the access network by broadband. If the access network costs account for say 20% of the total costs, then the revenue values identified in the Separated Accounts are discounted by that percentage, to derive the net revenues realised from the use of the NGN core network.
- 8.87 Subsequently, the net revenues are divided by the service or customer volumes<sup>201</sup> to derive an ARPU value for that service, in a reference year (2016 in this case), which when combined with forecast values in future years determines the scale of revenues attributable to the NGN network use by services and by year.
- 8.88 The relative scale of the resulting revenue calculations for each service in each year is then used as the fixed cost driver for broadband and other services (voice and leased lines) used in the NGN Core Model. The same principles are applied in the case of the ARPU per customer calculation for voice and leased line services, in the reference year and remain for all forecast years, with the exception of the fact that volumes will change, altering the relative weighting associated with each service.
- 8.89 Since the consultation process and taking into account the views of respondents, ComReg has refined Option 3<sup>202</sup> (Based on revenue per user) so that the weightings of revenue to the various services (Leased Lines, Broadband and voice) and the resulting fixed network cost allocations are more precisely related to the use of the various network layers.

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<sup>201</sup> Volumes are also derived from the Separated Accounts.

<sup>202</sup> Labelled as Option 3A in the NGN Core Model.

8.90 The NGN Core Model contains routing factors, as discussed at paragraphs 8.30-8.42 of the Consultation, which indicate the probable use of each of the layers of the network, by each of these services. The network layers include:

- APT Equipment electronics at remote exchange sites;
- Remote exchanges to their parent Aggregation node locations (fibre and trench costs);
- Aggregation Node routers (fixed cost element);
- Aggregation node exchanges to their parent Edge or regional node locations (fibre and trench costs);
- Edge Node routers (fixed cost element);
- Edge node exchanges to their parent Core router node location (fibre and trench costs );
- Core Node router (fixed cost element).

8.91 For each of these network layers, the costs are relatively fixed in the context of increasing levels of demand. As each service uses the fixed cost network layers in a distinct manner, for each of the 7 layers of the network identified above, the revenues per service identified under Option 3 in the Consultation, is now compounded by routing factors, to reflect the use of each of the network layers by a given service. This is repeated for each of the network layers. Therefore, the only change (to Option 3 in the Consultation) is the introduction of a weighting mechanism based on the application of routing factors, differentiating the revenue weighting attributable to each service category, across each of the 7 network layers. This in turn then alters the relative fixed costs allocated between the services of voice, broadband, and leased lines, in recognition of their unique use of each network layer.

8.92 As outlined at paragraph 8.72 above, Sky expressed the view that future volume assumptions used in the model to allocate fixed costs should be made publicly available. The forecasted volumes data (and assumptions) is discussed in Chapter 6, paragraphs 6.38-6.65.

- 8.93 The AM Report also expressed a concern, as outlined at paragraph 8.73 above, that using revenue per service creates a circularity, noting that “*retail prices are partly driven by wholesale prices and Options 3 and 4 link back wholesale prices back to retail prices*”<sup>203</sup>. However, the revenue based options<sup>204</sup> set out by ComReg is not based on the retail prices charged by resellers but on the wholesale prices that informed those retail prices so the potential circularity identified in the AM Report does not exist. In addition, ComReg considers that using wholesale revenues to inform the allocations also reduces the impact of bundling on the allocations as bundling takes place at the retail level. In effect, the summary wholesale revenues used in this exercise include the sales to OAOs and to its downstream retail business.
- 8.94 In response to the AM Report’s point, as outlined at paragraph 8.74 above, regarding the uncertainty of forecasting, ComReg notes that the fixed cost allocation process is based on the ARPU per service that is assumed to remain constant for each year modelled. It is important to note that the largest share of costs in the NGN Core Model are fixed in nature, and are allocated based on user volumes, not traffic. This limits the risk associated with forecasting, to the considerations of future customer volumes and is less influenced by relative usage per customer. However, service user volumes do vary in line with forecasts, and this change in user numbers will impact on the relative share of fixed costs attributable to a given service in the NGN Core Model. In Chapter 6, paragraphs 6.38-6.65 ComReg sets out how demand is forecasted for modelling purposes.
- 8.95 ComReg does not agree with the AM Report’s views, as outlined at paragraph 8.74 above, that ComReg has contradicted itself at paragraph 8.121 of the Consultation. The refined Option 3 (discussed at paragraphs 8.89-8.91) is consistent with the assumption that consumers are generally not willing to pay a significantly higher price for a better service, as the ARPU per service over the control period is held fixed. This recognises that while consumers are likely to realise higher levels of service they are likely to be only willing to pay a similar or same price. The retention of the ARPU per service reflects this outlook. Therefore, by recognising that customers are increasingly receiving higher capacity without prices changing materially, supports the premise that average revenues are more likely to remain stable.

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<sup>203</sup> The AM Report, paragraph 6.2.1, page 19.

<sup>204</sup> Option 3 and Option 4 at paragraphs 8.117 and 8.118 respectively in Chapter 8 of the Consultation.



- 8.96 ComReg notes that the AM Report, as outlined at paragraph 8.75 above, suggested that ComReg should use cost causality to allocate costs wherever possible to ensure the magnitude of long-run fixed costs are not overstated in the NGN cost model. ComReg considers that the nature of a modern NGN core network is such that most of the network costs are incurred in providing connectivity between the various nodes that are contained within the core network and these tend to be shared by all services that are supported on the NGN. The traditional or legacy core networks in comparison (to the modern NGN network) tended to have dedicated transmission links for PSTN transmission and dedicated links for leased lines, which facilitated the allocation of direct and indirect core network costs to services. However, in an IP enabled NGN network, the extent of sharing of capacity, results in the added dimension of time based sharing of link capacity between network nodes. In addition, traffic demands are dynamically managed<sup>205</sup>, hence it is not possible to directly link a given share of link capacity to a given service. Therefore, only the access facing ports on nodes can be associated directly with a single service type, based on the port serving either a voice traffic input, or connectivity to demands from a leased line or indeed from a CGA or NGA broadband service platform. Hence, the suggestion in the AM Report that ports might be used to inform the allocation of cable and associated trench costs has limited applicability in the context of the current NGN Core Model. Furthermore, ComReg is of the view that the level of common costs in the NGN core network are such a large share of the total network costs that the equi proportional mark up ('**EPMU**') approach suggested in the AM Report, as outlined at paragraph 8.75 above, would not be appropriate.
- 8.97 ComReg considers that the risks noted by Eircom, as outlined in paragraphs 8.77-8.80 above, should be mitigated by the mechanism used within the NGN Core Model. First of all, the revenue weightings applied to the different services is only intended to reflect each service's use of the core network. Consequently, any revenue that is considered to be related to charges arising from the use of the access network would not be included in the calculations to inform the NGN cost allocations. Please see paragraphs 8.86-8.88 above for the treatment of revenues and volumes in the NGN Core Model.

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<sup>205</sup> For example, as a service seeks a path across the NGN network, the network seeks an uncongested route to allow immediate conveyance of that traffic. Two successive blocks of data between two given points may then traverse the network using different paths, as the network manages concurrently the most efficient way to carry traffic from its sender to its intended recipient location.

- 8.98 ComReg notes Eircom's point, as outlined at paragraph 8.78 above, that leased line prices are likely to decline in the future, and therefore this needs to be reflected in revised revenue weightings applied in the NGN Core Model. However, as noted at paragraph 8.86 above, the revenue related weightings used within the NGN Core Model are only related to service use of the core network, while a large share of leased lines revenues are related to the recovery of the fibre access network costs encompassed in the WSEA Physical price, It is also the case that the weightings are based on the average leased lines revenues in 2016 and that an increasing proportion of the leased line base in the future will comprise higher value circuits as customers migrate from legacy services to higher speed next generation services. This should reduce the impact of downward pressure on future prices on the average revenues within the the leased lines portfolio and help ensure that the leased line base can continue to recover its share of the fixed costs in the core NGN.
- 8.99 Furthermore, the revenue weightings per service are determined with reference to a base year and are held constant thereafter. In the Consultation, ComReg noted that "*initially service revenues at a given point in time are used to apportion fixed costs to services. Subsequently, the allocation of fixed costs to each service are updated by forecast data ....., the forecast data includes product volumes and traffic levels...*"<sup>206</sup> Therefore, the average revenue for each service is established based on a reference year. In the case of the most current iteration of the model this is based on Eircom's Regulatory Accounts for the financial year 2015/16. Please also see paragraph 8.86 above regarding exclusion of access network related revenues from the NGN Core Model as well as the process for determining the final ARPUs.
- 8.100 The concerns raised by Eircom and the CEG Report, as outlined at paragraphs 8.78 and 8.81 above, that ComReg's revenue based approach will require a greater recovery of fixed NGN costs from calls even though call volumes are expected to decline<sup>207</sup> is without foundation as the decline in call volumes will be factored into future cost allocations. This approach therefore avoids the risk of circularity outlined by Eircom. Furthermore, ComReg is of the view that the refined Option 3 (described at paragraphs 8.89-8.91), as applied in the NGN Core Model, is sensitive to the changing patterns of service volumes that are expected to be carried on the core NGN in future years and should facilitate the recovery of all costs based on the volume of services using the network each year. This should also address the concerns raised by Eircom at paragraph 8.78. Further discussion on the cost allocation methodologies in the NGN Core Model is contained in the Cost Modelling Annex at Annex 12.

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<sup>206</sup> See paragraph 8.121 of the Consultation.

<sup>207</sup> Eircom Response, paragraph 152 and figure 10.

- 8.101 In relation to Eircom's point, as outlined at paragraph 8.79 above, regarding the recovery of access costs, please see Chapter 6, paragraphs 6.209-6.237.
- 8.102 In response to Enet's view, as outlined at paragraph 8.82 above, that the use of BU-LRAIC+ should not lead to price reductions for FTTC based services which may undermine planned FTTH investments, please see our response at Chapter 5, paragraphs 5.38-5.39 of this Decision.
- 8.103 Having considered the views of respondents, ComReg is of the view that the refined Option 3 (discussed at paragraphs 8.89-8.91) is appropriate for allocating fixed costs in the NGN Core Model for the reasons set out at paragraphs 8.83-8.102 and in Chapter 8, paragraphs 8.109-8.121 of the Consultation.

#### **8.3.4 ComReg's Position:**

- 8.104 The revenue per user approach (Option 3 in the Consultation) adjusted to take account of the use of each of the network layers by a given service (as discussed at paragraphs 8.89-8.91) is the appropriate basis for allocating the fixed costs across the various services in the NGN Core Model.

## Chapter 9

# 9 Pricing approach for Current Generation Bitstream and BMB services

## 9.1 Background

- 9.1 In this chapter we determine the approach for setting the prices for Eircom's current generation Bitstream and BMB services in the Regional WCA Market.
- 9.2 This chapter combines our decision on the appropriate costing methodologies (Chapter 5) and the cost modelling approach (Chapter 8) to determine the BU-LRAIC+ prices for current generation Bitstream and BMB services.
- 9.3 This chapter also gives due consideration to respondents' views and ComReg's position on a CGA price floor.
- 9.4 The respective discussion in this Chapter is considered under the following headings:
1. Eircom's BU-LRAIC+ prices for Bitstream and BMB services; and
  2. Consideration of need for price floor for current generation Bitstream services going forward.

## 9.2 Eircom's BU-LRAIC+ prices for Bitstream and BMB services

### 9.2.1 Position set out in the Consultation

- 9.5 In Chapter 9 of the Consultation<sup>208</sup>, ComReg discussed the proposed approach for the recovery of per port and per Mbps charges for CGA services going forward<sup>209</sup>. Please see Figure 30 in Chapter 9 for a comparison of the existing approach and the approach proposed in the Consultation for the recovery of costs (for per port and per Mbps charges).
- 9.6 ComReg noted in the Consultation that the existing wholesale pricing approach for CGA broadband was calculated based on the application of a per port charge (levied on each end-user) and a per MB throughput charge (derived

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<sup>208</sup> See paragraphs 9.6 to 9.11 of the Consultation.

<sup>209</sup> See paragraphs 9.12 to 9.17 of the Consultation.

using a logarithmic curve). ComReg also noted in Chapter 9, that the NGN Core Model had been modified to more readily distinguish between the costs for network cost components which are fixed in terms of changes in overall traffic demands and those which are variable. Furthermore, it is proposed that only the variable element will be recovered on the basis of a per MB throughput charge with the remaining costs recovered on the basis of a per port charge. This should result in a better alignment of cost causation and cost recovery principles as throughput charges can more easily target the recovery of those network costs that vary as average usage changes while per port charges can recover the remaining non-traffic related costs. In Chapter 9 of the Consultation ComReg confirmed that while the NGN Core Model itself did not use a log curve to allocate costs (but rather uses a linear cost pattern), the revised allocation of costs in the NGN Core Model should also facilitate maintaining the current practice of applying a logarithmic curve to set throughput charges. This practice has helped provide greater transparency to industry with regard to the future direction of broadband charges and ComReg welcomed the views of stakeholders on this point.

- 9.7 In Chapter 9 of the Consultation ComReg proposed a monthly BU-LRAIC+ price for current generation Bitstream and BMB of €6.62 per port for national handover (and €5.65 per port for regional handover). In addition, ComReg proposed usage charges of €1.18 per Mbps for national handover (and €0.52 for regional handover).
- 9.8 ComReg was of the preliminary view that the BU-LRAIC+ prices for current generation Bitstream services should be set based on the average cost of providing current generation Bitstream and BMB services across the Regional WCA Market. This option would determine the average cost of providing Bitstream and BMB across the Regional WCA Market, i.e., across all exchanges (1,116 sites at the time of the Consultation) in the Regional WCA Market, excluding the exchanges in the Urban WCA Market, where Eircom does not have SMP.
- 9.9 Please see Chapter 9, paragraphs 9.19-9.43 for further details on ComReg's proposed approach.

### **9.2.2 Respondents' Views:**

- 9.10 The majority of respondents agreed with ComReg's preliminary view that the monthly price for current generation Bitstream and BMB services should be based on the average BU-LRAIC+ costs across the Regional WCA Market.
- 9.11 ALTO, BT and Enet agreed. BT and ALTO stated that the approach would help minimise the digital divide between regional areas and this is helpful for consumer pricing.

- 9.12 Sky agreed, and stated that the logarithmic scale pricing should be maintained and mandated by ComReg.
- 9.13 The AM Report commented that the use of a logarithmic cost curve is a good approach. The AM Report questioned the explanation provided by ComReg at paragraph 9.7 of the Consultation, stating that the text does not really explain why the log approach “...reflects the economies of scale that are realised when non-traffic sensitive cost components can cater for significant increases in overall network capacity or traffic demands.”. The AM Report considered that a more persuasive argument for log pricing is based on price discrimination and willingness to pay. The AM Report noted that the demand curve for bandwidth is not linear so the allocative efficiency is improved by using non-linear prices and that data from retail markets show that log pricing or similar methodologies are a good proxy for that demand curve. The AM Report also noted that log pricing brings stability to the market.
- 9.14 Vodafone agreed in principle with ComReg’s approach to the pricing of Bitstream and BMB services, but reiterated concern about the deregulation of the Urban WCA Market and the exclusion of those exchanges from the calculation. In Vodafone’s view, ComReg should monitor and reconsider the imposition of a cost orientation obligation on FTTH based Bitstream services, should demand become more predictable. Vodafone also considered that the cost orientation obligation does not remove the risk of Eircom allocating and recovering more of its fixed and common costs through the regulated Regional WCA Market.
- 9.15 Eircom did not agree that the BU-LRAIC+ methodology was appropriate for CGA Bitstream in the Regional WCA Market. Eircom stated if such a price control is imposed in the Regional WCA Market it is important to ensure that the prices are set to recover the costs of the services supplied.
- 9.16 Eircom also noted that should a single price be imposed in the Regional WCA Market this should be based on the expected mix of take-up between Regional Areas 1 and 2, noting less use of Bitstream in Regional Area 1 as rival infrastructures and competition based on VUA-access develops. Eircom also made reference to its response in relation to the questions in Chapter 5 of the Consultation.

### **9.2.3 ComReg’s Assessment of Respondents’ Views:**

- 9.17 ComReg notes that the majority of respondents agreed that the monthly price for current generation Bitstream and BMB services should be based on the average BU-LRAIC+ costs across the Regional WCA Market.



- 9.18 ComReg notes the points raised by Sky and the AM Report, as outlined at paragraphs 9.12 and 9.13 above, regarding the use of a logarithmic curve. As set out in Chapter 9 of the Consultation and as summarised at paragraph 9.6 above, while the existing pricing approach for CGA broadband is calculated based on a logarithmic curve the current NGN Core Model does not use a log curve to allocate costs, but rather it uses a linear cost pattern. As discussed in Chapter 9, paragraphs 9.11-9.14 of the Consultation, in the NGN Core Model ComReg has made changes to the way costs are split (and recovered) between the “Per port” component and the “Per Mbps” component. The new structure means that all traffic sensitive costs (variable costs) are included in the “Per Mbps” charge while all non-traffic sensitive costs (fixed costs) are in the “Per port” charge. Please see Figure 30 in Chapter 9 of the Consultation for the comparison between the existing approach and the new approach for recovery of costs in the per port and per Mbps charges for CGA Bitstream services.
- 9.19 ComReg considers that the cost allocations in the NGN Core Model result in a relatively small element of the costs being allocated on the basis of the usage / Mbps charge with most of the costs appearing as a cost per customer/port. However, there is no requirement that the cost oriented prices for CGA Bitstream services must recover these costs in this way. In Chapter 9, paragraph 9.9 of the Consultation ComReg welcomed any views that stakeholders may have on the practice of applying a logarithmic. ComReg notes that while only two respondents (Sky and the AM Report) appear to have commented specifically on the issue of the logarithmic curve, no other respondents noted any objections to the continued use of a logarithmic curve. ComReg is of the view the logarithmic curve may continue as an appropriate way to set cost oriented wholesale prices if industry wishes to adopt such a pricing approach.
- 9.20 ComReg notes the views in the AM Report, as outlined at paragraph 9.13 above, regarding ComReg’s wording at paragraph 9.7 of the Consultation. To clarify, the use of the logarithmic curve arose from industry discussions that took place in 2014 on the appropriate charging mechanism for usage / throughput<sup>210</sup>. At the time industry recognised that, if traffic between low usage and high usage customers diverges, the difference in cost per user remains relatively stable if a logarithmic curve is used to inform the throughput charge. This did not occur when bitstream charges were previously set to recover the core NGN costs on the basis of a static per port charge and an evolving charge per Mbps, i.e. the Mbps charge reduced for all users of the NGN as the total amount of traffic carried on the NGN increased. The updated NGN Core Model detailed in the Consultation and in this Decision, reflect a clear differentiation between fixed costs; which are attributed on a user basis, and variable cost

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<sup>210</sup> For example: see ComReg Document No. D14/18 - Call for Input: Current and future projections on throughput.



associated with traffic use. The former which accounts for the bulk of the network costs, is attributable to the port price for CGA Bitstream and the latter to the per M/b price for traffic conveyance. As the original log curve process reflected a small differential in prices between users with differing levels of traffic demand, similarly now, with the reduced scale of costs attributable to traffic conveyance, a change in traffic demand per user does not materially impact on the scale of prices incurred. Therefore, the use of a linear approach to cost recovery for traffic conveyance on a per M/b basis currently has a similar nominal effect, as the application of a cost recovery process based on a log curve, as that used in the past. The key differentiation is that historically a larger share of costs in the modelling process were allocated to conveyance, this is no longer the case as detailed in chapter 8.

- 9.21 We note the point highlighted by Vodafone, as outlined at paragraph 9.14 above, on the risk of Eircom allocating more of its fixed and common costs in the Regional WCA Market. To clarify, the NGN Core Model is designed to address the direct costs as well as the appropriate allocation or share of the fixed and common costs to those exchanges providing Bitstream services in the Regional WCA Market. This should avoid the risk of Eircom over recovering fixed and common costs in the Regional WCA Market.
- 9.22 As outlined at paragraph 9.15 above, Eircom does not agree with using a BU-LRAIC+ approach for setting the prices for current generation Bitstream and BMB services. Please see Chapter 5, paragraphs 5.28-5.35 where ComReg has outlined its reasoning and position that a BU-LRAIC+ approach is the most appropriate cost base for current generation Bitstream and BMB services, going forward.
- 9.23 ComReg notes Eircom's views, as outlined at paragraph 9.16 above, that current generation Bitstream prices in the Regional WCA market should be based on a mix of take-up in both Regional Areas 1 and 2. To clarify, the prices for current generation Bitstream and BMB services in the NGN Core Model are derived based on the BU-LRAIC+ costs averaged across the Regional WCA market. Therefore, this should account for take-up and costs across all exchanges in the Regional WCA Market. Please note, that as concluded in Section 12 of the 2018 WLA / WCA Market Review Decision we no longer further differentiate the Regional WCA Market by Regional Area 1 and Regional Area 2 for pricing purposes. In the Consultation, ComReg had suggested (based on the 2016 WLA / WCA Market Review Consultation) that the Regional WCA Market be split into Regional Area 1 and Regional Area 2. However, we have reviewed our position in the 2018 WLA / WCA Market Review such that a distinction no longer serves the intended purpose, and that there is merit in aligning exchanges used for pricing purposes with the exchange areas as identified in the defined WCA Markets i.e., in this case the Regional WCA

Market. Please also see Section 12, paragraph 12.340 of the 2018 WLA / WCA Market Review Decision for further details.

- 9.24 ComReg has addressed Vodafone's broader concerns, as outlined at paragraph 9.14 above, regarding the deregulation of the Urban WCA Market in the 2018 WLA / WCA Market Review Decision<sup>211</sup>.
- 9.25 In relation to Vodafone's views, as outlined at paragraph 9.14 above, that ComReg should monitor and reconsider cost orientation for FTTH services, please see our response at Chapter 5, paragraph 5.27.
- 9.26 Having considered the respondents' views, ComReg remains of the view that for current generation Bitstream and BMB services the monthly price should be based on the average BU-LRAIC+ costs across the Regional WCA Market for the reasons set out in paragraphs 9.17-9.25 above and also at Chapter 9, paragraphs 9.19 to 9.43 of the Consultation.
- 9.27 Figure 14 below shows the changes to the current generation Bitstream and BMB services since the Consultation (17/26). These changes are discussed at the paragraphs referenced within the table.

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<sup>211</sup> See Section 13 of the 2018 WLA / WCA Market Review Decision.

**Figure 14: Current generation Bitstream prices (changes since the Consultation)**

Description	Para ref	BMB per port National HO €	BMB per port Regional HO €	BMB Mbps National HO €	BMB Mbps Regional HO €	Bitstream IP €
<b>Average price per 17/26</b>		6.80*	5.80*	0.91	0.40	6.08*
<b><u>Adjustments following Consultation 17/26:</u></b>						
Traffic levels allocated between NGA and CGA broadband	A 1.131 - A 1.134	3.47	2.50			2.67
Forecast network demand	6.38 - 6.65	(0.91)	(0.66)	0.02		(0.47)
Line sensitive access network costs	8.53	0.44	0.31			0.27
Power and accommodation costs	8.56	(0.44)	(0.31)			(0.27)
Leased lines forecasts	8.55	(0.41)	(0.31)			(0.32)
Shared service costs	8.54	(0.26)	(0.24)			(0.24)
<b>Other</b>	-	(0.23)	(0.18)	0.06	0.03	(0.24)
<b>Average price 2017-2020</b>		<b>8.46*</b>	<b>6.91*</b>	<b>0.99</b>	<b>0.43</b>	<b>7.48*</b>

\*Includes line share and fault repair

- 9.28 The current generation Bitstream and BMB monthly prices for each year of the price control period (2018/19-2021/22) and the indicative prices for 2022/23 and 2023/24 are set out in Chapter 14, Figure 16.

## 9.2.4 ComReg's Position:

- 9.29 For current generation Bitstream and BMB services in the Regional WCA Market, the monthly rental charge shall be based on the BU-LRAIC+ methodology, where the costs are averaged across the Regional WCA Market i.e., 1052 exchanges, for each year of the price control period.
- 9.30 The current generation Bitstream and BMB services monthly rental prices for the price control period (2018/19-2021/22) and the indicative prices for 2022/23 and 2023/24 are set out in Chapter 14, Figure 16.

## 9.3 Consideration of the need for a price floor for current generation Bitstream services and the margin squeeze principles

- 9.31 The discussion in this section is set out under the following three subheadings:
1. Consideration of a CGA price floor
  2. Margin squeeze principles for the CGA price floor
  3. Relevant price point(s) for CGA Bitstream services.

### 1. Consideration of a CGA price floor

#### 9.3.1 Position set out in the Consultation:

- 9.32 In Chapter 9 of the Consultation, ComReg was of the preliminary view that while it agreed in principle with the concept of a price floor, in order to preserve competition and to maintain investment incentives in current generation WLA services, ComReg was also aware that fixed line network operators in Ireland had focused on investing in NGA infrastructure rather than CGA in recent years. This trend was expected to continue for the duration of the price control period. Therefore, ComReg considered whether a price floor was required going forward for CGA Bitstream services<sup>212</sup>.
- 9.33 The indicative price floors for CGA Bitstream for 2017/18 were set out in Figure 34 in Chapter 9 of the Consultation.

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<sup>212</sup> See paragraphs 9.44 to 9.53 of the Consultation.

### 9.3.2 Respondents' Views:

- 9.34 Several respondents considered that a price floor for CGA Bitstream services was no longer required for the price control period given the declining demand in CGA investment while some respondents had reservations.
- 9.35 Eircom stated that the price floor was no longer required, stating that the rationale for a price floor was to protect LLU investments which are of less relevance now due to declining LLU volumes and infrastructure based competition from Virgin Media/SIRO.
- 9.36 Eircom commented that the price floor would only apply to Eircom against the backdrop of a competitive Urban WCA Market while other operators would only be restricted by behavioural constraints imposed by the threat of ex-post competition law. Furthermore, Eircom considered that a price floor could result in higher prices for end users and restrict Eircom's legitimate ability to compete with other infrastructure-based rivals. Eircom stated that any risk of pricing falling below an efficient cost floor can be adequately addressed by *ex post* competition law.
- 9.37 The CEG Report also considered that there were good reasons to remove the existing regulated price floor on CGA Bitstream services. The CEG Report stated that the original rationale for the regulation no longer applies as the objective of a regulated price floor for NGA bitstream was to encourage investment in LLU and that the market is moving to NGA with LLU service volumes declining. Furthermore, the CEG Report considered that the imposition of price floor regulation is inconsistent with ComReg's findings of a competitive market for WCA in urban areas.
- 9.38 The CEG Report stated that retaining a regulated price floor on Eircom's CGA Bitstream service when equivalent services offered on other platforms remain unregulated is disproportionate and inconsistent with Article 8 of the EC Access Directive which, among other things, states that *ex ante* regulations should only be applied where there is no effective and sustainable competition.
- 9.39 Sky considered that a price floor may no longer be required, stating that even if it were justified for a time this is unlikely to cover the proposed price control period of 3-5 years. Furthermore, Sky noted that if the difference between Eircom's BU-LRAIC+ costs and the costs of a REO are relatively small then there seems little value in maintaining the current price floor requirement.
- 9.40 Enet does not believe the CGA price floor was required. They commented that ComReg's focus needed to shift so that appropriate incentives were provided for NGA deployment.

- 9.41 ALTO and BT considered that the price floor was required.
- 9.42 ALTO was of the view that there was an increased risk that Eircom could reduce these services through an anti-competitive margin squeeze.
- 9.43 BT stated that it has made a substantial investment in LLU and associated infrastructure and that it is a concern to find ComReg now considering removing the regulation early as LLU won't be allowed to survive without regulatory remedies such as price controls. Furthermore, BT acknowledged that it is engaged in the natural migration of customers to NGA; however there are still a very considerable number of current generation customers in the market and that LLU and CGA based services (up to 24Mbit/s) adequately meet their needs and will do so for many years. BT added that ComReg should delay considering the price floor question until at least the next review as it is far too early to be considering deregulating the environment that protects LLU.
- 9.44 ALTO and BT noted that the current generation market is still relatively substantial and ComReg should resist deregulating until such time as an environment is in place that facilitates proper migration.
- 9.45 Vodafone considered that a price floor was required as the absence could lead to Eircom reducing the services offered through an anti-competitive margin squeeze. Furthermore, Vodafone urged ComReg to take immediate action to prevent Eircom continuing to earn super normal profits on CGA products. Vodafone made reference to Eircom's WLR returns in FY2015 at 17%, significantly higher than the regulated Weighted Average Cost of Capital (WACC) of 8.18% and it noted that between FY2011 to FY2015 the returns averaged 13% when the regulated WACC was 10.21%.

### **9.3.3 ComReg's Assessment of Respondents' Views:**

- 9.46 ComReg notes that several respondents, including Eircom, Sky and Enet, considered that a price floor for CGA Bitstream services was no longer required. On the other hand, ALTO, BT and Vodafone disagreed and considered that a price floor should be maintained. As outlined at paragraphs 9.35 to 9.40 above, Enet, Sky, Eircom and the CEG Report considered that a price floor for CGA services was no longer warranted, largely because CGA services are in decline, and given that the focus should be on providing incentives for NGA deployment.

- 9.47 ComReg recognises that fixed line network operators in Ireland have been focused on investing in NGA infrastructure rather than CGA in recent years and this trend is expected to continue for the duration of the price control period. This is resulting in the migration of wholesale customers from CGA to NGA services and the erosion apparent in the level of CGA demand is such that it has the potential to curtail the economic viability of further investment in LLU or Line Share.
- 9.48 Going forward, ComReg's objective is to encourage investment in NGA. While ComReg considers that it is important to protect investments that have already occurred ComReg is not trying to encourage further build in terms of current generation services. Taking into account the views of respondents as noted at paragraphs 9.34-9.45 and in order to reach the appropriate balance between the various regulatory objectives above, ComReg has decided that a price floor for current generation Bitstream i.e., a wholesale margin squeeze test between the price for LLU or Lines Share in the WLA Market and the price for current generation Bitstream in the WCA Market, is no longer required. Instead, ComReg has determined the relevant price points for current generation Bitstream and BMB services. These price points are the prices that Eircom must charge for current generation Bitstream and BMB services. Therefore, the existing pricing regime of a maximum / ceiling price and a minimum / floor price is no longer relevant and Eircom must charge in line with the price points set out in this Decision, for current generation Bitstream and BMB services.
- 9.49 Furthermore, ComReg considers that the price points (based on Eircom's BU-LRAIC+ costs as discussed at paragraphs 9.76 to 9.79 below) should ensure the protection of investments by other operators given that the Eircom BU-LRAIC+ costs are higher than the price points derived from the REO BU-LRAIC+ option. In addition, the Eircom BU-LRAIC+ option (as opposed to the REO BU-LRAIC+ option) also minimises price reductions to existing current generation services while maximising the incentive for operators to move to NGA. Please see paragraphs 9.76 to 9.79 below for the details on the price points.
- 9.50 ComReg notes ALTO and Vodafone's concerns, as outlined at paragraphs 9.42 and 9.45 above, that Eircom could reduce the prices for current generation Bitstream services through an anti-competitive margin squeeze. Furthermore, ComReg notes BT's views, as outlined at paragraph 9.43 above, that it is concerned that ComReg is removing the regulation early and LLU won't be allowed to survive without regulatory remedies such as price controls. To clarify, while ComReg is removing the current generation Bitstream price floor i.e., the margin squeeze test between the price of LLU or Line Share in the WLA Market and the price for current generation Bitstream services in the WCA Market, the price for current generation Bitstream is still subject to regulation. In the 2018



WLA / WCA Market Review (Section 12), current generation Bitstream and BMB services are subject to a price control obligation i.e., cost orientation<sup>213</sup>, which is further specified in this Decision. As set out in paragraph 9.79 below, Eircom is required to set their price for current generation Bitstream and BMB equal to their BU-LRAIC+ costs determined in line with the NGN Core Model. Therefore, Eircom must charge in line with the price points derived from the NGN Core Model based on Eircom's BU-LRAIC+ costs. Separately, the price for LLU and Line Share is also subject to a price control obligation i.e., cost orientation, in the 2018 WLA / WCA Market Review Decision<sup>214</sup>. Therefore, the prices for these current generation WLA and WCA services remain subject to regulation (by way of a price control obligation) in the WLA Market and the Regional WCA Market.

- 9.51 ComReg does not agree with Eircom's point, as outlined at paragraph 9.36 above, that recourse to *ex post* competition law would be sufficient. Competition law applied on an *ex post* basis is not the most suitable option in addressing competition problems where an undertaking has been found with SMP on a market, and has the ability and incentive to behave in an anti-competitive manner. In the 2018 WLA / WCA Market Review Decision Eircom is subject to *ex ante* regulation as a result of a finding of SMP in the WLA Market and in the Regional WCA Market, which includes the obligation of a price control on both markets. In this Decision ComReg has further specified the price control obligation of cost orientation for current generation Bitstream and BMB services. In summary, ComReg has decided that Eircom should ensure that the prices charged for current generation Bitstream and BMB in the Regional WCA Market are equal to i.e., the price points, Eircom's BU-LRAIC+ costs across Eircom's footprint of exchanges (1052) in the Regional WCA Market and in line with the NGN Core Model. Please see paragraphs 9.76 to 9.79 below for further discussion.
- 9.52 ComReg notes Vodafone's views, as outlined at paragraph 9.45 above, where it urged ComReg to take immediate action to prevent Eircom continuing to earn super normal profits on CGA products. Vodafone referenced Eircom's WLR returns in FY2015 at 17% being significantly higher than the regulated Weighted Average Cost of Capital (WACC) of 8.18% and it noted that between FY2011 to FY2015 the returns averaged 13% when the regulated WACC was 10.21%.

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<sup>213</sup> Current generation WCA services, sold singly and in a bundle, are also subject to the overall retail margin squeeze test in the context of Bundles, as set out in the 2018 Bundles Decision.

<sup>214</sup> The details of the price controls for LLU and Line Share are set out in the 2016 Access Pricing Decision, and which have been largely reimposed in Section 7 of the 2018 WLA / WCA Market Review Decision.

9.53 ComReg considers that in general it is difficult to do a like for like comparison between Eircom's published historical cost accounts and the prices derived from cost models for a number of reasons. For example, in general cost models include some combination of BU costs and TD costs whereas the HCAs are reflective of TD costs only. In addition, the pricing obligations in some regulated markets are currently margin squeeze tests and in the case of SB-WLR the price control up until May 2016 has been retail minus which was then amended to cost orientation in the 2016 Access Pricing Decision. In any event, in the context of the 2016 Access Pricing Decision and in particular for SB-WLR Eircom is required to provide ComReg with an annual reconciliation between its actual TD costs reported in its accounts for the provision of SB-WLR compared to the costs accounted for in the Revised CAM. ComReg will keep this under review. Please note that ComReg plans to review the WACC rate, with a consultation planned for Q1 2019. ComReg reserves the right to require prices to be updated depending on the outcome of any decision ComReg may take on the WACC rate as a result of that consultation process.

9.54 Having considered the submissions from respondents ComReg is of the view that a price floor for current generation Bitstream services is no longer required for the reasons set out above at paragraphs 9.46 to 9.53 and also at Chapter 9, paragraphs 9.47 to 9.50 of the Consultation.

### **9.3.4 ComReg's Position:**

9.55 A current generation price floor i.e., a margin squeeze test between the price for LLU or Line Share in the WLA Market and the price for current generation Bitstream in the WCA Market is no longer required.

## **2. Margin squeeze principles for the CGA price floor**

### **9.3.5 ComReg position set out in the Consultation:**

9.56 ComReg considered<sup>215</sup> that in the event that a price floor was required to promote CGA investment going forward, the margin squeeze test between current generation WLA services (LLU Line Share) in the WLA Market and WCA services (current generation Bitstream) in the WCA Markets should be based on the following principles:

- A REO cost base;
- An assumed operator already in the market and with a market share of 25%;

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<sup>215</sup> See paragraphs 9.54 to 9.74 of the Consultation.

- Assessed based on the footprint of 141 Local VUA sites (or 141 exchanges) in the WCA Market.

### **9.3.6 Respondents' views:**

- 9.57 ALTO, BT and Eircom provided specific views on ComReg's preliminary view on the margin squeeze assumptions and the indicative price floors (for 2017/18) for current generation Bitstream services from the NGN Core Model.
- 9.58 Vodafone considered that a price floor remains appropriate and that a margin squeeze test should be in place if it is to remain.
- 9.59 See paragraph 9.40 above for an outline of Enet's views and paragraph 9.39 above for an outline of Sky's views.
- 9.60 ALTO and BT considered that a price floor should be set and that it should be based on 141 Local VUA sites.
- 9.61 Eircom considered that a price floor is not required but stated that if there is one it should be based on EEO, and based on Eircom's actual historical costs, Eircom's market share and its relevant footprint, because in its view there is no basis to require Eircom to price above its actual costs.

### **9.3.7 ComReg's assessment of respondents' views:**

- 9.62 As determined at paragraph 9.55, ComReg has decided that a current generation Bitstream price floor i.e., a wholesale margin squeeze test between the price for LLU or Line Share in the WLA Market and the price for current generation Bitstream in the WCA Market, is no longer required. Please see paragraphs 9.46 to 9.54 above for the reasons.
- 9.63 ComReg has taken views expressed by respondents into account in deciding that a current generation Bitstream price floor is no longer required, and so specific points raised by respondents on the principles of the margin squeeze test have not been discussed any further as part of this Decision.

### **9.3.8 ComReg's position:**

- 9.64 As determined at paragraph 9.55 a current generation price floor is no longer required.

### **3. Relevant price point for CGA Bitstream services**

#### **9.3.9 ComReg's Position set out in the Consultation:**

- 9.65 In the Consultation ComReg considered that if a price floor is no longer warranted for CGA services, that Eircom's BU-LRAIC+ costs should be used to set the prices for CGA Bitstream and BMB services i.e., the prices set would be price points rather than a price ceiling or maximum price. Another alternative considered in Chapter 9 of the Consultation was whether the CGA Bitstream and BMB prices should be set using the price floor (or the REO costs of an alternative operator) rather than Eircom's costs.
- 9.66 ComReg also noted in the Consultation that the cost modelling work undertaken in the NGN Core Model at the time of the Consultation indicated that the lower demand assumptions underpinning the REO scenario could result in a situation where the Eircom BU-LRAIC+ scenario is generating lower unit costs than the REO scenario i.e., the price floor is above the Eircom costs. As a result the difference between Eircom's BU-LRAIC+ costs and the costs of the REO are relatively small. Depending on the footprint of exchanges chosen, in some cases the price floor was in fact in excess of Eircom's costs.
- 9.67 Please see Chapter 9, paragraphs 9.48-9.51 of the Consultation for further details.

#### **9.3.10 Respondents' views:**

- 9.68 There were mixed views from respondents on whether the price points for CGA Bitstream and BMB services should be set based on Eircom's BU-LRAIC+ costs or the BU-LRAIC+ costs of a REO i.e., the price floors.
- 9.69 Sky and Vodafone suggested that prices should be based on Eircom's BU-LRAIC+ costs.
- 9.70 Sky was of the view that prices should be based on Eircom's BU-LRAIC+ costs for the reasons outlined by ComReg in the Consultation<sup>216</sup>. See also Sky's views as outlined at paragraph 9.39 above.
- 9.71 Vodafone considered that the price points should be set on Eircom's BU-LRAIC+ costs. In addition, Vodafone suggested that prices should be based on Eircom's own costs in order to prevent Eircom from continuing to take advantage of their dominant position and making super normal profits. Vodafone stated that it encouraged ComReg to put in place strong *ex ante* safeguards to prevent Eircom abusing its dominant position.

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<sup>216</sup> See paragraphs 9.47 to 9.50 of the Consultation.

- 9.72 ALTO submitted that the price points should be set based on Eircom's BU-LRAIC+ costs or the BU-LRAIC+ of a REO. ALTO stated that their experience of Eircom's pricing over many years is that margin squeeze has become a concern. ALTO called on ComReg to introduce strong *ex ante* remedies rather than those that allow an element of trust.
- 9.73 BT considered that the price points should be set based on the BU-LRAIC+ costs of a REO (the price floors). They considered that Eircom will always have a higher volume of customers than entrant operators for current generation broadband, hence the REO model will more accurately reflect the scale difference even in a declining market.
- 9.74 Eircom considered that a price point or price floor is inappropriate. Eircom referenced the presence of Virgin Media and SIRO for NGA, the demand for Eircom's Bitstream and BMB is in steady decline. Furthermore, Eircom stated that given the declining demand for CGA investment, the use of REO would not promote efficiency, and would not lead to sustainable competition or maximise benefit to end users.
- 9.75 See paragraph 9.40 above for an outline of Enet's view.

### **9.3.11 ComReg's assessment of respondents views:**

- 9.76 ComReg notes that there were mixed views from respondents regarding whether the price points for CGA Bitstream and BMB services should be set based on Eircom's BU-LRAIC+ costs or the BU-LRAIC+ costs of a REO i.e., the price floors. Vodafone and Sky considered that the price point should be based on Eircom's BU-LRAIC+ while ALTO suggested either Eircom's BU-LRAIC+ or the REO BU-LRAIC+. BT stated that the price points should be based on the BU-LRAIC+ costs of a REO.
- 9.77 The NGN Core Model derives the price points for both the Eircom BU-LRAIC+ option and also for the REO BU-LRAIC+ option. The price points based on Eircom's BU-LRAIC+ costs are higher than the price points based on the REO BU-LRAIC+ option, based on the final NGN Core Model. The reason for Eircom's BU-LRAIC+ costs being higher than the REO costs relates to the footprint of exchanges chosen. For the Eircom BU-LRAIC+ option the footprint of exchanges is the entire Regional WCA Market i.e., 1052 exchanges while the REO BU-LRAIC+ option is based on 141 Local VUA sites. The exchanges across the entire Regional WCA Market include smaller exchanges where there is less economies of scale / scope and therefore the costs are spread across a more limited customer base resulting in a higher unit price. On the other hand the footprint of the 141 Local VUA sites are larger exchanges where there are more significant economies of scale in terms of the customer base and hence

the costs are spread across a more significant customer base resulting in a lower unit price. This explains the difference between the price points and it should also address the point raised by BT at paragraph 9.73 above.

- 9.78 Since the Consultation and given a number of updates to the NGN Core Model, the gap between the price points derived for the Eircom BU-LRAIC+ option and the REO BU-LRAIC+ option has widened. Please see the changes set out at Figure 14 above.
- 9.79 After consideration of the views of respondents at paragraphs 9.68-9.75 above, ComReg has decided to determine the price points for current generation Bitstream and BMB services based on Eircom's BU-LRAIC+ cost. This approach aligns with the views of the majority of respondents who provided a response on this particular issue. It is important to point out that ComReg is not trying to encourage further build out of current generation networks but rather our objective is to protect investments that have already taken place while also ensuring that the focus is on investing in NGA infrastructure going forward. ComReg considers that the price points based on Eircom's BU-LRAIC+ costs should ensure the protection of investments by other operators given that the Eircom BU-LRAIC+ costs are higher than the price points derived from the REO BU-LRAIC+ option. In addition, the Eircom BU-LRAIC+ option (as opposed to the REO BU-LRAIC+ option) also minimises price reductions to existing current generation services while maximising the incentive for operators to move to NGA. Therefore, on balance ComReg considers that the price points based on Eircom's BU-LRAIC+ costs across the Eircom footprint of exchanges (1052) in the Regional WCA Market is a more proportionate and practical way to set the current generation Bitstream and BMB prices going forward.
- 9.80 ComReg notes Vodafone's point, as outlined at paragraph 9.71 above, that prices should be based on Eircom's own costs in order to prevent Eircom from continuing to take advantage of their dominant position and making super normal profits. Please see Chapter 5 on the reasons why the BU-LRAIC+ methodology should be used for current generation Bitstream services.
- 9.81 ComReg notes Vodafone's views and ALTO's views, as outlined at paragraphs 9.71 and 9.72 above, where it encouraged ComReg to put in place strong *ex ante* safeguards to prevent Eircom abusing its dominant position. In the 2018 WLA / WCA Market Review Decision ComReg designated Eircom with SMP in the WLA Market and in the Regional WCA Market and as a result imposed a number of *ex ante* obligations in order to address the competition problems at hand. This Decision is a further specification of the *ex ante* price control obligations (and transparency obligations) in the WLA Market and in the Regional WCA Market, which Eircom must comply with.

9.82 Having considered the submissions from respondents ComReg remains of the view that the price points for current generation Bitstream and BMB services should be set based on Eircom's BU-LRAIC+ costs for the reasons set out above at paragraphs 9.76 to 9.81 and also at Chapter 9, paragraph 9.51.

### **9.3.12 ComReg's position:**

9.83 Eircom shall ensure that the prices charged for current generation Bitstream and BMB in the Regional WCA Market are equal to i.e., the price points, Eircom's BU-LRAIC+ costs across Eircom's footprint of exchanges (1052) in the Regional WCA Market and in line with the NGN Core Model (at Chapter 8).

9.84 The current generation Bitstream and BMB services monthly rental prices (based on Eircom's BU-LRAIC+ costs) for the price control period (2018/19-2021/22) and the indicative prices for 2022/23 and 2023/24 are set out in Chapter 14, Figure 16.



## Chapter 10

# 10 Margin squeeze tests in WLA Market

## 10.1 Background

- 10.1 In this chapter ComReg further specifies the principles that should apply to the wholesale and retail standalone margin squeeze tests in the WLA Market as follows:
- a) Wholesale margin squeeze test between WLA services provided in the WLA Market and WCA services provided in the WCA Markets i.e., the specific wholesale margin squeeze test between FTTH based VUA in the WLA Market and FTTH based Bitstream in the WCA Markets.
  - b) Standalone retail margin squeeze test between FTTH based VUA services provided in the footprint corresponding to the Urban WCA Market and retail product or products delivered by FTTH based VUA and sold singly.
- 10.2 In the Consultation<sup>217</sup>, ComReg discussed competition concerns relating to the WLA Market and outlined why the obligation not to cause a margin squeeze was considered proportionate and justified.
- 10.3 Since publication of the Consultation and the 2016 WLA / WCA Market Review Consultation, and having considered the views of respondents, ComReg has made some refinements to its approach regarding the retail margin squeeze obligation in the WLA Market. The refined approach should reduce the complexity of the pricing regime across the WLA Market and the WCA Markets as well as reducing the number of standalone retail margin squeeze tests required. The changes also reflect the fact that broadband is often not purchased on its own but rather bundled with another service. The refined approach takes account of the feedback obtained through the consultation process while also ensuring that the regulatory objectives of promoting competition and incentivising investment are maintained.
- 10.4 While the proposal set out in the 2016 WLA / WCA Market Review Consultation<sup>218</sup> and which was further specified in Chapter 10 of the Consultation proposed that a standalone retail margin squeeze obligation should apply to all current generation and next generation WLA services provided in the footprint corresponding to the Urban WCA Market, in light of

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<sup>217</sup> See paragraphs 10.4 to 10.9 of the Consultation.

<sup>218</sup> See paragraphs 8.662 to 8.668 of the 2016 WLA/WCA Market Review Consultation.

views expressed by respondents to the Consultation, ComReg has updated its position in this regard.

- 10.5 In the 2018 WLA / WCA Market Review Decision ComReg concluded that the only specific standalone retail margin squeeze obligation that shall apply going forward relates to that between FTTH based VUA and retail services delivered by FTTH based VUA and sold singly in the area corresponding to the Urban WCA Market. This is based on the reasoning set out in Section 7, paragraphs 7.1343 of the 2018 WLA / WCA Market Review Decision and as further specified at section 10.3 of this Decision.
- 10.6 As determined in Section 7 of the 2018 WLA / WCA Market Review Decision, it is not necessary to further specify a standalone retail margin squeeze test for FTTC based VUA. As set out in Section 7, paragraphs 7.1341 to 7.1342 of the 2018 WLA / WCA Market Review Decision, ComReg considers that as FTTC based VUA is already subject to a cost orientation obligation, as well as to other obligations including access and transparency, a standalone retail margin squeeze obligation would not be a proportionate measure and is not required. However, given the potential for Eircom to cross subsidise between its retail products when sold in a bundle, the margin between FTTC based VUA and all retail services delivered by FTTC based VUA, whether sold singly or in bundle, will be assessed going forward in the overall retail margin squeeze tests as further specified in the 2018 Bundles Decision.
- 10.7 For current generation WLA services, ComReg considers that it is not necessary to have a specific retail margin squeeze test between current generation WLA services and current generation retail services. This is because of the decline in demand for current generation services in the WLA Market as well as the fact that these current generation WLA services are already subject to a cost orientation obligation, as well as to other obligations including access and transparency. Please see Section 7, paragraph 7.1340 of the 2018 WLA / WCA Market Review Decision.
- 10.8 The remainder of this chapter is discussed under the following headings:
  1. Wholesale margin squeeze test between WLA services and WCA services; and
  2. Standalone retail margin squeeze test between FTTH based VUA services and retail broadband delivered by FTTH based VUA and sold singly, in the area corresponding to the Urban WCA Market.

## 10.2 Wholesale margin squeeze test between WLA services and WCA services

### 10.2.1 Position set out in the Consultation:

10.9 Chapter 10 of the Consultation<sup>219</sup> set out the reasons why a margin squeeze obligation was considered appropriate between FTTH based VUA services and FTTH based Bitstream services.

10.10 ComReg reached the preliminary view<sup>220</sup> that the following margin squeeze principles should apply with regard to the wholesale margin squeeze test between FTTH based VUA (in the WLA Market) and FTTH based Bitstream (in the WCA Markets):

1. The REO cost base (or the SEO cost base as a proxy for REO in the absence of REO cost data) should be applied;
2. The 'LRAIC plus' cost standard should be used;
3. The relevant volume base should be a hypothetical operator with a market share of 25%;
4. The wholesale margin squeeze test between FTTH based VUA and FTTH based Bitstream should be assessed on a portfolio basis where the single FTTH based VUA price (unless based on justifiable cost differences) is assessed against a portfolio of variant (or different profile speeds) for FTTH based Bitstream prices (where the difference in prices should not be greater than the differences in costs associated with the various FTTH Bitstream profile speeds) in the WCA Markets.

10.11 Please refer to the Consultation, Chapter 10, paragraphs 10.19 to 10.50 for further details on the proposed approach for the wholesale margin squeeze test between FTTH based VUA (in the WLA Market) and FTTH based Bitstream (in the WCA Markets).

### 10.2.2 Respondents' Views:

10.12 There was general agreement amongst respondents regarding the proposed principles of the wholesale margin squeeze test between FTTH based VUA and FTTH based Bitstream. Eircom and the CEG Report disagreed for a number of reasons as detailed below.

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<sup>219</sup> See paragraphs 10.19 to 10.23 of the Consultation.

<sup>220</sup> See paragraphs 10.25 to 10.51 of the Consultation.

- 10.13 SIRO agreed generally with the approach to FTTH regulation but noted concern with the proposal to implement a single port price. SIRO stated that with the increase in FTTH penetration as well as higher average usage per month for FTTH, the usage cost has the potential to account for a significantly increased portion of costs compared to FTTC. SIRO also stated that they would be in favour of allowing Eircom to retain differing wholesale price points for differing FTTH speeds, and considered that products over 100 MBPS should command a premium.
- 10.14 Vodafone agreed with the proposal for a margin squeeze test between FTTH based VUA and FTTH based Bitstream. They considered that the use of 25% market share needs better justification. Vodafone also noted historical issues with margin squeeze compliance.
- 10.15 ALTO agreed with ComReg's preliminary position, noting that margin squeeze compliance has proven to be an issue in the Irish market in the past. They consider that the level of "*self-confessed compliance breaches*" leads to concern about Eircom's internal culture towards compliance.
- 10.16 BT agreed with ComReg's preliminary views. They stated that if Eircom was to reduce their Bitstream price a margin squeeze would commence against the other operator until a point where they could be forced to leave the market.
- 10.17 Enet stated that "*the specifics of ComReg's margin squeeze tests for the pricing of services in the WLA and WCA Markets should be such that planned FTTH investments by alternative operators are appropriately incentivised*".
- 10.18 Enet was also of the view that ComReg's proposal to put in place a single, i.e. flat rate, monthly charge for VUA "*does not make sense from an economic perspective and is not welfare enhancing*". Enet expressed the view that, from a welfare perspective, a flat rate VUA product would inevitably conflict with the tiered pricing of Bitstream services to create obvious margin squeeze issues. "*In enet's opinion, the only way to avoid an inevitable margin squeeze in this area is for ComReg to move away from a flat-rate VUA price and instead to adopt a tiered approach to VUA pricing. enet would suggest that three tiers – 150 Mbps, 300Mbps and 1 Gbps should be established for pricing purposes. The base price for VUA should then be set by reference to the lowest tier price for Bitstream services<sup>221</sup>*".
- 10.19 Sky referred to responses given to previous questions, where it considered that a price floor for CGA Bitstream services may no longer be required. Sky agreed with ComReg's proposal that prices for CGA Bitstream and BMB services should be set based on Eircom's BU-LRAIC+ costs.

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<sup>221</sup> Enet response, page 6.

- 10.20 Eircom disagreed that a margin squeeze test between FTTH based VUA and FTTH based Bitstream was required, given their view that '*the core network is a competitive network*'. In Eircom's view, the proposed margin squeeze is not needed to support competitors' Bitstream offerings and imposing the test on Eircom will unduly restrict its ability to compete.
- 10.21 In Eircom's view, ComReg has proposed a wholesale remedy in the WLA Market which it has not consulted on transparently or in sufficient detail. In this regard, Eircom made reference to the proposed obligation whereby Eircom should ensure that the price at which it sells or offers a Downstream Wholesale Service<sup>222</sup> must be greater than the sum of: (i) ULMP costs and (ii) the unavoidable costs of a reasonably efficient operator that must be incurred in order to provide a service equivalent to the relevant Downstream Wholesale Service. Eircom stated that this obligation is not referenced in either of the Draft Decision Instruments associated with the WLA Market or the WCA Markets. They also stated that the parameters of the test have not been transparently consulted on.
- 10.22 Eircom stated that ComReg has used incorrect values in the wholesale margin squeeze test model. [3< [REDACTED]  
[REDACTED]  
[REDACTED] ]
- 10.23 Eircom was of the view that ComReg had applied an incorrect assumed operator base - they did not agree with the use of REO in calculating the cost of backhauling traffic. This view was also elaborated in the CEG Report. Eircom stated that the nature of the margin squeeze tests should recognise that as relevant parts of the Leased Lines market are competitive there is a fully competitive market for NGA Bitstream.
- 10.24 The CEG Report proposed that an REO cost base led to inefficiencies and had a negative impact on downstream customers.
- 10.25 Eircom stated that while they agreed with the use of the portfolio approach, in their view it has not been properly justified. They stated that the fact that VUA is mandated in the WLA market at an unrestricted speed is not the same as there being a requirement to price all speed profiles at the same level. Eircom considered that if there was to be a margin squeeze test, then one based on an overall portfolio approach (irrespective of different prices for different speeds) between FTTH based VUA and FTTH based Bitstream was

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<sup>222</sup> A Downstream Wholesale Service means a wholesale service which is on offer or on sale by Eircom to Access Seekers downstream from the WPNIA Market (now the WLA Market) and contains a Full Unbundling component (examples of such downstream wholesale services include, for example, SB-WLR and naked DSL (standalone broadband)).

appropriate.

- 10.26 The CEG Report proposed that the margin squeeze test should be applied at a portfolio level, as this level of aggregation provided Eircom with more pricing flexibility and was in line with the nature of competition.
- 10.27 In addition, Eircom did not agree with ComReg's preliminary view that there should be a single wholesale FTTH based VUA price except where justifiable cost differences arise. They stated that ComReg had not set out the purported problem it was trying to address, referring to Regulation 8 of the Access Regulations. They also commented on the lack of a RIA and how the proposal failed to promote ComReg's objectives.
- 10.28 Eircom stated that [REDACTED]. In its response Eircom noted that there were very little, if any, cost differences associated with the FTTH port when it was used to provide different cost speeds and argued that adopting ComReg's preliminary proposal would limit the operator's freedom to exploit the demand elasticities that are associated with higher profile speeds when attempting to achieve cost recovery. Eircom was of the view that the price of VUA would inevitably affect the prices that could be charged for retail services and highlighted the impact on the company's incentives to invest if the ability to earn a return was restricted by regulatory decisions.
- 10.29 Eircom considered that the pricing of FTTH based VUA for different profile speeds should be demand led and that Eircom should be allowed some flexibility.
- 10.30 The Communications Chambers Report (provided as part of Eircom's response) noted that it is "*likely to be optimal – from an investor and consumer perspective – to differentiate service levels and prices (in a manner that reflects value rather than cost differences) to better align investment decisions with customer willingness to pay, and to maximise adoption via lower speed lower price offers alongside higher speed higher price offers*"<sup>223</sup>.
- 10.31 Eircom also stated that they agreed with the use of LRAIC in the test, however they did not believe it was necessary to include a risk premium. They agreed with the use of 25% market share.

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<sup>223</sup>Communication Chambers Report, page 21.

10.32 The CEG Report expressed a view that the use of both LRAIC+ and ATC<sup>224</sup> cost standards harmed investment incentives, and proposed that ComReg should use average avoidable costs. The rationale for the CEG Report's proposal was that the use of average avoidable costs would both protect existing competitors and provide greater pricing flexibility for Eircom.

### 10.2.3 ComReg's Assessment of Respondents' Views:

10.33 ComReg notes that most respondents agreed with the principles of the wholesale margin squeeze test between FTTH based VUA and FTTH based Bitstream. Specific points raised by respondents and ComReg's assessment of them are discussed below.

10.34 ComReg notes SIRO's views, as outlined at paragraph 10.13 above, that there is a need to have more than a single FTTH VUA port or product price offering and Enet's views, summarised at paragraph 10.18, that a single flat rate VUA price would not be suitable when price differentiation for different profile speeds applies at the retail level. In addition, ComReg also notes Eircom's point summarised at paragraph 10.27 regarding its disagreement with ComReg's proposal that there should be a single wholesale FTTH based VUA price except where justifiable cost differences arise and their points at paragraph 10.29 that the pricing of FTTH VUA for different profile speeds should be demand led and that Eircom should be allowed some flexibility. ComReg also notes the point made in the Communications Chambers Report and summarised at paragraph 10.30, where it proposes that it is optimal to differentiate service levels and prices (in a manner that reflects value rather than cost differences) to better align investment decisions with customer willingness to pay.

10.35 In the Consultation, ComReg proposed that there should be a single price for FTTH based VUA on the basis that VUA is an unrestricted product (in terms of speed) mandated in the WLA Market. Taking into account the views of respondents as part of the consultation process, ComReg recognises that allowing the network operator some pricing flexibility to test price points for high speed NGA services may have merit if such a demand led pricing approach encourages service uptake and gives rise to greater economies of scale that can benefit all end-users.

10.36 Paragraph 49 of the 2013 Non-Discrimination Recommendation recognises that in the case where cost orientation is not imposed that a certain degree of pricing flexibility to test price points should be allowed given "... *current demand uncertainty regarding the provision of very-high speed broadband services it is important in order to promote efficient investment and innovation...*". Furthermore, Paragraph 49 of the 2013 Non-Discrimination Recommendation

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<sup>224</sup> Average Total Cost.



also recognises that “...pricing flexibility at wholesale level is necessary to allow both the access seeker and the SMP operator’s retail business to introduce price differentiation on the retail broadband market in order to better address consumer preferences and foster penetration of very high-speed broadband services.”

- 10.37 Paragraph 50 of the 2013 Non-Discrimination Recommendation also recognises that granting pricing flexibility to an operator with SMP could lead to excessive prices and that such flexibility should be accompanied by additional safeguards to prevent such potential abuse including “*guaranteed economic replicability of downstream products in conjunction with price regulation of copper wholesale access products.*”
- 10.38 ComReg considers that pricing flexibility by way of differentiated price points for FTTH based VUA services may be warranted, as demand uncertainty remains for FTTH services on Eircom’s network. Differentiated price points by profile or speed should ensure that customers with a low willingness to pay can opt for the lower priced service (at a lower speed) while customers that wish to pay more for a higher speed service also have the option to do so. However, in order to ensure that Eircom maintains a margin between its wholesale and retail prices that will allow an efficient operator to compete, a wholesale margin squeeze test between the price(s) for FTTH based VUA and the price(s) for FTTH based Bitstream remains appropriate. ComReg considers that the wholesale margin squeeze test between FTTH based VUA (based on differentiated price points) and FTTH based Bitstream (based on differentiated price points) should be assessed on a product-by-product basis (that is, by speed / profile). The product-by-product approach is discussed at paragraph 10.58.
- 10.39 ComReg will continue to monitor its approach to FTTH based services, and may consider revisiting its position if any evidence of competition distortions arise over the price control period.
- 10.40 As outlined at paragraph 10.14 above, Vodafone stated that the application of a 25% market share needed more justification. Please see Chapter 6, paragraphs 6.161-6.163 for ComReg’s response to this point.
- 10.41 ComReg notes BT’s views, as outlined at paragraph 10.16 above, that if Eircom was to reduce their Bitstream price a margin squeeze would commence against the other operator until a point where they could be forced to leave the market. To clarify, as set out in Section 7 of the 2018 WLA / WCA Market Review Decision, Eircom has a general obligation not to cause a margin squeeze between WLA products, services and facilities in the WLA Market and products, services and facilities in downstream wholesale markets.

- 10.42 Both ALTO and Vodafone (as outlined at paragraphs 10.15 and 10.14 respectively above) expressed concerns in relation to compliance with the margin squeeze tests applied to the NGA service/product price offerings. Eircom is obliged to comply with its regulatory obligations, including its price control obligations, at all times. ComReg will continue to monitor Eircom's compliance with its obligations and intervene if it considers it necessary to do so.
- 10.43 ComReg notes Enet's views, as outlined at paragraph 10.17 above, where it considered that the pricing of FTTH products should ensure that planned FTTH investment is protected and incentivised. ComReg also notes Eircom's views summarised at paragraph 10.28 that the price of VUA will impact on the company's incentives to invest if the ability to earn a return is restricted by regulatory decisions. ComReg has a number of points in response.
- 10.44 As set out in the Consultation<sup>225</sup>, the objective of the wholesale margin squeeze test between FTTH based WLA services and FTTH based WCA services should ensure that the price for FTTH based VUA is not set too high relative to the price for FTTH based Bitstream in order to encourage operators to climb the ladder of investment. In essence, this control (in conjunction with the retail margin squeeze obligation for FTTH based VUA as discussed in subsection 10.3 below) acts as a measure to prevent excessive pricing while maintaining a margin between FTTH based WLA services and FTTH based WCA services, and hence supports investment in FTTH. Furthermore, the use of a cost base which takes Eircom's costs adjusted to reflect the lower level economies of scale / scope faced by another operator should ensure that the FTTH based VUA price is lower than the FTTH based Bitstream price, and therefore alternative operators are incentivised to make the appropriate investment decisions. Therefore, OAOs become less dependent on Eircom's network. It should also be noted that the wholesale costs taken into account in the wholesale margin squeeze test between FTTH based VUA and FTTH based Bitstream includes an uplift for WACC which recognises that Eircom should earn a return on its investment.
- 10.45 In addition, the price floor for FTTH based VUA, as discussed in Chapter 12, protects the market from the risk of below-cost pricing for FTTH based VUA. As noted in Chapter 12, paragraph 12.58 of the Consultation, Eircom could have the incentive to price its FTTH based VUA service below costs in certain areas in order to discourage alternative operators from investing in their FTTH networks. Hence, the price floor for FTTH based VUA ensures that Eircom cannot price FTTH based VUA at too low a level in order to prevent predatory behaviour. In ComReg's view these combination of measures should ensure

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<sup>225</sup> See Chapter 10, paragraph 10.22 of the Consultation.

that investment in FTTH services is protected and incentivised.

- 10.46 ComReg notes Sky's response, as outlined at paragraph 10.19 above, regarding the CGA price floor. The need for a price floor for CG Bitstream services is dealt with in Chapter 9.
- 10.47 Further to Eircom's views, as outlined at paragraph 10.20 above, that a margin squeeze test should not apply between FTTH based VUA and FTTH based Bitstream, because "*the core network is a competitive network*", ComReg does not agree. Please see our views on the requirement for a margin squeeze test between FTTH based VUA and FTTH based Bitstream in Section 7 of the 2018 WLA / WCA Market Review Decision. Furthermore, the outcome of the review of the WLA Market and WCA Markets is also contained in the 2018 WLA / WCA Market Review Decision where ComReg concluded that there are two regulated markets; the WLA Market and the Regional WCA Market.
- 10.48 ComReg does not agree with Eircom's views, as outlined at paragraph 10.20 above, that imposing a margin squeeze test between FTTH based VUA and FTTH based Bitstream on Eircom would unduly restrict its ability to compete. The wholesale margin squeeze test allows Eircom to set the price for FTTH based VUA so long as there is a sufficient economic space (or margin) between FTTH based VUA and FTTH based Bitstream. The objective of the test is to ensure that Eircom cannot set the price for FTTH based Bitstream lower than the price for FTTH based VUA, as this would discourage investment in FTTH based VUA where alternative investment may be viable. The choice of parameters used in the FTTH based VUA wholesale margin squeeze test are discussed in the proceeding paragraphs below and in Chapter 10, subsection 10.3.2 of the Consultation. The retail margin squeeze test in relation to FTTH based VUA is addressed separately at subsection 10.3 below.
- 10.49 At outlined at paragraph 10.21 above, Eircom raised the point that ComReg has proposed a wholesale remedy in the WLA Market which it has not consulted on transparently or in sufficient detail. Eircom referred to the obligation that the price at which Eircom sells or offers a Downstream Wholesale Service<sup>226</sup> must be greater than the sum of: (i) ULMP costs and (ii) the unavoidable costs of a reasonably efficient operator that must be incurred in order to provide a service equivalent to the relevant Downstream Wholesale Service. ComReg notes that this specific obligation was consulted on in the 2016 WLA / WCA Market Review Consultation, and imposed in the 2018 WLA / WCA Market Review Decision. However, as Eircom raised this issue within its submission to this Consultation,

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<sup>226</sup> A Downstream Wholesale Service means a wholesale service which is on offer or on sale by Eircom to Access Seekers downstream from the WPNIA Market (now the WLA Market) and contains a ULMP component (examples of such Downstream Wholesale Services include, for example, SB-WLR and SABB).

ComReg is addressing its concerns here.

- 10.50 ComReg does not accept Eircom's claim that it has not consulted transparently or in sufficient detail. In Section 8 paragraphs 8.653 to 8.661 of the 2016 WLA / WCA Market Review Consultation ComReg consulted on the requirement for a margin squeeze obligation between WLA and WCA services. In particular, ComReg specified that the price at which Eircom sells or offers a Downstream Wholesale Service must be greater than the sum of: (i) ULMP costs and (ii) the unavoidable costs of a reasonably efficient operator that must be incurred in order to provide a service equivalent to the relevant Downstream Wholesale Service<sup>227</sup>. ComReg considered that this obligation should ensure that the promotion of efficient investment is maximised and competition at the highest level of the 'ladder' is promoted to the benefit of End Users. In other words, Eircom's price for WCA services (often combined with SB-WLR) should always be greater than its price for analogous services in the WLA market. In this way, services that require the least investment by an OAO e.g., SB-WLR and WCA combined or standalone WCA, should be priced higher than those that require more significant investment (e.g., LLU), in order to provide appropriate investment signals to OAOs. Therefore, ComReg considers that the obligation was consulted on transparently and in detail, in the 2016 WLA / WCA Market Review Consultation.
- 10.51 ComReg does not agree with Eircom's views, as outlined at paragraph 10.21 above, that the obligation (i.e., the price at which Eircom sells or offers a Downstream Wholesale Service must be greater than the sum of: (i) ULMP costs and (ii) the unavoidable costs of a reasonably efficient operator that must be incurred in order to provide a service equivalent to the relevant Downstream Wholesale Service) was not referenced in either of the Draft Decision Instruments associated with the WLA Market or the WCA Markets and that the parameters of the test have not been transparently consulted on. The obligation was set out in its entirety in Section 12.17 of the draft Decision Instrument for the WLA Market in the 2016 WLA / WCA Market Review Consultation. The principles of the test were also specified in Section 8 at paragraphs 8.657 to 8.659 of the 2016 WLA / WCA Market Review Consultation i.e., the basis of the test was the ULMP cost stack, which is referenced to the ULMP (or LLU) price from the Revised CAM in the 2016 Access Pricing Decision (D03/16) as per the definitions contained in the draft Decision Instrument for the WLA Market in the 2016 WLA / WCA Market Review Consultation. In addition, the cost base proposed was the unavoidable costs of a REO. The REO was also defined in the draft Decision Instrument for the WLA Market in the 2016 WLA / WCA Market Review Consultation as being a reasonably efficient operator which has a different basic cost function to Eircom and does not yet enjoy the same

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<sup>227</sup> See paragraph 8.657 of the 2016 WLA/WCA Market Review Consultation.

economies of scale and scope as Eircom. Therefore, it is ComReg's view that the obligation was clearly referenced in the 2016 WLA/WCA Market Review Consultation, and the parameters of the test were transparently consulted on.

10.52 ComReg does not agree with Eircom's views, as outlined at paragraph 10.20 above, that there is no requirement for a price control for FTTC based Bitstream in any part of the market. Please refer to the justification for a price control for FTTC based Bitstream services in the Regional WCA Market as set out in the 2016 WLA / WCA Market Review Consultation at Section 13, paragraphs 13.304 to 13.312 and in the 2018 WLA / WCA Market Review Decision, Section 12, paragraphs 12.306 to 12.334.

10.53 With respect to Eircom's views and the views in the CEG Report, as outlined at paragraphs 10.23 and 10.24 above, in relation to the use of the REO to calculate the cost of backhauling traffic, ComReg would like to provide some clarification. ComReg explained in the Consultation<sup>228</sup> that while it aspired to use REO data, it recognised that accurate and verifiable OAO data is difficult to obtain. For this reason, ComReg proposed to use an SEO approach as a proxy for an REO approach. Both the REO and SEO approaches reflect the need to adjust for differences in economies of scale and scope available to market entrants. However, while the REO uses OAO cost data, the SEO would use Eircom's cost data. ComReg notes that its proposals were based on adjusting Eircom's costs, and that this should be described as an SEO approach. The wholesale margin squeeze test between FTTH based VUA and FTTH based Bitstream is therefore an SEO test based on an adjustment to Eircom's own costs to reflect the lower level of economies of scale and scope available to a hypothetical entrant with a retail broadband market share of 25%.

10.54 ComReg notes further that its approach is consistent with the 2013 Non-Discrimination Recommendation, which indicates that:

*"Downstream costs are estimated on the basis of the costs of the SMP operator's own downstream business (EEO test). ...NRAs may make adjustments for scale to the SMP operator's downstream costs in order to ensure that economic replicability is a realistic prospect."*<sup>229</sup>

10.55 The use of an SEO test is an adjustment for scale to Eircom's costs. A move to an EEO cost base may be justified if there was a significant increase in the take-up of VUA, and this will be kept under review.

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<sup>228</sup> See paragraph 10.30 of the Consultation.

<sup>229</sup> Annex II, 2013 Non-Discrimination Recommendation.

- 10.56 ComReg does not agree with Eircom's point, as outlined at paragraph 10.23 above, that the nature of the margin squeeze tests must recognise that as relevant parts of the Leased Lines market are competitive there is a fully competitive market for NGA Bitstream. ComReg's analysis in the 2016 WLA / WCA Market Review Consultation<sup>230</sup> and in the 2018 WLA / WCA Market Review Decision shows that leased lines are not an effective substitute for broadband access provided over copper, FTTC, FTTH or (cable TV) CATV networks. This reasoning is reiterated in ComReg's market review of the leased line market, where ComReg expressed a preliminary view in Chapter 4, paragraphs 4.100 to 4.105 that wholesale broadband access is not an effective substitute for leased lines<sup>231</sup>. ComReg's conclusion is that Eircom is not constrained in the WLA and WCA Markets by activity in the leased lines market. While ComReg accepts that there are general trends towards an increasing use of VUA and a decreasing use of Bitstream, there is still a significant user base for NGA Bitstream services, and ComReg has put in place measures that prevent Eircom from acting in an anti-competitive manner towards Access Seekers who are addressing the retail market using NG Bitstream wholesale inputs. It is not up to Eircom to decide how operators should choose to address the retail market.
- 10.57 ComReg notes the views expressed in the CEG Report, as outlined at paragraph 10.32 above, regarding the cost standard to be applied in the margin squeeze test. ComReg has considered the CEG Report's views, but maintains the decision to enter, and remain in, the market depends on the expectation that fixed and common costs will be recovered; not only additional avoidable costs incurred by the SMP operator. The reasoning behind this is that an entrant would enter a market only if it considered that it would be profitable to do so, taking into account all the costs that it would have to incur in order to enter the market and sustain a competitive position i.e., the fixed, common, joint and variable costs. Cost measures such as average avoidable costs do not ensure this as the total full costs of an operator are not covered. ComReg considers that the application of an AAC rule in an *ex ante* context could hinder market entry and/or expansion. ComReg will therefore maintain LRAIC+ as the cost standard.

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<sup>230</sup> See discussion of the retail broadband market in paragraphs 4.237 to 4.249; discussion of the WLA market in paragraphs 5.93 to 5.95; and discussion of the WCA Markets in paragraph 10.71 of the 2016 WLA/WCA Market Review Consultation.

<sup>231</sup> ComReg Document No 18/08 "Market Review: Wholesale High Quality Access at a Fixed Location", 22 Feb 2018.

- 10.58 As outlined at paragraph 10.25 above, Eircom stated that while they agreed with the use of the portfolio approach, in their view it has not been properly justified and furthermore they argued that if there was to be a margin squeeze test, then one based on an overall portfolio approach (irrespective of different prices for different speeds) between FTTH based VUA and FTTH based Bitstream was appropriate. As noted at paragraphs 10.34 to 10.39, as part of the consultation process and taking into account the views of respondents, ComReg has reconsidered its position regarding a single price for FTTH based VUA. ComReg has decided that Eircom should have the flexibility to differentiate its FTTH based VUA price by the various profiles or speeds that it offers. Consequently, ComReg considers that a product-by-product assessment should be adopted (rather than a portfolio) for the wholesale margin squeeze test between FTTH based VUA and FTTH based Bitstream. In this case, Eircom would have to pass the margin squeeze test on a product-by-product basis (that is, on a speed by speed basis) where each offer would have to pass its own LRAIC+. Therefore, Eircom would not have the flexibility to price above or below the overall costs on certain speeds / profiles. The product-by-product approach ensures sufficient margin for each offer, but restricts the ability of Eircom to price products as flexibly as they would under the portfolio approach. Each FTTH based VUA product would need to be priced at a level to meet the LRAIC+ requirement, which may limit the ability of Eircom to adjust prices. The product-by-product approach may enhance entry and competition, particularly for entrants that may lack economies of scope, as the LRAIC+ costs (which include the average efficiently incurred directly attributable variable and fixed costs, including an appropriate apportionment of joint and common costs) must be met for each FTTH product.
- 10.59 As outlined at paragraph 10.28 above, Eircom was of the view that the price of VUA would inevitably affect the prices that can be charged for retail services. As noted in the introduction of this Chapter, the only standalone retail margin squeeze obligation that shall apply in the WLA market is between FTTH based VUA services and retail services delivered by FTTH based VUA and sold singly in those exchanges in the footprint of the Urban WCA Market. The retail margin squeeze test for standalone FTTH based VUA is set out in section 10.3 below.
- 10.60 ComReg's concern is that Eircom could price its retail broadband services in those areas corresponding to the Urban WCA Market in such a way that it could foreclose other operators using WLA inputs in similar geographic areas by way of a margin squeeze. In the case of FTTH based VUA the standalone retail margin squeeze test is necessary as a control against excessive pricing as no cost orientation obligation is imposed on these services. The standalone retail margin squeeze test which is specified between FTTH based VUA and retail services delivered by FTTH based VUA is a means of ensuring an appropriate margin (between the wholesale and retail price) and allowing for pricing



flexibility to set the retail prices, so that long-term benefits of consumers are maximised. A test solely against WCA services would be insufficient because FTTH based Bitstream services in the Urban WCA Market are proposed to be de-regulated. In this circumstance, it would be possible to pass a margin squeeze test between WLA and WCA services and yet still create a margin squeeze against retail services thereby foreclosing competition in the WLA Market. The details of the standalone retail margin squeeze test between FTTH based VUA in the footprint of the Urban WCA Market and retail services delivered by FTTH based VUA are discussed in section 10.3 below.

10.61 With regard to Eircom's point as outlined at paragraph 10.31 above, that it was not necessary to include a risk premium, ComReg would like to clarify that no risk premium is included in the wholesale margin squeeze test between FTTH based VUA and FTTH based Bitstream. As set out in Chapter 10, paragraph 10.41 of the Consultation, a risk premium is not necessary for FTTH as ComReg is not imposing cost orientation. In addition, the assets relevant for the FTTH wholesale margin squeeze obligation are not part of the access network but rather part of the core network and therefore these assets are not subject to a risk premium.

10.62 Having considered the submissions from respondents, the principles of the wholesale margin squeeze test between FTTH based VUA in the WLA Market and FTTH based Bitstream in the WCA Markets remains appropriate for the reasons set out above at paragraphs 10.33 to 10.61 and in Chapter 10, paragraphs 10.19 to 10.51 of the Consultation.

#### 10.2.4 ComReg's Position:

10.63 The wholesale margin squeeze test between FTTH based VUA (in the WLA Market) and FTTH based Bitstream (in the WCA Markets) shall be based on the following parameters:

Parameter	
Operator cost base	SEO
Cost standard	LRAIC+
Alternative operator market share	25%
Basis	FTTH based VUA price(s) assessed against FTTH based Bitstream(s) on a product-by-product basis

## 10.3 Standalone retail margin squeeze test between FTTH based VUA in the area corresponding to the Urban WCA Market and retail broadband delivered by FTTH based VUA

### 10.3.1 Position set out in the Consultation:

10.64 In Chapter 10 of the Consultation, ComReg set out the reasons why a retail margin squeeze obligation was considered appropriate between WLA services and retail services delivered by WLA services associated with the those exchanges in the footprint of the Urban WCA Market. Please see Chapter 10, paragraphs 10.52-10.55 of the Consultation for further details.

10.65 In Chapter 10 of the Consultation, ComReg reached the preliminary view that the following margin squeeze principles should apply with regard to the retail margin squeeze test between the price of WLA services provided in the footprint of the Urban WCA Market and the retail price of the retail broadband service provided by way of WLA inputs:

1. The equally efficient operator ('**EEO**') cost base;
2. The average total cost ('**ATC**') cost standard;
3. The test should be assessed based on a portfolio approach.

10.66 Please see Chapter 10, paragraphs 10.57-10.101 of the Consultation for further details.

### 10.3.2 Respondents' Views:

10.67 There were mixed views amongst respondents regarding the proposed principles of the retail margin squeeze test between WLA services and retail services delivered by WLA services in those exchanges in the footprint of the Urban WCA Market. Furthermore, two respondents (BT and ALTO) believed that ComReg had incorrectly analysed the market while Eircom raised a number of points, including their disagreement with both a cost orientation obligation on WLA inputs as well as *ex ante* retail margin squeeze obligations. The respondents' views and ComReg's assessment of them are categorised and dealt with under separate headings in turn below:

- (a) Market analysis
- (b) Requirement for a margin squeeze test
- (c) Principles of the margin squeeze test.

**Market analysis:**

- 10.68 ALTO did not agree with ComReg's proposals. They considered that the market analysis appeared somewhat flawed – that the Irish market is characterised by an intermediate wholesale market and this has not been taken account of.
- 10.69 BT did not agree with ComReg's proposals, and reiterated its view that ComReg had incorrectly analysed the market by not characterising the intermediate wholesale market that exists in Ireland. In BT's view, the retail to WLA margin squeeze was logical, but did not assess the market as it actually is.

**Requirement for a margin squeeze test:**

- 10.70 ALTO stated that the current proposal risked foreclosing wholesale competition in Ireland as it would allow Eircom to reduce WCA 'Bitstream plus' prices towards WLA VUA pricing while Eircom would still pass the Retail to WLA margin squeeze test.
- 10.71 BT also considered that the ComReg proposal would allow Eircom to reduce WCA 'Bitstream plus' prices towards WLA VUA prices while Eircom would still pass the Retail to WLA margin squeeze test. BT was of the view that this could be remedied by including a margin squeeze test between wholesale 'Bitstream plus' and WLA VUA in the area defined as the Urban WCA Market.
- 10.72 Enet stated that the specifics of ComReg's margin squeeze tests should be such that planned FTTH investments by alternative operators are appropriately incentivised.
- 10.73 Eircom stated that when the underlying WLA input was subject to cost orientation, all downstream *ex ante* margin squeeze tests should be removed. Eircom was of the view that the proposed regulation was excessive by EU standards particularly given Eircom's low retail market share compared to other European incumbents.
- 10.74 Eircom stated that ComReg should have considered the use of *ex post* competition law in addressing concerns around foreclosure. In Eircom's view, the concern of foreclosure could only be valid where Eircom could sustainably prevent effective competition by in the first instance setting very low prices and later very high prices, the after effects of which are unaffected by the actions of competitors and customers, and this is not the case. Eircom stated that this was "*retail regulation through the back door*" and that was not appropriate.

- 10.75 Furthermore, Eircom was of the view that ComReg had relied on an erroneous view that a retail margin squeeze test was required to prevent foreclosure, and that too much weight had been placed on the potential of theoretical economic abuse of foreclosure through retail pricing. Eircom suggested that ComReg should consider what prevents other retail operators using WCA services from undertaking a margin squeeze against operators dependent on purchasing cost oriented WLA inputs from Eircom. They also noted that all of their main competitors operate as part of large international organisations who can well compete with Eircom and would readily make a complaint in the event of an abuse of dominance.
- 10.76 Eircom also stated that ComReg had not consulted transparently on the proposed wholesale services included in the proposed margin squeeze test between WLA Services and CGA retail services. ComReg had included the wholesale price of WLR (which is not a wholesale service in the WLA or WCA Markets) as an input to the test. Eircom considered that the only appropriate WLA service to include in such a “copper based” test was LLU.
- 10.77 Eircom claimed that ComReg proposed a test without allowing for an effects based analysis of whether Eircom's pricing could lead to actual foreclosure for which the assessment period had not been specified or consulted on. Eircom's submission was based on the assumption that compliance would be assessed on a monthly basis. They stated that ComReg did not specify the assessment period for the retail margin squeeze test and that a one month compliance period is too short, and it proposed that a 6 month period was sufficient to undertake an assessment of compliance at an overall portfolio level.

#### **Principles of the margin squeeze test:**

- 10.78 BT was of the view that a product by product approach would be more appropriate than the proposed portfolio approach.
- 10.79 Sky considered that the test should use a product by product rather than a portfolio approach.
- 10.80 The AM Report argued that portfolio analysis made it harder for OAOs to replicate Eircom's offers, if they did not offer the same portfolio as Eircom. The AM Report suggested that the consultation implied that the portfolio would be based on all Eircom products rather than on those offered by OAOs, and that ComReg should consider applying the methodology either on a product by product basis or via a portfolio based on only those products offered by OAOs.

- 10.81 Sky considered that the treatment of promotions/offers had not been properly taken account of in the context of margin squeeze. Promotions spending should not be derived from the customer lifetime assumption but rather actual audited accounts.
- 10.82 The AM Report also stated that promotions do not seem to be properly taken into account: “§10.97 & §11.91 [of the 2017 Pricing Consultation] indicate that ComReg assume a customer life of 42 months split between an initial offer period and remaining customer life with different headline rates. We suggest that ComReg should instead take the official headline price as revenue for the whole duration of the contract. It should then include connection and retention promotions as part of marketing and advertising costs. These could be recovered over the effective customer contract duration or they could be recovered on average (e.g. as a percentage of headline prices)”<sup>232</sup>.
- 10.83 The AM Report also considered that “Promotion spending should not be derived from the customer lifetime assumption but derived from actual audited accounts. This will ensure that inputs take into account cases where a new promotion is offered after the initial offer period. This is common practice when contracts expire after 12, 18 or 24 months... It is very likely that average customers could benefit from additional promotions up to the average 42<sup>nd</sup> month subscription”<sup>233</sup>.
- 10.84 Vodafone agreed with the principles of the margin squeeze test, however Vodafone was of the view that a margin squeeze test alone was not sufficient to protect against Eircom “gaming the market” in the event of the market being deregulated.
- 10.85 Vodafone also stated that they had concerns with the use of the portfolio approach as it can allow flagship products to be engaged in margin squeeze whilst less popular products can be priced to make the basket pass.
- 10.86 Vodafone stated that the REO would represent a more realistic operator cost base, but noted concern regarding how this could be accurately calculated. They did not agree with the use of a 42 month customer life cycle, stating that they considered 24 months to be more realistic.
- 10.87 Eircom agreed that EEO was the correct operator cost base but claimed that ComReg had failed to fully justify it.

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<sup>232</sup> See section 8.1.2 of the AM Report.

<sup>233</sup> See section 8.1.2 of the AM Report.

- 10.88 Eircom stated that they [redacted] [redacted] ] Eircom stated that it did not agree with ComReg's preliminary view that additional revenue from excess usage should not be taken into the model.
- 10.89 Eircom did not agree that ATC was the correct standard to use, claiming that it was inconsistent with EC Recommendations and *ex post* competition law.
- 10.90 Eircom suggested that ComReg having separate tests for CGA/NGA is in contrast to the approach proposed in the 2017 Bundles Consultation. In Eircom's view, it was unclear why ComReg was proposing different tests in the Urban WCA Market depending on whether Eircom sells retail broadband in a bundle or standalone. Eircom proposed that ComReg should fully consider the merits of a LRAIC standard at the individual portfolio level.
- 10.91 Eircom stated that ComReg failed to consult on the different operator types that could be used in the DCF Model. While Eircom agreed that a DCF model was appropriate for the retail margin squeeze tests it did not agree that the model should include one off start-up costs. Eircom considered that for consistency the underlying DCF model which supports all the relevant margin squeeze tests should be aligned to an existing operator which maintains an EEO's market share throughout the modelled timeframe.

### 10.3.3 ComReg's Assessment of Respondents' Views:

- 10.92 As noted at paragraphs 10.4 to 10.7 above, ComReg has, in response to respondents' views expressed during the consultation process, made some refinements to its approach in relation to the standalone retail margin squeeze obligation for WLA services during the consultation process.
- 10.93 Going forward, the only WLA service that is subject to a standalone retail margin squeeze obligation is between FTTH based VUA in the footprint corresponding to the Urban WCA Market and retail services delivered by FTTH based VUA sold singly.

- 10.94 ComReg is no longer imposing a standalone retail margin squeeze test between FTTC based VUA and retail services delivered by FTTC based VUA and sold singly. Please see Section 7, paragraphs 7.1341 to 7.1342 of the 2018 WLA / WCA Market Review Decision for further details. All retail services (whether sold singly or as part of a bundle) delivered by FTTC based VUA will be assessed in the overall retail margin squeeze tests as further specified in the 2018 Bundles Decision.
- 10.95 For current generation WLA services, ComReg assessed the need for a retail margin squeeze obligation in the 2016 WLA/WCA Market Review Consultation<sup>234</sup>, and concluded in the 2018 WLA / WCA Market Review Decision<sup>235</sup> that there is no longer a requirement for a specific retail margin squeeze obligation between current generation WLA services and current generation retail services. This is because of the decline in demand for current generation services in the WLA Market as customers migrate to next generation services, as well as the fact that these current generation WLA services are already subject to a cost orientation obligation, as well as to other obligations. Obligations imposing access, transparency, non-discrimination and accounting separation will continue to be imposed on current generation WLA inputs. These obligations are considered sufficient to ensure that Eircom cannot foreclose an OAO continuing to use current generation WLA services (e.g. LLU or Line Share) in the footprint of the Urban WCA Market by raising the input costs at which competitors can operate in the downstream wholesale and/or retail market.
- 10.96 Given the evolution of ComReg's approach as described in paragraphs 10.92 to 10.95 above, ComReg has taken respondents' views into account in deciding in the 2018 WLA / WCA Market Review Decision that there is no longer a requirement for a specific standalone margin squeeze obligation between FTTC based VUA services and retail services delivered by FTTC based VUA and sold singly, and that there is no longer a requirement for a specific retail margin squeeze obligation between current generation WLA services and current generation retail services. While ComReg has reviewed all of the submissions received, ComReg has in light of this evolution of approach only further considered respondents' views relevant to the further specification of the margin squeeze test between FTTH based VUA and retail services delivered by FTTH based VUA and sold singly in the footprint corresponding to the Urban WCA Market.
- 10.97 ComReg's consideration of the points raised by respondents are addressed under the relevant headings below.

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<sup>234</sup> See paragraphs 8.662 to 8.668 of the 2016 WLA/WCA Market Review Consultation.

<sup>235</sup> Please see Section 7, paragraph 7.1340 of the 2018 WLA / WCA Market Review Decision.



**Market analysis:**

10.98 ComReg does not agree with BT and ALTO's views, as outlined at paragraphs 10.68 and 10.69 above, where they argued that ComReg has incorrectly analysed the market. BT and ALTO both considered that the Irish market is characterised by an intermediate wholesale market and they argued this has not been taken account of by ComReg. ComReg is of the view that it has appropriately reviewed the Irish market. Please see Section 5 in the 2018 WLA / WCA Market Review Decision for ComReg's conclusions on the market analysis.

**Requirement for a margin squeeze test:**

10.99 BT and ALTO argued, as outlined at paragraphs 10.7010.68 to 10.71 above, that ComReg's proposal risked foreclosing wholesale competition in Ireland as it would allow Eircom to reduce WCA 'Bitstream plus' prices towards WLA VUA prices while Eircom would still pass the Retail to WLA margin squeeze test. BT and ALTO suggested that this issue could be remedied by including a margin squeeze test between wholesale 'Bitstream plus' and WLA VUA in the area defined as the Urban WCA Market.

10.100 ComReg considers that BT and ALTO appear to come to this view as a consequence of their characterisation of an 'intermediate market'. In its assessment of the WLA and WCA Markets, ComReg has not found there to be such a market, and ComReg refers to the 2016 WLA / WCA Market Review Consultation<sup>236</sup> and 2018 WLA / WCA Market Review Decision<sup>237</sup> for a full analysis of the relevant markets.

10.101 With reference to BT's and ALTO's suggestion that there was a need for a test between wholesale products in the WLA Market and wholesale products in the WCA Markets, ComReg notes that as set out in Section 7 of the 2018 WLA / WCA Market Review Decision, Eircom have a general obligation not to cause a margin squeeze between WLA products, services and facilities in the WLA Market and products, services and facilities in downstream wholesale markets. In addition, Eircom is subject to a specific obligation not to cause a margin squeeze between FTTH based VUA (in the WLA Market) and FTTH based Bitstream (in the WCA Markets) in order to ensure that the price for FTTH based VUA is not set too high relative to the price for FTTH based Bitstream in order to encourage operators to climb the investment ladder. This is discussed at section 10.2 above.

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<sup>236</sup> See Sections 5 and 10 of the 2016 WLA / WCA Market Review Consultation.

<sup>237</sup> See Sections 4 and 9 of the 2018 WLA / WCA Market Review Decision.

- 10.102 Furthermore, and also taking into account the point raised by Enet, as outlined at paragraph 10.72 above regarding the need to appropriately incentivise FTTH investments by alternative operators, ComReg noted its concerns in Section 8 of the 2016 WLA / WCA Market Review Consultation that Eircom could price its retail broadband services in those areas corresponding to the Urban WCA Market in such a way that it could foreclose other operators using FTTH based VUA by way of a margin squeeze. ComReg considered that a test solely against FTTH based Bitstream would be insufficient on its own because FTTH based Bitstream in the Urban WCA Market is being deregulated per the 2018 WLA / WCA Market Review Decision. In this case, it would be possible to pass a margin squeeze test between FTTH based VUA and FTTH based Bitstream and still create a margin squeeze between FTTH based VUA and retail services thereby foreclosing competition in the WLA market. Therefore, in the 2018 WLA / WCA Market Review Decision (section 7, paragraphs 7.1343) ComReg imposed a standalone retail margin squeeze test between FTTH based VUA in the WLA Market and retail services delivered by FTTH based VUA and sold singly in those exchanges corresponding to the footprint of the Urban WCA Market.
- 10.103 It is also worth noting that Eircom cannot price FTTH based VUA at too low a level in order to prevent predatory behaviour. Please see Chapter 12 for further details. Therefore, ComReg considers that these various measures should prevent foreclosure of the market while incentivising FTTH investment by alternative operators.
- 10.104 ComReg notes Eircom's point, as outlined at paragraph 10.73 above, that when the underlying WLA input is subject to cost orientation all downstream *ex ante* margin squeeze tests should be removed. As determined in Section 7 of the 2018 WLA / WCA Market Review Decision (at paragraphs 7.1340 to 7.1344) and as summarised at paragraphs 10.92 to 10.95 above, the only standalone retail margin squeeze obligation (in the footprint corresponding to the Urban WCA Market) going forward is for FTTH based VUA. All retail services (whether sold singly or as part of a bundle) delivered by FTTC based VUA will be assessed in the overall retail margin squeeze tests as further specified in the 2018 Bundles Decision.
- 10.105 For current generation WLA services, there is no specific retail margin squeeze obligation, either on a standalone basis or in a bundle, going forward. Please refer to Section 7, paragraph 7.1340 of the 2018 WLA / WCA Market Review Decision and paragraphs 10.92 to 10.95 above.
- 10.106 ComReg does not agree with Eircom's point, as outlined at paragraph 10.74 above, that ComReg should have considered the use of *ex post* competition law in addressing concerns around foreclosure and that this is "*retail regulation through the back door*" and that is not appropriate.

- 10.107 Firstly, ComReg does not consider that *ex post* competition law is the most appropriate approach in a market where an operator has been assessed as having SMP, because by definition, *ex ante* remedies are required to address actual and potential competition problems. As *ex post* remedies would be applied after any alleged anti-competitive practice has occurred, such an assessment may be too late to prevent competition and efficient infrastructure investment being adversely affected beyond repair. Furthermore, this would also contribute to significant uncertainty for operators. Therefore, ComReg considers that the imposition of *ex ante* regulatory obligations is more appropriate.
- 10.108 Secondly, ComReg has refined its approach regarding the retail margin squeeze obligation in the WLA Market, as discussed in paragraphs 10.92 to 10.95 above. The only standalone retail margin squeeze obligation that applies going forward is between FTTH based VUA in the footprint of the Urban WCA Market and retail services delivered by FTTH based VUA and sold singly. FTTC based services will be assessed in the retail margin squeeze test in the context of Bundles as set out in the 2018 Bundles Decision. See also Section 7, paragraphs 7.1340 to 7.1344 of the 2018 WLA / WCA Market Review Decision for further details.
- 10.109 As outlined at paragraph 10.75 above, Eircom considered that ComReg had relied on an erroneous view that a retail margin squeeze test was required to prevent foreclosure, and that too much weight had been placed on the potential of theoretical economic abuse of foreclosure through retail pricing. In addition, as outlined at paragraph 10.77 above, Eircom stated that ComReg proposed a test without allowing for an effects based analysis of whether Eircom's pricing could lead to actual foreclosure for which the assessment period had not been specified or consulted on. Eircom also stated that a one month compliance period was too short, and proposed that a 6 month period was sufficient to undertake an assessment of compliance at an overall portfolio level.
- 10.110 As determined in Section 5, paragraphs 5.117 to 5.120 of the 2018 WLA / WCA Market Review Decision Eircom has SMP in the WLA Market. As a consequence, Eircom not only has the ability, but also has an incentive, to engage in actions which could negatively impact on competition in related wholesale and/or retail markets to the ultimate detriment of customers. ComReg explained in the 2016 WLA/WCA Market Review Consultation<sup>238</sup> that its identification of competition problems was carried out assuming no SMP regulation in the relevant market, and so identified competition problems which could potentially arise absent regulation. This approach is consistent with the European Commission's Explanatory Note to the 2014 Non-Discrimination Recommendation and indeed is the basis of the justification for *ex ante*

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<sup>238</sup> See Section 7 of the 2016 WLA/WCA Market Review Consultation.

regulation. ComReg considers that in the context of the WLA Market a margin squeeze between FTTH based VUA and downstream prices in the area corresponding to the footprint of the Urban WCA Market could undermine the effectiveness of a FTTH based VUA product offering and, in doing so, could harm competition in downstream markets by eliminating competing service providers, distorting competition or indeed discouraging the entry of new service providers. With regards to Eircom's point that ComReg proposed a test without allowing for an effects based analysis of whether Eircom's pricing could lead to actual foreclosure, ComReg would note that it is neither necessary to catalogue examples of actual abuse nor to provide exhaustive examples of potential abuse. Rather, the purpose of *ex ante* regulation is to prevent the possibility of abuse of dominance given that Eircom has been identified as having SMP in the WLA Market.

10.111 Therefore, in the 2018 WLA / WCA Market Review Decision the *ex ante* obligation not to cause a margin squeeze between FTTH based VUA services in the footprint corresponding to the Urban WCA Market and retail services delivered by FTTH VUA and sold singly was imposed on Eircom in order to prevent anti-competitive behaviour from occurring. This Decision is a further specification of that obligation.

10.112 Furthermore, and as specified in Section 7 of the 2018 WLA / WCA Market Review Decision, FTTH based VUA is not subject to cost orientation for the reasons set out in that document. Therefore, the standalone retail margin squeeze obligation between FTTH based VUA and retail services is also necessary as a control against excessive pricing. Please see Section 7, paragraph 7.1343 of the 2018 WLA / WCA Market Review Decision.

10.113 ComReg notes Eircom's point, as outlined at paragraph 10.77 above, in relation to the assessment period for the retail margin squeeze test, and the compliance period. In the context of the standalone retail margin squeeze obligations in this Decision ComReg does not propose any requirement for periodic assessment for compliance. Eircom must at all times ensure compliance with the price control obligations imposed on them, including compliance with its margin squeeze obligations imposed on them in this Decision. On notification of changes to retail prices, for a new product or an existing product, Eircom must demonstrate compliance in line with the procedures outlined in Chapter 12, of this Decision. ComReg considers that these measures are sufficient in terms of assessing compliance for standalone services. Please see Chapter 7 of the 2018 Bundles Decision for details of compliance monitoring in the context of bundles.

**Principles of the margin squeeze test:**

- 10.114 ComReg does not agree with BT's views, as outlined at paragraph 10.78 above, Sky's views as outlined at paragraph 10.79 and Vodafone's views as outlined at paragraph 10.85 above that a product-by-product approach should be used instead of a portfolio approach.
- 10.115 In the WLA Market in the footprint associated with the Urban WCA Market where the standalone retail margin squeeze test for FTTH based VUA shall apply, there is competition from other large operators. The concerns of respondents may be valid in a market where there is little competition in the provision of retail broadband. However, this is not the case in those exchanges in the footprint of the Urban WCA Market. This approach recognises that OAOs in the footprint of the Urban WCA Market are also likely to be offering a portfolio of products, and as noted above, are likely to have a similar cost base and customer profile as Eircom. ComReg wants to ensure that OAOs that are dependent on Eircom's FTTH based VUA input have a sufficient margin over a portfolio of different NGA retail broadband products, while allowing Eircom some flexibility regarding pricing in the retail market. In addition, the actual demand for FTTH based products remains uncertain and ComReg believes that Eircom should be given the flexibility to price specific products above or below retail costs (provided it meets the overall portfolio margin squeeze test) so that Eircom can alter prices in response to actual take-up of FTTH products. Therefore, the portfolio approach remains valid for the standalone retail margin squeeze test for FTTH based VUA in the WLA Market in the footprint associated with the Urban WCA Market.
- 10.116 ComReg notes the views expressed in the AM Report, as outlined at paragraph 10.80 above, that ComReg should consider applying the methodology either on a product by product basis or via a portfolio based on only those products offered by OAOs. The 2013 Non-Discrimination Recommendation from the EC does not require the NRA to run the test for each and every retail offer but only in relation to the most relevant retail products (which they refer to as 'Flagship' products). ComReg considers that the portfolio approach is more appropriate in the context of the retail test in those exchanges in the Urban WCA Market for the reasons set out at paragraph 10.115 above. ComReg does not agree with the AM Report's proposal that the test should be based on those products offered by OAOs. In practice, accurate verifiable OAO data has been difficult to obtain to date. Eircom's regulatory accounting obligations oblige it to provide cost information which is generally consistent, reliable and verifiable. Therefore, ComReg considers that the test based on Eircom's costing data is more reliable and robust.

- 10.117 ComReg notes Sky's views, as outlined at paragraph 10.81 above, and the views set out in the AM Report as outlined at paragraphs 10.82-10.83, in relation to the treatment of promotions and offers and in relation to the use of actual audited accounts rather than the customer lifetime assumption as a basis for promotion spending. ComReg would like to clarify that, the standalone retail margin squeeze obligation for FTTH based VUA in the Urban WCA Market also applies to all retail promotions and discounts. Therefore, where Eircom offers a promotion or discount on its retail product(s) delivered by FTTH based VUA then such a promotion or discount must be in line with the standalone retail margin squeeze test for FTTH based VUA services in the footprint of the Urban WCA Market as determined in line with the principles set out in this Decision. The standalone retail margin squeeze model for FTTH based VUA should take account of any promotions / discounts, where they arise. Please also see paragraph 10.121 on customer lifetime assumptions.
- 10.118 ComReg notes Vodafone's point, as outlined at paragraph 10.84 above, that a margin squeeze test alone is not sufficient to protect against Eircom "*gaming the market*" in the event of the market being deregulated. As set out in Section 10, paragraph 10.126, and Section 13, of the 2018 WLA / WCA Market Review Decision, the Urban WCA Market is a competitive market and as a result it is no longer subject to *ex ante* regulation.
- 10.119 ComReg does not agree with Vodafone's views, as outlined at paragraph 10.86 above, that an REO cost base should be used in the retail margin squeeze test. As the standalone retail margin squeeze obligation for FTTH based VUA relates only to those exchanges in the footprint of the Urban WCA Market, which by definition have a significant presence of other operators, an EEO cost base should be applied. In the case of the WLA Market in those exchanges associated with the footprint of the Urban WCA Market, ComReg notes that there are other large broadband providers competing with Eircom. The use of an EEO cost base in this case is appropriate because competitors in exchanges within the Urban WCA Market are likely to have similar cost functions to Eircom, and similar size of customer base, and should therefore benefit from similar economies of scale. In addition, the EEO cost base is in line with the 2013 Non-Discrimination Recommendation, which states that "*Downstream costs are estimated on the basis of the costs of the SMP operator's own downstream business (EEO test).*" Therefore, ComReg considers that an EEO cost base is appropriate for the retail margin squeeze test for standalone FTTH based VUA in the footprint associated with the Urban WCA Market. Please also see paragraph 10.126.

- 10.120 ComReg also notes Eircom's views, as outlined at paragraph 10.87 above, that while it agrees with the EEO cost base, it claims that ComReg has not fully justified it. ComReg considers that the analysis set out in the Consultation<sup>239</sup> clearly demonstrates why an EEO cost base is considered appropriate in the context of the standalone retail margin squeeze test between FTTH based VUA in those exchanges associated with the Urban WCA Market and retail services delivered by FTTH based VUA and sold singly in the WLA Market. The option of REO or SEO was not considered relevant in this regard given that it would represent an alternative operator with less economies of scale and scope compared with Eircom and that is not the case given the large operators present in those exchanges associated with the footprint of the Urban WCA Market. Please also see the discussion in paragraph 10.119.
- 10.121 ComReg does not agree with Vodafone's views, as outlined at paragraph 10.86 above, that a 24 month customer lifetime was more realistic than a 42 month customer lifetime, and also Eircom's view as outlined at paragraph 10.88 above, that a [redacted]. ComReg gathered customer lifetime data from operators as part of a statutory information request ('SIR'), as detailed in Chapter 5 of the 2017 Bundles Consultation. None of the information supplied provided robust evidence that a customer lifetime value other than 42 months should be used. In response to Eircom's proposal, ComReg does not see any justification to use a [redacted] average customer lifetime for [redacted] at present, particularly given that the source of such data was only from one operator. Therefore, as determined in Chapter 5 of the 2018 Bundles Decision, ComReg has decided to continue with the 42 month customer lifetime for the assessment of broadband services (both standalone and in a bundle). Please see Chapter 5, subsections 5.4.6 and 5.4.11.2 of the 2018 Bundles Decision for further details.
- 10.122 ComReg notes, as outlined at paragraph 10.89 above, that Eircom disagreed with the ATC cost standard, in particular citing its inconsistency with the 2013 Non-Discrimination Recommendation and also *ex post* competition law. As set out in Chapter 10, at paragraph 10.71 of the Consultation, ComReg recognises that the 2013 Non-Discrimination Recommendation suggests the LRIC+ approach but ComReg considers that the difference between ATC and LRAIC+ in the context of retail costs is generally not material as both approaches include a portion of common costs. In addition, ComReg currently use Eircom's Regulated Accounts to derive these retail costs, which is more akin to the ATC approach. This is also recognised by Eircom in its response to the Consultation where they stated that "...eir's downstream costs taken from the HCA accounts are akin to ATC."<sup>240</sup> and "By using these costs as an input to the DCF model

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<sup>239</sup> See Chapter 10, paragraphs 10.58 to 10.62 of the Consultation.

<sup>240</sup> Eircom response, page 81.



*they arrive at a close proxy for a LRAIC+.*<sup>241</sup> ComReg considers that in the context of a standalone retail margin squeeze test between FTTH based VUA in those exchanges associated with the Urban WCA Market and retail services delivered by FTTH based VUA sold on their own in the WLA Market, that the ATC approach remains appropriate for the reasons set out in this paragraph and also based on the reasoning set out in the Consultation<sup>242</sup>.

10.123 As outlined at paragraph 10.90 above, Eircom challenged ComReg's proposal to have separate tests for CGA/NGA in contrast to the approach proposed in the 2017 Bundles Consultation, claiming that it is unclear why ComReg is proposing different tests in the Urban WCA Market depending on whether Eircom sells retail broadband in a bundle or standalone.

10.124 To clarify, the only standalone retail margin squeeze test that shall now apply in the WLA Market is between FTTH based VUA in the footprint corresponding to the Urban WCA Market and retail services sold singly and delivered by FTTH based VUA. Please see Section 7, paragraphs 7.1340 to 7.1344 of the 2018 WLA / WCA Market Review Decision. As a standalone retail margin squeeze obligation does not apply to CGA WLA services nor to the FTTC based VUA service, ComReg has not considered the points raised by Eircom in relation to this issue, and as outlined at paragraph 10.90 above, any further.

10.125 As outlined at paragraph 10.91 above, Eircom submitted that ComReg should fully consider the merits of a LRAIC standard at the individual portfolio level. In relation to the appropriate cost standard for the FTTH based VUA test, ComReg considers that the ATC should continue to be applied for the reasons set out in Chapter 10, paragraphs 10.64-10.72 of the 2017 Consultation<sup>243</sup> and as further discussed at paragraph 10.122 above.

10.126 ComReg notes Eircom's views, as outlined at paragraph 10.91 above, where it considered that ComReg failed to consult on the different operator types that could be used in the DCF Model and in particular where it disagreed that the model should include one-off start-up costs. To clarify, as discussed in Chapter 10 of the Consultation, the current approach in the DCF model uses Eircom's costs – both historic which are based on Eircom's audited Regulated Accounts and Eircom's forecast of those costs – as a data source. These costs can be adjusted to reflect the likely costs that a new retail broadband market entrant would incur. As such, the DCF approach includes one-off start-up costs, ongoing fixed and variable operating costs including capital costs and a terminal value. In addition, a number of costs<sup>244</sup> are inflated by an overhead mark-up of

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<sup>241</sup> Eircom response, page 81.

<sup>242</sup> See Chapter 10, paragraphs 10.67 to 10.71 of the Consultation.

<sup>243</sup> See Chapter 10, paragraphs 10.57 to 10.101 of the Consultation.

<sup>244</sup> Sales, product management and development, help desk and order handling.

25% to create an additional margin buffer to reflect the likely new retail broadband market entrant mark-up of common costs. In order to derive the total retail costs incurred by a new entrant the above cost categories can be adjusted for scale and scope depending on the chosen operator cost base i.e., REO or SEO. Please see additional details set out in Section 10.4.6 of the Consultation. ComReg considers that the DCF approach set out in the Consultation and described above remains appropriate in the context of FTTH services except for the application of the uplift / mark-up of 25% to certain retail cost categories i.e., Sales, product management and development, help desk and order handling costs. Given ComReg's Decision to use the EEO cost base (as discussed at paragraph 10.119 above), no further adjustment is required to these specific retail costs. However, the DCF modelling approach remains appropriate given that the demand for FTTH services remains uncertain and the volumes of FTTH to date remain low. The assumption of a new entrant operator also remains valid in the context of the provision of FTTH based VUA services. Please also see ComReg's views on the use of EEO at paragraph 10.119 above.

10.127 Having considered the submissions from respondents, the principles of the retail margin squeeze test in the WLA Market between FTTH based VUA in the footprint of the Urban WCA Market and retail broadband services delivered by FTTH based VUA and sold singly (on a standalone basis) remains appropriate for the reasons set out above at paragraphs 10.114 to 10.126 and in Chapter 10, paragraphs 10.57 to 10.101 of the Consultation.

### 10.3.4 ComReg's Position:

10.128 The retail margin squeeze test in the WLA Market between FTTH based VUA in the footprint of the Urban WCA Market and retail broadband services delivered by FTTH based VUA and sold singly (on a standalone basis) shall be based on the parameters set out in the table below:

<b>Principle</b>	<b>Standalone FTTH based VUA to retail</b>
<b>Operator cost base</b>	EEO
<b>Cost standard</b>	ATC
<b>Model type</b>	DCF Model
<b>Basis</b>	Portfolio of FTTH based VUA services

## Chapter 11

# 11 Margin squeeze tests in the Regional WCA Market

## 11.1 Background

- 11.1 In this chapter, ComReg further specifies the principles that should apply to the standalone retail margin squeeze test between FTTH based Bitstream and the retail product or products delivered by FTTH based Bitstream and sold singly in the Regional WCA Market.
- 11.2 In Chapter 11 of the Consultation, ComReg discussed competition concerns relevant to the Regional WCA Market and why the obligation not to cause a margin squeeze was considered proportionate and justified. Please see Chapter 11, paragraphs 11.4 to 11.7 of the Consultation for further details.
- 11.3 By way of background, in Section 13 of the 2016 WLA / WCA Market Review Consultation (at paragraphs 13.313 to 13.354) and as further specified in Chapter 11 of the Consultation ComReg proposed a number of margin squeeze tests in the Regional WCA Market as follows:
- a wholesale margin squeeze test between End-to-End Bitstream (current generation and next generation) and Bitstream (current generation and next generation);
  - a retail margin squeeze test between FTTH based Bitstream and retail broadband services delivered by FTTH based Bitstream;
  - a retail margin squeeze test between FTTC based Bitstream and retail broadband services delivered by FTTC based Bitstream;
  - a retail margin squeeze test between current generation WCA services and retail broadband services delivered by current generation Bitstream services in what was then identified as Regional Area 1 of the Regional WCA Market; and
  - a retail margin squeeze test between current generation WCA services and current generation retail broadband services delivered by current generation Bitstream services in what was then identified as Regional Area 2 of the Regional WCA Market.

- 11.4 Further to the consultation process relating to the 2016 WLA / WCA Market Review Consultation, and taking into account the views of respondents, ComReg has streamlined and simplified the approach in relation to the standalone margin squeeze tests. The only standalone retail margin squeeze test that shall apply in the Regional WCA Market going forward is between FTTH based Bitstream and FTTH based retail broadband services delivered by FTTH based Bitstream and sold singly. This is based on the reasoning set out in Section 12, paragraphs 12.333 to 12.334 of the 2018 WLA / WCA Market Review Decision and as further specified at section 11.3 of this Decision.
- 11.5 ComReg has decided that a wholesale margin squeeze test between End-to-End Bitstream (current generation and next generation) and Bitstream (current generation and next generation) is no longer required. This is based on the reasoning set out in Section 12, paragraph 12.332 of the 2018 WLA / WCA Market Review Decision.
- 11.6 It was proposed in the 2016 WLA/WCA Market Review Consultation<sup>245</sup> that FTTC based Bitstream would continue to be subject to an obligation not to cause a margin squeeze against retail products delivered by FTTC based Bitstream services. However, ComReg considers that a margin squeeze test alone has not been sufficient to address competition problems in the provision of FTTC based Bitstream, and as determined in Section 12 of the 2018 WLA / WCA Market Review Decision, ComReg is imposing a cost orientation obligation on FTTC based services. As set out in Section 12, paragraph 12.334 of the 2018 WLA / WCA Market Review Decision ComReg notes its expectation of the sufficiency of other measures (including obligations of access and transparency, as well as cost orientation), and so there will be no standalone margin squeeze test between FTTC based services and retail services delivered by FTTC and sold singly. However, given the incentive and potential for Eircom to cross subsidise between its retail products when sold in a bundle, all FTTC based services (sold singly or in a bundle) will be included in the overall retail margin squeeze tests as further outlined in the 2018 Bundles Decision.

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<sup>245</sup> See paragraphs 13.344 to 13.348 of the 2016 WLA/WCA Market Review Consultation.

- 11.7 As set out in Section 12, of the 2018 WLA / WCA Market Review Decision, CoReg has decided not to further specify a standalone retail margin squeeze test between current generation WCA services and retail services delivered by current generation WCA services. As discussed in Chapter 4, and as determined at Section 12, paragraph 12.340 of the 2018 WLA / WCA Market Review Decision, ComReg has also decided not to further differentiate pricing remedies within the Regional WCA Market, and so all pricing obligations apply across the Regional WCA Market. However, a retail margin squeeze obligation applies between current generation WCA services and current generation retail services delivered by current generation WCA services across the Regional WCA Market, whether sold singly or in bundle, and will be included in the overall retail margin squeeze tests as further specified in the 2018 Bundles Decision.
- 11.8 In summary, since publication of the Consultation and the 2016 WLA / WCA Market Review Consultation, and given consideration to the views of respondents, ComReg has made some refinements to its approach regarding the wholesale and retail margin squeeze obligations in the Regional WCA Market. The refined approach should reduce the complexity of the pricing regime across the WLA Market and the WCA Markets as well as reducing the number of tests required, particularly for the assessment of standalone / single broadband products and services. The changes also reflect the practice that broadband is often not purchased on its own but rather bundled with another service. ComReg's refined approach takes account of the feedback obtained through the consultation process while also ensuring that the regulatory objectives of promoting competition and incentivising investment are maintained.
- 11.9 The remainder of this chapter is discussed under the following headings:
1. Wholesale margin squeeze test for End-to-End Bitstream;
  2. Standalone retail margin squeeze test for NGA services; and
  3. Standalone retail margin squeeze test for current generation services.

## 11.2 Wholesale margin squeeze test for End-to-End Bitstream

### 11.2.1 Position set out in the Consultation:

11.10 In Chapter 11 of the Consultation<sup>246</sup> ComReg set out the reasons why a margin squeeze obligation was considered proportionate and justified in relation to End-to-End Bitstream.

11.11 ComReg reached the preliminary view that the margin squeeze test between the associated WCA regulated components (or Bitstream) and End-to-End Bitstream for both current generation and next generation services should be based on the following margin squeeze principles:

- REO cost base (or the SEO costs as a proxy for REO in the absence of REO cost data);
- 'LRAIC plus' cost standard; and
- An operator with an assumed retail broadband market share of 25%.

11.12 Please see Chapter 11, paragraphs 11.16-11.39 of the Consultation for further details.

### 11.2.2 Respondents' Views:

11.13 There were mixed views amongst respondents regarding the proposed margin squeeze principles for the wholesale End-to-End margin squeeze tests for both current generation and next generation services.

11.14 Sky reiterated their response to the previous question that ComReg should revisit the issue of how promotions/offers are treated in the margin squeeze tests.

11.15 Enet commented that the specifics of ComReg's margin squeeze tests should be such that planned FTTH investments by alternative operators are appropriately incentivised.

11.16 Both ALTO and BT agreed with the approach, but stated that they were also concerned as to how ancillary functions are considered in the margin squeeze tests as this could easily distort the positive benefit gained by the switchless provider. ALTO also expressed the view that the End-to-End margin squeeze test lacked transparency.

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<sup>246</sup> See Section 11.3.1 of the Consultation.

- 11.17 ALTO submitted that other operators would have to factor in the costs of additional features in the services they offer to provide functioning services and that it was not clear that the same is true for Eircom's white label products.
- 11.18 Vodafone agreed in principle with ComReg's proposed approach, but stated that the basis of costs should not just be anchored to Eircom.
- 11.19 Eircom did not agree with a number of aspects of the proposed wholesale margin squeeze test. In particular, Eircom stated that ComReg had failed to consider all regulatory options available. Eircom did not agree that ComReg's stated concern (that such a service could be offered at a price below that of the regulated WCA components) was valid. Eircom highlighted that a component of the service is unregulated. Eircom was of the view that the total end-to-end price will always be more expensive than the WCA component prices in the Bitstream service and so the concern expressed would never materialise.
- 11.20 Eircom stated that ComReg had proposed an operator cost base which was inconsistent with the competition issues identified. Eircom did not agree that REO is the appropriate base. In their view, REO only applied in calculating the cost of the unregulated element, therefore this was proposed regulation of an unregulated service, and as such warranted a 'three criteria' test. Eircom expressed a view that the use of REO/LRAIC+ was a higher economic standard than that accepted under *ex post* competition law (EEO and LRAIC). Eircom did not agree with ComReg's view that an SEO cost base is appropriate in the absence of REO data, stating that, in its view, the use of an SEO approach to calculate the price of an unregulated services is inconsistent with *ex post* competition law. Eircom claimed that ComReg had proposed different cost standards for unregulated services in different regulatory decisions. Eircom considered that where services are unregulated it should be able to compete on the merits of its own costs.
- 11.21 Furthermore, Eircom argued that it was not clear how ComReg would assess compliance. Eircom considered that as ComReg had not consulted on how compliance would be assessed, it reserved the right to submit further views on the appropriateness of such a test.
- 11.22 Eircom stated that ComReg had used incorrect values and inappropriate assumptions in the wholesale margin squeeze test model. It stated that the use of the derived cost from the main NGA Cost Model as the "price" of FTTH and FTTC based Bitstream as an input to the test is incorrect. Eircom was of the view that the correct input is the price it charges per port (fixed) and usage (variable) for each service. Eircom argued that the IP connectivity costs should use that of Eircom (an existing operator). [3< [REDACTED]

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11.23 Finally, Eircom made a number of additional points under the heading “other considerations” in replying to Question 24. Eircom did not agree that LRAIC+ was appropriate to use in the margin squeeze test, stating that it was incorrect in the circumstances, as it imposed a higher cost standard to calculate the overall cost of the unregulated service element in the end-to-end service. This then would be a higher standard than is accepted under *ex post* competition law. Eircom also stated that they did not agree with the use of 25% market share. They claimed it was not apparent why it was necessary to maintain a price obligation on CGA in general and where CGA is bundled with unregulated services.

### **11.2.3 ComReg’s Assessment of Respondents’ Views:**

11.24 As determined in Section 12 of the 2018 WLA / WCA Market Review Decision the wholesale margin squeeze test between End-to-End Bitstream (current generation and next generation) and Bitstream (current generation and next generation) is no longer warranted.

11.25 As set out in Section 12, paragraph 12.332 of the 2018 WLA / WCA Market Review Decision, ComReg reviewed the scale and use of Eircom’s End-to-End Bitstream products. This review indicated that only around 3% of customers across the WCA Markets are addressed through the facility of End-to-End Bitstream products, and a proportion of these are located in the Urban WCA Market. The implementation of a margin squeeze test between End-to-End Bitstream (current generation and next generation) and Bitstream (current generation and next generation) would therefore be of limited (and declining) relevance in the Regional WCA Market.

11.26 ComReg is aware that there is a group of retail providers that do not have scale and are not immediately pre-disposed to climb the ladder of investment, but may in time consider such a strategy. ComReg may review its finding should any anti-competitive practices disadvantage such OAOs.

11.27 ComReg took views expressed by respondents into account in deciding in the 2018 WLA / WCA Market Review Decision that an obligation not to cause a margin squeeze between Bitstream (current generation and next generation) and End-to-End Bitstream (current generation and next generation) is not required, and so specific points raised by respondents on the principles of the test have not been considered any further.

### 11.2.4 ComReg's Position:

11.28 As determined in Section 12 of the 2018 WLA / WCA Market Review Decision, a margin squeeze test between End-to-End Bitstream (current generation and next generation) and Bitstream (current generation and next generation) is no longer required.

## 11.3 Standalone retail margin squeeze test for NGA services

### 11.3.1 Position set out in the Consultation:

11.29 In the Consultation<sup>247</sup> ComReg set out the reasons why it considered a retail margin squeeze obligation to be proportionate and justified in the context of NGA services in the Regional WCA Market.

11.30 In Chapter 11 of the Consultation ComReg reached the preliminary view that the following margin squeeze principles should apply regarding the NGA retail margin squeeze tests (FTTH and FTTC based NGA services) in the Regional WCA Market:

1. The REO cost base (or the SEO cost base as a proxy for REO costs in the absence of REO cost data) with some costs based on EEO costs (e.g., advertising, billing and product management costs);
2. The ATC cost standard;
3. A hypothetical operator with a market share of 25% (on REO costs) should be the relevant volume base;
4. The test should be assessed on a portfolio approach.

11.31 Please see Chapter 11, paragraphs 11.45 to 11.94 of the Consultation for further details.

### 11.3.2 Respondents' Views:

11.32 Respondents raised a number of issues around the proposed principles for a retail margin squeeze test for NGA services in the Regional WCA Market. These are detailed below.

11.33 Sky reiterated its point that ComReg should revisit the issue of how it treats offers/promotions in the margin squeeze tests.

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<sup>247</sup> See Section 11.4.1 in the Consultation.

- 11.34 Enet commented that the specifics of ComReg's margin squeeze tests for the pricing of services in the WLA and WCA Markets should be such that planned FTTH investments by alternative operators are appropriately incentivised.
- 11.35 ALTO did not agree with ComReg's proposals, stating that a portfolio approach can allow key flagship products to be squeezing whilst other less popular products are priced to make the portfolio pass. In ALTO's view, ComReg was not taking full account of EC Recommendations on this matter.
- 11.36 BT agreed generally with ComReg's proposals. However, they stated that in their view ComReg had ignored European Commission guidance on the use of flagship products within a margin squeeze test.
- 11.37 Vodafone did not agree with the principles of the margin squeeze test specifically in relation to the REO/EEO cost base and the use of a portfolio product range. They also commented that the use of 25% market share for a hypothetical operator may be too high when considered against the fixed retail revenue market share of authorised operators excluding Eircom.
- 11.38 Eircom did not agree with a number of ComReg's preliminary views.
- 11.39 Eircom stated that ComReg had failed to undertake any analysis of whether the move to cost orientation now would interfere with Eircom's ability to realise a 'fair bet'<sup>248</sup> on its FTTC investment. In Eircom's view, this would impact on future investment cases. The CEG Report also claimed that ComReg had not allowed Eircom to earn a fair return on its investment. The Communications Chambers Report put forward a view that neither Eircom nor SIRO would have had a fair bet, and that the price of FTTC would impact on the price of FTTH.
- 11.40 Eircom referred to the reasoning in the Consultation for a retail margin squeeze test that a retail margin squeeze obligation for NGA Bitstream services is appropriate: *"in order to ensure there is no foreclosure of operators at the retail level in the context of FTTH and/or FTTC"*. They stated that, in their view, this is a theoretical concept and no consideration had been given to *ex post* competition law. Eircom expressed a view that where wholesale prices are cost oriented, it is not appropriate to have a concurrent *ex ante* margin squeeze test.
- 11.41 In Eircom's view, ComReg had over relied on a theoretical possibility to justify *de facto* retail regulation and failed to consider how far other controls might successfully address any foreclosure concerns.

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<sup>248</sup> An investment is considered to be a 'fair bet' when expected return is equal to the cost of capital, at the time of investment. This allows the investor to benefit from the risk of demand being higher than expected balanced against the risk of returns below the cost of capital if demand is low.

- 11.42 Eircom commented that ComReg had proposed an operator cost base which was inconsistent with the competition issues identified. Eircom did not agree with the use of REO and EEO for the retail margin squeeze tests in the Regional WCA Market for NGA. They were of the view that it was inconsistent with ComReg's objectives and would not be consistent with the nature of the problem identified. They also stated that it created legal uncertainty regarding the appropriate benchmark and that the use of REO was inconsistent with both competition law and the 2013 Non-Discrimination Recommendation. Furthermore, in Eircom's view, ComReg had not provided any evidence that the commercial strategies of existing competitors required additional headroom such that firms might reach efficient scale in the future by means of VUA in the Regional WCA Market. Eircom also stated that ComReg had not acknowledged that an SEO cost base artificially raises prices above the competitive level which leads to reductions in static efficiency.
- 11.43 Eircom also sought clarification on the suggestion that ComReg may keep the future use of EEO under review. They referenced paragraph 11.52 of the Consultation in this regard. They also stated that the proposed use of SEO for the majority of downstream retail costs is based on wholly insufficient reasoning.
- 11.44 Eircom commented that the market is subject to national pricing, and that the imposition of stringent margin squeeze tests in the Regional WCA Market could result in higher prices in the Urban WCA Market due to an inconsistent retail margin squeeze test in respect of the downstream retail costs used between exchange areas.
- 11.45 Eircom did not agree with the use of an ATC cost standard within the test, saying that it was too high a cost. They were of the view that LRAIC at the individual portfolio level better met ComReg's regulatory objectives.
- 11.46 While Eircom agreed that a DCF model was appropriate if there were retail margin squeeze tests, Eircom stated that ComReg had not fully consulted on the different types of operators that can be considered in the DCF model and failed to consult on the market share that the operator attains over the life of the model.
- 11.47 In Eircom's view, ComReg proposed a test without an effects-based analysis of whether Eircom's pricing could lead to actual foreclosure, for which the assessment period had not been specified or consulted on.

11.48 Eircom considered that where a wholesale price is determined based on a margin squeeze/retail minus, a separate portfolio for FTTC and FTTH may be appropriate. Eircom stated that they agreed with the use of 25% market share and reiterated previous comments on customer lifetimes and revenue from excess usage as per their response to Question 24.

### **11.3.3 ComReg's Assessment of Respondents' Views:**

11.49 As noted at the beginning of this chapter (paragraphs 11.4 to 11.8), ComReg has streamlined and simplified its approach in relation to the retail margin squeeze obligations for next generation WCA services during the consultation process. As determined in the 2018 WLA / WCA Market Review Decision the only WCA service in the Regional WCA Market that is subject to a standalone retail margin squeeze obligation is FTTH based Bitstream. Please see Section 12 of the 2018 WLA / WCA Market Review Decision for further details.

11.50 For FTTC based Bitstream, ComReg decided in the 2018 WLA / WCA Market Review that a standalone margin squeeze test between FTTC Bitstream and retail services delivered by FTTC Bitstream and sold singly was no longer required. This is because ComReg has decided to impose a cost orientation obligation on FTTC based Bitstream, and this, together with other *ex ante* obligations including access and transparency, is deemed to be sufficient to ensure that Eircom does not act in an anti-competitive manner with regards to its supply of standalone retail services delivered by FTTC based Bitstream. Please see Section 12 of the 2018 WLA / WCA Market Review Decision for further details.

11.51 However, ComReg decided in Section 12 of the 2018 WLA / WCA Market Review that all retail services delivered by FTTC based Bitstream, whether provided singly or in a bundle, would be assessed as part of the overall retail margin squeeze tests. This is further specified in the 2018 Bundles Decision.

11.52 ComReg has considered all of the responses received in adapting its approach, and in coming to the decision in the 2018 WLA/WCA Market Review. While ComReg has reviewed all of the submissions received, ComReg has in light of this evolution of approach only further discussed respondents' views relevant to the further specification of the margin squeeze test between FTTH based Bitstream and retail services delivered by FTTH based Bitstream and sold singly in the Regional WCA Market.

- 11.53 As outlined at paragraph 11.33 above, Sky noted concerns in relation to the ongoing use of promotions and discounts which impair the use of the margin squeeze tests. ComReg can clarify that the retail margin squeeze obligation for the standalone FTTH based Bitstream service in the Regional WCA Market also applies to all retail promotions and discounts. Therefore, where Eircom offers a promotion or discount on its retail product(s) delivered by FTTH based Bitstream then such a promotion or discount must be in line with the retail margin squeeze test (and related principles) for FTTH based Bitstream services in the Regional WCA Market. The standalone retail margin squeeze model for FTTH based Bitstream should take account of any promotions / discounts, where they arise.
- 11.54 As outlined at paragraph 11.34 above, Enet noted that the margin squeeze test should support investments undertaken by operators of alternative networks. ComReg's view is that the purpose of the retail margin squeeze test is to ensure that Eircom allows sufficient retail margin for an efficient OAO to compete. However, ComReg notes that its overall approach to remedies in the Regional WCA Market addresses the need to support the investment by operators of alternative networks. In particular, ComReg has put in place a price floor for FTTH based VUA services (in the WLA Market) that will ensure that Eircom is not able to price below its costs and so disadvantage other operators investing in infrastructure<sup>249</sup>. This regulation in the upstream market will help protect operators investing in infrastructure in the Regional WCA Market.
- 11.55 ALTO and BT expressed views, as outlined at paragraphs 11.35 - 11.36 above, that the margin squeeze test should be undertaken based on a consideration of key flagship products rather than a portfolio approach. Vodafone also disagreed with the portfolio approach, as outlined at paragraph 11.37 above. ComReg also notes that in BT's view, ComReg was not following EC Recommendations in adopting a portfolio approach rather than a flagship product approach. However, the flagship approach recommended by the EC when considering the parameters of an economic replicability test is not a single product-by-product approach, and indeed the EC explicitly states that "*Flagship products are likely to be offered as a bundle.*"<sup>250</sup> The aim of the flagship approach is to identify products which are particularly relevant to current and future competition, and ComReg considers that its portfolio approach, which weighs the contribution of different products, addresses this aim.
- 11.56 Furthermore, for FTTH based Bitstream services, ComReg considers that other operators are also likely to offer a portfolio of services and could therefore choose to compete with Eircom across a similar product portfolio. The portfolio approach therefore reflects the actual patterns of demand and supply of FTTH

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<sup>249</sup> This approach is further discussed in Chapter 12 of this Decision.

<sup>250</sup> Annex II, 2013 Non-Discrimination Recommendation.

based Bitstream services and retail services delivered by FTTH based Bitstream, and consequently could lead to greater innovation in the market by all operators, to the benefits of consumers. Furthermore, the demand for FTTH based products remains uncertain and ComReg believes that some flexibility can allow for price alterations within the portfolio in response to actual take-up of FTTH products. This approach is consistent with the assessment basis used in the overall retail margin squeeze tests, as further specified in Chapter 5 of the 2018 Bundles Decision.

- 11.57 Vodafone expressed concerns, as outlined at paragraph 11.37 above, that the operator market share threshold applied within the margin squeeze test was too high, when set to 25%. Both Vodafone and Eircom (outlined at paragraph 11.42 above) queried the use of a mixed cost base including SEO (as a proxy for REO) and EEO. As outlined at paragraph 11.43 above, Eircom also sought clarification on the suggestion that ComReg may keep the future use of EEO under review.
- 11.58 ComReg has considered respondents' views and concludes that there is merit in reviewing its approach to the cost base used in the test between FTTH based Bitstream and retail services delivered by FTTH based Bitstream in the Regional WCA Market. ComReg considers that the EEO cost base should be applied in the test. ComReg notes that other operators in the Regional WCA Market could realise similar economies of scope and scale to those of Eircom. ComReg notes that moving to an EEO cost base also means consistency with the 2013 Non-Discrimination Recommendation, which specifies that, ideally, an EEO cost base should be applied.
- 11.59 A move to an EEO cost base means that no adjustment for differences in scale / scope (between an OAO and Eircom) is required, and so the 25% market share adjustment, which was challenged by Vodafone in their submission to this question, is no longer relevant in relation to the retail margin squeeze test for FTTH based Bitstream.
- 11.60 ComReg has considered the cost recovery of Eircom's FTTC investment in Chapter 6 of this Decision in order to address the submission made by Eircom, as outlined at paragraph 11.39 above. In relation to ComReg's alleged failure to assess whether a move to cost orientation would adversely affect Eircom's ability to realise a 'fair bet' on its FTTC investment, justification for the imposition of a cost orientation obligation on FTTC based Bitstream services is set out in Section 13 of both the 2016 WLA / WCA Market Review Consultation and in Section 12 of the 2018 WLA / WCA Market Review Decision. The issue of 'fair bet' is also discussed in Chapter 3, paragraph 3.116 of this Decision.



- 11.61 ComReg has considered Eircom's view, as outlined in paragraphs 11.40 to 11.41 and in paragraph 11.47 above, regarding a concurrent retail margin squeeze test and a wholesale cost orientation obligation. ComReg notes that it can be justifiable to introduce the application of concurrent obligations of cost orientation and margin squeeze on the grounds that they are designed to address different competition problems. As previously set out in Section 13 of the 2016 WLA / WCA Market Review Consultation, the cost orientation obligation addresses the risk that Eircom may engage in excessive pricing of wholesale products in the Regional WCA Market, while the obligation not to engage in margin squeeze ensures that there will be a sufficient retail margin for Access Seekers to compete. However, as determined in Section 12 of the 2018 WLA / WCA Market Review Decision and as summarised above, ComReg is not applying concurrent cost orientation and margin squeeze obligations to FTTH based services. FTTH based services are not subject to a cost orientation obligation, as determined in Section 12 of the 2018 WLA / WCA Market Review Decision. Further, as set out in Section 12 of the 2018 WLA / WCA Market Review Decision, as FTTC based Bitstream is subject to a cost orientation obligation ComReg no longer requires a specific standalone retail margin squeeze test between FTTC based Bitstream and retail services delivered by FTTC based Bitstream and sold singly in the Regional WCA Market. Please see Section 12, paragraphs 12.333-12.334 of the 2018 WLA / WCA Market Review Decision for further details. However, CGA Bitstream and FTTC based services will be assessed in the retail margin squeeze test in the context of Bundles as set out in the 2018 Bundles Decision.
- 11.62 Further, Eircom considered that the risk of foreclosure was a 'theoretical concept' used to justify *de facto* retail regulation, and that ComReg had not considered the potential application of *ex post* competition law. ComReg disagrees with the suggestion that the risk of foreclosure is a 'theoretical concept' and submits that it is instead a risk associated with a vertically-integrated SMP operator which has the ability and incentive to leverage its market power in the Regional WCA Market into the corresponding retail market. In the 2018 WLA / WCA Market Review Decision, ComReg has discussed in detail why it is not sufficient to rely on *ex post* measures in the Regional WCA Market, where Eircom has been designated with SMP.
- 11.63 In relation to Eircom's submission, as outlined at paragraph 11.47 above, that ComReg had proposed a test without an effects based analysis of whether Eircom's pricing could lead to actual foreclosure, ComReg is of the view that the underlying ability and incentives for Eircom to potentially engage in anti-competitive behaviour absent regulation is due to the lack of effective competition in the Regional WCA Market, coupled with Eircom's position as a vertically integrated supplier competing with its wholesale customers in downstream markets. Furthermore, ComReg would note that it is neither

necessary to catalogue examples of actual abuse nor to provide exhaustive examples of potential abuse. Rather, the purpose of *ex ante* regulation is to prevent the possibility of abuse of dominance given that Eircom has SMP in the Regional WCA Market. The precise characteristics of the retail market do not need to be determined, and there does not need to be an SMP finding at a retail level, for ComReg to put in place measures designed to ensure that Eircom cannot leverage its market power from wholesale markets in which it has been found to have SMP (in this case, the Regional WCA Market) into corresponding downstream markets. This does not constitute regulation of the retail market because the regulation is applied in the relevant wholesale market.

- 11.64 As outlined at paragraph 11.42 above, Eircom expressed the view that ComReg had not taken into account the commercial strategies of existing competitors, in particular the possibility that they may reach efficient scale in the future through using VUA, and that this was more likely given the impact of Regional Handover. ComReg's overall approach has taken full account of current and likely future developments in the market, and ComReg has been clear that the range of measures proposed are designed to encourage and support investment with a view to strengthening the competitive environment. In the 2018 WLA / WCA Market Review Decision, ComReg maintains the need for an obligation not to cause a margin squeeze between FTTH Bitstream and retail services delivered by FTTH based Bitstream and sold singly in the Regional WCA Market, and ComReg considers that this obligation is required even if at some point, operators move to invest in VUA.
- 11.65 ComReg has considered Eircom's assertion, as outlined at paragraph 11.44 above, that the imposition of a margin squeeze test in the Regional WCA Market could result in higher prices in the Urban WCA Market due to an inconsistent retail margin squeeze test in respect of the downstream retail costs used between exchange areas, and due to national pricing. ComReg notes that there is no margin squeeze test applied between FTTH based Bitstream and retail services delivered by FTTH based Bitstream and sold singly in the Urban WCA Market, and that this test applies only in the Regional WCA Market. This is a consequence of the differing conditions of competition between the two WCA Markets. The choice of national pricing is a choice made by Eircom, it is not a regulatory requirement.
- 11.66 Eircom stated, as outlined at paragraph 11.45 above, that the appropriate cost standard used for the retail margin squeeze test should be based on LRAIC at the individual portfolio level, rather than using a standard based on ATC. As outlined by ComReg in the Consultation<sup>251</sup>, ComReg's view is that the difference between LRAIC+ and ATC for retail costs will be insignificant. ComReg notes that the 2013 Non-Discrimination Recommendation permits the

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<sup>251</sup> See paragraph 11.61 of the Consultation.

use of ATC costs as a top-down equivalent approach, in the absence of a bottom up LRAIC alternative. Also, in the DCF model the retail costs are linked to the HCA top down Separated Accounts. The accounts are considered to be a reasonable proxy for the ATC perspective of the retail costs. The application of the retail costs identified in Eircom's accounts are then applied within the DCF cost model used to determine the retail costs relevant for inclusion in the margin squeeze test. ComReg therefore maintains that it is appropriate to use a standard based on ATC.

- 11.67 Eircom argued, as outlined at paragraph 11.46 above, that ComReg had not fully consulted on the different types of operators that can be considered in the DCF model and that it failed to consult on the market share that the operator attains over the life of the model. As set out in Chapter 11 of the Consultation, the current approach in the DCF model uses Eircom's costs – both historic which are based on Eircom's audited Regulated Accounts and Eircom's forecast of those costs – as a data source. These costs can then adjusted to reflect the costs that a new retail broadband market entrant would be likely to incur. As such, the DCF approach includes one-off start-up costs, ongoing fixed and variable operating costs including capital costs and a terminal value. In addition, a number of costs are inflated by an overhead mark-up of 25% to create an additional margin buffer to reflect the likely new retail broadband market entrant mark-up of common costs. The above cost categories can also be adjusted for scale and scope depending on the chosen operator cost base i.e., SEO or REO. Please see additional details set out in Section 11.4.7 of the Consultation. ComReg believes that the DCF approach described above and as set out in Chapter 11 of the Consultation remains appropriate in the context of FTTH services except for the application of the uplift / mark-up of 25% to certain retail cost categories i.e., Sales, product management and development, help desk and order handling costs. Given ComReg's Decision to use the EEO cost base (as discussed at paragraph 11.58 above), no further adjustment is required to these specific retail costs. However, the DCF modelling approach remains appropriate given that the demand for FTTH services remains uncertain and the volumes of FTTH to date remain low. The assumption of a new entrant operator also remains valid in the context of the provision of FTTH services.

- 11.68 ComReg accepts the submission made by Eircom, as outlined at paragraph 11.48 above, that where a wholesale price is determined based on a margin squeeze/retail minus, a separate portfolio for FTTC and FTTH may be appropriate. As set out in Section 12 of the 2018 WLA / WCA Market Review Decision, the only standalone retail margin squeeze test relevant in the Regional WCA Market going forward is between FTTH based Bitstream and retail services delivered by FTTH based Bitstream when sold singly. The assessment of the retail margin squeeze test for FTTH based Bitstream is carried out across the portfolio of FTTH based Bitstream services and not for each individual FTTH based Bitstream service.
- 11.69 In relation to Eircom's point, as outlined at paragraph 11.48 above, regarding customer lifecycles, please see paragraph 10.121.
- 11.70 In response to Eircom's view that revenue from excess usage should be taken into the model, ComReg notes that the revenues taken into account in the model are limited to rental and connection charges, as the modelling exercise is based on a new entrant.
- 11.71 Having considered the submissions from respondents, the principles of the retail margin squeeze test for standalone FTTH based Bitstream and retail broadband services delivered by FTTH based Bitstream and sold singly (on a standalone basis) in the Regional WCA Market remain appropriate, except for the change to the cost base from a combination of REO and EEO to a complete EEO cost base as discussed at paragraphs for the reasons set out above at paragraphs 11.57 to 11.59.

#### 11.3.4 ComReg's Position:

- 11.72 The retail margin squeeze test between FTTH based Bitstream services and retail broadband services delivered by FTTH based Bitstream and sold singly (on a standalone basis) in the Regional WCA Market shall be based on the principles set out in the table below.

Principle	Standalone FTTH based Bitstream/retail broadband
Operator cost base	EEO
Cost standard	ATC
Model type	DCF
Basis	Portfolio

## 11.4 Standalone retail margin squeeze test for current generation services

### 11.4.1 Position set out in the Consultation:

11.73 In the Consultation<sup>252</sup>, ComReg set out the reasons why it considered a retail margin squeeze obligation was proportionate and justified for CGA services in the Regional WCA Market.

11.74 In Chapter 11 of the Consultation ComReg reached the preliminary view that the following principles should apply to the retail margin squeeze test for current generation Bitstream in Regional Area 1 and in Regional Area 2 of the Regional WCA Market:

Principle	Retail margin squeeze test in Regional Area 1	Retail margin squeeze test in Regional Area 2
<b>Operator cost base</b>	REO <sup>253</sup> and EEO costs	REO <sup>254</sup> costs
<b>Operator market share</b>	25% (on REO costs only)	25%
<b>Cost standard</b>	ATC	ATC
<b>Model type</b>	DCF model	DCF model
<b>Portfolio or product-by-product</b>	Portfolio	Product-by-product

11.75 Please see Chapter 11, paragraphs 11.101-11.139 of the Consultation for further details.

### 11.4.2 Respondents' Views:

11.76 A number of respondents disagreed with the proposed margin squeeze principles for the retail margin squeeze test for CGA services in Regional Area 1 and Regional Area 2 of the Regional WCA market. Issues raised by each respondent are summarised below.

<sup>252</sup> See paragraph 11.5.1 of the Consultation.

<sup>253</sup> Or the SEO cost base as a proxy for REO in the absence of REO cost data.

<sup>254</sup> Ibid.

- 11.77 Sky reiterated that ComReg should revisit the issue of how it treats offers/promotions in the margin squeeze tests.
- 11.78 Enet commented that the specifics of ComReg's margin squeeze tests should be such that planned FTTH investments by alternative operators are appropriately incentivised.
- 11.79 ALTO did not agree, for the reasons provided in response to Q25 (see paragraph 11.35 above).
- 11.80 Vodafone did not agree with ComReg's preliminary views, stating that they had concerns on the appropriate use of an EEO/REO cost base and of the portfolio approach. They also stated that they had significant concerns about the deregulation of the Urban WCA Market.
- 11.81 BT stated that they agreed generally. However they stated that they did not agree with ComReg's decision to ignore the European Commission guidance on flagship products and margin squeeze.
- 11.82 Eircom did not agree with a number of the principles and assumptions proposed.
- 11.83 In Eircom's view, ComReg had proposed obligations which were inconsistent with the nature of the competition problems identified. Eircom stated that the regulatory concern of protecting operators that rely on LLU/Line Share was already addressed through cost orientation - it was unclear to Eircom how a margin squeeze would further protect those operators.
- 11.84 Regarding ComReg's reasoning for a retail margin squeeze test in Regional Area 2 at paragraph 11.97 of the Consultation, Eircom commented that it was unclear what assessment ComReg had done to assess that it had lower downstream unit costs due to economies of scale or scope.
- 11.85 Eircom asserted that ComReg had not given consideration to the effectiveness of *ex post* competition law in addressing the identified risk of foreclosure.
- 11.86 In Eircom's opinion, ComReg over relied on the theoretical possibility of foreclosure to justify *de facto* retail regulation and failed to consider how far other controls would suffice. Eircom stated that it did not have the ability or incentive to cause a margin squeeze and therefore a margin squeeze test is not appropriate. They stated that should ComReg maintain the view that a margin squeeze test is required, it should not err further by departing from competition law principles when deciding on various parameters.

- 11.87 Eircom did not agree with the proposal of a combined REO/EEO cost based approach for Regional Area 1 and full REO cost based approach for Regional Area 2, stating that it was inconsistent with ComReg's objectives. Eircom also stated that it was unclear what assessment ComReg had done to assess that it has lower downstream unit costs than other operators, due to economies of scale or scope. Eircom commented that there was no evidence based justification as to why specific retail costs in Regional Area 1 and all retail costs in Regional Area 2 should be adjusted to reflect those of an SEO operator, in order to determine the retail costs to be used in the test in respect of a proxy for Eircom's national downstream costs.
- 11.88 Eircom welcomed the use of a portfolio approach in Regional Area 1 but stated that a single portfolio test in the Regional WCA Market was more appropriate. Eircom argued that the proposed product-by-product test unduly restricted Eircom's flexibility in how it allocates its fixed indirect and common costs between its offers, and focusing on individual offers is not beneficial to end users. In Eircom's view, it should not be in a position of having to provide competitive headroom for firms that elect to compete across an inefficiently narrow range of products.
- 11.89 Eircom did not agree with the use of a methodology based on ATC for the retail cost categories, and expressed a view that ComReg was inconsistent in its reasoning between retail and wholesale pricing methodologies. Eircom stated that applying LRAIC at the individual portfolio level would better meet ComReg's objectives.
- 11.90 Eircom also commented on the parameters in the DCF Model, lack of effects-based analysis and comments on the customer lifecycles, revenue from excess usage and use of 25% market share.
- 11.91 Eircom stated that there was no consideration within the margin squeeze test process that some of Eircom's retail competitors are not using Bitstream as the underlying wholesale input but rather purchasing LLU. They referred to the approach used in ComReg's D04/13 and noted that they did not understand why this was different.



### **11.4.3 ComReg's Assessment of Respondents' Views:**

- 11.92 As noted at the beginning of this chapter (paragraphs 11.4 to 11.8), ComReg has streamlined and simplified its approach in relation to the standalone retail margin squeeze obligations for WCA services since the consultation process. As determined in Section 12 of the 2018 WLA / WCA Market Review Decision, the standalone retail margin squeeze obligations for current generation WCA services in the Regional WCA Market are no longer warranted. As set out in Section 12, of the 2018 WLA / WCA Market Review Decision, current generation WCA services are in decline, and the imposition of other remedies including cost orientation, access and transparency are sufficient.
- 11.93 As ComReg has taken respondents' views into account when deciding not to continue with a specific standalone margin squeeze test between current generation WCA services and current generation retail services sold singly, it has not addressed particular points raised by respondents in relation to such a test.
- 11.94 However, the margins between current generation WCA services in the Regional WCA Market and retail services delivered by current generation WCA services, whether sold singly or in a bundle, will be assessed going forward as part of the overall retail margin squeeze tests in Bundles. Please see Section 12 of the 2018 WLA / WCA Market Review Decision and Chapter 5 of the 2018 Bundles Decision for the details.

### **11.4.4 ComReg's Position:**

- 11.95 As determined in the 2018 WLA / WCA Market Review Decision there is no longer a requirement for a standalone margin squeeze test between current generation WCA services and retail services delivered by current generation WCA services when sold singly.
- 11.96 However, all current generation WCA services, whether sold singly or in a bundle, will be included in the overall retail margin squeeze tests as further outlined in the 2018 Bundles Decision.

## Chapter 12

# 12 Other Regulatory Measures

## 12.1 Introduction

12.1 There are a number of other regulatory issues that ComReg has considered as part of this Decision, which are discussed under the following headings:

- (a) Price control period;
- (b) Pre-notification and compliance obligations for WLA and WCA services;
- (c) Regulatory approval mechanism to allow Eircom to reduce prices in certain geographic areas under certain conditions.

12.2 Each one is discussed in turn below.

## 12.2 Price control period

### 12.2.1 Position set out in the Consultation

12.3 In Chapter 12 of the Consultation<sup>255</sup> ComReg was of the preliminary view that the price control period should be for at least three years from the date of ComReg's Decision, but in any event it should remain in place until further notice by ComReg.

12.4 In addition, ComReg proposed that on an annual basis Eircom should review the inputs, costs and assumptions of the NGN Core Model and the NGA Cost Model. If, as a result of this review, it is clear that there are material differences then Eircom should bring this to the attention of ComReg. ComReg may then assess these material differences and consider how any issues arising might be addressed going forward.

12.5 Please also see Chapter 12, paragraphs 12.3-12.8 of the Consultation.

### 12.2.2 Respondents' Views:

12.6 All respondents generally agreed that the price control period should be for at least three years.

12.7 Sky proposed that the price control period should be extended given the time taken to conclude market reviews.

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<sup>255</sup> See paragraphs 12.3 to 12.8 of the Consultation.

- 12.8 Eircom stated that the period should be for 3 years only, and absent a further ComReg review the market should revert to *ex post* competition remedies.
- 12.9 There was also general agreement amongst respondents that the NGN Core Model and the NGA Cost Model should be reviewed annually. ALTO and BT considered that this should bring regulatory certainty, with a safeguard to address any material change which may emerge. Vodafone agreed but stated that it would be preferable for an indication of the post period price controls envisaged. Enet agreed that the model should be reviewed annually for material and/or exceptional changes.
- 12.10 Sky proposed that there was a need for a contingency plan for FTTH should evidence of excessive pricing emerge, and indicated that ComReg would need to be able to respond promptly.
- 12.11 Eircom expressed a view that ComReg's approach to depreciation generally resulted in under-recovery of costs in early years with price rises necessary over time to eventually ensure recovery. In their opinion, a failure to provide for ongoing price increases would violate ComReg's duty (under Article 13 of the Access Directive) to ensure that Eircom receives a reasonable return on its capital.

### 12.2.3 ComReg's Assessment of Respondents' Views:

- 12.12 ComReg notes the general agreement amongst respondents regarding the price control period and the annual review of the cost models by Eircom.
- 12.13 ComReg notes Sky's point, as outlined at paragraph 12.7 above, that the price control period should be extended given the time taken to conclude the market reviews. Regardless of the time taken to conclude the market reviews, the price control period will only commence once the final decision is published and is in effect, and will then be in place for at least three years and until further notice by ComReg.
- 12.14 Further to Eircom's point, as outlined at paragraph 12.8 above, that the price control period should be for three years only and that absent a further review the market should revert to *ex post* competition remedies, ComReg does not agree. The European Commission has established in its 2014 Recommendation<sup>256</sup> that the WLA Market and the WCA Markets are susceptible to *ex ante* regulation. ComReg has carried out a review of the WLA Market and the WCA Markets, as set out in the 2018 WLA / WCA Market Review Decision, and ComReg has determined that Eircom has SMP in the

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<sup>256</sup> European Commission Recommendation of 9 October 2014 on relevant product and service markets within the electronic communications sector susceptible to *ex ante* regulation (the '2014 Recommendation').

WLA Market, nationally, and in the Regional WCA Market. As a result of the SMP designations and the competition problems identified in those markets identified above, a number of regulatory remedies have been imposed on Eircom. Therefore, ComReg does not consider that *ex post* competition remedies are appropriate in a market(s) where an operator has been designated with SMP, because by definition, *ex ante* remedies are required to address actual and potential competition problems in those markets.

- 12.15 ComReg does not agree with Vodafone's point, as outlined at paragraph 12.9 above, that it would be preferable for an indication of the post period price controls envisaged. The price controls further specified in this Decision will remain in place for three years but in any event it will remain in place until further notice by ComReg. In this Decision ComReg has set out the indicative prices for FTTC based services (and POTS based FTTC services) as well as current generation Bitstream and BMB services for the first two years beyond the price control period for transparency purposes and in the event that a further review is not completed by then.
- 12.16 ComReg notes Sky's proposal regarding the need for a contingency plan for FTTH should evidence of excessive pricing emerge. ComReg recognises that Eircom may have the ability and incentive to price excessively even in the presence of a margin squeeze price control, particularly in the absence of a cost orientation obligation. ComReg notes that in the areas where FTTH is currently planned to be rolled out there is little or no competing infrastructure which could exercise a sufficiently meaningful constraint on Eircom's pricing. ComReg intends to keep FTTH pricing under review and will intervene if required.
- 12.17 ComReg has considered Eircom's comments, as outlined at paragraph 12.11 above, regarding ComReg's approach to depreciation generally resulting in under-recovery of costs in early years with price rises necessary over time to eventually ensure recovery. ComReg has set out its position on the application of Economic Depreciation in Chapter 6, paragraphs 6.70-6.71.
- 12.18 Having considered the submissions from respondents, ComReg considers that a price control period of at least three years as well as an annual review of the relevant models (NGA Cost Model and NGN Core Model) by Eircom remains appropriate for the reasons set out above at paragraphs 12.12 to 12.17, and in Chapter 12, paragraphs 12.3 to 12.8 of the Consultation.

#### **12.2.4 ComReg's Position:**

- 12.19 The price control will be set for at least three years from the date that this Decision takes effect and will remain in place until further notice by ComReg.

12.20 Eircom shall review the inputs, costs and assumptions of the NGN Core Model and NGA Cost Model annually. Any material/exceptional changes should be brought to the attention of ComReg for consideration.

## **12.3 Pre-notification and compliance obligations for WLA and WCA services**

12.21 The discussion in this section is set out under the following subheadings:

1. Wholesale notification procedures;
2. Wholesale promotions and discounts;
3. Retail notification procedures.

### **1. Wholesale notification procedures**

#### **12.3.1 Position set out in the Consultation:**

12.22 In the Consultation, ComReg proposed that where Eircom decides to amend its wholesale prices for WLA and WCA services or introduce new prices, for both rental charges and for ancillary charges, that the notification and approval procedures set out below should apply (for price reductions, price increases and for new prices) in order to ensure that Eircom complies with its price control obligations. These obligations would apply to price changes for all products, services and facilities mandated in the WLA and WCA markets. ComReg considered that the pre-notification procedures should apply to ancillary services, in addition to rental charges, e.g., upfront / connection charges, as these charges can be a significant cost to OAOs.

12.23 At notification, ComReg proposed that Eircom should provide a written statement of compliance demonstrating Eircom's compliance for its wholesale price changes (new prices and changes to existing prices) to the services in the WLA and WCA markets, demonstrating how it is complying with its wholesale price control obligation(s), including a cost orientation obligation and / or a wholesale margin squeeze obligation.

12.24 ComReg proposed a process whereby it would assess Eircom's statement of compliance within one month of receipt, and would provide a written view on the statement, and on the extent to which it appeared to be in line with wholesale price control obligations.

12.25 Please see Chapter 12, paragraphs 12.11 to 12.25 of the Consultation for further details.

### 12.3.2 Respondents' Views:

- 12.26 All respondents broadly agreed with the wholesale pre-notification procedures for wholesale price changes or new wholesale prices associated with the price control obligation for WLA and WCA services mandated in the relevant markets.
- 12.27 Sky, Vodafone and Enet agreed with the proposed wholesale pre-notification procedures.
- 12.28 Eircom agreed that a pre-notification period should apply for wholesale price changes, but asserted that there should be no SMP in the market for WCA.
- 12.29 ALTO and BT proposed a 45-day notice period for new or amended wholesale prices in order to accommodate the need for operators to potentially inform retail customers.

### 12.3.3 ComReg's Assessment of Respondents' Views:

- 12.30 ComReg notes that there was broad agreement amongst respondents regarding the pre-notification procedures for wholesale price changes in the WLA Market and the WCA Markets.
- 12.31 As outlined at paragraph 12.28 above, while Eircom agreed with the wholesale pre-notification procedures, it considered that there should be no SMP in the WCA Markets. As set out in Section 10 of the 2018 WLA / WCA Market Review, Eircom has SMP in the Regional WCA Market but the Urban WCA Market is competitive.
- 12.32 As outlined at paragraph 12.29 above, BT and ALTO proposed a 45-day notice period for new or amended wholesale prices in order to accommodate the need for operators to potentially inform retail customers. ComReg considers that the current and proposed pre-notification period allows in excess of 45 days' notice for new or amended wholesale price changes. In fact, for a price increase, Eircom is obliged to provide public notice (by way of publication on its wholesale website) at least 3 months in advance of such changes coming into effect, unless otherwise agreed with ComReg. For new wholesale prices or for a price decrease, Eircom is obliged to provide public notice at least 2 months in advance of such changes coming into effect, unless otherwise agreed with ComReg. We consider that these timeframes are proportionate and reasonable and they allow OAOs sufficient time to assess the likely impact of the changes in terms of its business case as well as time to notify its customers of price changes, where appropriate. Therefore, we do not currently consider that any changes are required to the notification periods to Industry (or to ComReg), unless otherwise agreed by ComReg.

12.33 Having considered the submissions from respondents ComReg is of the view that the pre-notification procedures for wholesale price changes in the WLA Market and the WCA Markets remains appropriate for the reasons set out above at paragraphs 12.30 to 12.32 and in Chapter 12, paragraphs 12.14 to 12.24 of the Consultation.

#### **12.3.4 ComReg's Position:**

12.34 The notification periods for price changes associated with the WLA services in the WLA Market and the WCA services in the Regional WCA Market are determined as part of the transparency obligations as set out in the 2018 WLA / WCA Market Review Decision<sup>257</sup>.

12.35 At notification, Eircom shall provide a written statement of compliance demonstrating Eircom's compliance for its wholesale price changes (new prices and changes to existing prices) to the services in the WLA Market and Regional WCA Market, demonstrating how it is complying with its wholesale price control obligation(s), including a cost orientation obligation and / or a wholesale margin squeeze obligation.

12.36 The statement of compliance shall include the following:

- (i) A full and true disclosure of all material facts for the purpose of demonstrating compliance with the wholesale price control based on the relevant wholesale pricing model(s) and / or wholesale margin squeeze model(s).
- (ii) All relevant supporting documentation for the purpose of demonstrating compliance with the wholesale price control and the relevant wholesale pricing model(s) and / or wholesale margin squeeze model(s).

12.37 Once ComReg receives the statement of compliance from Eircom it will assess it within one (1) month. Following the review, ComReg should provide Eircom with both (a) an appropriate written view, insofar as possible based on the information provided by Eircom at that point in time, in relation to the statement of compliance and (b) written confirmation that the making available or offering for sale of the new or existing wholesale product appears to be in line with the wholesale price control obligation(s). However, any such written *prima facie* view provided by ComReg does not fetter ComReg's future discretion in relation to its statutory powers.

12.38 For the avoidance of doubt, approval to proceed in this context means that ComReg is of the view (based on the information provided to it by Eircom) that the notified price does not appear to breach those obligations. The granting of

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<sup>257</sup> See Section 7 (WLA Market) and Section 12 (WCA Markets) of the 2018 WLA / WCA Market Review Decision.



approval to proceed does not amount to a definitive finding by ComReg that the product is compliant, or will remain compliant in the future, with the wholesale price control obligations. It should be noted that the granting of approval to proceed would be strictly without prejudice to ComReg's right to take action (whether pursuant to a final decision and/or pursuant to any of its relevant statutory enforcement powers) in respect of any price control obligations relating to WLA and WCA services that it believes may be non-compliant with Eircom's regulatory or competition law obligations. It is incumbent on Eircom to ensure that the wholesale charge(s) remain compliant with any final decision at all times.

## **2. Wholesale promotions and discounts**

### **12.3.5 Position set out in the Consultation:**

- 12.39 ComReg proposed that wholesale promotions and discounts for WLA or WCA services should not be permissible going forward.
- 12.40 Please see Chapter 12, paragraph 12.19 of the Consultation.

### **12.3.6 Respondents' views:**

- 12.41 Vodafone, ALTO and BT agreed that there should be no wholesale promotions or discounts for WLA and WCA services. Sky had some reservations while Eircom disagreed with the proposal. A summary of the specific views of respondents are set out below.
- 12.42 Vodafone stated that the removal of wholesale promotions and discounts would provide certainty and transparency.
- 12.43 ALTO and BT expressed views that promotions can have a distortionary influence on the market, because they become the *de facto* price. They commented that in an environment of cost-based pricing, long term promotions are not sustainable without trading below cost and are thus anti-competitive.
- 12.44 Sky agreed that there should be no wholesale promotions but they outlined that this should only be applied in the context of services that are subject to cost orientation. Sky emphasised that there should not be a blanket ban on all promotions and discounts due to the benefits which can be achieved. In Sky's view, concerns around asymmetric information and uncertainty can best be addressed by implementing strict enforcement rules.
- 12.45 On the other hand, Eircom did not agree with the abolishment of wholesale discounts and promotions and proposed that promotions/discounts should be part of wholesale supply, even where SMP and cost oriented prices apply.

12.46 In Eircom's view the advantages and rewards that could be achieved by the regulated provider and Access Seekers would be lower unit costs through higher volumes. Further, Eircom noted that the 2013 Non-Discrimination Recommendation required the promotion of investment via price flexibility, including differentiating wholesale access prices. Eircom proposed that where discounts/promotions are signalled well in advance to industry that there was no uncertainty for OAOs.

### **12.3.7 Assessment of Respondents' views:**

12.47 ComReg notes that the majority of respondents agreed that there should be no wholesale promotions or discounts for WLA and WCA services.

12.48 While ComReg recognises Eircom's points, as outlined at paragraphs 12.45-12.46 above, on the role which discounts can play in stimulating demand through facilitating pricing flexibility, ComReg does not agree that uncertainty for operators is sufficiently mitigated through advanced notification alone. ComReg considers that alternative measures address any need for Eircom to have pricing flexibility, including the regulatory approval mechanism discussed in the section below. ComReg maintains its view that wholesale discounts and promotions create uncertainty for access seekers and can create distortions in terms of products and services which are subject to cost orientation.

12.49 In relation to Sky's point, as outlined at paragraph 12.44 above, that there should not be a blanket ban on all promotions and discounts due to the benefits which can be achieved and that uncertainty can best be addressed by implementing strict enforcement rules, ComReg does not agree. Given the level of uncertainty generated by such wholesale promotions and discounts and the difficulty in terms of justification of compliance with the overriding regulatory obligations, ComReg considers that wholesale promotions and discounts should not be permissible going forward.

12.50 Having considered the submissions from respondents ComReg considers that wholesale discounts and promotions should not be permitted going forward for the reasons set out above at paragraphs 12.47 to 12.49 and in Chapter 12, paragraph 12.19 of the Consultation.

### **12.3.8 ComReg's position:**

12.51 There shall be no wholesale promotions or discounts for WLA or WCA services.

### **3. Retail notification procedures**

#### **12.3.9 Position set out in the Consultation:**

- 12.52 In Chapter 12 of the Consultation, ComReg was of the preliminary view that Eircom should be required to notify ComReg of its retail prices for new and amendments to existing current generation or next generation retail broadband products at least 5 working days (unless otherwise agreed with ComReg) before the new (or revised) prices were expected to come into effect, by email communication (or by another appropriate electronic method, as agreed with ComReg). If the new or amended retail price (for current generation and next generation services) being notified gave rise to a wholesale adjustment then the notification period to ComReg of 3 months (or 4 months in the case of a wholesale price increase) also applied.
- 12.53 At the point of notification of the retail price (as set out above) ComReg proposed that Eircom should also provide ComReg with a statement of compliance for its retail product(s) (new prices and changes to existing prices), demonstrating how it is complying with the retail price control obligation / retail margin squeeze test(s).
- 12.54 ComReg proposed a process whereby it would assess Eircom's statement of compliance within 5 working days of receipt, and would provide a written view on the statement, and on the extent to which it appeared to be in line with retail margin squeeze tests.
- 12.55 For the purposes of promotions and discounts, the obligations should apply to new and existing retail product(s).
- 12.56 Please see Chapter 12, paragraphs 12.26 to 12.34 of the Consultation for further details.
- 12.57 In addition, ComReg considered in Chapter 12 of the Consultation that there may be an alternative approach, as a form of self-compliance by Eircom. ComReg sought views from interested parties regarding an alternative requirement which would merely require Eircom to demonstrate it has undertaken a form of self-compliance to ensure ahead of launching a new or revised retail price for current generation and next generation broadband that it met its obligations not to cause a margin squeeze.
- 12.58 Under this potential alternative approach, ComReg proposed that Eircom would be required to demonstrate its ongoing compliance in respect of at least one retail amendment (chosen by ComReg) every three months. Where there appeared to be issues with such retail amendments, as determined by

ComReg, ComReg may require Eircom to revert to a five-day pre-notification and pre-clearance requirement.

12.59 Please see Chapter 12, paragraphs 12.35 to 12.38 of the Consultation for further details.

### **12.3.10 Respondents' views**

12.60 All respondents except for Eircom agreed that pre-notification and pre-clearance was appropriate for retail price changes in the WLA Market and the Regional WCA Market.

12.61 Vodafone and BT objected to the idea that Eircom would self-certify its compliance.

12.62 Eircom did not agree with ComReg's proposals, and expressed a view that the pre-clearance obligation should only apply to retail price changes where a change applied to an underlying wholesale input.

12.63 Eircom proposed that an *ex post* assessment of launched products would be appropriate, and that this should consist of a 6 month period for compliance assessment at a portfolio level, followed by full compliance statement after 12 months. Eircom preferred ComReg's self-certification option to the pre-clearance option, but indicated that, in its view, it takes some time to reflect a response in the market, because early usage patterns may not be representative.

12.64 In Eircom's opinion, for a new offer to make a portfolio test non-compliant it would have to represent a significant uptake to affect the overall portfolio weighting.

### **12.3.11 ComReg's Assessment of Respondents' Views:**

12.65 ComReg notes the general agreement amongst the majority of respondents regarding the proposed pre-notification and pre-clearance procedures for retail price changes.

12.66 ComReg has considered Eircom's points, as outlined at paragraphs 12.62 to 12.64 above, on procedures to notify retail price changes. ComReg does not agree that an *ex post* assessment would be sufficient to ensure that Eircom is compliant with its obligations not to cause a margin squeeze and to ensure that products can be effectively replicated by other operators where appropriate, in a way which is beneficial to end users. It remains important that ComReg assesses compliance when a product is launched. The approach proposed by Eircom would mean that an initial assessment of compliance would not be undertaken until a product had been in the market for 6 months, with a final

compliance statement not provided until 12 months after launch. In ComReg's view, there is potential for considerable harm to be caused before there is oversight of Eircom's launch.

- 12.67 In the Consultation<sup>258</sup>, ComReg considered the alternative of introducing a form of self-certification, where Eircom would demonstrate that any proposed changes to retail prices met its obligation not to cause a margin squeeze. ComReg has taken account of the views of all respondents, and considers that self-certification is not appropriate at this time. Given that the only standalone retail margin squeeze obligation that remains in the context of the WLA Market and the Regional WCA Market relates to the FTTH service, ComReg considers that pre-notification and pre-clearance for retail prices changes for standalone FTTH services remain appropriate. Given historic price increases by Eircom in the context of standalone FTTH services, it is important that pre-notification and pre-clearance is adhered to. Further details of ComReg's processes for pre-notification and pre-clearance for other retail price changes (except for FTTH retail services sold singly) in the WLA Market and in the WCA Markets are specified in the 2018 Bundles Decision.<sup>259</sup>
- 12.68 Having considered the submissions from respondents ComReg considers that the pre-notification and pre-clearance procedures for retail price changes in the WLA Market and the Regional WCA Market remain appropriate for the reasons set out above at paragraphs 12.65 to 12.67 and in Chapter 12, paragraphs 12.26 to 12.41 of the Consultation.

### **12.3.12 ComReg's position:**

- 12.69 The pre-clearance requirement remains appropriate.
- 12.70 In the WLA market, Eircom shall notify ComReg of all new and revised retail prices for standalone FTTH services in those exchanges corresponding to the footprint of the Urban WCA market at least five working days (unless otherwise agreed with ComReg) before launch and Eircom shall obtain prima facie approval to proceed from ComReg for their launch. Please note that the pre-notification and pre-clearance procedures for FTTC services, either sold singly or in a bundle, are addressed separately in the 2018 Bundles Decision.
- 12.71 In the Regional WCA Market, Eircom shall notify ComReg of all new and revised retail prices for standalone FTTH services at least five working days (unless otherwise agreed with ComReg) before launch and Eircom shall obtain prima facie approval to proceed from ComReg for their launch. Please note that the pre-notification and pre-clearance procedures for FTTC services and current

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<sup>258</sup> See paragraphs 12.35 to 12.38 of the Consultation.

<sup>259</sup> See Chapter 7 of the 2018 Bundles Decision.

generation WCA services, either sold singly or in a bundle, are addressed separately in the 2018 Bundles Decision.

12.72 Further to paragraphs 12.70-12.71, Eircom shall notify ComReg by email communication (or by another appropriate electronic method, as agreed with ComReg). If the new or amended retail price being notified gives rise to a wholesale adjustment then the notification period to ComReg of 3 months (or 4 months in the case of a wholesale price increase) also applies.

12.73 At the point of notification of the retail price (as set out above) Eircom shall also provide ComReg with a statement of compliance for its retail product(s) (new prices and changes to existing prices), demonstrating how it is complying with the retail price control obligation / retail margin squeeze test(s).

12.74 The statement of compliance shall include the following:

(i) A full and true disclosure of all material facts for the purpose of demonstrating compliance with the retail margin squeeze test(s) based on the retail margin squeeze model(s).

(ii) All relevant supporting documentation for the purpose of demonstrating compliance with the retail margin squeeze test(s) based on the retail margin squeeze model(s).

(iii) Demonstration of how any amendments to the price of the equivalent wholesale offering of an existing product are and will be in compliance with the retail margin squeeze model(s).

12.75 Once ComReg receives the statement of compliance from Eircom it will assess it within 5 working days (or as otherwise agreed with ComReg). Following the review, ComReg should provide Eircom with both (a) an appropriate written view, insofar as possible based on the information provided by Eircom at that point in time, in relation to the statement of compliance and (b) written confirmation that the making available or offering for sale of the new or existing retail product appears to be in line with the retail margin squeeze test(s). However, any such written *prima facie* view provided by ComReg does not fetter ComReg's future discretion in relation to its statutory powers.

12.76 For the avoidance of doubt, approval to proceed in this context means that ComReg is of the view (based on the information provided to it by Eircom) that the notified price does not appear to breach those obligations. The granting of approval to proceed does not amount to a definitive finding by ComReg that the product is compliant, or will remain compliant in the future, with the margin squeeze obligations. It should be noted that the granting of approval to proceed would be strictly without prejudice to ComReg's right to take action (whether pursuant to a final decision and/or pursuant to any of its relevant statutory

enforcement powers) in respect of any product that it believes may be non-compliant with Eircom's regulatory or competition law obligations. It is incumbent on Eircom to ensure that the proposed charge(s) remain compliant with any final decision at all times.

## **12.4 “Regulatory Approval” mechanism to allow Eircom to reduce prices in certain geographic areas**

12.77 The discussion in this section is set out under the following headings:

1. Approval mechanism for FTTC based NGA services;
2. Approval mechanism for FTTH based NGA services;
3. Approval mechanism for SABB.

### **1. Approval mechanism for FTTC based NGA services**

#### **12.4.1 Position set out in the Consultation:**

12.78 In the Consultation,<sup>260</sup> ComReg proposed that in exceptional circumstances and subject to a number of pre-conditions,<sup>261</sup> Eircom may be allowed, subject to ComReg's approval, to reduce the wholesale access price for FTTC based VUA (including EVDSL) below the regulated price provided that the price was not lower than:

- (a) Eircom's full deployment costs for FTTC based VUA (including EVDSL) in the specific geographic area, calculated on the basis of a BU-LRAIC+ costing methodology and with Eircom's Indexed RAB applied to Reusable Assets; or
- (b) An alternative operator's FTTC based VUA price (or alternative operator's retail price minus retail costs and relevant network costs).

12.79 Where Eircom reduces the price of FTTC based VUA, ComReg proposed that any such changes should also be reflected in the price for FTTC based Bitstream.

12.80 Similarly, in exceptional circumstances ComReg proposed in the Consultation that Eircom may be allowed to decrease its FTTC based Bitstream price below the cost-oriented level under the same price floor conditions as those for FTTC based VUA, so long as any reductions to FTTC based Bitstream are also reflected in the price for FTTC based VUA.

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<sup>260</sup> See Chapter 12 of the Consultation.

<sup>261</sup> See paragraph 12.79 of the Consultation.



### **12.4.2 Respondents' Views:**

- 12.81 Sky, ALTO, Vodafone and BT agreed with ComReg's proposals regarding the regulatory approval mechanism and the exceptional circumstances under which Eircom should be allowed to reduce wholesale prices for FTTC based NGA services (VUA and Bitstream) below the regulated price so long as it does not breach the price floor requirements at paragraphs 12.54-12.55 of the Consultation and subject to ComReg's approval.
- 12.82 BT expressed a view that a margin squeeze test between FTTC based services and LLU should be retained, and that discounts to any component should be applied to other products that use that component.
- 12.83 Enet stated that pricing below cost tends to be anti-competitive and so there would have to be a pro-competitive rationale for allowing Eircom to do so.
- 12.84 While Eircom agreed in principle that it is appropriate to have a regulatory approval mechanism for FTTC based VUA and Bitstream, it raised a number of concerns. Eircom proposed that the purpose of a regulatory approval mechanism is to ensure that Eircom's wholesale cost-oriented services are not priced out of the market. Eircom asserted that such a mechanism would allow it the pricing flexibility to help recover some element of fixed and sunk costs. However, Eircom queried how it could price below cost while still being compliant with its cost orientation obligation. Eircom also queried how it could be compliant with its non-discrimination obligation if it reduced its wholesale prices in certain geographic areas.
- 12.85 In Eircom's view, ComReg has proposed a remedy which is only required as a result of prematurely moving to cost orientation for FTTC-based NGA services. Eircom also expressed a view that ComReg had failed to provide sufficient detail on the processes and assessment methods associated with regulatory approval. Eircom claimed that the mechanism was not sufficient as it stood, as Eircom was then left to understand the imposed regulatory obligations and then ensure compliance.

### **12.4.3 ComReg's Assessment of Respondents' Views:**

- 12.86 ComReg notes the general agreement amongst respondents regarding the regulatory approval mechanism and the exceptional circumstances under which Eircom may be allowed to reduce wholesale prices for FTTC based NGA services below the regulated prices so long as it does not breach the price floor requirements set out at paragraphs 12.54-12.55 of the Consultation and subject to ComReg's approval.

- 12.87 ComReg notes BT's view, as outlined at paragraph 12.82 above. Please see Chapter 7, subsection 7.3 where ComReg discussed the link between the cost oriented FTTC service and the LLU service.
- 12.88 ComReg notes Enet's point, as outlined at paragraph 12.83 above, that pricing below cost tends to be anti-competitive and so there would have to be a pro-competitive rationale for allowing Eircom to do so. ComReg considers that the objective of a price floor is to prevent Eircom from setting prices too low where they could foreclose economically efficient alternative investment by other operators that are either investing or planning to invest. Therefore, a price floor is intended to prevent the risk that Eircom could set wholesale access prices too low which could be detrimental to efficient infrastructure investment in networks by other operators. However, there may be some circumstances where Eircom may be at an unfair disadvantage where the national regulated price for FTTC based VUA would prevent Eircom from competing with rival platforms or technologies in some areas of the country. In such cases, a lower FTTC based price may be warranted. ComReg would expect that such a request to reduce the price for FTTC based VUA (and FTTC based Bitstream) would only have merit in exceptional circumstances. Furthermore, there would be a number of preconditions that would have to be satisfied before a decision could be taken to approve such a request, in order to ensure that the objectives of promoting competition and encouraging investment by other operators is not jeopardised. In addition, any reduction to the price for FTTC based VUA would also have to be reflected in the price for FTTC based Bitstream, which ensures that the price for FTTC based VUA is always below the price for FTTC based Bitstream and therefore operators are encouraged to invest higher up the ladder of investment.
- 12.89 ComReg notes Eircom's concerns, as outlined at paragraph 12.84 above regarding its view that the purpose of a regulatory approval mechanism is to ensure that Eircom's wholesale cost oriented services are not priced out of the market. ComReg has addressed this concern by introducing the option for Eircom to reduce wholesale prices below the regulated national wholesale level but above a price floor, but only in exceptional circumstances. ComReg considers that providing a mechanism for exceptional wholesale price reductions (for FTTC based NGA services) while maintaining a price floor balances the need to allow Eircom to compete in areas where the regulated price would prevent it from being competitive with rival platforms or technologies, with the need for OAOs to have certainty that Eircom cannot set its wholesale prices too low, and potentially foreclose alternative investment.
- 12.90 ComReg notes Eircom's queries, as outlined at paragraph 12.84 above, regarding compliance with cost orientation and non-discrimination obligations in the event that they are permitted to price below the regulated level in a given

geographic area. ComReg defined in the Consultation a set of criteria (paragraph 12.54 of the Consultation) which would apply in exceptional circumstances, and which, if met and approved, would allow Eircom to set a price below the regulated wholesale price for FTTC based VUA and FTTC based Bitstream, subject to defined price floors. ComReg has therefore detailed the circumstances and mechanism under which Eircom would be permitted to decrease its wholesale prices for FTTC based services below the regulated price, and has been clear that this would be on an exceptional basis, would be limited by the price floor, and would be justified by cost differences in the given geographic area. The cost orientation obligation and non-discrimination obligation would therefore be assessed on a geographic / regional basis, should such an exceptional price reduction take place regarding FTTC services.

- 12.91 In considering points made by Eircom, as outlined at paragraphs 12.84 to 12.85 above, ComReg does not agree that it is premature to impose cost orientation obligations on FTTC based NGA services, and this is addressed in Section 7 (FTTC based VUA) and in Section 12 (FTTC based Bitstream) of the 2018 WLA / WCA Market Review Decision. With regard to Eircom's claim that ComReg has not provided sufficient detail on the mechanism, ComReg considers that the criteria by which circumstances can be considered exceptional are to be judged on a case-by-case basis and are clearly set out in the Consultation.<sup>262</sup> Judging exceptional circumstances on a case-by-case basis allows ComReg to take particular circumstances identified by Eircom into account, and it would not be reasonable nor helpful to attempt to codify all possible types of circumstance which may arise. Further, ComReg has clearly set out the overarching objectives of the regulatory approval mechanism, which provides guidance as to how ComReg will evaluate any proposed exceptional circumstances<sup>263</sup>.
- 12.92 Having considered the submissions from respondents ComReg remains of the view that Eircom may be allowed in exceptional circumstances only and subject to a number of pre-conditions and ComReg's pre-approval to reduce the wholesale access price for FTTC based VUA (including EVDSL) below the regulated price but subject to a price floor for the reasons set out above at paragraphs 12.86 to 12.91 and in Chapter 12, paragraphs 12.51 to 12.57 of the Consultation.

#### **12.4.4 ComReg's Position:**

- 12.93 In exceptional circumstances only and subject to the pre-conditions set out at paragraph 12.54 in the Consultation, Eircom may be allowed, subject to

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<sup>262</sup> See paragraph 12.54 of the Consultation.

<sup>263</sup> See paragraphs 12.42 to 12.50 of the Consultation.

ComReg's approval to proceed, to reduce the wholesale access price for FTTC based VUA (including EVDSL) below the regulated price provided that the price is not less than the lower of either:

- (a) Eircom's costs for the provision of FTTC based VUA (including the costs of EVDSL) in the specific geographic area. Such costs shall be based on a combination of a BU-LRAIC+ costing methodology and with a top down costing methodology (Eircom's Indexed RAB applied to Reusable Assets) in line with the NGA Cost Model; or
- (b) An alternative operator's FTTC based VUA price (or alternative operator's retail price minus retail costs and relevant network costs).

12.94 Where Eircom reduces the price of FTTC based VUA, any such changes should also be reflected in the price for FTTC based Bitstream.

12.95 In exceptional circumstances Eircom may be allowed to decrease its FTTC based Bitstream price below the cost-oriented level under the same price floor conditions as those for FTTC based VUA at paragraph 12.93, so long as any reductions to FTTC based Bitstream are also reflected in the price for FTTC based VUA.

## **2. Approval mechanism for FTTH based NGA services**

### **12.4.5 Position set out in the Consultation:**

12.96 In the Consultation ComReg proposed that a price floor should also apply to FTTH based VUA whereby the price should not be lower than:

- (a) Eircom's full deployment costs for FTTH based VUA; or
- (b) The alternative operator's FTTH based VUA price (or alternative operator's retail price minus retail costs and relevant network costs).

12.97 Please see Chapter 12, paragraphs 12.58-12.64 of the Consultation for further details.

### **12.4.6 Respondents' views:**

12.98 Sky, Vodafone, ALTO and BT generally agreed with ComReg's proposal regarding the regulatory approval mechanism for FTTH based VUA such that the price for FTTH based VUA should not go below the price floor at paragraph 12.72 of the Consultation and that Eircom's full deployment costs for FTTH based VUA should be calculated with reference to Eircom's own business case/plan.

- 12.99 BT recommended that ComReg should seek to stay informed of Eircom's costs so as to develop a working knowledge of the costs for when a test of the price floor maybe required.
- 12.100 ALTO proposed an additional pre-condition for assessing exceptional circumstances. This would involve ComReg issuing a public Information Notice or Call for Inputs to alert industry that such a case was being considered. ComReg would then review the proposals and assess the implications impacting operators other than Eircom.
- 12.101 Enet expressed the view that the proposals are appropriate if there is a pro-competitive rationale.
- 12.102 Eircom did not agree with ComReg's proposal to have an approval process for FTTH based VUA prices. In Eircom's view, FTTH was to be regulated via a margin squeeze test only, which allowed Eircom pricing flexibility which it considered balanced its high risk investment against market uncertainty. Furthermore, Eircom considered that it is unlikely to be able to demonstrate how its pricing compares to the wholesale pricing (or retail pricing minus relevant costs) of a competitor.
- 12.103 Eircom suggested that ComReg's proposals constituted an *ex post* rather than *ex ante* approach.
- 12.104 Eircom claimed that ComReg's proposals were not compatible with the Access Regulations and the 2013 Non-Discrimination Recommendation.

#### **12.4.7 ComReg's assessment of Respondents' views:**

- 12.105 ComReg notes that respondents generally agreed with ComReg's proposal regarding the regulatory approval mechanism that the prices for FTTH based VUA should not go below the price floor at paragraph 12.72 of the Consultation and that Eircom's full deployment costs for FTTH based VUA should be calculated with reference to Eircom's own business case / plan.
- 12.106 ComReg notes BT's views, as outlined at paragraph 12.99 above, that ComReg should stay informed on Eircom's costs (for FTTH based VUA). It is important to note however that FTTH services are not subject to a cost orientation obligation but rather a margin squeeze obligation and on that basis we do not currently consider it necessary to keep Eircom's costs for FTTH based VUA under review. As noted at paragraph 12.16, ComReg intends to keep FTTH under review, and will continue to monitor the relevant price trends in this regard.
- 12.107 ComReg notes ALTO's suggestions, as outlined at paragraph 12.100 above, that ComReg should consult with industry before considering a request from

Eircom to reduce prices in exceptional circumstances. ComReg considers that any such requests from Eircom would be exceptional and would have to be assessed on a case-by-case basis by ComReg.

12.108 As outlined at paragraph 12.101 above, Enet expressed a view that the proposals are appropriate if there is a pro-competitive rationale. ComReg considers that the margin squeeze approach for FTTH based VUA does not protect the market from the risk of below cost pricing for FTTH based VUA. In certain areas Eircom could have an incentive to price its FTTH based VUA service below costs in order to discourage alternative operators from investing in the FTTH network. In addition, if Eircom deploys its FTTH network in NBP areas, it is likely that it may have anti-competitive incentives in this area (NBP) whereby it may not expect to cover its investments given that it will have to share demand with another possible network. Therefore, a price floor for FTTH based VUA is considered appropriate in order to prevent predatory behaviour, so that Eircom cannot price FTTH based VUA at too low a level.

12.109 ComReg does not agree with Eircom's view, as outlined at paragraphs 12.102 to 12.103 above. In ComReg's view, Eircom's characterisation of a requirement to confer in advance with ComReg on pricing levels for FTTH based VUA is disingenuous and does not constitute an *ex post* intervention.

12.110 ComReg has established in the 2018 WLA / WCA Market Review Decision that FTTH services should be subject to an obligation not to cause a wholesale margin squeeze between the price for FTTH based VUA in the WLA Market and the price for FTTH based Bitstream in the WCA Markets, and a retail margin obligation between the price for FTTH based VUA and the retail price of the retail products delivered using FTTH based VUA, in the area corresponding to the Urban WCA Market. The obligation not to cause a margin squeeze does not protect against below-cost pricing by Eircom, and the application of a price floor is to ensure that Eircom does not price its FTTH based VUA services at a level which would be so low that it would disadvantage alternative operators and discourage their investment in FTTH networks.

12.111 In the Consultation<sup>264</sup>, ComReg proposed that the price for FTTH based VUA should not be lower than Eircom's demonstrated deployment costs for FTTH based VUA in a specific geographic area or an alternative operator's FTTH based VUA price. In exceptional circumstances, Eircom may be permitted to reduce prices below the regulated FTTH based VUA price level to align with lower levels set by an alternative operator's FTTH based VUA price (or an alternative operator's retail price minus retail and relevant network costs). A request from Eircom based on exceptional circumstances to price below its

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<sup>264</sup> See paragraphs 12.60 to 12.61 of the Consultation.



average costs<sup>265</sup> in a specific geographic area will be subject to a number of pre-conditions being met, as well as ComReg's approval and that the proposed price does not go below the overall price floor.

12.112 Eircom raised a number of issues with the proposed process to use Eircom's own costs or those of another operator as a price floor for FTTH NGA services. In particular Eircom had the concern that *"...eir is unlikely to be able to demonstrate, as it must under ComReg's proposal, how its pricing compares to the wholesale pricing (or retail pricing minus relevant costs) of a competitor"*<sup>266</sup>. In the Consultation<sup>267</sup>, ComReg indicated that the price for FTTH based VUA should not be lower than Eircom's demonstrated deployment costs, or the alternative operator's price. Eircom is therefore obliged to compare its wholesale FTTH based VUA price to that of an alternative operator if it cannot demonstrate its own deployment costs. The alternative operator price would be based on their retail price minus an estimation of their retail and relevant network costs. ComReg also notes that the context for such a consideration by ComReg would be a request initiated by Eircom for approval to reduce prices in exceptional circumstances. Such a request would need to be based on objective criteria as set out in the Consultation, and this would include an economic rationale as to why the particular geographic area warranted exceptional treatment. Please refer to the preconditions set out in Chapter 12, paragraph 12.54 of the Consultation.

12.113 In relation to Eircom's views, as outlined at paragraph 12.104 above, that ComReg's proposals are counter to the Access Regulations and the 2013 Non-Discrimination Recommendation, ComReg does not agree. ComReg clearly set out in Chapter 12, subsection 12.4 of the Consultation that the objective of the price floor is to prevent Eircom from setting prices too low where they could foreclose economically efficient alternative investment by other operators either investing or planning to invest. Therefore, the price floor would prevent the risk that Eircom could set wholesale access prices too low which could be detrimental to build/buy signals and investment in networks by other operators.

12.114 The details as set out in paragraphs 12.105 to 12.113 above and as set out in Chapter 12, subsection 12.4 of the Consultation are clearly in line with the Access Regulations. The objective of Regulation 6(1) of the Access Regulations is to promote efficient investment and promote competition which is consistent with ComReg's approach on the price floor approach for FTTH based VUA. See paragraph 12.110-12.111. The price floor approach for FTTH

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<sup>265</sup> The regulatory approval mechanism for FTTH based VUA would apply where Eircom wished to price below its average costs i.e., (i) the full cost for FTTH based VUA in a specific area or (ii) the alternative operator's FTTH based VUA price (or alternative operator's retail price minus retail and relevant network costs. Please also see Chapter 12, paragraphs 12.60-12.61 of the Consultation.

<sup>266</sup> Eircom response, paragraph 26.

<sup>267</sup> See paragraph 12.60 of the Consultation.



based VUA is also consistent with Regulation 8(6)<sup>268</sup> of the Access Regulations in that it is based on the nature of the problem identified, i.e., the objective is to prevent Eircom from setting prices too low. The approach is proportionate and justified, as demonstrated in Chapter 12, subsection 12.4 of the Consultation and as further discussed at paragraphs 12.105 to 12.113 above and it has been subject to consultation (in ComReg Document 17/26, Chapter 12).

12.115 Furthermore, the price floor for FTTH based VUA, as set out at paragraph 12.60 of the Consultation, is also consistent with Regulation 13 of the Access Regulations. The price floor ensures that Eircom can recover its full deployment costs (plus a rate of return) for FTTH based VUA in line with Regulation 13(2)<sup>269</sup> of the Access Regulations.

12.116 The price floor for FTTH based VUA is also consistent with the objectives of the 2013 Non-Discrimination Recommendation. As set out at paragraph (3) of the 2013 Non-Discrimination Recommendation “...*The present Recommendation aims to promote efficient investment and innovation in new and enhanced infrastructures whilst recognising the need to maintain effective competition, which is an important long term investment incentive...*” Furthermore and as noted at recital 62 of the 2013 Non-Discrimination Recommendation “...*The purpose of the economic replicability test is to ensure, in combination with the other competitive safeguards ..... that SMP operators do not abuse this pricing flexibility in order to exclude (potential) competitors from the market...*” ComReg considers that the margin squeeze obligations i.e., the wholesale margin squeeze test between FTTH based VUA and FTTH based Bitstream and the retail margin squeeze test between FTTH based VUA and the retail product delivered by FTTH based VUA (in the footprint corresponding to the Urban WCA Market) in conjunction with the price floor for FTTH based VUA ensures that the objectives of the 2013 Non-Discrimination Recommendation are met. Therefore, the price floor for FTTH based VUA should prevent the risk that Eircom could set wholesale access prices too low which could be detrimental to build/buy signals and investment in networks by other operators, which is in line with the objectives of the Access Regulations and the 2013 Non-Discrimination Recommendation.

12.117 Having considered the submissions from respondents ComReg considers that a price floor for FTTH based VUA remains appropriate for the reasons set out

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<sup>268</sup> Regulation 8(6) of the Access Regulations provides that: *Any obligations imposed in accordance with this regulation shall – (a) Be based on the nature of the problem identified, (b) Be proportionate and justified in light of the objectives laid down in section 12 of the 2002 Act and Regulation 16 of the Framework Regulations, and (c) Only be imposed following consultation in accordance with Regulation 12 and 13 of the Framework Regulations.*

<sup>269</sup> Regulation 13(2) of the Access Regulations provides that: *“To encourage investments by the operator, including in next generation networks, the Regulator shall, when considering the imposition of obligations under paragraph (1), take into account the investment made by the operator which the Regulator considers relevant and allow the operator a reasonable rate of return on adequate capital employed, taking into account any risks involved specific to a particular new investment network project.”*

above at paragraphs 12.105 to 12.116 and in Chapter 12, paragraphs 12.58 to 12.64 of the Consultation.

### **12.4.8 ComReg's position:**

12.118 In exceptional circumstances only and subject to the pre-conditions set out at paragraph 12.54 in the Consultation, Eircom may be allowed, subject to ComReg's approval, to reduce the wholesale access price for FTTH based VUA below its average costs<sup>270</sup> provided that the price is not less than the lower of either:

(a) Eircom's full deployment costs for the provision of FTTH based VUA in the specific geographic area concerned; or

(b) The FTTH based VUA price of an alternative operator (i.e., an alternative operator's retail price minus retail costs and relevant network costs).

## **3. Approval mechanism for SABB**

### **12.4.9 Position set out in the Consultation:**

12.119 For Current Generation standalone broadband<sup>271</sup> (or SABB) ComReg proposed in the Consultation<sup>272</sup> to re-impose the obligation imposed in the 2016 Access Pricing Decision allowing Eircom to charge a lower price for Current Generation SABB under certain conditions. However, as part of the consultation process ComReg proposed to replace the "Modified LEA" footprint with a subset of exchanges relating to the newly proposed Regional Area 1, to reflect those exchanges no longer subject to regulation.

12.120 Please see Chapter 12, paragraphs 12.65-12.68 for further details.

### **12.4.10 Respondents' views:**

12.121 There were mixed views amongst respondents regarding the proposal to change the footprint associated with the price floor for Current Generation SABB in the 2016 Access Pricing Decision, from the "Modified LEA" to those exchanges contained in Regional Area 1 of the Regional WCA Market but excluding those exchanges under Criterion 5 of the 2013 Bundles Decision.

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<sup>270</sup> The regulatory approval mechanism for FTTH based VUA would apply where Eircom wished to price below its average costs i.e., (i) the full cost for FTTH based VUA in a specific area or (ii) the alternative operator's FTTH based VUA price (or alternative operator's retail price minus retail and relevant network costs). Please also see Chapter 12, paragraphs 12.60-12.61 of the Consultation.

<sup>271</sup> As set out in Chapter 3, paragraph 3.13 of the Consultation, SABB provides a standalone DSL broadband services over the local loop, without a Public Switched Telephone Network ('PSTN') service.

<sup>272</sup> See paragraphs 12.65 to 12.68 of the Consultation.

12.122 ALTO agreed with ComReg's proposal, and BT agreed subject to ComReg resolving the exchanges where it is not viable to achieve WLA access in Urban WCA areas.

12.123 Vodafone expressed a view that the revised geographic definitions were not sufficiently linked to the actual costs for an individual operator to move from one infrastructure provider to another. Further, Vodafone commented that it was visible from the DCCAЕ<sup>273</sup> NBP<sup>274</sup> map that there was an issue with categorising exchange areas. Therefore, Vodafone recommended that ComReg review their current definitions of Regional 1 or 2, LEA or non-LEA with reference to the findings in the DCCAЕ NBP mapping, in addition to an analysis of the true cost of moving between infrastructure providers in the each individual exchange area. Taken as a whole, Vodafone considered that this further underlines their significant concerns with regard to ComReg's deregulation of the Urban WCA market.

12.124 Enet reiterated its point that pricing below cost tends to be anti-competitive and so there would need to be a pro-competitive rationale for allowing Eircom to do so.

12.125 Eircom agreed that it is appropriate to have a regulatory approval mechanism. However, in its view, ComReg had failed to transparently set out the proposed parameters of such a mechanism. Eircom proposed that ComReg should consult on the rationale for, and approach to, the margin squeeze model and test. Eircom expected that ComReg should clarify the duration of the margin squeeze, and the cost base to be used. Eircom also questioned whether an application would be subject to consultation with Industry and further notification to the EC.

#### **12.4.11 ComReg's assessment of Respondents views:**

12.126 ComReg notes that there were mixed views amongst respondents regarding the change in footprint for the price floor for SABB in the Regional WCA Market (or previously referred to in the 2016 Access Pricing Decision as Outside the LEA).

12.127 ComReg notes the views of respondents as summarised at paragraphs 12.121 to 12.125. ComReg has a number of clarifications in this regard.

12.128 Given ComReg's Decision in Chapter 9, that a price floor is no longer warranted for current generation Bitstream, ComReg considers that in the interests of consistency and proportionality the price floor for Current Generation SABB is no longer necessary. Similar to ComReg's views in Chapter 9, ComReg

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<sup>273</sup> Department of Communications, Climate Action and Environment.

<sup>274</sup> National Broadband Plan.

recognises that fixed line network operators in Ireland have been focused on investing in NGA infrastructure rather than CGA in recent years and this trend is expected to continue for the duration of the price control period. This is resulting in the migration of wholesale customers from CGA to NGA. Going forward, our objective is to encourage investment in NGA. While ComReg considers that it is important to protect investments that have already occurred ComReg is not trying to encourage further build in terms of current generation services. Therefore, a price floor for Current Generation SABB is no longer required.

12.129 ComReg notes BT's views, as outlined at paragraph 12.122 above, where it agreed with ComReg subject to ComReg resolving the exchanges where it is not viable to achieve WLA access in Urban WCA areas. ComReg considers that BT's issue appears to be access related and therefore is outside the scope of this pricing Decision.

12.130 In relation to Vodafone's point, as outlined at paragraph 12.123 above, regarding its significant concerns with ComReg's deregulation of the Urban WCA market, please see sections 10 and 13 of the 2018 WLA / WCA Market Review Decision for the analysis and findings in the Urban WCA Market.

12.131 Having assessed the submissions from respondents ComReg considers that the obligation of a price floor for Current Generation SABB (at Section 4.2 of the Decision Instrument at Annex 2 of the 2016 Access Pricing Decision) is no longer warranted for the reasons outlined at paragraph 12.128 above.

#### **12.4.12 ComReg's position:**

12.132 The obligation at Section 4.2 of the Decision Instrument (Annex 2) in the 2016 Access Pricing Decision regarding a price floor for Current Generation SABB is no longer warranted.

## Chapter 13

# 13 Ancillary charges

## 13.1 Background

- 13.1 In this chapter ComReg focuses on how the connection costs, primarily associated with FTTH next generation services, should be recovered. ComReg also addresses the costing methodology that should apply in relation to interconnection charges, in particular Wholesale Ethernet Interconnect Links ('WEILs').
- 13.2 It should be noted that while ComReg is not at this stage further specifying the price control obligations in relation to FTTC and CGA connection / migration charges, ComReg intends to be guided by the principles determined in this Chapter 13 of the Decision, should an issue arise or a dispute be brought to ComReg in the future.
- 13.3 The remainder of this chapter is discussed under the following headings:
- Recovery of connection costs; and
  - Interconnection / WEIL charges.

## 13.2 Recovery of connection costs

### 13.2.1 Position set out in the Consultation:

- 13.4 In Chapter 13 of the Consultation, ComReg considered the following options in terms of cost recovery for CGA or NGA connections:
1. Recover all the connection costs upfront (as part of a connection charge);
  2. Recover all the connection costs as part of the recurring monthly rental charge;
  3. Recover the connection costs based on a combination of (1) and (2).
- 13.5 ComReg reached the preliminary view in the Consultation that the connection costs for CGA and NGA services should be recovered through a combination of an upfront connection charge and a monthly rental charge.

- 13.6 ComReg was of the preliminary view that only those costs that are incurred each time an end user migrates from one service provider<sup>275</sup> to another should be recovered on the basis of an upfront connection charge. Other costs, such as the costs of the service lead (underground or overhead fibre), the ONT in the end-user's premises or the costs of all poles, ducts and boxes on public roads, should be recovered as part of the ongoing rental charge in line with the economic life of the asset.
- 13.7 Please see Chapter 13, paragraphs 13.13 to 13.43 of the Consultation for a discussion of the various cost recovery options.

### 13.2.2 Respondents' Views:

- 13.8 Sky agreed with ComReg's proposals noting that "*uncertainty around this key pricing component can distort the market and give Eircom a distinct advantage over its competitors in terms of "picking" a price that best meets its own commercial objectives independent of its wholesale customers*"<sup>276</sup>.
- 13.9 The AM Report stated "*The arguments in §13.16, §13.23, §13.13 and §13.39 are reasonable, suggesting that connections from DP to end-users' ONT should be recovered over their lifetimes rather than upfront from the first RSP. This sensibly avoids a situation where RSPs (apart from eircom) refuse to serve end users not already connected. However, the increase from EUR150 to EUR270 is not properly explained... ComReg may have access to data from eircom allowing it to verify the input, but OAO's are not in a position to do either, so additional transparency would be beneficial for the consultative process.*"<sup>277</sup>
- 13.10 Vodafone agreed in principle but "*perceived a migration away by ComReg in the use of the split between connection and up front rental due to potential issues that may be caused with scale. For example if there are very high connection costs the majority of these do not need to be incurred again, in that instance it might make sense to spread those costs over the monthly charge.*"<sup>278</sup> Vodafone also sought clarification that FTTC charges are not affected.
- 13.11 ALTO agreed that the proposal to split how the connection costs are recovered is sensible and logical and noted that a lower upfront charge gives a greater opportunity to retail providers to differentiate their offers. ALTO also considered that ComReg should undertake a wider engagement with industry to determine what a reasonable threshold for non-standard connections should be rather than allow Eircom to limit the standard service drop wires to be less than 50m.

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<sup>275</sup> This can be a retail service provider or another operator purchasing a wholesale input from Eircom.

<sup>276</sup> Sky Response, § 49.

<sup>277</sup> The AM Report, § 9.1.1.

<sup>278</sup> Vodafone Response, § 115.



- 13.12 BT agreed with ComReg's preliminary view and expressed a concern that *"Eircom maybe taking a short term view of its return on investment given its statements that it may issue an IPO<sup>279</sup> in the relatively near future."*<sup>280</sup>
- 13.13 Eircom agreed that a combination of upfront charge/monthly rental was appropriate but did not agree that only those costs that are incurred each time someone migrates from one provider to another should be recovered from an upfront charge. In its view, Eircom should retain the flexibility of what makes up the components relevant to both.
- 13.14 Eircom also stated that ComReg had failed to identify the nature of the problem which these cost recovery options are attempting to address and *"assumes that ComReg's approach seeks to reconcile the trade-offs that exist between downstream competition and market entry, and upstream investment incentives and risk sharing"*.<sup>281</sup> Furthermore, Eircom noted that a two-part pricing structure *"reflects the underlying investment cost structure for an operator that invests in fibre to replace its copper access network, since a large part of its investment cost is fixed, sunk and long-term. In this case, economic analysis shows that optimal wholesale prices should include a fixed or upfront component in order to effectively allocate risk."*<sup>282</sup>
- 13.15 Regarding ComReg's concern that high connection charges are discouraging RSPs<sup>283</sup> from connecting new end users, Eircom's view is that any retail operator will consider first-mover and second-mover advantages when deciding to connect new end users in favour of a policy of seeking to migrate existing end users and it is too early *"given the nascent availability of FTTH services...for ComReg to posit any current market behaviours based on current take-up"*<sup>284</sup>.
- 13.16 Eircom also noted that its current pricing policy results in open eir taking on 100% of the risk of the "premises passed" investment, while the €270 connection fee means it takes on a share of the risk associated with "homes connected" investment, with the bulk of the home connected investment taken on by the RSP. This is appropriate in Eircom's view *"as the cost to the RSP of that investment only occurs at the time the end-user starts to consume the RSP service"*<sup>285</sup>.

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<sup>279</sup> Initial Public Offering.

<sup>280</sup> BT Response, page 21.

<sup>281</sup> Eircom response, § 413.

<sup>282</sup> Ibid, § 414.

<sup>283</sup> Retail Service Providers.

<sup>284</sup> Eircom response, § 416.

<sup>285</sup> Ibid, § 418.



13.17 Eircom considers that it is a matter for open eir to set FTTH VUA charges including the ability to determine the price structures between upfront, connection charges and recurring rental charges, that will deliver the targeted return on its investments and argue that *“This type of pricing flexibility is central to the reasoning behind the 2013 EC Recommendation that price control by margin squeeze test is most appropriate to encourage continued investment in NGA.”* Eircom concludes by stating that the *“implication that ComReg has better information on the most efficient wholesale pricing structure than the investor in the new rural FTTH investment is presented without any supporting evidence, and will be assessed in that light<sup>286</sup>”*.

### 13.2.3 ComReg’s Assessment of Respondents’ Views:

13.18 ComReg notes that there was general agreement amongst respondents regarding the proposal to recover the connection costs on the basis of a two-part charge.

13.19 The proposal in Chapter 13 of the Consultation was intended to minimise the potential distortions to competition arising from having a first time connection charge that was so high that it would be inconsistent with the objective to encourage access to the internet at a reasonable cost to end users. The Consultation also raised a concern that having a connection charge that is significantly higher than the charge faced by the RSP to migrate an existing customer could incentivise RSPs to develop a discriminatory behaviour, differentiating between those end users in premises that already have a connection and those that have no connection.

13.20 In arriving at ComReg’s Decision, ComReg is mindful of the fact that Eircom is undertaking significant investments to build out an FTTH network to pass the 300k premises in rural areas but do not accept Eircom’s point, as outlined at paragraph 13.16 above, that it is appropriate that the bulk of the risk of the home connected investment is taken by the RSP. Eircom has the ability to recover the investment in connecting customers to its rural FTTH network from all potential customers across the lifetime of the network and the rival platform operators that it is competing with have similar investment risks. In contrast, the service provider that pays €270 for a new connection may, as indicated by Eircom’s comment in 13.16 above, only recover that cost in the period that the customer consumes the service provider’s service and there is real risk that it could quickly lose that customer to a rival service provider that faces a much smaller migration charge (to another service provider) to gain the customer.

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<sup>286</sup> Eircom response, §419.

- 13.21 With regard to Eircom's view, as outlined at paragraph 13.14 above, that ComReg had failed to identify the nature of the problem which these cost recovery options are attempting to address, Chapter 13 of the Consultation outlined three options for cost recovery and assessed the benefits and disadvantages each option had for both the wholesaler and the RSP in terms of cost recovery, distribution of benefits and allocation of risk between both parties.
- 13.22 Furthermore, in Chapter 13 of the Consultation ComReg also considered the possible impact on end users of the various options and, in particular, as outlined in paragraphs 13.21 to 13.24 of the Consultation, ComReg raised concerns that having a new connection cost that is significantly higher than the cost incurred by the RSP to migrate an existing customer to another RSP could incentivise RSPs to develop a discriminatory pricing measure, differentiating between those end users in premises that already have connection and those that who have no connection. As noted in paragraph 13.9 above, the AM Report also recognises that a high connection cost can lead to a situation where RSPs (apart from Eircom) refuse to serve end users not already connected.
- 13.23 ComReg considers that having a charge for connecting a new customer that is significantly higher than the charge for migrating an existing customer to another service provider could be a deterrent to encouraging take-up of NGA services by new end users and there is an obvious reluctance by service providers other than Eircom retail to connect customers to Eircom's FTTH network. There is growing evidence that the existing regime, where a service provider is charged €270 for a new connections but only €2.50 for a migration to another service provider, does not promote competition and is leading to a slower uptake for NGA services to the detriment of end users. This now seems to have been recognised by Eircom as it presented a revised mechanism for recovering connection costs at the industry forum<sup>287</sup>, which was subsequently submitted to ComReg under Wholesale Notification No 8 on 18 June 2018 and which has since been published on Eircom's wholesale website. The proposed implementation date for Eircom's new revised pricing mechanism for FTTH connections is 1 January 2019. On 19 October 2018, Eircom submitted a subsequent proposal regarding the FTTH reimbursement model under Wholesale Notification No 12. Eircom proposes that Wholesale Notification No 12 should replace Wholesale Notification No 8 and that it should be implemented on 1 April 2019.
- 13.24 Under Eircom's proposal (No 8), ComReg's understanding is that the service provider is charged €294 for the initial FTTH connection of a premises but if the end user ceases / migrates to another service provider, the losing service provider receives a reimbursement from Eircom. The size of this re-

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<sup>287</sup> Industry product development workshop, No 29, 13 June 2018.

imbursement is dependent on the length of time that has elapsed since the initial connection and the cessation / migration to another service provider, with the rate of depreciation determined on the basis of a 20 year asset life. This effectively creates a “connection asset” for the service provider and, in the event of a migration to another service provider, the gaining service provider would pay a fee that reflects the residual value of the asset based on the level of depreciation that has followed from the date of the first installation and which in turn can be reimbursed over the residual life of the asset.

- 13.25 ComReg recognises that Eircom’s proposal addresses many of the issues raised in the Consultation. Proposing an asset life of 20 years is consistent with the position ComReg outlined in paragraph 13.30 of the Consultation, that these costs should be recovered over the period that a customer is expected to be active on the Eircom network and not just the time that it remains with a single service provider.
- 13.26 Based on ComReg’s understanding, the proposal to reimburse the service provider when the customer migrates to another service provider or ceases also recognises the risk, as noted in paragraph 13.22 of the Consultation, that the service provider will lose part of its initial investment when the customer migrates to another service provider as the €294 FTTH new connection cost can be converted to an annual depreciation cost of €14.70 ( $€294 / 20$ ). Based on ComReg’s understanding, Eircom’s proposal to charge the residual value of the connection when a migration to another service provider occurs also reduces the differential that currently exists between first time connection charges and migration charges to another service provider, and so reduces the incentive for service provider to discriminate against end users that are not already connected, which ComReg outlined in paragraph 13.23 of the Consultation.
- 13.27 Furthermore, amortising the connection charge over 20 years better aligns with the principle of the distribution of benefits discussed in paragraph 13.24 of the Consultation, as it allows for the recovery of these costs from the ongoing retail rental charge, ensuring future customers who continue to benefit from the equipment and infrastructure installed to facilitate the initial connection can contribute to the recovery of the associated costs.
- 13.28 However, as ComReg understands it, Eircom’s proposal requires information on when an initial connection was first made to be readily available to all service providers to allow them to determine the residual life of the connection in advance of placing an order and that it may also require Eircom and service providers to implement upgrades to their systems that will track multiple connection dates and amortise the associated charges before the proposal can be successfully introduced. However, ComReg is not in a position to mandate this approach at this time.

13.29 Therefore, in order to address the issues identified in relation to these charges, ComReg has imposed the following obligations (set out below) on Eircom which would apply unless some other mechanism was agreed by ComReg as described below.

13.30 ComReg is of the view that Eircom should have the flexibility to recover the customer specific costs of the connection related investments from a combination of an initial upfront connection charge, a charge for migration to another service provider<sup>288</sup> and a recurring rental charge, but that the new connection charge and the charge for migration to another service provider should be subject to two conditions:

- (i) The charges for new connections and migrations to another service provider should be the same;
- (ii) The combination of a new connection charge and a charge for migration to another service provider should not exceed the level that would allow Eircom to recover its customer specific connection related investment over the lifetime of the underlying assets, given the same assumptions about customer churn as are used in the margin squeeze tests.

13.31 Customer specific costs would include the costs associated with providing the service lead and the ONT in the end-user's premises but would exclude the costs of all poles, ducts and boxes on public roads, as these have the potential to be used to serve more than one customer. Any price changes required to be introduced further to the approach set out at paragraph 13.30 should be notified by Eircom to ComReg no later than two (2) months from the date of this Decision and Eircom should notify the OAOs no later than three (3) months from the date of this Decision unless otherwise agreed by ComReg. The approach at paragraph 13.30 would therefore become effective no later than four (4) months from the date of this Decision, unless otherwise agreed by ComReg.

13.32 In ComReg's judgement, the obligations imposed strike an appropriate balance amongst:

- allowing Eircom flexibility in pricing wholesale FTTH services at a time when the corresponding retail demand is uncertain;
- allowing Eircom to recover its efficiently incurred costs, including cost of capital, from a combination of monthly rentals, connections and migration fees;

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<sup>288</sup> These are migration charges between service providers as opposed to migration charges between speed profiles.

- ensuring that OAOs do not face a level of risk when acquiring customers that could inappropriately deter them from offering services over Eircom's FTTH infrastructure;
- avoiding distortions in the incentives for OAOs to acquire customers who already have FTTH services versus those purchasing FTTH services for the first time;
- providing predictability about the maximum level of connection and migration charges.

13.33 ComReg did not intervene in relation to Eircom's recent proposal (the details of which are discussed at paragraph 13.23 above) under Wholesale Notification No 8 or did not take a view under Wholesale Notification No 12 (which replaced Wholesale Notification No 8) in the context of Eircom's price control obligations for connection charges under the 2016 Access Pricing Decision. ComReg may agree to such a reimbursement regime continuing/being introduced in the context of the costing principles further specified in this Decision, if ComReg could satisfy itself that the proposal: a) complied with all other regulatory obligations including in particular cost orientation and non-discrimination (excluding those outlined at paragraph 13.30) b) addressed the competition concerns identified in this Decision document c) was practicable and d) there were no other material legitimate concerns raised by stakeholders.

13.34 If Eircom wishes to seek ComReg's agreement to give it a derogation from the obligations outlined at paragraph 13.30, Eircom shall submit a proposal to ComReg, no later than 40 days after the Effective Date of this Decision, in which it demonstrates that the conditions (a-d) outlined at paragraph 13.33 apply. In this regard, ComReg intends to publish any Eircom application / submission for a derogation on FTTH connections and allow other operators a period of time to provide their views to ComReg. Subsequently, ComReg shall endeavour to respond to such a proposal within 30 days of receipt of the proposal, indicating whether or not it agrees to grant the derogation. It is Eircom's responsibility to ensure that ComReg has all of the information necessary available to it in order to make the determination required. If ComReg determines that it does not have sufficient information to assess the proposal, ComReg may require further information from Eircom.

13.35 The implication that the mandated approach (at paragraph 13.30) has for connection and migration charges is then primarily dependent on a number of factors, including the average customer specific investment associated with new connections, the assumed asset life of the connection asset and the level of churn experienced in the market.

13.36 As an example, Eircom's alternative proposal for FTTH connection /migration

charges suggests an asset life of 20 years for connection related investments while an average customer lifetime of 42 months is currently assumed in the margin squeeze tests for NGA services. Combining these two assumptions would mean that a customer would be expected to migrate on average  $240 / 42 = 5$  times in the 20 year period allowed for the recovery of connection investments, resulting in 6 events (including the initial connection). If Eircom was to seek to recover €300 to €500 from connection and migration charges this could give rise to a new connection / migration to another service providers charges that are in the region of €80 to €150 when factors such as the time value of future cash flows and the expected number of migrations is taken into account. Other factors, such as asset price trends, potential line loss or asset lives, can also inform the evolution of future charges.

- 13.37 ComReg recognises that this approach, to determining the new connection charge and migration to another service provider charge, is a departure from its preliminary view which, as noted in Chapter 13 of the Consultation and as summarised at paragraph 13.6 above, was that only those costs that are incurred each time an end user migrates from one service provider to another should be recovered on the basis of an upfront connection charge. However, FTTH deployment, in particular, is still at a very early stage in Ireland and the incremental costs when connecting premises to the FTTH network can be significant. Consequently, after further consideration of responses to the Consultation, it is now ComReg's view that Eircom should be allowed some degree of flexibility in determining how best to recover specific connection related costs between upfront connection charges, migration charges to another service provider and the monthly rental charge, subject to its cost orientation obligation and the details set out at paragraphs 13.28-13.30.
- 13.38 In arriving at ComReg's Decision, ComReg has given due regard to the views of Sky, as noted in 13.8, that granting such flexibility can give Eircom a distinct advantage over its competitors in terms of "picking" a price that best meets its own commercial objectives independent of its wholesale customers. Nonetheless, ComReg considers that capping the new connection charge and the charge for migration to another service provider, so that it can recover no more than the incurred costs associated with the connection and the requirement to apply a new connection charge and migration to another service provider charge at the same level based on the lifetime of the connection asset, provides some assurance that Eircom will not be in a position to abuse the degree of flexibility provided by this Decision.

- 13.39 With regard to the point in the AM Report, as outlined at paragraph 13.9 above, that the previous increase from €150 to €270 was not explained, ComReg notes that paragraphs 13.10 and 13.11 of the Consultation outlined that Eircom introduced this increase to recover the additional costs it expected to incur as a result of its decision to connect all customers that were within 150m of a Network Touch Point.
- 13.40 In relation to Vodafone's point, as outlined at paragraph 13.10 above, that there would now appear to be an inconsistency with this approach for ancillary products compared to other products such as SABB, ComReg note that the costs associated with providing an FTTH connection tends to be higher than the costs that are incurred in providing an FTTC connection. This is because FTTH requires that Eircom link the fibre distribution point ('DP') to the end user's premises with a fibre lead terminating on an Optical Terminating Unit ('OTU'), while FTTC uses a pre-existing copper lead that has previously supported SB-WLR or CGA services. Therefore, the scale of investment associated with providing new FTTH connections is significantly higher than the investment that is associated with FTTC, which is usually provided as a migration from an existing service. Eircom's attempts to balance the recovery of investment in providing FTTH connections has given rise to competition issues that were not evident with previous charging approaches such as service providers other than Eircom Retail refusing to connect new customers.
- 13.41 Therefore, the competition concerns that ComReg is attempting to address in this Decision are primarily related to FTTH and, given that the existing FTTC regime has not given rise to similar concerns to date, ComReg is not proposing to intervene in the FTTC connection and migration regime at this time and have set the cost oriented VUA charges on the basis that the existing approach to recovering FTTC connection costs continues. However, while ComReg is not at this stage further specifying the price control obligations in relation to FTTC and CGA connection / migration charges, ComReg intends to be guided by the principles determined in this Decision should an issue arise or a dispute be brought to ComReg in the future. Please see Cost Modelling Annex (Annex 12), A 1.3-A 1.13 for further discussion on ComReg's approach to the cost recovery of migration costs associated with FTTC.
- 13.42 In relation to ALTO's point, outlined at paragraph 13.11 above, that ComReg should undertake a wider engagement with industry to determine what a reasonable threshold for standard connections should be, rather than limit the standard service to drop wires less than 50m, ComReg expects that all connections, including those to premises that require drop wires longer than 50m, will face the same connection charges, so the distinction between standard and non-standard should be less of an issue.



- 13.43 ComReg is of the view that BT's concern, as outlined at paragraph 13.12 above, that Eircom may be taking a short term view of its return on investment should now be resolved as the sale of Eircom has been completed and the new owners have ruled out an IPO<sup>289</sup>.
- 13.44 Having considered the submissions from respondents, ComReg remains of the view that the charges for first time connections should not give rise to discriminatory pricing behaviour by service providers. ComReg is also of the view that the principle of the distribution of benefits, which requires that costs should be recovered from the beneficiaries, should be considered in setting charges for first time connections, migrations to another service provider and recurring rental charges.
- 13.45 However, ComReg also recognises that its initial proposal to limit the costs that could be recovered from upfront connections to those costs that are incurred each time an end user migrates from service provider to another may be too restrictive, and that Eircom should be allowed some flexibility in determining the pricing structures to recover investment costs associated with first time connections. Having the same charges for first time connections and migrations to another service provider means that the service provider has no incentive to target existing connections over new connections, while recovering part of the connection related investment from migrations to another service provider is consistent with the principle that subsequent customers who benefit from an asset contribute to the recovery of the associated cost. Please see paragraphs 13.28-13.30 above.
- 13.46 While ComReg is not at this stage further specifying the price control obligations in relation to FTTC and CGA connection / migration charges, ComReg intends to be guided by the principles determined in this Decision should an issue arise or a dispute be brought to ComReg in the future.

#### **13.2.4 ComReg's Position:**

- 13.47 ComReg has imposed the following obligations (set out below) and these shall apply to Eircom unless some other mechanism is agreed by ComReg as described below. Eircom should have the flexibility to recover the costs of the customer specific connection related investments from a combination of an initial upfront connection charge, a charge for migration to another service provider and recurring rental charge, but that the connection charge and the migration charge to another service provider should be subject to two conditions:

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<sup>289</sup> <https://www.independent.ie/business/irish/eir-managers-get-100m-as-buyer-rules-out-ipo-36425391.html>

- (i) The charges for new connections and migrations to another service provider should be the same;
- (ii) The combination of a new connection charge and a charge for migration to another service provider should not exceed the level that would allow Eircom to recover its customer specific connection related investment over the lifetime of the underlying assets, given the same assumptions about customer churn as are used in the margin squeeze tests.

13.48 Customer specific costs would include the costs associated with providing the service lead and the ONT in the end-user's premises but would exclude the costs of all poles, ducts and boxes on public roads, as these have the potential to be used to serve more than one customer. Any price changes required to be introduced further to ComReg's approach set out at paragraph 13.47 should be notified by Eircom to ComReg no later than two (2) months from the date of this Decision and Eircom should notify the OAOs no later than three (3) months from the date of this Decision unless otherwise agreed by ComReg. The approach at paragraph 13.47 would therefore become effective no later than four (4) months from the date of this Decision, unless otherwise agreed by ComReg.

13.49 ComReg did not intervene in relation to Eircom's recent proposal (the details of which are discussed at paragraph 13.23 above) under Wholesale Notification No 8 or did not take a view under Wholesale Notification No 12 (which replaced Wholesale Notification No 8) in the context of Eircom's price control obligations for connection charges under the 2016 Access Pricing Decision (D03/16). ComReg may agree to such a reimbursement regime continuing/being introduced in the context of the costing principles further specified in this Decision, if ComReg could satisfy itself that the proposal: a) complied with all other regulatory obligations including in particular cost orientation and non-discrimination (excluding those outlined at paragraph 13.47 above) b) addressed the competition concerns identified in this Decision document c) was practicable and d) there were no other material legitimate concerns raised by stakeholders.

13.50 If Eircom wishes to seek ComReg's agreement to give it a derogation from the obligations outlined at paragraph 13.47, Eircom shall submit a proposal to ComReg, no later than 40 days after the Effective Date of this Decision, in which it demonstrates that the conditions (a-d) outlined at paragraph 13.49 apply. In this regard, ComReg intends to publish any Eircom application / submission for a derogation on FTTH connections and allow other operators a period of time to provide their views to ComReg. Subsequently, ComReg shall endeavour to respond to such a proposal within 30 days of receipt of the proposal, indicating whether or not it agrees to grant the derogation. It is Eircom's responsibility to

ensure that ComReg has all of the information necessary available to it in order to make the determination required. If ComReg determines that it does not have sufficient information to assess the proposal, ComReg may require further information from Eircom.

## **13.3 Interconnection / WEIL charges**

### **13.3.1 Position set out in the Consultation:**

13.51 In Chapter 13 of the Consultation ComReg proposed that the BU-LRAIC+ methodology should be used in the context of WEIL services. LRAIC+ includes appropriate amounts of variable, fixed and common costs, which is the calculus faced by any operator when deciding to enter or expand. ComReg considered that this approach should promote efficient infrastructure investment by alternative operators who may want to replicate the assets in question. In addition, the LRAIC+ would ensure consistency with the approach already used for WEIL charges in the context of NGN Ethernet Leased Lines and also the BU-LRAIC+ costing methodology proposed in the context of a cost orientation price control for other access services e.g., FTTC based VUA in the WLA Market and for FTTC based Bitstream and CGA Bitstream in the Regional WCA Market.

13.52 ComReg was of the preliminary view that the WEIL charges, including BECS<sup>290</sup> and BECS over WEIL, should be based on a BU-LRAIC+ methodology.

13.53 Please see Chapter 13, paragraphs 13.54 to 13.57 of the Consultation for further details.

### **13.3.2 Respondents' Views:**

13.54 ALTO, Vodafone, BT, Enet and Eircom all agreed with ComReg's preliminary views.

13.55 ALTO and BT noted that ComReg need to include the co-location and associated costs of power, space etc. within the cost orientation obligations.

13.56 Eircom stated that this is the form of price control that currently applies to WEIL services offered under the access remedy and considered that even when that market is found to be competitive WEIL services will be required for access and interconnection obligations in the WLA market and that consistency between the forms of price control is desirable.

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<sup>290</sup> Bitstream Ethernet Connection Service.

13.57 Vodafone argued that the use of BU-LRAIC+ created the risk of excessive pricing against these products. Although Vodafone accepted the ComReg's proposal it urged ComReg to review the actual recovery of these products by Eircom. Vodafone submitted that excessive pricing would be a barrier to entry for individual operators.

### **13.3.3 ComReg's Assessment of Respondents' Views:**

13.58 ComReg notes the general agreement of the five respondents to its Consultation proposal.

13.59 As set out in Chapter 16, paragraph 16.48, ComReg had proposed in the Consultation that WEILS, BECS and BECS over WEILS in the WLA Market should be based on a BU-LRAIC+ methodology. However, to be consistent with the services mandated in the WLA Market, ComReg has amended the text of the WLA Decision Instrument (Annex 1) so that the obligation relates to Interconnection services rather than WEILS, BECS and BECS over WEILS.

13.60 In relation to the BT and ALTO's views, as outlined at paragraph 13.55 above, that the costs of power, space, etc. would need to be included within the cost oriented charges, ComReg can confirm that a BU-LRAIC+ approach does include the recovery of the associated power, accommodation and other network related costs within the cost base.

13.61 ComReg also notes Vodafone's concern, as outlined at paragraph 13.57 above, regarding the potential for excessive pricing to prove to be a barrier to entry for individual operators and will keep the matter under review.

### **13.3.4 ComReg's Position:**

13.62 In the WLA Market, Interconnection charges should be based on a BU-LRAIC+ methodology.

13.63 In the Regional WCA Market, WEIL charges, including BECS and BECS over WEIL, should be based on a BU-LRAIC+ methodology.

## Chapter 14

# 14 Final wholesale prices

- 14.1 In Chapter 7 of this document we discussed the pricing approach for determining the rental charges for FTTC based NGA services i.e., for FTTC based VUA (including EVDSL) and FTTC based Bitstream (including EVDSL).
- 14.2 In Chapter 9 of this document we set out the pricing approach for setting the rental charges associated with current generation Bitstream and BMB services.
- 14.3 In this chapter we set out the charges for FTTC based NGA services and current generation Bitstream and BMB services. The monthly rental prices in Figures 15 and 16 are also set out in Annex 7 of this Decision document.
- 14.4 The prices set out below relate to the years covered by the price control period i.e., 2018/19-2021/22 and shall apply from 1 March 2019.
- 14.5 The rental prices below shall subsequently change on 1 July each year of the price control period, to be consistent with Eircom's financial year. ComReg has also set out the prices that could apply beyond the price control period i.e., 2022/23 and 2023/24, for transparency purposes and in the event that a subsequent review is not completed by then.

## 14.1 Monthly charges for FTTC based NGA services

- 14.6 Figure 15 sets out the monthly rentals for FTTC based VUA (and EVDSL).
- 14.7 In addition, Figure 15 sets out the monthly rental for FTTC based Bitstream (and EVDSL), based on national handover and for regional handover.
- 14.8 The supplemental costs relevant to the provision of a POTS based FTTC service are also set out in Figure 15.
- 14.9 Please also see Annex 7, Table 1 for the final prices.

**Figure 15: Monthly prices for FTTC based NGA services**

Services	1 March 2019 – 30 June 2019	1 July 2019 – 30 June 2020	1 July 2020 – 30 June 2021	1 July 2021 – 30 June 2022	1 July 2022 – 30 June 2023	1 July 2023 – 30 June 2024
	€	€	€	€	€	€
<b>FTTC based VUA<sup>291</sup></b>	19.54*	19.79*	20.10*	20.36*	20.64*	20.92*
<b>FTTC based Bitstream<sup>292</sup>: National Handover</b>						
<i>Per port</i>	24.31*	24.58*	24.94*	25.27*	25.68*	26.16*
<i>Per Mbps</i>	0.56	0.44	0.37	0.31	0.29	0.28
<b>FTTC based Bitstream: Regional Handover</b>						
<i>Per port</i>	21.84*	22.08*	22.40*	22.68*	23.00*	23.36*
<i>Per Mbps</i>	0.20	0.16	0.14	0.12	0.11	0.12
<b><u>Assumed 90/10 mix for National / Regional Handover</u></b>						
<i>Per port</i>	22.09*	22.33*	22.65*	22.93*	23.27*	23.64*
<i>Per Mbps</i>	0.24	0.19	0.16	0.14	0.13	0.13
<b>Supplemental POTS costs (to be added to FTTC costs above)</b>						
<b>POTS based FTTC NGA service</b>	2.64	2.77	2.91	3.03	3.17	3.31

\* Includes fault repair costs and provisioning costs.

<sup>291</sup> This includes the average costs for Remote VUA, Local VUA and EVDSL.

<sup>292</sup> ComReg will consider any proposals made by Eircom in relation to alternative pricing structures for Bitstream, subject to compliance with the cost orientation obligation and ComReg's pre-approval.

## 14.2 Charges for current generation Bitstream and BMB services

14.10 Figure 16 sets out the BU-LRAIC+ monthly rentals for current generation Bitstream and BMB services. Please also see Annex 7, Table 2 for the prices.

**Figure 16: Monthly BU-LRAIC+ prices for current generation Bitstream services<sup>293</sup> in the Regional WCA Market**

<u>CGA Bitstream BU-LRAIC+ prices</u>	1 March 2019 – 30 June 2019	1 July 2019 – 30 June 2020	1 July 2020 – 30 June 2021	1 July 2021 – 30 June 2022	1 July 2022 – 30 June 2023	1 July 2023 – 30 June 2024
	€	€	€	€	€	€
<b><u>BMB: National handover:</u></b>						
Per port	8.44*	8.53*	8.70*	8.88*	9.10*	9.35*
Per Mbps	0.95	0.73	0.57	0.47	0.39	0.35
<b><u>BMB: Regional handover:</u></b>						
Per port	6.92*	6.90*	6.94*	6.97*	7.03*	7.14*
Per Mbps	0.41	0.32	0.25	0.20	0.17	0.15
<b><u>Bitstream IP: National Handover:</u></b>						
Bitstream IP <sup>295</sup>	8.85*	8.95*	9.14*	9.37*	9.64*	10.01*
<b><u>Bitstream IP: Regional Handover:</u></b>						
Bitstream IP <sup>296</sup>	7.09*	7.08*	7.13*	7.17*	7.27*	7.43*

\*Including line share and fault repair

<sup>293</sup> ComReg will consider any proposals made by Eircom in relation to alternative pricing structures for Bitstream, subject to compliance with the cost orientation obligation and ComReg's pre-approval.

<sup>294</sup> These costs / prices are incremental to the cost / price for WLR / POTS.

<sup>295</sup> Bitstream IP prices are based on a combination of the costs of the port and traffic usage. The prices listed here are based on a weighted average assumption of traffic use by the Bitstream IP user for each year.

<sup>296</sup> Ibid.



## Chapter 15

# 15 Regulatory Impact Assessment ("RIA")

## 15.1 Overview

- 15.1 A 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 the proposed regulation is likely to have the desired impact. The RIA is a structured approach to the development of policy, and analyses the impact of regulatory options on various stakeholders.
- 15.2 In the Consultation, ComReg noted that its approach to the RIA took into account ComReg's own RIA Guidelines,<sup>297</sup> the Department of An Taoiseach's 'Better Regulation' programme<sup>298</sup> and international best practice.<sup>299</sup>
- 15.3 The RIA which was carried out in the Consultation considered the further specification of price control obligations which were set out on a preliminary basis in the 2016 WLA / WCA Market Review Consultation. The consideration of the regulatory impact of these obligations was carried out within the RIA undertaken as part of the 2018 WLA / WCA Market Review Decision. The focus in the Consultation was therefore on the further specification of price control obligations, as the underlying rationale for these obligations was considered as part of the 2018 WLA / WCA Market Review Decision.
- 15.4 During the consultation process, ComReg considered the views of respondents, and in some cases ComReg has refined its approach. The reasoning behind the evolution of ComReg's position has been set out throughout this Decision.
- 15.5 The main developments to the price control obligations are based on the refinements noted in the 2018 WLA / WCA Market Review Decision and which have a knock-on impact on the details further specified in this Decision. In summary, the main refinements to the price control obligations based on the outcome of the 2018 WLA / WCA Market Review Decision are as follows:

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<sup>297</sup> See [ComReg Document 07/56a](#), ComReg, 'Guidelines on ComReg's Approach to Regulatory Impact Assessment', 10 August 2007 (the '**RIA Guidelines**').

<sup>298</sup> See Department of the Taoiseach, 'Regulating Better', January 2004. See also 'Revised RIA Guidelines: How to conduct a Regulatory Impact Analysis', June 2009, (the '**Revised RIA Guidelines**'): [https://govacc.per.gov.ie/wp-content/uploads/Revised\\_RIA\\_Guidelines\\_June\\_2009.pdf](https://govacc.per.gov.ie/wp-content/uploads/Revised_RIA_Guidelines_June_2009.pdf).

<sup>299</sup> See paragraph 15.2 of the Consultation.

**WLA Market:**

- the only specific standalone retail margin squeeze test that shall be applied going forward relates to that between FTTH based VUA and retail services delivered by FTTH based VUA and sold singly in the area corresponding to the Urban WCA Market.<sup>300</sup>
- as FTTC based VUA is now subject to a cost orientation obligation, as well as to other obligations including access and transparency, a standalone retail margin squeeze obligation is not required. However, given the potential for Eircom to cross subsidise between its retail products when sold in a bundle, the margin between FTTC based VUA and all retail services delivered by FTTC based VUA, whether sold singly or in bundle, will be assessed going forward in the overall retail margin squeeze tests as further specified in Chapter 5 of the 2018 Bundles Decision.<sup>301</sup>
- there is no longer a requirement for a specific retail margin squeeze test between CG WLA services and CG retail services. This is because of the decline in demand for current generation services in the WLA Market as well as the fact that these current generation WLA services are already subject to a cost orientation obligation.<sup>302</sup>

**Regional WCA Market**

- ComReg has decided not to further differentiate remedies within the Regional WCA Market, and so all obligations apply across the Regional WCA Market.<sup>303</sup>
- the only specific standalone retail margin squeeze test that shall be applied in the Regional WCA Market going forward is between FTTH based Bitstream and FTTH based retail broadband services delivered by FTTH based Bitstream and sold singly.<sup>304</sup>
- a wholesale margin squeeze test between End-to-End Bitstream (current generation and next generation) and Bitstream (current generation and next generation) is no longer required.<sup>305</sup>
- there is no standalone retail margin squeeze test between current generation WCA services and retail services delivered by CG WCA services.<sup>306</sup> These

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<sup>300</sup> See Chapter 10 of this Decision.

<sup>301</sup> See Chapter 10 of this Decision.

<sup>302</sup> See Chapter 10 of this Decision.

<sup>303</sup> See Chapter 4 of this Decision.

<sup>304</sup> See Chapter 11 of this Decision.

<sup>305</sup> See Chapter 11 of this Decision.

<sup>306</sup> See Chapter 11 of this Decision.

services are assessed in the retail margin squeeze test in the context of Bundles in the 2018 Bundles Decision.

- there is no standalone margin squeeze test between FTTC based Bitstream services and retail services delivered by FTTC based Bitstream and sold singly. However, given the incentive and potential for Eircom to cross subsidise between its retail products when sold in a bundle, all FTTC based services (sold singly or in a bundle) will be included in the overall retail margin squeeze tests as further outlined in Chapter 5 of the 2018 Bundles Decision.<sup>307</sup>

15.6 The overall effects of the refinements noted in the 2018 WLA / WCA Market Review Decision are a reduction in the number of margin squeeze tests, and a streamlining of the complexity of the tests.<sup>308</sup> However, ComReg recognises a continuing need to ensure that Eircom cannot leverage its position in a wholesale market into a downstream wholesale market or into the retail market. The approach therefore balances the need that obligations should be proportionate and justified, with the need to ensure that anti-competitive behaviour is prevented in the market(s).

15.7 This Chapter summarises the approach to the RIA taken in the Consultation, respondents' views on the RIA as well as ComReg's assessment of them. Finally, an updated RIA is presented, which explains the evolution of ComReg's position and takes account of respondents' comments.

## 15.2 Position set out in the consultation

15.8 In chapter 15 of the Consultation ComReg set out the steps taken in its approach to the RIA, as follows:

- Step 1: describe the policy issue and identify the objectives
- Step 2: identify and describe the regulatory options
- Step 3: determine the likely impacts on stakeholders
- Step 4: determine the likely impacts on competition
- Step 5: assess the likely impacts and choose the best option

15.9 ComReg then followed these steps in assessing its proposed measures. ComReg also took into account the extent to which the proposed measures addressed ComReg's regulatory objectives, namely to:

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<sup>307</sup> See Chapter 11 of this Decision.

<sup>308</sup> See Chapters 10 and 11 of this Decision.

- (i) Promote competition and in particular to encourage efficient investment in infrastructure and promoting innovation;*
- (ii) Contribute to the development of the internal market;*
- (iii) Promote the interests of users within the Community and in particular to encourage access to the internet at a reasonable cost to end-users<sup>309</sup>.*

15.10 ComReg assessed a number of options, in particular:

- Options for determining the appropriate costing methodology for FTTC based NGA services;
- Options for determining appropriate costing methodology for current generation Bitstream and BMB services;
- Options for determining the appropriate geographic scope for FTTC based VUA (including EVDSL);
- Options for determining the appropriate geographic scope for FTTC based Bitstream (including EVDSL);
- Options for determining the appropriate principles for the retail margin squeeze test for WLA services in the footprint corresponding to the Urban WCA Market;
- Options for determining how CGA / NGA connection costs should be recovered by Eircom.

15.11 Each option was described. The impact on Eircom, OAOs and end-users was assessed. ComReg determined the likely effect of each option on competition. Finally, ComReg analysed each option, and came to a preliminary conclusion on the preferred approach.

## **Respondents' views:**

15.12 A number of respondents made specific comments on the RIA.

15.13 ALTO agreed with ComReg's policy proposals.

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<sup>309</sup> Section 12 of the Communications Regulations Act 2002 (as amended).

- 15.14 Vodafone stated that it was in general agreement but it stated that the RIA should consider timing impacts associated with the time taken to complete market reviews and pricing decisions, and the need to introduce effective price control in the immediate future. Vodafone also reiterated that it disagreed with the conclusion that no undertaking has SMP in the Urban WCA Market.
- 15.15 BT stated that it had considerable concerns with the definition of the Urban WCA Market. In addition, BT noted concerns with the omission of a margin squeeze test between WLA VUA and WCA Bitstream in the area defined as the Urban WCA Market.
- 15.16 Eircom made a number of comments on the approach to the RIA and on the substance of the analysis.
- 15.17 On ComReg's approach to the RIA, Eircom considered that ComReg should have undertaken a RIA even where there is a continuation of existing remedies. In Eircom's view, obligations should not be transposed without a consideration of whether they are still fit-for-purpose.
- 15.18 Eircom noted changes in the market since the time of the last reviews, and also changes in the regulatory environment. Amongst the former, Eircom noted changes in the market definitions. Amongst the latter, Eircom referenced the 2013 Non-Discrimination Recommendation, and claimed that ComReg's proposals were not consistent with this. Eircom claimed that the Consultation included material new obligations which were not sufficiently addressed in the RIA. Eircom provided examples of what it considered to be material changes, including the definition of an Urban WCA market, and the approach to margin squeeze tests, in particular the proposal to use REO in some tests.
- 15.19 Eircom did not agree with what it characterised as ComReg's menu-based approach, because, in its view, this approach failed to address the fundamental regulatory inconsistency between adjoining price control periods. Eircom claimed that ComReg only considered that a RIA was necessary for two wholesale access services, namely the further specification of FTTC based NGA services and the change of current generation Bitstream and BMB service from HCA to BU-LRAIC+.
- 15.20 Eircom claimed that ComReg had failed to undertake any analysis of Eircom's ability to realise a 'fair bet' on its FTTC investment in the proposed move to a cost orientation obligation.
- 15.21 Eircom expressed a view that ComReg has not undertaken any numerical analysis to estimate the consumer welfare benefit or investment incentives on stakeholders and does not appear to have used any financial analysis to allow consideration of the proportionality (or otherwise) of its proposed measure.

Eircom stated that given the very serious impact of ComReg changing to a cost-orientation price control for FTTC, that a financial impact assessment must be undertaken by ComReg to allow for comparability of the regulatory options available. Eircom also stated that, in its view, the analysis regarding appropriate signals for investment was superficial and flawed.

- 15.22 Eircom claimed that ComReg had proposed to impose pricing obligations which only impacted on Eircom's pricing in non-SMP markets, and this amounted to de facto retail regulation. In Eircom's view, ComReg should have assessed the implications on markets which are national and not regional when there are multiple margin squeeze tests with different methodologies based on exchange footprints.

### **15.2.1 ComReg's assessment of respondents' views:**

- 15.23 ComReg has considered respondents' views. Where respondents commented on issues outside the scope of this Consultation and Decision (for example, on the definition of markets) ComReg has insofar as possible referenced where these are addressed in the 2018 WLA / WCA Market Review Decision, and is not considered further in this Decision. The discussion below is limited to respondents' comments on the RIA.
- 15.24 ComReg acknowledges Vodafone's points, as outlined at paragraph 15.14 above, regarding completion of market reviews and pricing decisions in a timely manner.
- 15.25 ComReg has addressed Vodafone's points, as outlined at paragraph 15.14 above, and BT's points, as outlined at paragraph 15.15 above, regarding the findings of the Urban WCA Market, in Section 13 of the 2018 WLA / WCA Market Review Decision.
- 15.26 With regard to BT's point on the need for a margin squeeze test between WLA and WCA, as outlined at paragraph 15.15 above, please see Chapter 3, paragraph 3.123.
- 15.27 ComReg does not agree with Eircom's view, as outlined at paragraph 15.17 above, that it failed to carry out a RIA on measures which represented a continuation of current remedies and also Eircom's views, as outlined at paragraph 15.19 above, that ComReg only considered that a RIA was necessary for two wholesale access services, namely the further specification of FTTC based NGA services and the change of current generation Bitstream and BMB service from HCA to BU-LRAIC+<sup>310</sup>. ComReg notes that the 2016

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<sup>310</sup> In fact, six regulatory options were identified. For each option, ComReg considered alternative approaches, and evaluated the impact of each approach on Eircom, OAOs and end users. See Section 15.4 of the Consultation.

WLA / WCA Market Review Consultation and the 2018 WLA / WCA Market Review Decision considered competition problems in the WLA market<sup>311</sup> and the WCA markets<sup>312</sup>, and the appropriateness of price control remedies was then considered for these markets.<sup>313</sup> The analysis carried out in the 2016 WLA / WCA Market Review Consultation considered a number of options for the approach to price controls before coming to a preliminary view. Responses to that Consultation were taken into account when coming to a decision in the 2018 WLA / WCA Market Review Decision<sup>314</sup>.

- 15.28 This Decision is a further specification of the price control obligations (and the transparency obligations) imposed in the WLA Market and the Regional WCA Market, and as such the consideration and analysis of the regulatory impact of alternative measures should be read as part of the overall market review. The measures set out in this Decision are justified and proportionate with reference to the obligations imposed in the 2018 WLA / WCA Market Review Decision, and their potential impact has been considered in the 2016 WLA / WCA Market Review Consultation and 2018 WLA / WCA Market Review Decision and again in this Decision.
- 15.29 When the Consultation, further specifying the price control obligations, was published, ComReg considered in detail the likely impact which proposed measures may have. Indeed, the regulatory impact was considered throughout the analysis, and was an integral part of ComReg's approach. Thus, while the RIA chapter in the Consultation focused on potential changes to regulation, the regulatory impact of continuing with existing measures as well as new measures was considered at each stage of the process, and is discussed explicitly throughout the Consultation and Decision. The RIA clearly refers to the analysis of options carried out throughout the Consultation<sup>315</sup>.
- 15.30 ComReg notes the changes which, as highlighted by Eircom and as outlined in paragraph 15.18 above, have taken place in the WLA and WCA Markets. The 2016 WLA / WCA Market Review Consultation as well as the 2018 WLA / WCA Market Review Decision fully considered the nature of the changes which have taken place in the markets. In ComReg's view, consideration of changes in the markets underpins the assessment of competition problems and the development of remedies. Furthermore, the RIA has taken a forward-looking approach in considering the impact of the various pricing measures on Eircom, OAOs and end users. Therefore, market changes have been taken into account

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<sup>311</sup> See Section 7 of the 2016 WLA/WCA Market Review Consultation and Section 6 of the 2018 WLA / WCA Market Review Decision.

<sup>312</sup> See Section 12 of the 2016 WLA/WCA Market Review Consultation and Section 11 of the 2018 WLA / WCA Market Review Decision.

<sup>313</sup> See Sections 8 and 13 of the 2016 WLA/WCA Market Review Consultation and see Section 7 and Section 12 of the 2018 WLA / WCA Market Review Decision.

<sup>314</sup> Ibid.

<sup>315</sup> For example, see Chapter 15, paragraphs 15.92 to 15.107 of the Consultation.



in the outcome of the 2018 WLA / WCA Market Review Decision, which is the basis for the further specification of the price control obligations in this Decision.

- 15.31 ComReg does not agree with Eircom's claim, as outlined in paragraph 15.18 above, that its proposals are inconsistent with the 2013 Non-Discrimination Recommendation. ComReg has taken utmost account of the 2013 Non-Discrimination Recommendation in the 2018 WLA / WCA Market Review Decision and in this Decision. Throughout this Decision ComReg has made reference to the 2013 Non-Discrimination Recommendation and how the measures set out are consistent with it. In any case where ComReg believes it is inconsistent with any element(s) of the 2013 Non-Discrimination Recommendation, ComReg has explained the reasons why. In particular, Chapter 5 on the costing methodology and Chapters 10 and 11 on the margin squeeze principles has some detailed discussion on how the measures set out in this Decision are consistent with the 2013 Non-Discrimination Recommendation.
- 15.32 ComReg does not accept Eircom's characterisation, as outlined at paragraph 15.19 above, that ComReg has assessed the regulatory options and impacts on stakeholders using a menu-based approach and that this approach failed to address the fundamental regulatory inconsistency between adjoining price control periods. In the Consultation and in the RIA, ComReg worked through an assessment of the impact of alternative approaches before coming to a conclusion. This is in line with ComReg's RIA Guidelines.
- 15.33 ComReg does not agree with Eircom's claim on regulatory inconsistency between price control periods. Based on the market review of the WLA Market and WCA markets as set out in the 2016 WLA / WCA Market Review Consultation and in the 2018 WLA / WCA Market Review Decision, ComReg has identified a number of competition problems. The pricing remedies set out in the 2018 WLA / WCA Market Review Decision and in this Decision are a means to try to address those competition problems rather than ensure consistency between price control periods. It is worth noting that the costing methodology (BU-LRAIC+) used to set the prices for FTTC based services and current generation (copper based) Bitstream services in this Decision is also consistent with the approach determined in the 2016 Access Pricing Decision for LLU, SLU and Civil engineering infrastructure. Therefore, all current generation and next generation broadband prices are set based on a consistent methodology, in line with the 2013 Non-Discrimination Recommendation.

- 15.34 ComReg does not agree with Eircom's claim, as outlined in paragraph 15.20 above, that it had failed to take account of Eircom's ability to realise a 'fair bet' on its FTTC investment. As set out in the 2018 WLA / WCA Market Review Decision<sup>316</sup>, and further discussed in Chapter 3, paragraph 3.116 of this Decision, ComReg fully considered investment incentives for FTTC and FTTH when coming to its decisions.
- 15.35 ComReg does not agree with Eircom's view at paragraph 15.21 that a numerical analysis should have considered consumer welfare or investment incentives on stakeholders, and that a financial impact assessment should have been undertaken. ComReg's RIA Guidelines<sup>317</sup> are clear that ComReg is not required to carry out a full cost benefit analysis (CBA). ComReg considers that a complete and robust RIA has been undertaken through the consultation process and that ComReg has considered all the relevant factors, including the impact on Eircom, competition and consumers. ComReg's approach is in line with the Department of the Taoiseach Guidelines on best practice on the conduct of Regulatory Impact Analysis<sup>318</sup>. In the measures considered in the Consultation and Decision, the analysis carried out in the 2016 WLA / WCA Market Review Consultation and in the 2018 WLA / WCA Market Review Decision established that there are competition problems, and ComReg has an obligation to develop the most appropriate and proportionate means of addressing these problems. Given the nature of problems identified, regulatory forbearance is not a viable option. This means that ComReg has to assess the impact of a range of regulatory options. As a RIA is primarily a decision-making tool, the information which was sought is that which allows comparison of a range of options. This did not require a detailed quantitative analysis.
- 15.36 ComReg does not agree with Eircom's views, as outlined at paragraph 15.21, that the analysis regarding appropriate signals for investment was superficial and flawed. A large part of the Consultation and this Decision document discuss at length the appropriate signals for investment. For example, Chapter 5 of the Consultation and this Decision discusses the costing methodology and how the various options and the preferred approach provides appropriate investment signals. Similarly, Chapters 7 and 9 discuss the options and preferred approach for setting the prices for FTTC based services and current generation services and how our approach provides appropriate signals for investment. Furthermore, Chapters 10 and 11 also deals with investment signals in the context of setting prices for FTTH based services by way of a margin squeeze obligation. It is also worth noting that the reports produced by our Consultants, TERA and JCA, also address investment signals in the context of this Decision.

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<sup>316</sup> See Section 7 (WLA Market) and Section 12 (Regional WCA Market) of the 2018 WLA / WCA Market Review Decision.

<sup>317</sup> See paragraph 6.15, ComReg RIA Guidelines.

<sup>318</sup> Department of the Taoiseach, "Revised RIA Guidelines", June 2009.

Therefore, ComReg considers that Eircom's claim that the analysis on the appropriate signals for investment was superficial and flawed is unfounded.

15.37 ComReg does not accept Eircom's claims, as outlined at paragraph 15.22 above, regarding the impact on non-SMP markets. ComReg notes that the refinement to pricing remedies during the consultation process for the 2016 WLA / WCA Market Review Consultation and the 2018 WLA / WCA Market Review Decision has resulted in a streamlining of obligations, and this should address some of the main concerns raised by Eircom.<sup>319</sup> Furthermore, ComReg has responded to Eircom's claim about imposing retail regulation in Chapters 10 and 11 of this Decision.

15.38 With regard to Eircom's views, as outlined at paragraph 15.22 above, that ComReg should have considered various options when developing margin squeeze tests, ComReg has discussed above at paragraphs 15.27 to 15.29 the way in which options were taken into account before coming to a final decision.

### 15.2.2 ComReg's Position:

15.39 ComReg has considered respondents' views on its RIA.

15.40 As discussed in paragraphs 15.27 to 15.29 above, a number of price control options were initially considered in the 2016 WLA / WCA Market Review Consultation<sup>320</sup> and in the 2018 WLA / WCA Market Review Decision<sup>321</sup> before reaching a final view. This Decision is a further specification of obligations regarding price controls imposed in the WLA Market and the Regional WCA Market, and as such the consideration and analysis of the regulatory impact of alternative measures should be read as part of the overall market review.

15.41 When the Consultation (17/26) was published, ComReg considered in detail the likely impact which the proposed pricing measures may have in terms of stakeholders and on competition. The regulatory impact was considered throughout the analysis in the Consultation and in this Decision, and was an integral part of ComReg's approach. Thus, while the RIA chapter in the Consultation focused on potential changes to regulation, the regulatory impact of continuing with existing measures and new measures is considered at each stage of the process, and is discussed explicitly throughout the Consultation and Decision.

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<sup>319</sup> For example, as summarised in Chapter 11 of this Decision, a margin squeeze test between Bitstream and end-to-end Bitstream is no longer warranted based on the outcome in Section 12 of the 2018 WLA / WCA Market Review Decision.

<sup>320</sup> Section 8 and Section 13 of the 2016 WLA / WCA Market Review Consultation.

<sup>321</sup> Section 7 and Section 12 of the 2018 WLA / WCA Market Review Decision.

15.42 The remainder of this Chapter updates the RIA that was undertaken in the Consultation, in order to reflect the development of ComReg's approach, and to take into account the views of respondents. As Eircom has been subject to price control obligations in the WLA Market and WCA markets to date<sup>322</sup>, ComReg has focused in this RIA on the incremental burden of new or amended obligations. In particular, this applies to the following:

- ComReg is further specifying the cost orientation obligation imposed in the 2018 WLA / WCA Market Review Decision for FTTC based NGA services (VUA and NGA Bitstream) for the first time.
- ComReg is amending the costing methodology for current generation Bitstream and BMB services from HCA to BU-LRAIC+.
- ComReg is further specifying margin squeeze obligations in the WLA Market and in the Regional WCA Market.

15.43 In the 2018 WLA / WCA Market Review Decision and further to the views of respondents to the 2016 WLA / WCA Market Review Consultation, ComReg has simplified and streamlined its approach, such that the only standalone margin squeeze test that applies in the Regional WCA Market is between the price for FTTH based Bitstream and the price of its retail services delivered by FTTH based Bitstream and sold singly. The detail of the standalone margin squeeze test FTTH based Bitstream in the Regional WCA Market and the principles of that test are discussed in Chapter 11 of this Decision.

15.44 This means that standalone tests between FTTC based Bitstream and retail services delivered by FTTC based Bitstream, and standalone tests between CG Bitstream and retail services delivered by CG Bitstream are no longer required. The FTTC services (and CG Bitstream) are assessed in the retail margin squeeze test in the context of Bundles in the 2018 Bundles Decision.

15.45 As summarised in Chapter 11 of this Decision, ComReg considers that a margin squeeze test alone has not been sufficient to address competition problems in the provision of FTTC based Bitstream and ComReg is imposing a cost orientation obligation on FTTC based services. ComReg has determined that there will be no standalone margin squeeze test between FTTC based services and retail services delivered by FTTC and sold singly, by virtue of the fact that ComReg expects that other measures (including obligations of access, and transparency, as well as cost orientation) will be sufficient. However, given the incentive and potential for Eircom to cross subsidise between its retail products when sold in a bundle, all FTTC based services (sold singly or in a bundle) will

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<sup>322</sup> Please see Chapter 3 of this Decision for the details of previous pricing obligations regarding WLA and WCA services.

be included in the overall retail margin squeeze tests as further outlined in the 2018 Bundles Decision.

- 15.46 Similarly for current generation Bitstream services, ComReg has decided not to further specify a standalone retail margin squeeze test between current generation WCA services and retail services delivered by current generation WCA services given the decline in demand for these services as well as the expectation that other obligations will be sufficient (i.e., the obligation to provide access, transparency obligation and the cost orientation obligation). However, a retail margin squeeze obligation applies between current generation WCA services and current generation retail services delivered by current generation WCA services across the Regional WCA Market, whether sold singly or in bundle, and will be included in the overall retail margin squeeze tests as further specified in Chapter 5 of the 2018 Bundles Decision.
- 15.47 In the WLA Market and as determined in the 2018 WLA / WCA Market Review Decision ComReg is continuing to further specify a wholesale margin squeeze test between FTTH based VUA in the WLA Market and FTTH based Bitstream in the WCA Markets. ComReg notes that there is no material change to the test, or to the underlying principles, and as such, there will be no incremental burden on Eircom.
- 15.48 In addition, in the WLA Market ComReg is further specifying a standalone retail margin squeeze test between the price of FTTH based VUA services in the footprint corresponding to the Urban WCA Market and retail services delivered by FTTH based VUA and sold singly. As this is a new regulatory obligation imposed in the 2018 WLA / WCA Market Review Decision, ComReg has assessed the impact in the RIA below.
- 15.49 ComReg is of the view that Eircom should have the flexibility to recover the customer specific costs of the connection related investments from a combination of an initial upfront connection charge, a charge for migration to another service provider and a recurring rental charge, but that the new connection charge and the charge for migration to another service provider should be subject to two conditions:
- (i) The charges for new connections and migrations to another service provider should be the same;
  - (ii) The combination of a new connection charge and a charge for migration to another service provider should not exceed the level that would allow Eircom to recover its customer specific connection related investment over the lifetime of the underlying assets, given the same assumptions about customer churn as are used in the margin squeeze tests.

15.50 Therefore, the obligations set out above would apply to Eircom unless some other mechanism was agreed by ComReg as described in Chapter 13.

15.51 While ComReg is not at this stage further specifying the price control obligations in relation to FTTC and CGA connection / migration charges, ComReg intends to be guided by the principles determined in this Decision should an issue arise or a dispute be brought to ComReg in the future.

15.52 We have assessed the options available and the likely impact of each one on the various stakeholders in the RIA below. Please see Chapter 13 of this document.

### **15.3 Steps for assessing regulatory options**

15.53 In assessing the available regulatory options, ComReg's approach to the RIA is based on the following five steps:

Step 1: describe the policy issue and identify the objectives

Step 2: identify and describe the regulatory options

Step 3: determine the likely impacts on stakeholders

Step 4: determine the likely impacts on competition

Step 5: assess the likely impacts and choose the best option.

15.54 Each step is discussed in detail below.

### **15.4 Step 1: Describe the policy issue and identify the objectives**

15.55 An important consideration for this RIA is the further specification of the cost orientation obligation for FTTC based NGA services.

15.56 As set out in the 2018 WLA / WCA Market Review Decision, in Section 7 (FTTC based VUA) and in Section 12 (FTTC based Bitstream), ComReg formed the view that cost orientation was the appropriate price control measure given the competition problems (in particular concerns regarding excessive pricing) identified in both the WLA Market and in the Regional WCA Market. ComReg considered that cost orientation is appropriate for the following reasons:

- (a) Demand for FTTC based NGA services is now easier to forecast given the historic penetration data that is available since Eircom began deploying its fibre network in 2013. Therefore, it would be easier to determine forecasted

costs and volumes associated with the provision of FTTC based NGA services.

- (b) Recent price changes indicate that pricing constraints in relation to Eircom's retail and/or wholesale broadband prices, are of limited effectiveness and that existing price controls need to be updated to reflect new circumstances. In particular, the constraint posed by copper based broadband is likely to have diminished as evidenced by the reduction in LLU volumes and the switch from copper to fibre based services in the NGA footprint. This view is supported by the evidence available. Eircom has increased its NGA wholesale prices twice since the launch of NGA services in 2013. In July 2015 Eircom increased the VUA / NGA Bitstream monthly rental price by €2, from €17.50 to €19.50.<sup>323</sup> From 1 September 2016, Eircom increased the rental price for FTTC based NGA by €3.50, from €19.50 to €23, and the monthly rental price for FTTH based NGA by €3.<sup>324</sup> Similarly, at a retail level Eircom increased its retail broadband prices for standalone NGA products by circa €5 (incl. VAT).<sup>325</sup> These pricing developments demonstrate that Eircom's prices do not appear to be effectively constrained at a retail or wholesale level, in the presence of the existing form of price regulation.
- (c) ComReg considered that changes in the definition of the markets, in the development of competitive conditions, and in the nature of competition problems all indicated that an obligation not to cause a margin squeeze was no longer sufficient, and that a cost orientation price control is necessary, proportionate and justified for FTTC based based services.
- (d) A cost orientation obligation for FTTC based NGA services would ensure a consistent regulatory approach with the pricing of current generation SLU and LLU. Since NGA networks are in competition with copper networks, the consistency of pricing approaches between FTTC based wholesale products and current generation wholesale products helps operators to make an efficient choice as to the most optimal wholesale product.
- (e) A cost orientation obligation for FTTC based NGA should also provide the appropriate investment signals to market participants (i.e. that the prices set will incentivise efficient firm behaviour). Efficient behaviour should result in the economy getting the greatest value from its resources and should benefit end users.
- (f) A cost orientation obligation should provide greater price certainty for market participants. Setting a cost oriented price for FTTC based VUA

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<sup>323</sup> Please see Eircom's Bitstream price list at [http://www.openeir.ie/Reference Offers/?selectedtab=wbaro](http://www.openeir.ie/Reference%20Offers/?selectedtab=wbaro).

<sup>324</sup> Ibid.

<sup>325</sup> Please see second table at page 3 of <https://www.eir.ie/opencms/export/sites/default/.content/pdf/pricing/Part3.1.pdf>



upfront provides certainty to the SMP operator as to what it has to do in order to ensure compliance with its obligations and also for the OAOs that use the regulated products as to what the price will be for the service it is buying. This compares with less price certainty for OAOs by way of the margin squeeze approach as Eircom has flexibility during the price control period to make changes to the wholesale price depending on changes by Eircom to the retail price. Please see Chapter 10 of the 2013 NGA Decision for further details on the current margin squeeze approach for NGA.

(g) With regard to cost recovery, the cost orientation obligation takes into account the efficient investments made by the SMP operator and allows a reasonable rate of return on adequate capital employed, in line with Regulation 13 of the Access Regulations.

(h) Please also see Section 7 and Section 12 of the 2018 WLA / WCA Market Review Decision for justification of a cost orientation obligation for FTTC based services in the WLA Market and in the Regional WCA Market.

15.57 One of the key regulatory objectives of ComReg is to maximise viable infrastructure investment and to promote efficient infrastructure investment decisions and encourage OAOs to climb the investment ladder. This objective has been addressed in Chapter 5 and more specifically in Chapter 6 and Chapter 7 of this Decision with regard to the pricing approach for FTTC based NGA services.

15.58 The objective of a BU-LRAIC+ costing methodology for FTTC based NGA services (VUA and NGA Bitstream) is to promote efficient infrastructure investment by alternative operators who may want to replicate the asset and to send the right signal to the market when networks need to be renewed (which is currently the case with the deployment of NGA networks). LRAIC+ includes appropriate amounts of variable, fixed and common costs, which is the calculus faced by any operator when deciding to enter or expand. This approach is also consistent with the methodology applied in the Revised CAM (for the access network) in the 2016 Access Pricing Decision. Please see Chapter 5 of the Consultation and this Decision document for further details.

15.59 In the 2018 WLA / WCA Market Review Decision ComReg decided to continue with the obligation of cost orientation in relation to current generation Bitstream services. In this Decision ComReg is further specifying the cost orientation obligation such that a BU-LRAIC+ methodology (rather than the existing HCA methodology) should promote efficient infrastructure investment in the appropriate areas. The BU-LRAIC+ approach for current generation Bitstream and BMB services in the Regional WCA Market promotes efficient infrastructure investment to allow existing competition to grow, including a potential move to NGA services, while encouraging other alternative operators to enter the market.

- 15.60 As summarised in Chapter 10 (WLA Market) and Chapter 11 (Regional WCA Market) of this Decision, in the 2018 WLA / WCA Market Review Decision ComReg decided to streamline its approach to standalone margin squeeze tests in the WLA Market and in the Regional WCA Market. ComReg took into account the views of respondents in deciding that standalone margin squeeze tests are no longer required when FTTC based services are subject to a cost orientation obligation. ComReg's view is that it will be sufficient to address Eircom's potential to cross subsidise between its retail products by including all retail services delivered by FTTC based services (whether sold singly or as part of a bundle) in the overall retail margin squeeze tests as specified in Chapter 5 of the 2018 Bundles Decision.
- 15.61 In choosing remedies ComReg has taken account of Section 12 of the Communications Regulation Act 2002 (as amended), Regulation 6(1) of the Access Regulations, Regulation 8(6) of the Access Regulations, Regulation 13 of the Access Regulations and Regulation 16 of the Framework Regulations. Set out below is a discussion on how each of the relevant objectives from the Access and Framework Regulations and the Communications Regulations Act 2002 (as amended) are addressed in the context of the pricing approach set out in this Decision document.

#### **15.4.1 Section 12 of the Communications Regulations Act 2002 (as amended)**

- 15.62 Our objectives as set out in Section 12 of the Communications Regulations Act 2002 (as amended) aim to:
- (i) Promote competition and in particular to encourage efficient investment in infrastructure and promoting innovation;*
  - (ii) Contribute to the development of the internal market;*
  - (iii) Promote the interests of users within the Community and in particular to encourage access to the internet at a reasonable cost to end-users.*

##### Promote Competition

- 15.63 With respect to the competition objective, ComReg must consider the trade-off between promotion of competition in the short term, in the medium term and in the long term. While infrastructure-based competition, when each competitor constructs its own local loop, provides the OAOs with more freedom it requires significant investment to duplicate infrastructures in their entirety, thus this option will rarely be chosen by OAOs in the short to medium term. Service-based competition, when OAOs use different access services, is more likely to develop in the short and medium term. In order to promote competition in the

short to medium term, ComReg should ensure that the difference between wholesale access prices and retail prices is not so small that it could create a margin squeeze. On the other hand the access price should not be set too low as it may deter investments in the long term.

- 15.64 If the price for WCA services is set too low compared to WLA services, OAOs will not upgrade their network to reach those exchanges that benefit from LLU / VUA which is consistent with the ladder of investment principle. If the price for WLA services is set too low OAOs may not have sufficient incentives to invest in NGA networks. Therefore, in choosing the appropriate pricing approach it is important to balance these objectives.

**FTTC based VUA:**

- 15.65 For FTTC based VUA (including EVDSL) the price is set based on those exchanges where there are active FTTC and EVDSL working lines. In those areas where active FTTC and EVDSL lines are deployed the BU-LRAIC+ methodology ensures that where competition is developing and where copper is likely to be replaced by private investors that efficient infrastructure investment is encouraged in order to inform investors' decisions. The objective of promoting efficient infrastructure investment needs signals to incentivise the investment on the E-side. In addition, it would be inefficient for operators to build new civil infrastructure such as duct and poles when it is possible to re-use the existing assets by buying access to them from Eircom. By using Eircom's Indexed RAB for the Re-usable Assets Eircom should recover its actual efficient investment in these assets rather than the higher costs that would be required to build such infrastructure today. The treatment of poles and ducts derived from the Revised CAM should send the correct investment signals to Eircom with regard to the replacement of ducts and poles in Eircom's existing network.

**FTTC based Bitstream:**

- 15.66 For FTTC based Bitstream (including EVDSL) the price is set based on those Local VUA sites yet to be unbundled i.e., 48 Local VUA sites (or 382 exchanges) in the Regional WCA Market.
- 15.67 The BU-LRAIC+ methodology, adjusted for the scale of a SEO with regard to Bitstream specific costs, ensures that the price for FTTC based Bitstream (including EVDSL) promotes efficient infrastructure investment so as to inform investors' decisions, particularly towards encouraging investment in VUA. This approach also ensures that the appropriate investment signals are provided in the relevant areas i.e., in those exchanges which have not been unbundled to date but which are commercially viable for alternative operator investment.

15.68 In addition, in exceptional cases Eircom may have flexibility to reduce the price for FTTC based VUA and FTTC based Bitstream so long as Eircom seeks ComReg's approval to proceed and it does not price below the specified floor set out in Chapter 12 of this document. This approach should ensure that in exceptional cases where Eircom faces competition in certain areas from alternative operators that it has scope to reduce its price in order to remain competitive while at the same time meeting the pre-conditions set out in Chapter 12. Where Eircom reduces the price of its FTTC based VUA service, the reduction should also apply to the FTTC based Bitstream services in order to ensure a sufficient economic space between both products so that OAOs are always encouraged to invest in VUA. The same would apply where the price for FTTC based Bitstream is reduced, the reduction would also apply to FTTC based VUA. Please see Chapter 12 of this document for further details.

**Current generation Bitstream:**

15.69 For current generation Bitstream and BMB services the pricing methodology is amended from HCA approach to BU-LRAIC+. Please see Chapter 5 of the Consultation and this Decision for further details.

**WLA services in footprint corresponding to Urban WCA Market:**

15.70 The retail margin squeeze test in the WLA Market between the price for FTTH based VUA provided in the footprint corresponding to the Urban WCA Market and retail services delivered by FTTH based VUA inputs should ensure that Eircom cannot price its retail broadband services in those areas corresponding to the Urban WCA Market in such a way that it could foreclose other operators using FTTH based VUA wholesale inputs in similar geographic areas. ComReg considers that competition is protected by ensuring that operators have a sufficient economic space between retail prices and wholesale prices so that they can compete with Eircom and still make a margin. For FTTH based VUA services, this is also necessary as a control against excessive pricing as no cost orientation obligation is imposed on these services in the 2018 WLA / WCA Market Review Decision. A test solely against WCA services would be insufficient because FTTH based services in the Urban WCA market are de-regulated. In this circumstance, it would be possible to pass a margin squeeze test between WLA and WCA services and yet still create a margin squeeze against retail services thereby foreclosing competition in the WLA Market.

**Encourage efficient investment in infrastructure and promoting innovation**

15.71 Access prices should be set in such a way that OAOs are encouraged to make efficient infrastructure investment decisions.

- 15.72 The priority between short-term and long-term investments may vary depending on the specific conditions of each wholesale product and geographical area.
- 15.73 In areas where no (or limited) infrastructure based competition is likely to develop, investment signals are less important and cost recovery is more relevant. Investment signals are most relevant in densely populated areas where there is infrastructure build by Virgin Media and from SIRO (Vodafone/ESB), as well as competition relying on LLU/Line Share, and Bitstream. Outside the densely populated areas, infrastructure based competition is unlikely absent state funding, and OAOs are more likely to be reliant on wholesale inputs.
- 15.74 For OAOs, visibility and certainty regarding future wholesale prices is important so that operators can progress their investment plans. For the Incumbent it is necessary to ensure that it recovers at least its efficiently incurred costs plus a reasonable rate of return through the wholesale access prices otherwise there is a risk that the Incumbent could stop maintaining its copper network.
- 15.75 As set out in Chapter 7 of the Consultation and in this Decision document, the pricing approach for FTTC based NGA services allows Eircom to recover its BU-LRAIC+ costs (and Eircom's Indexed RAB for Reusable Assets) in areas where the services are likely to be deployed.
- 15.76 The BU-LRAIC+ approach should ensure that Eircom is incentivised to continue to invest and upgrade its network in an efficient manner while this approach maintains efficient infrastructure investment signals for OAOs in the relevant areas.
- 15.77 For current generation Bitstream and BMB services the BU-LRAIC+ approach should promote efficient infrastructure investment incentives to allow existing competition to grow, including a potential move to NGA services, while encouraging other alternative operators to enter the market.
- 15.78 The FTTH based VUA retail margin squeeze test should protect operators that rely on FTTH based VUA services in those exchanges corresponding to the footprint of the Urban WCA Market, while allowing them to compete with Eircom and still make a margin.

*Contribute to the development of the internal market*

- 15.79 In this Decision ComReg has taken utmost account of the relevant recommendations issued by the European Commission, in particular the 2013 Non-Discrimination Recommendation.
- 15.80 In setting the prices for FTTC based NGA services ComReg has taken into account that Reusable Assets (ducts, poles) should be valued on the basis of

Eircom's Indexed RAB as these assets are likely to be reused in the deployment of NGA. For Non-reusable Assets (cables, joints, etc.) ComReg has recognised the need to provide the appropriate efficient infrastructure investment signals and accordingly we have imposed the BU-LRAIC+ costing approach. The principles of BU-LRAIC+ for Non-reusable Assets and the Indexed RAB for Reusable Assets are in line with the 2013 Non-Discrimination Recommendation.

- 15.81 For current generation Bitstream and BMB services ComReg is amending the current costing methodology from HCA to BU-LRAIC+. The BU-LRAIC+ approach is in line with Paragraph 30 of the 2013 Non-Discrimination Recommendation.
- 15.82 The principles of the retail margin squeeze test for FTTH based VUA services in the footprint corresponding to the Urban WCA Market are largely consistent with the margin squeeze principles prescribed in Annex II of the 2013 Non-Discrimination Recommendation. Please see Chapter 10 of the Consultation and Chapter 10 of this Decision document for further details regarding the specific margin squeeze principles.
- 15.83 Further to Regulations 13 and 14 of the Framework Regulations, the draft measures were made accessible to the Commission, the Body of European Regulators for Electronic Communications ("**BEREC**") as well as other national regulatory authorities ("**NRAs**") in other EU Member States on 12 September 2018.
- 15.84 On 11 October 2018 the European Commission provided a comments letter to ComReg. The letter is set out at Annex 9 of this Decision document. There was one comment made by the European Commission relating to the need for ComReg to review the retail access market, which has been considered by ComReg in Annex 8 of the 2018 Bundles Decision.

*Promote the interests of users within the Community*

- 15.85 A cost orientation price control for FTTC based NGA services should help to facilitate greater regulatory certainty for longer-term competitive entry and expansion. This should have positive implications for the price, choice and quality of services ultimately delivered to end-users.

*Encourage access to the internet at a reasonable cost to end users*

- 15.86 ComReg is required to take all reasonable measures to encourage access to the internet at reasonable cost to users. The cost orientation obligation for FTTC based NGA services reflects the fact that Reusable Assets are not likely to be replicated and therefore cost recovery is important rather than promoting efficient infrastructure investment. On the other hand in the context of Non-

Reusable Assets ComReg has applied the BU-LRIAC+ approach in order to encourage operators to invest as appropriate. This should ensure that the prices for NGA services are not excessive while also ensuring that the appropriate investment signals are provided to Eircom and OAOs.

### **15.4.2 Regulation 6(1) of the Access Regulations**

15.87 Regulation 6(1) of the Access Regulations provides that the Regulator shall acting in pursuit of its objectives set out in Section 12 of the Communications Regulation Act 2002 (as amended) and Regulation 16 of the Framework Regulations, encourage and, where appropriate, ensure adequate access, interconnection and the interoperability of services in such a way as to:

- a) Promote efficiency;
- b) Promote sustainable competition;
- c) Promote efficient investment and innovation; and
- d) Give the maximum benefit to end-users.

15.88 Please refer to paragraphs 15.111 to 15.113 for discussion on promoting efficiency.

15.89 Please refer to paragraphs 15.63 to 15.70 for discussion on promoting competition.

15.90 Please refer to paragraphs 15.71 to 15.78 for discussion on investment and innovation.

15.91 Please refer to paragraphs 15.85 to 15.86 regarding the benefits to end-users.

### **15.4.3 Regulation 8(6) of the Access Regulations**

15.92 Regulation 8(6) of the Access Regulations provides that:

*Any obligations imposed in accordance with this regulation shall –*

- (a) Be based on the nature of the problem identified,*
- (b) Be proportionate and justified in light of the objectives laid down in section 12 of the 2002 Act and Regulation 16 of the Framework Regulations, and*
- (c) Only be imposed following consultation in accordance with Regulation 12 and 13 of the Framework Regulations.*



Based on the nature of the problem identified:

- 15.93 In the 2016 WLA / WCA Market Review Consultation and in the 2018 WLA / WCA Market Review Decision ComReg identified the competition problems associated with the WLA market. The competition problems included Eircom's ability and incentive to exploit end users by virtue of its SMP position e.g. excessive pricing, leveraging its market power into adjacent vertically or horizontally related markets and foreclosing or excluding competitors such as to protect its existing dominance on the market or markets in question. Please refer to Section 7 of the 2018 WLA / WCA Market Review Decision for further details.
- 15.94 In the 2016 WLA / WCA Market Review Consultation and in the 2018 WLA / WCA Market Review Decision ComReg identified the competition problems associated with the Regional WCA Market. ComReg considered that Eircom would have the ability and incentive to set excessive prices in the Regional WCA Market which would exploit retail broadband users and potentially harm competition from OAOs relying on Eircom's WCA inputs. In addition, ComReg identified scope and incentive 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 impede effective downstream competition. Please refer to Section 12 of the 2018 WLA / WCA Market Review Decision for further details.

Proportionate and justified

- 15.95 ComReg considers that the pricing approach for FTTC based NGA services is justified based on the detail, reasoning and information provided in the Consultation and in this Decision. Please refer to Chapter 5 of the Consultation and this Decision document for justification of the costing methodology and Chapters 6 and 7 of the Consultation and this Decision document for justification of the pricing approach for FTTC based NGA services. The BU-LRAIC+ approach for Bitstream and BMB services is justified at Chapter 5 of the Consultation and this Decision document. In addition, please refer to Chapter 10 of the Consultation and this Decision document for justification of the FTTH based VUA retail margin squeeze test.
- 15.96 This Decision should provide transparency to the industry in terms of FTTC based NGA services insofar as Eircom can recover no more than the BU-LRAIC+ for Non-Reusable Assets and Eircom's Indexed RAB for Reusable Assets based on those areas with active FTTC (and EVDSL) lines deployed.
- 15.97 ComReg considers that this approach is proportionate and justified as it maintains efficient infrastructure investment signals where it is most relevant.

- 15.98 For current generation Bitstream and BMB services, ComReg considers that a price which is reflective of the BU-LRAIC+ methodology should encourage investment where viable in the Regional WCA Market.
- 15.99 In addition, this Decision should provide reasonable price certainty and predictability to operators in the WLA Market and the Regional WCA Market with regards to FTTC based NGA services, where prices will be set with reference to costs. ComReg is also specifying that changes to FTTC based NGA prices should be subject to notification procedures to ComReg where Eircom would be required to demonstrate how the revised charge complies with its obligation of cost orientation as specified in this Decision. This allows ComReg sufficient time to understand any price changes and to ensure that these changes are in line with Eircom's regulatory obligations. It also allows OAOs to assess the likely impact of the changes in terms of its business case and to allow the OAOs time to notify its end users of a price change, where appropriate. Similar notification procedures are specified for wholesale and / or retail price changes as a result of the specified margin squeeze obligations. Please see Chapter 12 of this document.
- 15.100 In the WLA Market, the retail margin squeeze test in the footprint corresponding to the Urban WCA Market should prevent Eircom from pricing its retail FTTH broadband services in those areas corresponding to the Urban WCA Market in such a way that it could foreclose other operators using FTTH based VUA wholesale inputs in similar geographic areas by way of a margin squeeze.

*Only be imposed following consultation*

- 15.101 ComReg has considered all responses received to the Consultation, and, based upon those responses it has in some cases amended some of its views in making its final decision.

#### **15.4.4 Regulation 13 of the Access Regulations**

- 15.102 According to Regulation 13(1) of the Access Regulations, ComReg may:

*“...impose on an operator obligations relating to cost recovery and price controls, including obligations for cost orientation of prices and obligations concerning cost accounting systems, for the provision of specific types of access or interconnection in situations where a market analysis indicates that a lack of effective competition means that the operator concerned may sustain prices at an excessively high level or may apply a price squeeze to the detriment of end users.”*

- 15.103 The requirements set out in Regulation 13(1) of the Access Regulations have been discussed in the 2016 WLA / WCA Market Review Consultation at

Sections 8 and 13 and in the 2018 WLA / WCA Market Review Decision at Sections 7 and 12.

15.104 Regulation 13(2) of the Access Regulations provides that:

*“To encourage investments by the operator, including in next generation networks, the Regulator shall, when considering the imposition of obligations under paragraph (1), take into account the investment made by the operator which the Regulator considers relevant and allow the operator a reasonable rate of return on adequate capital employed, taking into account any risks involved specific to a particular new investment network project.”*

15.105 As set out in Chapter 5 of the Consultation and in this Decision, the BU-LRAIC+ approach should allow Eircom to recover its replacement costs in the case of Non-Reusable Assets and Eircom’s Indexed RAB costs in the context of Reusable Assets (ducts and poles). This provides the appropriate investment signals for Eircom and other operators in that assets that need to be replaced for the provision of NGA services are based on BU-LRAIC+ (to provide efficient infrastructure investment incentives) while assets that can be reused for NGA are based on the accounting value from the SMP operators accounts with an indexation factor applied. The fixed line telecoms WACC of 8.18% is also applied to the costs in the NGA Cost Model to allow for a reasonable rate of return in line with Regulation 13(2) of the Access Regulations. In the context of Eircom’s FTTC (or EVDSL) deployment ComReg considers that there is no need to apply a risk premium. As stated in Section 6 of the European Commission Recommendation in 2010 on NGA<sup>326</sup>:

*“Investment into FTTN, on the other hand, which is a partial upgrade of an existing access network (such as for example VDSL), normally has a significantly lower risk profile than investment into FTTH, at least in densely populated areas. In particular, there is less uncertainty involved about the demand for bandwidth to be delivered via FTTN/VDSL, and overall capital requirements are lower. Therefore, while regulated prices for WBA based on FTTN/VDSL should take account of any investment risk involved, such risk should not be presumed to be of a similar magnitude as the risk attaching to FTTH based wholesale access products. When setting risk premia for WBA based on FTTN/VDSL, NRAs should give due consideration to these factors...”*

15.106 It is recognised that there is a reduced risk for FTTC deployment and since Eircom’s FTTC deployment has already started (since 2013), it is easier to make predictions on penetration rates, and the number of copper lines is

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<sup>326</sup> <http://eur-lex.europa.eu/LexUriServ/%20LexUriServ.do?uri=OJ:L:2010:251:0035:0048:en:PDF>

relatively stable. Therefore, there is no need to apply a risk premium for FTTC or EVDSL deployment.

15.107 For FTTH, ComReg has specified that a wholesale margin squeeze obligation (rather than cost orientation) should apply. Therefore, there is no need to estimate costs of the access network. At the same time, the assets relevant for the FTTH wholesale margin squeeze obligation are not a part of the access network but rather part of the core network. These assets are not therefore subject to a risk premium.

15.108 The retail margin squeeze test for FTTH based VUA services in the footprint corresponding to the Urban WCA Market is based on EEO costs. This is discussed in Chapter 10 of the Consultation and of this Decision. The EEO costs ensure cost recovery for Eircom, as the EEO cost base uses Eircom's costs (adjusted for efficiencies).<sup>327</sup> In principle, ComReg believes that the OAOs costs should be used in the retail test but accurate verifiable OAO data is difficult to obtain. Therefore, in the absence of robust and audited OAO cost data ComReg uses Eircom's audited costs. The fixed line telecoms WACC of 8.18% is also applied to the costs which should allow for a reasonable rate of return in line with Regulation 13(2) of the Access Regulations.

15.109 Regulation 13(3) of the Access Regulations provides that:

*“The Regulator shall ensure that any cost recovery mechanism or pricing methodology that it imposes under this Regulation serves to promote efficiency and sustainable competition and maximise consumer benefits. In this regard, the Regulator may also take account of prices available in comparable competitive markets.”*

15.110 Each of these objectives are discussed below.

#### Promote efficiency

15.111 A cost oriented price control aims to ensure that prices do not exceed an appropriate level of efficient costs where there is a risk that competitive pressure alone would not achieve this outcome.

15.112 There are three forms of efficiency including:

- Allocative Efficiency: Where prices of different products results in an optimum allocation of resources to end-users;
- Productive Efficiency: Where the cost of producing the products is minimised;

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<sup>327</sup> REO/SEO cost base assumes a smaller operator than Eircom with less scale and scope and therefore with a different cost base to Eircom.

- **Dynamic Efficiency:** This refers to the efficiency of investor and end user behaviour over time.

15.113 ComReg believes that any price control imposed needs to strike a balance between these three forms of efficiency. Allocative and productive efficiency are essentially static concepts taking into account the level of costs to deliver products at a particular point in time. In terms of productive efficiency, ComReg believes that the sequential nature of investment decisions, when assessing whether the level of costs reported is efficiently incurred, needs to be considered in the price control. The BU-LRAIC+ approach already assumes a level of efficiency (as it assumes a brand new network) therefore no further adjustments are required.

Promote sustainable competition

15.114 Please refer to paragraphs 15.63 to 15.70.

Maximise consumer benefits

15.115 Please refer to paragraphs 15.85 to 15.86.

15.116 Regulation 13(4) of the Access Regulations provides that:

*“Where an operator has an obligation under this Regulation regarding the cost orientation of its prices, the burden of proof that charges are derived from costs, including a reasonable rate of return on investment shall lie with the operator concerned.....”*

15.117 In the event that Eircom proposes to change the price for FTTC based NGA services or current generation Bitstream services, it must demonstrate to ComReg that the revised price complies with the specified cost measures set out in this Decision, consistent with Regulation 13(4) of the Access Regulations. Please see Chapter 12 of this document regarding the flexibility for reducing FTTC based NGA prices subject to pre-conditions, ComReg’s approval and in exceptional cases only.

## **15.4.5 Regulation 16 of the Framework Regulations**

15.118 While some of the main requirements / objectives of Regulation 16 of the Framework Regulations have already been addressed above as part of the discussion on Regulation 8 of the Access Regulations, Section 12 of the Communications Regulation Act 2002 (as amended) and / or Regulation 13 of the Access Regulations, set out below are some other key requirements associated with Regulation 16 which have not been addressed so far as part of the discussions above.

**Promoting regulatory predictability by ensuring a consistent approach over appropriate review periods:**

- 15.119 The cost orientation obligation for FTTC based NGA services should ensure pricing consistency (based on cost orientation) across the main wholesale services provided on Eircom's wholesale access network, in particular, consistency with the pricing approach (BU-LRAIC+) adopted in the 2016 Access Pricing Decision.
- 15.120 The retail margin squeeze test for FTTH based VUA services in the footprint of exchanges corresponding to the Urban WCA Market is similar to the retail tests imposed on Eircom for FTTH based Bitstream services in the Regional WCA Market.
- 15.121 The inclusion of connection costs in the rental charges is consistent with the approach taken in the 2016 Access Pricing Decision where ComReg included connection costs associated with PSTN in the SB-WLR rental price. Please see Chapter 13 of this document for further details.

**Taking due account of the variety of conditions relating to competition and consumers that exist in the various geographic areas within the State:**

- 15.122 ComReg's pricing approach for FTTC based VUA (including EVDSL) allows Eircom to recover the BU-LRAIC+ costs for Non-reusable Assets and Eircom's Indexed RAB for Reusable Assets based on the footprint of Eircom's active FTTC and EVDSL deployment. ComReg considers that this ensures that the appropriate investment signal is provided in the relevant areas. Please refer to Chapter 7 of the Consultation and this Decision for a further discussion on the pricing options for FTTC based VUA.
- 15.123 For FTTC based Bitstream (including EVDSL) ComReg recognises that efficient infrastructure investment signals are only relevant in those exchanges in the Regional WCA Market which are currently not unbundled. Please see Chapter 7 of the Consultation and this Decision for a further discussion on the pricing options for FTTC based Bitstream (including EVDSL).
- 15.124 Regulation 16(2) of the Framework Regulations requires that ComReg applies objective, transparent, non-discriminatory and proportionate regulatory principles. The obligations contained in the Decision are:
- objectively justifiable, in that the obligations facilitate and encourage fair, reasonable and timely access to Eircom's network and therefore promote competition to the benefit of end users;

- not unduly discriminatory, in that ComReg has reached a view in the 2018 WLA /WCA Market Review Decision where Eircom has been found to have SMP in the relevant markets;
- proportionate, in that the obligations are targeted at addressing the market power that Eircom holds in the relevant markets and allows Eircom to recover its efficient costs (including a reasonable rate of return); and
- transparent, in that the obligations set out in this Decision are clear with regard to the pricing approach for FTTC based NGA services and current generation Bitstream / BMB services as well as the imposition of the margin squeeze tests.

15.125 In particular, Regulation 16(2)(d) of the Framework Regulations relates to the promotion of efficient investment and ensuring that investment risk is appropriately accounted for.<sup>328</sup> Promoting investment and innovation is addressed at paragraphs 15.71-15.78. The point regarding the risk associated with network investments is addressed at paragraphs 15.105-15.107.

15.126 Regulation 16(2)(f) relates to the lifting of regulation where there is sustainable competition.<sup>329</sup> As noted in Section 13 of the 2018 WLA / WCA Market Review Decision, ComReg is of the view that no undertaking has SMP in the Urban WCA Market.

15.127 ComReg's view, as set out in the 2018 WLA / WCA Market Review Decision, is predicated on a number of factors, including a forward-looking assessment of the competitive constraints arising in the Urban WCA Market through the presence of BT, as well as from a number of service providers. Such constraints are supported through upstream regulation in the WLA Market and in the presence of the regulatory obligations imposed in the WLA Market.

15.128 In Section 13 of the 2018 WLA / WCA Market Review Decision ComReg withdraws existing regulatory obligations associated with the Urban WCA Market given its finding that no service provider has SMP. In this respect, ComReg specifies the timeframe for withdrawal of these remedies at Section 13 of the 2018 WLA / WCA Market Review Decision, while Eircom remains subject to regulation in the WLA Market and in the Regional WCA Market. As set out in Section 6 and Section 7 of the 2018 WLA / WCA Market Review Decision ComReg has identified a number of competition problems relating to

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<sup>328</sup> Regulation 16(2)(d) of the Framework Regulations states that: "*promoting efficient investment and innovation in new and enhanced infrastructures, including by ensuring that any access obligation takes appropriate account of the risk incurred by the investing undertakings...*"

<sup>329</sup> Regulation 16(2)(f) of the Framework Regulations states that: "*imposing ex-ante regulatory obligations only where there is no effective and sustainable competition and relaxing or lifting such obligations as soon as that condition is fulfilled*"



the WLA Market including potential leverage and excessive pricing by Eircom. These competition problems are summarised in Chapter 10 of the Consultation. Price regulation in the WLA Market should protect the investment(s) made by alternative OAOs using WLA wholesale products.

## **15.5 Step 2: Identify and describe the regulatory options**

15.129 The regulatory options considered in this Decision are as follows:

- Options for determining the appropriate costing methodology for FTTC based NGA services;
- Options for determining appropriate costing methodology for current generation Bitstream and BMB services;
- Options for determining the appropriate geographic scope for FTTC based VUA (including EVDSL);
- Options for determining the appropriate geographic scope for FTTC based Bitstream (including EVDSL);
- Options for determining the appropriate principles for the retail margin squeeze test for FTTH based VUA services in the footprint corresponding to the Urban WCA Market;
- Options for determining how FTTH NGA connection costs should be recovered by Eircom.

### **15.5.1 Options for determining appropriate costing methodology for FTTC based NGA services**

15.130 In Chapter 5 of the Consultation the following two options were considered in terms of the appropriate costing methodology for FTTC based NGA services:

- BU-LRAIC+ or
- Eircom's HCAs.

15.131 Please refer to Chapter 5 of the Consultation for a detailed discussion on the costing methodology options and preferred approach.

### **15.5.2 Options for determining appropriate costing methodology for CGA services**

15.132 In Chapter 5 of the Consultation the following two options were considered in terms of the appropriate costing methodology for current generation Bitstream and BMB services:

- BU-LRAIC+ or
- Eircom's HCAs.

15.133 Please refer to Chapter 5 of the Consultation for a detailed discussion on the costing methodology options and preferred approach.

### **15.5.3 Options for determining the appropriate geographic scope for FTTC based VUA**

15.134 If the access price is too high in areas where infrastructure investment is also unlikely to develop (as the deployment cost for each line is high i.e., in rural areas), this would not be desirable due to the detrimental long-term impact on end users arising from a lack of competition, as competition from operators acting as resellers may also be dampened. On the other hand the access price should not be too low, especially in towns/cities in more densely populated areas, as it could deter investments in the long term in infrastructure-based competition. Therefore, consideration of each pricing option for setting the prices for FTTC based VUA (including EVDSL) is important in order to provide the appropriate investment signals in the relevant areas.

15.135 In Chapter 7 of the Consultation we considered the following options:

- National price based on costs at all VUA sites i.e., active and non-active FTTC sites;
- National price based on Eircom's active FTTC and EVDSL footprint;
- National price based on Eircom's active FTTC footprint only; or
- National price based on a footprint consistent with the one used to set the LLU price in the 2016 Access Pricing Decision.

15.136 Please refer to Chapter 7 of the Consultation for the details of the options and preferred approach.

### **15.5.4 Options for determining the appropriate geographic scope for FTTC based Bitstream**

15.137 In line with Section 12 of the Communications Regulations Act 2002 (as amended) and Regulation 16 of the Framework Regulations, ComReg considers that the objective of encouraging infrastructure investment and competition by Eircom and other operators is relevant in the Regional WCA Market. However, a large amount of the Local VUA sites are already unbundled by other operators. ComReg's objective is to provide the right investment signals in those exchanges in the Regional WCA Market where new investment

is likely to occur, which is equivalent to those exchanges that have not been unbundled to date.

15.138 ComReg's objective is to encourage VUA investment in those Local VUA sites not yet unbundled in the Regional WCA Market i.e., 48 sites (or 382 exchanges).

15.139 Therefore, in Chapter 7 of the Consultation ComReg considered the following options regarding the FTTC based Bitstream price (including EVDSL):

- National price based on costs at all Local VUA i.e., 141 Local VUA sites; or
- National price based on those Local VUA sites in the Regional WCA Market which have not yet been unbundled i.e., 48 sites (or 382 exchanges).

15.140 Please see chapter 7 of the Consultation for the details of the options and preferred approach.

### **15.5.5 Options for determining appropriate principles for the FTTH based VUA retail margin squeeze test**

15.141 The following are the main options considered for determining the appropriate principles for the FTTH based VUA retail margin squeeze test:

- (i) **Cost base:** The retail margin squeeze test should be based on either:
  - A SEO (or REO) cost base, which assumes that entrants are currently not likely to be as efficient as Eircom given that they cannot achieve the same scale; or
  - An entire EEO approach once the OAOs have achieved sufficient scale to encourage efficient entry.
- (ii) **Cost standard:** The retail margin squeeze test should take account of either:
  - The LRAIC+ costs; or
  - The ATC costs.
- (iii) **Assessment basis:** The retail margin squeeze test should be assessed either:

- Portfolio: Eircom would have some flexibility to efficiently price discriminate on individual FTTH based VUA products so long as Eircom recovers the overall wholesale and retail costs across the portfolio of products in the footprint corresponding to the Urban WCA Market; or
- Product-by-product: Eircom would have to comply with the retail margin squeeze test for each FTTH based VUA product individually.

15.142 Please refer to Chapter 10 of the Consultation for a discussion on the principles for the FTTH based VUA retail margin squeeze test and preferred approach.

### **15.5.6 Options for recovery of FTTH NGA connection costs:**

15.143 In Chapter 13 of the Consultation ComReg considered the following three options regarding the recovery of Eircom's connection costs for CGA and NGA services:

- Recover the connection costs upfront i.e., one-off charge;
- Recover the connection costs in the ongoing monthly rental;
- Recover the connection costs as combination of the two options above.

15.144 Please refer to Chapter 13 of the Consultation for a discussion on the options and preferred approach.

15.145 Since the Consultation and taking into account the views of respondents ComReg has refined its position. See paragraphs 15.49-15.51.

## **15.6 Step 3: Determine the likely impact on stakeholders**

15.146 This section summarises the impact of the options above on the various stakeholders. ComReg considers the potential impacts that could be incurred by Eircom in complying with the obligations as well as the potential benefits that would accrue to Eircom, its wholesale customers and end users.

15.147 The likely impact on stakeholders is discussed under the following headings:

- Costing methodology for FTTC based NGA services / current generation Bitstream services;
- Geographic scope for FTTC based VUA (including EVDSL);
- Geographic scope for FTTC based Bitstream (including EVDSL);

- Principles for the FTTH based VUA retail margin squeeze test; and
- Cost recovery methods for FTTH NGA connection costs.

## **A. Costing methodology for FTTC based NGA services / current generation Bitstream services**

### **Option 1: BU-LRAIC+**

- (a) Impact on Eircom
- This approach should promote efficient infrastructure investment by OAOs. This is particularly relevant for infrastructure based competition.
  - This approach allows Eircom to recover its costs by reference to the replacement cost associated with the asset (rather than the actual efficient cost).
  - This approach could allow Eircom to recover the cost of investments that may not have taken place / are not likely to take place in the future, in certain parts of the Regional WCA Market. This point is considered further below as part of the assessment of the appropriate footprint used to determine the price.
  - This approach could allow Eircom to over recover costs. However, Eircom's Indexed RAB for ducts, poles, trenches, etc. ensures that those assets that can be reused are set by reference to actual costs rather than replacement costs. This point is considered further below as part of the assessment of the appropriate footprint used to determine the price.
- (b) Impact on OAOs
- This approach should send the correct investment signals to the market place – especially in the more densely populated areas within the Regional WCA Market.
  - This approach could mean that OAOs would be paying for the cost of investments that Eircom has not made or it not likely to make, in certain rural areas. Therefore, in the absence of alternative network competition the BU-LRAIC+ may result in excessive pricing in rural areas as it facilitates the recovery of hypothetical costs which may not actually have been incurred. However, Eircom's Indexed RAB for ducts, poles, trenches, etc. ensures that those assets that can be reused are set by reference to actual costs rather than replacement costs. This point is considered further below as part of the assessment of the appropriate footprint used to determine the price.

(c) Impact on end users

- This approach in the absence of alternative network competition may encourage Eircom to “sweat” its assets in certain rural areas resulting in excessive prices relative to active investment without any benefit to end-users in terms of alternative platform based investment.

**Option 2: Historic costs**

(a) Impact on Eircom:

- This approach should ensure that Eircom does not materially under / over recover its costs as the value is linked to the actual investment made (for Reusable Assets and Non-reusable Assets) adjusted for efficiency plus a reasonable rate of return.
- This approach should ensure that Eircom does not price excessively as the price is set by reference to Eircom’s actual costs (adjusted for efficiencies plus a reasonable rate of return), especially with regard to rural areas.
- This approach would not provide Eircom with efficient infrastructure investment signals for the rollout of NGA services, particularly in more densely populated areas.

(b) Impact on OAOs:

- This approach does not provide OAOs with efficient infrastructure investment signals which are required to encourage alternative infrastructure investment, particularly in the densely populated areas.
- This approach should ensure that OAOs are only paying for actual investments made by Eircom in relation to Reusable Assets and Non-reusable Assets associated with the provision of FTTC based NGA services.

(c) Impact on end users

- This approach should ensure that retail prices are not excessive.

**B. Appropriate geographic footprint for FTTC based VUA (including EVDSL):**

**Option 1: National price based on active and non-active FTTC lines (based on BU-LRAIC+ methodology and Eircom’s RAB for Reusable Assets)**

(a) Impact on Eircom

- This approach may lead to over recovery of costs by Eircom as it will include exchanges where active FTTC may not be deployed;
  - The BU-LRAIC+ costs applied to the non-active FTTC sites may over-compensate Eircom relative to its actual investment;
  - This approach may not send the appropriate signals to Eircom, especially regarding the promotion of efficient infrastructure investment in more rural areas and lead to over-recovery of costs by Eircom.
- (b) Impact on OAOs
- This approach results in a higher FTTC based VUA price for OAOs – as OAOs are paying for investments that did not take place / may not take place i.e., in those non-active FTTC exchanges in more rural areas.
  - This approach may send the wrong investment signal to OAOs in terms of efficient investment – this approach derives a higher national price than is required to promote efficient infrastructure investment especially in densely populated areas. Therefore, this approach could deter OAOs from investing in areas where such investment is commercially viable.
- (c) Impact on end users
- This approach may result in higher costs being passed onto end-users by OAOs.

**Option 2: National price based on exchanges with active FTTC and EVDSL lines (based on BU-LRAIC+ methodology and Eircom's RAB for Reusable Assets)**

- (a) Impact on Eircom
- This approach means that the price reflects the BU-LRAIC+ costs (and Eircom's indexed RAB for Reusable Assets) in areas with FTTC and EVDSL active lines only– this should promote efficient infrastructure investment by Eircom in the appropriate area.
  - This approach should ensure that Eircom recovers its costs in areas where it has deployed active FTTC and EVDSL lines.
- (b) Impact on OAOs
- As this option gives a rental price for FTTC based VUA that is lower than the option based on the costs of FTTC based VUA for all VUA sites, both active and non-active, this should provide the appropriate signals to operators to invest.



- This approach should lead to a lesser dependence on Eircom's network and encourage suitable infrastructure based competition in the long term.
- (c) Impact on end users
- This should create more competition and choice for end-users where OAOs invest.

### **Option 3: National price based on LLU footprint in ComReg Decision D03/16 (with BU-LRAIC+ costs and Eircom's Indexed RAB for Reusable Assets)**

- (a) Impact on Eircom
- This approach assumes that efficient infrastructure investment is only relevant in those 237 exchanges (known as the 'Modified LEA' in the 2016 Access Pricing Decision) which could mean that Eircom would not recover the entire costs of its current FTTC deployment.
  - As Eircom's rollout of FTTC and EVDSL (with active FTTC and EVDSL working lines) has already expanded beyond the 'Modified LEA' footprint, this approach would not promote investment of NGA in a broader and more expanded footprint (as per Option 2).
- (b) Impact on OAOs
- This approach may not encourage more extensive investment in FTTC based VUA by alternative operators given the limited footprint used.
- (c) Impact on end users
- This approach may not ensure continued investment and competition in the relevant areas.

## **C. Appropriate footprint for FTTC based Bitstream**

### **Option 1: National price based on all Local VUA exchanges in the WCA Market (with BU-LRAIC+ methodology and with an adjustment to Bitstream costs to reflect SEO)**

- (a) Impact on Eircom
- This approach results in lower costs and a lower price for FTTC based Bitstream (relative to the price for FTTC based VUA) and therefore OAOs may continue to rely on Eircom's network.

(b) Impact on OAOs

- This approach results in lower costs due to the higher economies of scale compared to Option 2 (below) and therefore the price is lower. Consequently, this approach does not favour VUA deployment, as the price for FTTC based Bitstream would be lower relative to the FTTC based VUA price and the OAO would have less margin to exploit if it decided to adopt VUA rather than Bitstream.
- This approach is not likely to provide the right investment signals in those exchanges in the Regional WCA Market where new investment in VUA is likely to occur.

(c) Impact on end users

- This approach may not encourage further infrastructure investment (VUA deployment) in the relevant densely populated areas, which would not be to the benefit of end-users.

**Option 2: National price based on Local VUA exchanges yet to be unbundled in the Regional WCA Market (with BU-LRAIC+ methodology and with an adjustment to Bitstream costs to reflect SEO)**

(a) Impact on Eircom

- This approach means that the price reflects the BU-LRAIC+ costs in areas that have not been unbundled to date – this should provide the appropriate investment signals.

(b) Impact on OAOs

- This approach means the price for FTTC based Bitstream is based on those Local VUA sites in the Regional WCA Market which are yet to be unbundled i.e., 48 sites, and which should correspond with the footprint where new investment is most likely to take place by OAOs. Therefore, this should promote efficient infrastructure investment.
- This approach ensures that the appropriate investment signals are provided in the relevant areas i.e., in those exchanges which have not been unbundled to date but which are commercially viable for alternative operator investment.

(c) Impact on end users

- This should create more competition and choice for end-users in the relevant areas where OAOs invest.

## **D. Principles for FTTH based VUA retail margin squeeze test in footprint corresponding to Urban WCA Market**

### **Cost base:**

#### **Option 1: Retail margin squeeze test is based on an EEO cost base**

##### a) Impact on Eircom:

- In general, an entire EEO assumption would imply that entrants could achieve similar economies of scale as Eircom. EEO is likely to assume lower retail costs for Eircom thereby requiring a lower retail margin.
- Consistent with the deregulation of the Urban WCA Market in the 2018 WLA / WCA Market Review Decision, it seems appropriate to recognise the presence of retail competition in those exchanges corresponding to the Urban WCA Market by way of implementing an EEO cost base;
- EEO approach is more consistent with cost orientation and ensures overall cost recovery for Eircom.

##### b) Impact on OAOs:

- An entire EEO cost base could make entry more difficult for new entrants, as the resulting gap between wholesale prices and retail prices would be lower, but may incentivise them to invest in their own infrastructure.

##### c) Impact on end-users:

- It should provide more choice if OAOs are incentivised to invest in their own infrastructure.

#### **Option 2: Retail margin squeeze test is based on a SEO cost base**

##### a) Impact on Eircom:

- The SEO assumes higher costs (compared to EEO) for Eircom which allows a lower wholesale access charge to be set by Eircom.
- The SEO does not recognise the presence of alternative competing operators in the footprint corresponding to the Urban WCA Market.
- The SEO should promote competition from OAOs who would face lower wholesale input costs from Eircom. This could increase the willingness of OAOs to enter the retail market using Eircom wholesale inputs.

## b) Impact on OAOs:

- The SEO assumes that entrants have not yet gained sufficient economies of scale compared to that of Eircom. By using the SEO cost standard in the margin squeeze test, the resulting wholesale prices (assuming Eircom retail prices remain constant) would be lower compared to a margin squeeze based on the EEO cost standard. This approach may not be appropriate recognising the fact that ComReg is deregulating the Urban WCA Market.
- The SEO approach should encourage entry to the retail market and allow existing smaller operators to grow their end user base, by giving rise to a greater space between retail prices and wholesale prices that enable OAOs to supply wholesale and retail services more competitively based on Eircom wholesale inputs.

## c) Impact on end-users:

- The SEO approach is likely to result in the medium/long-term (marginally) lower retail prices and more choice, due to higher levels of competition from OAOs.

**Cost standard:****Option 1: Retail margin squeeze test is based on 'LRAIC plus'**

## a) Impact on Eircom:

- This approach should allow Eircom to recover its average efficiently incurred directly attributable variable and fixed costs and an apportionment of joint and common costs.

## b) Impact on OAOs:

- This approach should allow the recovery of the relevant common costs, as well as fixed and variable costs. This is the calculus faced by an operator when deciding whether to enter or expand a market. This should also ensure efficient entry, compared with the ATC cost standard.

## c) Impact on end-users:

- This approach should allow the promotion of sustainable competition by OAOs to the benefit of end-users.

**Option 2: Retail margin squeeze test is based on ATC**

## d) Impact on Eircom:

- This approach means a larger margin between products which is likely to mean easier entry potentially by an inefficient operator. If retail prices are constrained, the low wholesale charges could undermine the recovery of investment.
- ATC has been used to date for NGA pricing and for current generation Bitstream – therefore it ensures consistency across ladder of investment.
- ATC allows Eircom to recover all of its incurred costs.

## e) Impact on OAOs:

- This approach may promote further entry given that it includes the costs of 'LRAIC plus' and some additional common costs. However, the ATC may encourage inefficient entry.

## f) Impact on end-users:

- This approach may mean additional competition could reduce prices or improve choice.

**Portfolio or product-by-product assessment:****Option 1: Retail margin squeeze test - Portfolio**

## a) Impact on Eircom:

- This approach allows Eircom flexibility in its retail pricing, enabling Eircom to price some retail products above and others below ATC. This is likely to imply discounting on products where the competition is most intense, provided that other products are priced higher, such that the overall average revenue matches ATC. This flexibility may mean that Eircom can experiment with price differentiation for different product offerings which may improve efficiency, and under certain conditions, can be welfare maximising.

## b) Impact on OAOs:

- This approach should encourage efficiency and promote competition between operators, in those exchanges corresponding to the Urban WCA Market.

c) Impact on end-users:

- This approach may mean improved efficiencies, in those exchanges corresponding to the Urban WCA Market.

## **Option 2: Retail margin squeeze test – Product-by-product analysis**

a) Impact on Eircom:

- This approach should ensure sufficient margin for each offer, but would restrict the ability of Eircom to price products as flexibly as they would under the portfolio approach. Each WLA product in those exchanges corresponding to the Urban WCA Market would need to be priced at a retail level to meet the ATC requirement, which may limit the ability of Eircom to adjust pricing.

b) Impact on OAOs:

- This approach may enhance entry and competition, particularly for entrants that may lack economies of scope.

c) Impact on end-users:

- There may be some gains from improved competition of a product-by-product approach, but these may be offset by a reduction of efficiency.

## **E. Options for recovery of FTTH NGA connection costs by Eircom**

### **Option 1: Recover the connection costs upfront:**

a) Impact on Eircom:

- This approach ensures that Eircom is not exposed to any risk as it will recover all its investment upfront.
- This approach improves Eircom's cashflow.

## b) Impact on OAOs:

- This approach better reflects the costs incurred by a new market entrant that would deploy an end-to-end connection and therefore promotes efficient infrastructure investment.
- The recovery of the costs upfront means that in the case where the end-user decides to change service provider there is a financial burden to the first service provider to provide connection at the end-users premises. The first service provider has paid for the connection upfront but then subsequently loses all the investment paid when the end user decides to churn.
- The second and subsequent service providers to access the end-user would benefit from almost all of the initial connection investment made by the first service provider to that end-users premises.

## c) Impact on end-users:

- This approach is likely to cause a delay in service take-up, especially if the charge is passed to end-users.

**Option 2: Recover the connection costs in the ongoing rental:**

## a) Impact on Eircom:

- This approach does not improve Eircom's cashflow.
- Eircom should recover its investment over the lifetime of the service.

## b) Impact on OAOs:

- With this approach there is significantly less financial risk for the first service provider in case of early customer churn, as the service provider which operates the line pays its part of the connection cost. This should promote competition.

## c) Impact on end-users:

- Recovery of the costs through the monthly charge is easier to pass to end-users, if it is decided by the service provider to pass these costs on.



### **Option 3: Recover the connection costs based on combination of upfront charge and ongoing rental:**

a) Impact on Eircom:

- This approach would allow Eircom to charge for the administration cost of migration upfront while the remaining costs are recovered in the ongoing rental charge.

b) Impact on OAOs:

- With this approach there is significantly less financial risk for the first service provider in case of early customer churn, as the service provider which operates the line pays its part of the connection cost. This should promote competition.

c) Impact on end-users:

- Recovery of the main costs through the monthly charge is easier to pass to end-users, if it is decided by the service provider to pass these costs on.

## **15.7 Step 4: Determine the likely impacts on competition**

15.148 This is discussed at paragraphs 15.63 to 15.70.

## **15.8 Step 5: Assess the likely impacts and choose the best option**

15.149 This updated RIA reflects the development of ComReg's approach during the consultation process, and has fully considered respondents' comments on the RIA conducted as part of the Consultation. ComReg has taken the likely impact of its proposed measures into account at all stages of the Consultation and in coming to this final Decision.

## Chapter 16

# 16 Points raised on Draft Decision Instruments

## 16.1 Introduction

16.1 In Annex 1 and 2 of the Consultation, we set out the draft Decision Instruments relating to the price control obligations in the WLA Market and in the WCA Markets.

16.2 The respective discussion in this chapter is considered under the following headings:

- Decision Instrument for WLA Market; and
- Decision Instrument for WCA Markets.

## 16.2 Decision Instrument for WLA Market

### 16.2.1 Position set out in the Consultation

16.3 In the Consultation ComReg set out the draft text of the proposed Decision Instrument ('DI') which was designed to give legal effect to the proposed WLA price control remedies (and transparency remedies). ComReg sought views as to whether the wording of the draft DI was from a legal, technical and practical perspective, sufficiently detailed, clear and precise with regards to the specifics proposed. Respondents were asked to explain their response and to provide details of any specific amendments they believe are required.

### 16.2.2 Respondents Views:

16.4 Vodafone, ALTO, BT and Eircom provided views on the wording of the draft WLA DI.

16.5 ALTO and Vodafone expressed their general agreement with the draft text of the proposed WLA DI, subject to ComReg's consideration of the comments they provided to the Consultation.

16.6 BT indicated that it considered that ComReg had erred through the omission of a margin squeeze test between the Eircom bitstream plus price and the WLA VUA price. BT considers that *"this omission will potentially foreclose competition in this market hence it will be ComReg that is distorting a competitive market by causing its foreclosure"*.

- 16.7 BT agreed with the “*avoidance of doubt*” statement at the end of Section 4.1 of the draft DI but noted that ComReg do not indicate how this will be enforced and considers that specific transparency measures are required to ensure Eircom does not do this.
- 16.8 BT outlined its view that Section 4.2 could be misinterpreted to mean that different prices can be charged to different undertakings. BT considers that this should be corrected so that the same price is charged to all.
- 16.9 BT did not agree with the reference to Section 4.4 of the WCA DI at Section 5.3 of the WLA DI as, in its view, Eircom will have costs that are lower than those of a competitor.
- 16.10 Eircom made the general observation that the draft DIs lack sufficient detail to appropriately record ComReg's decisions and commented that “*the instruments in their current form rely heavily for detail on cross references to the main decision document or a number of models.*” Eircom was dissatisfied with the reference to a model “*as amended from time to time*” does not provide sufficient certainty to Eircom or the market as it essentially allows ComReg to adjust at will.
- 16.11 Eircom expressed the view that ComReg should be mindful of views expressed by KPMG on page 45 of RGM report to the extent that the comments relate to pricing models.
- 16.12 Eircom took issue with a number of definitions in the DI. Eircom expressed the view that “*EEO costs base*” should be defined more precisely by reference to the source of Eircom’s costs used. Eircom submitted that that the definition of “*Portfolio based approach*” was overly complex. Eircom argued that the definition could simply state “*means the method by which a margin squeeze test is calculated in relation to a basket of retail products*”. Eircom advised that the definition of “*REO cost base*” should be deleted and replaced by SEO cost base as “*no REO cost base is in fact used in the context of this decision instrument*”.
- 16.13 Eircom then submitted that “*SEO cost base*” should be “*defined more precisely by detailing in the decision instrument itself which adjustments are made to eir's cost base [the EEO standard] to arrive at the cost base used by ComReg to calculate the regulated price.*”

- 16.14 Eircom made comments in relation to Section 4.1 that the proposed obligation should be specified fully (including for example the applicable cost base standard that is to represent the "efficient operator"). Secondly Eircom considered that more precise wording should be used to specify which combination of BU-LRAIC+ and TD-HCA the relevant costs should be based on.
- 16.15 Eircom made comments in relation to Section 4.2 of the WLA DI. It considered that it lacks "*the necessary detail and clarity to allow eir as regulated entity to understand what is expected of it.*" In particular it considered that detail of the envisaged "Regulatory Approval Mechanism" as it is referred to in Chapter 12 (12.4) should be set out more clearly in the decision instrument. In addition, Eircom submitted that the alternative price floor needs to be specified further and that it is insufficient to simply refer to the "*FTTC based VUA price of an alternative operator*". Eircom considered that it should instead include a "*properly specified reference to what is currently referred to in paragraph 12.55 of 17/26 as 'retail price minus retail costs and relevant network costs'*".
- 16.16 Eircom submitted that there is a 3rd option that should be inserted in section 4.1 as a result of section 4.3 in the draft DI in WCA market i.e. "*[iii] The FTTC based VUA price as a result of any reduction required arising from the provisions of Section 4.3 in the Wholesale Central Access Decision Instrument*". Eircom considered that it was unclear under what powers ComReg would require such a reduction to be implemented as VUA is in the WLA market and is subject to its own cost orientation obligations.
- 16.17 Eircom noted in relation to Section 4.4 of the WLA DI that it considered that details of the proposed POTS obligation should be specified fully "*including for example the applicable cost base standard that is to represent the 'efficient operator'*."
- 16.18 In relation to Section 5 (Wholesale Margin Squeeze Obligation) of the WLA DI Eircom made the following comments. Firstly, in Section 5.1 of the WLA DI detail of the proposed margin squeeze should be specified as far as possible and in particular the reference to a REO cost base should be replaced with an appropriate description of the intended SEO standard. Secondly, in Section 5.2 of the WLA DI the price floor element referring to an OAO price should be amended to match paragraph 12.60(b) of the Consultation. Thirdly, in Section 5.3 of the WLA DI, if maintained, the obligation should be described in more detail.

- 16.19 In relation to Section 6 (Retail Margin Squeeze Obligation) of the WLA DI, Eircom made the following comments. Firstly, in relation to Section 6.1, “*ComReg should consider to record the full set of decisions it has made in relation to the design of the test [including for example the choice of a DCF model]*”. Secondly, the draft decision instrument “*does not contain any detail on how ComReg will assess compliance with its obligation post-launch*”. Thirdly, Section 6.4 suggests that ComReg may agree to provide approval within a shorter time period than the specified 5 working days “*as otherwise agreed with ComReg*” and “*It is unclear under what circumstances ComReg would consider such a request from eir*”.
- 16.20 In relation to Section 7 (Transparency obligation) of the WLA DI, Eircom considered that this Section “*appears to only require eir to notify wholesale price changes. There is no requirement to wait with their implementation until receipt of ComReg's written view*”. Eircom requested confirmation of this interpretation.
- 16.21 Eircom noted a number of typographical errors in the text. Eircom indicated its view that at “*Statutory powers*” Section 1.2(vi) - “*utmost*” should be added before “*account*”. Eircom advised that in relation to “*Cost orientation obligations*” the corresponding Section headings in the WCA DI are prefaced “*SMP obligations*” while the headings in the WLA DI are not.

### **16.2.3 ComReg’s Assessment of Respondents Views:**

- 16.22 In relation to BT’s allegations, as outlined at paragraph 16.6 above, that ComReg had made an error by omitting a margin squeeze test between the Eircom bitstream plus price and the WLA VUA price, please see Chapter 3, paragraph 3.123 for ComReg’s response.
- 16.23 With regard to BT’s views, as outlined at paragraph 16.7 above, on enforcing a single price for FTTC based VUA, ComReg confirms that it will enforce the obligations contained in the Decision Instrument in the same manner as it enforces all obligations. Please also see Chapter 7, paragraph 7.24, in relation to tiered pricing. ComReg does not consider that a specific transparency obligation is required in order to monitor compliance with this obligation.
- 16.24 ComReg notes BT’s concerns, as outlined at paragraph 16.8 above, that Section 4.2 could be misinterpreted to mean that different prices can be charged to different undertakings and that this should be corrected so that the same price is charged to all.

- 16.25 ComReg would like to clarify that the exceptional measure at Section 4.2 of the WLA DI is to allow Eircom, in exceptional cases only, to charge a different price in a specific area in order to compete with alternative operators. The intention of this obligation (at 4.2) is not to charge different operators different prices. Please see Chapter 12, subsection 12.4 of the Consultation for the objective of a price floor. Furthermore, Eircom is also subject to a non-discrimination obligation by virtue of Section 9 of the Decision Instrument contained at Appendix 20 of the 2018 WLA / WCA Market Review Decision and so Eircom must treat undertakings equally. However, for the avoidance of doubt and to address BT's concerns about a possible misinterpretation of Section 4.2, ComReg is amending the language in the DI to refer to "undertakings" instead of "*any undertaking(s)*". ComReg considers that this should clarify matters.
- 16.26 As regards BT's disagreement, as outlined at paragraph 16.9 above, with the reference to Section 4.4 of the WCA DI at Section 5.3 of the WLA DI, ComReg would like to clarify that Section 5.3 in the WLA DI has now been deleted given that ComReg considers that a price floor for CGA Bitstream services is no longer warranted for the reasons set out at Chapter 9, paragraphs 9.46-9.49. The obligation at Section 4.4 of the WCA DI remains appropriate as CGA Bitstream services are now set based on a price point as discussed at Chapter 9, paragraphs 9.76-9.79.
- 16.27 We note Eircom's point, as outlined at paragraph 16.11 above, that ComReg should be mindful of the views expressed by KPMG on page 45 of RGM report to the extent that the comments relate to pricing models.
- 16.28 With regard to Eircom's point, as outlined at paragraph 16.12 above, that "*EEO costs base*" should be defined more precisely by reference to the source of Eircom's costs used, ComReg would like to clarify that the source of the EEO costs for the FTTH retail margin squeeze tests should be by way of the DCF model, which uses Eircom's cost as a data source. Please see Chapter 10, paragraph 10.126 and Chapter 11, paragraph 11.67.
- 16.29 ComReg disagrees with Eircom's view, as outlined in paragraph 16.12 above, that the definition of "*Portfolio based approach*" is overly complex and that it should simply state "*means the method by which a margin squeeze test is calculated in relation to a basket of retail products*". The definition takes into account the two scenarios where (a) more than one retail product is supported by a single wholesale input and (b) where only one retail product is supported by a single wholesale input. In any event, if such details are not included in the definition of "*Portfolio base approach*", then it should be included in the main body of the Decision Instrument as part of the retail margin squeeze obligations at Section 6 of the WLA DI. On balance, ComReg considers that such detail is appropriate in the definition of "*Portfolio base approach*" and therefore no

changes are necessary.

- 16.30 ComReg notes Eircom's view, as outlined at paragraph 16.12 above, that the definition of "*REO cost base*" should be deleted and replaced by SEO cost base. Since the consultation ComReg has clarified at Chapter 10, subsection 10.2, that while it aspired to use REO data, it recognised that accurate and verifiable OAO data is difficult to obtain. For this reason, ComReg proposed to use an SEO approach as a proxy for an REO approach. Both the REO and SEO approaches reflect the need to adjust for differences in economies of scale and scope available to market entrants. However, while the REO uses OAO cost data, the SEO would use Eircom's cost data. ComReg notes that its proposals were based on adjusting Eircom's costs, and that this should be described as an SEO approach. Therefore, it is more accurate to refer to the SEO cost base for the wholesale margin squeeze test between FTTH based VUA and FTTH based Bitstream. Please see Chapter 10, paragraphs 10.53-10.55. Therefore, ComReg has replaced the "*REO*" cost base at Section 5.1 of the WLA DI with the "*SEO*" cost base and the definition of REO cost base has been removed from Section 2 of the WLA DI.
- 16.31 In relation to Eircom's views, as outlined at paragraph 16.13 above, that the "*SEO cost base*" should be defined more precisely by detailing in the decision instrument itself which adjustments are made to Eircom's cost base [the EEO standard] to arrive at the cost base used by ComReg to calculate the regulated price, ComReg is of the view that this point is addressed by the detail contained in Chapter 10, paragraphs 10.53-10.55. In summary, that section sets out that the SEO cost base is derived from an adjustment to Eircom's own costs to reflect the lower level of economies of scale and scope available to a hypothetical entrant in the retail broadband market. ComReg considers that the details contained in Chapter 10 (10.53-10.55) provides the necessary clarifications regarding the adjustments to Eircom's cost base and therefore the definition for SEO does not need any changes.
- 16.32 ComReg notes Eircom's comments, as outlined at paragraph 16.14 above, that the proposed obligation at Section 4.1 of the WLA DI should be specified fully (including for example the applicable cost base standard that is to represent the "efficient operator"). To clarify, the full details of how the efficient costs for FTTC based VUA and EVDSL are derived are set out in Chapter 6 of this Decision. The text at Section 4.1 of the WLA DI is consistent with the approach taken in the DI annexed to the 2016 Access Pricing Decision. ComReg considers that the text at Section 4.1 of the WLA DI in this Decision document is sufficient for a DI while ensuring that the DI does not become unwieldy.



- 16.33 ComReg does not agree with Eircom's views, as outlined at paragraph 16.14 above, that more precise wording should be used to specify which combination of BU-LRAIC+ and TD-HCA are used. Chapter 5 of this Decision sets out the details of those assets based on the BU-LRAIC+ methodology and also those assets based on the TD HCA approach. Similar to our views above, ComReg considers that the text at Section 4.1 of the WLA DI in this Decision document is sufficient for a DI while ensuring that it does not become unwieldy, while ensuring consistency with the approach in the 2016 Access Pricing Decision.
- 16.34 ComReg notes Eircom's views, as outlined at paragraph 16.15 above, that Section 4.2 of the WLA DI lacks *"the necessary detail and clarity to allow eir as regulated entity to understand what is expected of it."* and the *"Regulatory Approval Mechanism"* should be set out more clearly in the DI. ComReg considers that the *"Regulatory Approval Mechanism"* could not realistically be more fully set out without restricting ComReg's discretion in a way that would be unworkable. To clarify, the Regulatory Approval Mechanism is an exceptional measure that would need to be assessed by ComReg on a case-by-case basis and therefore providing more specific details may jeopardise such a process. However, ComReg agrees that additional wording regarding the meaning of *"FTTC based VUA price of an alternative operator"* can be added, consistent with that set out at paragraph 12.55 of the Consultation. Therefore, Section 4.2(ii) of the WLA DI has been updated to include the additional wording of *"the retail price minus retail costs and relevant network costs."*
- 16.35 ComReg disagrees with Eircom's general observation, as outlined at paragraph 16.10 above, that the draft DIs lacked sufficient detail to appropriately record ComReg's decisions. ComReg considers that there is sufficient detail included in the WLA DI. The DI must of course be sufficiently detailed, however the normal approach of ComReg is to refer out to models and more detailed applications of the general principles outlined in the DIs to the more detailed text in the body of the Decision document itself. ComReg considers that this approach remains appropriate.
- 16.36 ComReg notes Eircom's views as outlined at paragraph 16.10 above, where it expressed dissatisfaction with the reference to a model *"as amended from time to time"* as it argued that this does not provide sufficient certainty to Eircom or the market, as it essentially allows ComReg to adjust at will.<sup>330</sup> ComReg considers that some degree of flexibility to make amendments to the models is required. Furthermore, any amendment by ComReg would only take place where justified and in a proportionate way. As Eircom is well aware, it is not the case that ComReg would adjust models at will. In any event, the onus to comply with its price control obligations (and the associated underlying models)

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<sup>330</sup> Eircom response, page 142.

remains with Eircom and so it is up to Eircom to ensure that the data contained in the models remains appropriate and up-to-date. Therefore, a requirement to amend the models from time to time is appropriate.

- 16.37 ComReg notes Eircom's point, as outlined at paragraph 16.16 above, that an additional "*option*" should be included at Section 4.2 of the WLA DI "*[iii] The FTTC based VUA price as a result of any reduction required arising from the provisions of Section 4.3 in the Wholesale Central Access Decision Instrument*". ComReg considers that this point is captured by Section 4.3 in both the WLA DI and the WCA DI and this remains appropriate.
- 16.38 With regard to Eircom's views, as outlined at paragraph 16.16 above, that it is unclear under what powers ComReg would require such a reduction to be implemented as VUA is in the WLA market and is subject to its own cost orientation obligations, given that the regulated price for both FTTC based VUA and FTTC based Bitstream are cost oriented and, given that VUA is a significant cost element in the cost stack for FTTC based Bitstream, any reduction to the price for FTTC based VUA should also be reflected in the price for FTTC based Bitstream. It is important that there is always a sufficient space / margin between the two services so that the price for FTTC based VUA is always sufficiently below the price for FTTC based Bitstream. Therefore, a reduction to the FTTC based VUA price should be reflected in the price for FTTC based Bitstream price in order to protect ComReg's regulatory objectives.
- 16.39 ComReg notes Eircom's views, as outlined at paragraph 16.17 above, that the details of the proposed POTS obligation at Section 4.4 of the WLA DI should be specified fully "*including for example the applicable cost base standard that is to represent the "efficient operator"*". To clarify, the full details of how the efficient costs for POTS based FTTC VUA are derived are set out in Chapter 6 of this Decision. The text at Section 4.4 of the WLA DI is consistent with the approach taken in the DI annexed to the 2016 Access Pricing Decision. ComReg considers that the text at Section 4.1 of the WLA DI in this Decision is sufficient for a DI while ensuring that the DI does not become unwieldy.
- 16.40 With regard to Eircom's views, as outlined at paragraph 16.18 above, that the details at Section 5.1 of the WLA DI on the proposed margin squeeze should be specified as far as possible and in particular the reference to a REO cost base should be replaced with an appropriate description of the intended SEO standard, please see paragraph 16.30 above.
- 16.41 To address Eircom's point, as outlined at paragraph 16.18 above, that Section 5.2 of the WLA DI regarding the price floor element referring to an OAOs price should be amended to match paragraph 12.60(b) of the Consultation, ComReg agrees to add the additional wording of "*the retail price minus retail costs and relevant network costs.*" at Section 5.2(ii) of the WLA DI.

- 16.42 In relation to Eircom's point, as outlined at paragraph 16.18 above, that if Section 5.3 of the WLA DI is maintained the obligation should be described in more detail, ComReg would like to clarify that the CGA Bitstream price floor is no longer warranted for the reasons set out in Chapter 9, paragraphs 9.46-9.49.
- 16.43 ComReg disagrees with Eircom's views, as outlined at paragraph 16.19 above, that in relation to Section 6.1 of the WLA DI, "*ComReg should consider to record the full set of decisions it has made in relation to the design of the test [including for example the choice of a DCF model]*". The main decisions in relation to the design of the test are contained in Section 6.1, e.g., EEO Cost base, Average Total Costs (cost standard) and the Portfolio assessment. All of these, as well as the DCF model, are discussed in detail in Chapter 10, subsection 10.4 of the Consultation and subsection 10.4 of the Decision i.e., paragraph 10.126. Eircom are also provided with the spreadsheet margin squeeze model containing these underlying assumptions. ComReg considers that the details contained at Section 6.1 of the WLA DI, in Chapter 10 as well as the spreadsheet margin squeeze model should be sufficient in order for Eircom to comply with its obligations.
- 16.44 With regard to Eircom's comment, as outlined at paragraph 16.19 above, that the draft WLA DI "*does not contain any detail on how ComReg will assess compliance with its obligation post-launch*", ComReg will assess compliance post launch in the same way as it always does, in line with the obligations set out in the WLA DI in this Decision document. Eircom must comply at all times with the ex-ante regulatory obligations set out in the DIs contained in Annex 1 and Annex 2 of this Decision document.
- 16.45 ComReg notes Eircom's views, as outlined at paragraph 16.19 above, where it referred to Section 6.4 of the WLA DI and its view that ComReg may agree to provide approval within a shorter time period than the specified 5 working days but that "*It is unclear under what circumstances ComReg would consider such a request from eir*". ComReg considers that the level of discretion at Section 6.4 of the WLA DI is appropriate, particularly in the event that a longer period of time is necessary to assess the retail proposal. To specify circumstances which may vary the 5 working days would defeat the purpose of such discretion. In any event, any such request would be considered on a case-by-case basis and would have to be proportionate and justified.

- 16.46 ComReg disagrees with Eircom's interpretation, as outlined at paragraph 16.20 above, that Section 7 (Transparency) of the WLA DI "*appears to only require eir to notify wholesale price changes. There is no requirement to wait with their implementation until receipt of ComReg's written view*". The text at Section 7 of the WLA DI sets out the process for notification of new prices or changes to existing wholesale prices (7.1) and the details to be included by Eircom in the statement of compliance (7.2). In addition, Section 7.3 of the WLA DI sets out the one month timeframe for ComReg's assessment of the statement of compliance and the fact that ComReg shall provide Eircom with a written view (based on the available information) on Eircom's compliance with its obligations.<sup>331</sup> Eircom cannot implement the new or revised prices before it complies with all of its notification requirements, both in the WLA DI and the DI at Appendix 20 of the 2018 WLA / WCA Market Review Decision, in particular its obligation to notify other operators. If Eircom proceeds to implement the new or revised prices before it receives any formal written view from ComReg, ComReg considers that Eircom would be at risk of not being in compliance with their obligations and further, at risk of having to amend their published position. For example, if Eircom proceed to implement the new or revised wholesale regulated price before receiving ComReg's written view, any material issues subsequently noted by ComReg would require Eircom to withdraw its new or revised price. Such a process would create significant market uncertainty and instability, particularly for OAOs. Therefore, Eircom should not implement new or revised wholesale regulated prices without ComReg's written view, as outlined at Section 7 (7.3) of the WLA DI.
- 16.47 ComReg agrees with Eircom's view, as outlined at paragraph 16.21 above, that at "Statutory powers", Section 1.2(vi) of the WLA DI, the word "utmost" should be added before "account". Therefore, the text has been updated to reflect this change. ComReg also agrees with Eircom's point, as outlined at paragraph 16.21 above, about the consistency of headings between the WLA DI and the WCA DI. ComReg will amend the heading at Section 4 "*Cost orientation obligations*" to "*SMP Obligations; Cost Orientation Obligations*" of the WLA DI to be consistent with WCA DI.

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<sup>331</sup> Note that any such written view or confirmation provided by ComReg is a *prima facie* view and does not fetter ComReg's future discretion in relation to its statutory powers.

16.48 There has also been some other minor changes to the text of the WLA DI. ComReg has amended the word “price” and “monthly rental charge” to “rental charge” to ensure that it is clear that the main pricing obligations relate to “rental” charges as opposed to any other charges (e.g., ancillary charges) and also to be consistent with the terminology in the SMP DIs in the 2018 WLA / WCA Market Review Decision. In addition, reference to the “statement of compliance” in the draft WLA DI has now been amended to clarify that the statement of compliance relating to the retail margin squeeze obligation for FTTH based VUA in Section 6 of the WLA DI is the “WLA Retail MST Statement of Compliance”. The statement of compliance at Section 7 (Transparency) has also been amended to clarify that the statement of compliance relating to the wholesale pricing obligations (particularly with reference to Sections 4 and 5 of the WLA DI) is the “WLA Pricing Statement of Compliance.” In the Consultation and in particular in the WLA DI ComReg proposed that WEILS, BECS and BECS over WEILS should be based on the BU-LRAIC+ methodology. However, to be consistent with the services mandated in the WLA Market, ComReg have amended the text of the WLA DI so that the obligation relates to Interconnection services rather than WEILS, BECS and BECS over WEILS.

#### **16.2.4 ComReg’s Final Position:**

16.49 Having considered Respondents’ views, ComReg has decided to make some amendments to the language contained in a number of Sections of the draft WLA DI now contained in Annex 1 of this Decision document, for the purpose of clarifying the nature of certain obligations contained therein. However, these changes do not impact the substance of the overall obligation and the outcomes remain effectively the same.

16.50 Any substantive changes to obligations contained in the final WLA DI are described above as well as in the relevant Chapters throughout the Decision. In summary, the following are the main changes to the underlying obligations in the WLA DI:

- Section 5.3 of the WLA DI has been deleted, given that the CGA Bitstream price floor is no longer warranted. Please see Chapter 9, paragraphs 9.46-9.49 for the details.

- Section 6.1 of the WLA DI has been refined such that the only standalone retail margin squeeze test in the footprint of the Urban WCA Market relates to FTTH based VUA. The standalone retail margin squeeze tests for FTTC based VUA and CGA services are no longer warranted.<sup>332</sup> Please see Chapter 10, paragraphs 10.3-10.7 for the details

16.51 The final WLA DI is set out in Annex 1 of this Decision document.

## 16.3 Decision Instrument for WCA Markets

### 16.3.1 Position set out in the Consultation

16.52 In the Consultation ComReg set out a draft text of the proposed Decision Instrument which was designed to give legal effect to the proposed WCA price control remedies (and transparency remedies). ComReg sought views as to whether the wording of the draft Decision Instrument was from a legal, technical and practical perspective, sufficiently detailed, clear and precise with regards to the specifics proposed. Respondents were asked to explain their response and to provide details of any specific amendments they believe are required.

### 16.3.2 Respondents Views

16.53 Vodafone, ALTO, BT and Eircom provided views on the wording of the draft WCA DI.

16.54 ALTO and Vodafone expressed their general agreement with the draft text of the proposed WCA DI subject to ComReg's consideration of the comments they raised in response to the Consultation.

16.55 BT indicated that it considered that ComReg had erred through the omission of a margin squeeze test between the Eircom Bitstream plus price and the WLA VUA price. BT considers that *"this omission will potentially foreclose competition in this market hence it will be ComReg that is distorting a competitive market by causing its foreclosure"*.

16.56 BT was of the view that in order to correctly model which exchanges should be in the WCA and which should not the criteria should be *"changes to exchanges operators can reasonable (sic) reach as the proposal will risk existing supply of bitstream plus for certain exchange in the WCA Urban areas"*.

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<sup>332</sup> Note that FTTC based VUA will be assessed in the retail margin squeeze test in the context of Bundles.

- 16.57 Eircom expressed similar views as it did in response to question 37 on the WLA DI in relation to (1) the lack of sufficient detail to appropriately record ComReg's decisions, (2) its view that ComReg should be mindful of views expressed by KPMG on page 45 of the RGM report, (3) that at "*Statutory powers*" Section 1.2(vi) "*utmost*" should be added before "*account*", (4) that Section 4.2 of the WCA DI lacks the necessary detail and clarity and (5) that detail of the proposed margin squeeze tests should be specified as far as possible in the DI (6) and that reference to REO cost base should be replaced with "*an appropriate description of the intended SEO standard*".
- 16.58 Eircom submitted that in Sections 4.1, 4.4, 4.5, 4.6 and 4.7 of the WCA DI details of the proposed obligations should be specified fully. It submitted that more precise wording should be used to specify which combination of BU-LRAIC+ and TD-HCA the relevant costs should be based on.
- 16.59 Eircom considered that Section 4.3 of the WCA DI "*should be specific as to what is meant by a consistent application of the price change to FTTC based Bitstream and FTTC VUA*"
- 16.60 Eircom noted that the WCA DI does not contain detail on how eir's compliance will be assessed, that there are a number of important variables for ComReg to consider and that a 5000 retail subscriber threshold should be applied for NGA FTTH before a statement of compliance is required.
- 16.61 In relation to Section 6.7 of the WCA DI Eircom suggested that ComReg may provide approval in less than 5 days and indicated that it is unclear under what circumstances this would be considered.
- 16.62 Eircom was of the view that Section 7 "Transparency" of the WCA DI appears to only require Eircom to notify wholesale price changes and that there is no requirement to hold implementation pending ComReg's written view. Eircom asks that ComReg confirm, wording is accurate for the intended meaning.

### **16.3.3 ComReg's Assessment of Respondents Views**

- 16.63 BT's point, as outlined at paragraph 16.55 above, regarding omission of the margin squeeze test between VUA and Bitstream plus is addressed at Chapter 3, paragraph 3.123.
- 16.64 In relation to BT's views, as outlined at paragraph 16.56 above, regarding the choice of exchanges, please see Chapter 3, paragraph 3.104 for ComReg's response.
- 16.65 In relation to Eircom's views, as outlined at paragraph 16.57 above, where the points that overlapped with the responses to question 37 (on the draft WLA DI), similar responses are made. Specifically in relation to the point on the SEO cost



base, please see Chapter 6, paragraphs 6.156-6.157 for the details of the adjustments required to the SEO costs in the context of FTTC based Bitstream.

- 16.66 With regard to Eircom's views, as outlined at paragraph 16.58 above, that the details of the proposed obligations at Sections 4.1, 4.4, 4.5, 4.6 and 4.7 of the WCA DI should be specified fully and that more precise wording should be used to specify which combination of BU-LRAIC+ and TD-HCA the relevant costs should be based on, please see ComReg's response at paragraph 16.33 above.
- 16.67 With regard to Eircom's point, as outlined at paragraph 16.59 above, that Section 4.3 of the WCA DI "*should be specific as to what is meant by a consistent application of the price change to FTTC based Bitstream and FTTC VUA*", please see Chapter 12, paragraphs 12.56-12.57 of the Consultation.
- 16.68 In relation to Eircom's views, as outlined at paragraph 16.60 above, on how ComReg will assess Eircom's compliance with its obligations, ComReg will assess compliance in the same way as it always does, in line with the obligations set out in the Decision Instrument, in this case the WCA DI at Annex 2 of this Decision document. For FTTH, no threshold applies and therefore a statement of compliance must be provided for all new prices and changes to existing prices associated with all FTTH products.
- 16.69 Eircom's point, as outlined at paragraph 16.61 above, regarding Section 6.7 of the WCA DI and the circumstances for allowing less than 5 days approval, is addressed at paragraph 16.45 above.
- 16.70 In relation to Eircom's point, as outlined at paragraph 16.62 above, that Section 7 "Transparency" of the WCA DI appears to only require Eircom to notify wholesale price changes and that there is no requirement to hold implementation pending receipt of ComReg's *prima facie* view, please see paragraph 16.46 for ComReg's response.
- 16.71 There has also been some minor changes to the text of the WCA DI. ComReg has removed the definition for REO given our decision to use the SEO cost base as opposed to the REO cost base. Please see Chapter 6, paragraph 6.156. In addition, the heading at Part II of the WCA DI has been amended to add "IN RELATION TO WHOLESALE CENTRAL ACCESS PROVIDED IN THE REGIONAL WCA MARKET" to mirror the text in the WCA SMP DI in the 2018 WLA / WCA Market Review Decision and therefore to ensure consistency between both DIs. ComReg has also amended the word "price" or "monthly rental charge" to "rental charge" to ensure that it is clear that the main pricing obligations relate to "rental" charges as opposed to any other charges (e.g., ancillary charges) and also to be consistent with the terminology in the SMP DIs in the 2018 WLA / WCA Market Review Decision. In addition, reference to

the “statement of compliance” in the draft WCA DI has now been amended to clarify that the statement of compliance relating to the retail margin squeeze obligation for FTTH based Bitstream in Section 5 of the WCA DI is the “WCA Retail MST Statement of Compliance”. The statement of compliance at Section 6 (Transparency) has also been amended to clarify that the statement of compliance relating to the wholesale pricing obligations (particularly with reference to Section 4 of the WCA DI) is the “WCA Pricing Statement of Compliance”.

#### 16.3.4 ComReg’s Position:

16.72 Having considered Respondents’ views, ComReg has decided to make some amendments to the language contained in a number of Sections of the draft WCA DI now contained in Annex 2 of this Decision document, for the purpose of clarifying the nature of certain obligations contained therein. However, these changes do not impact the substance of the overall obligation and the outcomes remain effectively the same.

16.73 Any substantive changes to obligations contained in the final WCA DI are described above as well as in the relevant Chapters throughout the Decision document. In summary, the main substantive changes to the draft WCA DI include the following:

- Section 4.6 has been removed i.e., the price floor for CGA standalone broadband (SABB). Please see Chapter 12, paragraphs 12.126-12.132.
- Section 5 has been removed i.e., the wholesale margin squeeze obligation between End-to end Bitstream (current generation and next generation) and Bitstream (current generation and next generation). Please see Chapter 11, paragraph 11.5.
- Section 6 has been refined such that the only standalone retail margin squeeze test that applies going forward is for FTTH based Bitstream. Therefore, the standalone retail margin squeeze test for FTTC based Bitstream (at Section 6.1 of the draft WCA DI) and the standalone retail margin squeeze tests for CGA Bitstream services (at Sections 6.3 and 6.4 of the draft WCA DI) have been removed.<sup>333</sup> Please see Chapter 11, paragraphs 11.6-11.7 for the details.

16.74 The final WCA DI is set out in Annex 2 of this Decision document.

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<sup>333</sup> Note that FTTC based Bitstream and CGA Bitstream services will be assessed in the retail margin squeeze test for Bundles.

# Annex: 1 Decision Instrument – WLA Market

## 1 STATUTORY POWERS GIVING RISE TO THIS DECISION INSTRUMENT

1.1 This Decision Instrument (“Decision Instrument”) is made by the Commission for Communications Regulation (“ComReg”) and relates to the market for wholesale local access provided at a fixed location as identified by the European Commission in the 2014 Recommendation and analysed by ComReg in ComReg Decision D10/18. This Decision Instrument further relates to the market for call origination on the public telephone network provided at a fixed location, as defined by ComReg in ComReg Decision D05/15. This Decision Instrument relates to further specification of the price control and transparency obligations imposed by ComReg in ComReg Decision D10/18. This Decision Instrument also relates to further specification of the price control and transparency obligations imposed by ComReg in ComReg Decision D05/15.

1.2 This Decision Instrument is made:

- (i) Pursuant to Regulations 8, 9, 13 and 18 of the Access Regulations;
- (ii) Pursuant to, and having regard to, the significant market power (“SMP”) designation of Eircom as provided for in Section 5 of the decision instrument at Appendix 20 of ComReg Decision D10/18;
- (iii) Pursuant to, and having regard to, the SMP designation of Eircom as provided for in Section 5 of the decision instrument at Appendix H of ComReg Decision D05/15;
- (iv) Following a notification to the European Commission of a reasoned proposed extension of two years pursuant to Regulation 27(6) of the Framework Regulations, and the European Commission not having objected, and having regard to the fact that ComReg has received a two year extension to the period for carrying out any further analysis of the market for call origination on the public telephone network provided at a fixed location;
- (v) Pursuant to, and having had regard to Sections 10 and 12 of the Communications Regulation Act 2002 (as amended); Regulation 16 of the Framework Regulations; and Regulations 6(1), 8(6) and 13(2) of the Access Regulations;
- (vi) Having, where applicable, pursuant to Section 13 of the Communications Regulation Act 2002 (as amended), complied with Ministerial Policy Directions;

- (vii) Having taken utmost account of the European Commission's Recommendation of 11 September 2013 on non-discrimination obligations and costing methodologies to promote competition and enhance the broadband investment environment and the European Commission's Recommendation of 20 September 2010 on regulated access to Next Generation Access Networks;
  - (viii) Having notified the draft measure and the reasoning on which the measure is based to the European Commission, BEREC and the national regulatory authorities in other EU Member States pursuant to Regulation 13 and Regulation 14 of the Framework Regulations and having taken utmost account of any comments made by these parties;
  - (ix) Having regard to the analysis and reasoning set out in ComReg Document No. 16/96 and having taken account of the submissions received from interested parties in response thereto following public consultations pursuant to Regulation 12 of the Framework Regulations;
  - (x) Having regard to the analysis and reasoning set out in ComReg Decision D10/18;
  - (xi) Having regard to the analysis and reasoning set out in ComReg Document No. 17/26 and having taken account of the submissions received from interested parties in response thereto following a public consultation pursuant to Regulation 12 of the Framework Regulations; and
  - (xii) Having regard to the analysis and reasoning set out in ComReg Decision D11/18.
- 1.3 The provisions of ComReg Document No. 16/96 and ComReg Decision D10/18 as well as ComReg Document No. 17/26 and ComReg Decision D11/18 and ComReg Document No. 17/51 and ComReg Decision D12/18 shall, where appropriate, be construed consistently with this Decision Instrument. For the avoidance of doubt, however, to the extent that there is any conflict between a decision instrument dated prior to the Effective Date (as defined in Section 2.1 of this Decision Instrument) and this Decision Instrument, this Decision Instrument should prevail.

## **PART I - GENERAL PROVISIONS (SECTIONS 2 TO 3 OF THE DECISION INSTRUMENT)**

### **2 DEFINITIONS**

2.1 In this Decision Instrument, unless the context otherwise suggests:

**“Access”** shall have the same meaning as under Regulation 2 of the Access Regulations;

**“Access Path”** means the connection from the NTU/ONT in the End User's premises to the Point of Handover. The Points of Handover for physical

unbundling are the MDF (for metallic) and the ODF (for fibre) in the Exchange, and the Point of Handover for non-physical unbundling (virtual access) is the Wholesale Ethernet Interconnection Link (WEIL) at the serving Aggregation Node for the End User i.e. at the MPoP;

**“Access Regulations”** means the European Communities (Electronic Communications Networks and Services) (Access) Regulations 2011 (S.I. No. 334 of 2011), as may be amended from time-to-time or replaced with equivalent effect;

**“Aggregation Node”** means network concentration point for Access Paths;

**“Associated Facilities”** shall have the same meaning as under Regulation 2 of the Framework Regulations;

**“Authorisation Regulations”** means the European Communities (Electronic Communications Networks and Services) (Authorisation) Regulations 2011 (S.I. No. 335 of 2011), as may be amended from time-to-time or replaced with equivalent effect;

**“Average Total Costs”** or **“ATC”** means a cost standard which reflects all costs incurred in the provision of a product or service including variable, fixed, common and joint costs;

**“BEREC”** means the Body of European Regulators for Electronic Communications, as established pursuant to Regulation (EC) No. 1211/2009 of the European Parliament and of the Council of 25 November 2009 (OJ L337, 18.12.2009, p.1);

**“Bitstream”** means a wholesale product which consists of an Access Path to the End User premises and a transmission service to a defined set of Points of Handover;

**“Bitstream Plus”** is a specific implementation of the Bitstream wholesale product. The Bitstream Plus product is described in detail in Eircom’s product description “NGA Product Description Bitstream Plus” V3.0 dated 16 June 2017, as may be amended from time-to-time or replaced with equivalent effect;

**“Bottom Up Long Run Average Incremental Cost plus”** or **“BU-LRAIC+”** means the methodology used to estimate the “LRAIC plus” of an efficient operator which is derived from an economic and/or engineering model of an efficient network. The LRAIC plus costs are the average efficiently incurred directly attributable variable and fixed costs, including an appropriate apportionment of joint and common costs;

**“Communications Regulation Act 2002 (as amended)”** means the Communications Regulation Act 2002 (No. 20 of 2002) (as amended);

**“ComReg”** means the Commission for Communications Regulation, established under Section 6 of the Communications Regulation Act 2002 (as amended);

**“ComReg Decision D08/10”** means ComReg Document No. 10/67 entitled “Response to Consultation Document and Final Direction and Decision, Response to Consultation Document No. 09/75 and Final Direction and Decision: Accounting Separation and Cost Accounting Review of Eircom Limited”, dated 31 August 2010;

**“ComReg Decision D05/15”** means ComReg Document No. 15/82 entitled “Market Review, Wholesale Fixed Voice Call Origination and Transit Markets”, dated 24 July 2015;

**“ComReg Decision D10/18”** means ComReg Document No. 18/94, entitled “Market Review: Wholesale Local Access (WLA) provided at a Fixed Location, Wholesale Central Access (WCA) provided at a Fixed Location for Mass Market Products. Response to Consultation and Decision” dated 19 November 2018;

**“ComReg Decision D11/18”** means ComReg Document No.18/95, entitled “Pricing of wholesale broadband services, Wholesale Local Access (WLA) market and the Wholesale Central Access (WCA) markets, Response to Consultation Document 17/26 and Final Decision”, dated 19 November 2018;

**“ComReg Decision D12/18”** means ComReg Document No. 18/96, entitled “Response to Consultation and Decision on price control obligations relating to retail bundles – Further specification of the wholesale price control obligation not to cause a margin squeeze in the WLA, and WCA Markets”, dated 19 November 2018;

**“ComReg Document No. 16/96”** means ComReg Document No. 16/96, entitled “Market Reviews: Wholesale Local Access (WLA) provided at a Fixed Location; Wholesale Central Access (WCA) provided at a Fixed Location for Mass Market Products: Consultation and Draft Decision”, dated 11 November 2016;

**“ComReg Document No. 17/26”** means ComReg Document No. 17/26, entitled “Pricing of wholesale services in the Wholesale Local Access (WLA) market and in the Wholesale Central Access (WCA) markets: Further specification of price control obligations in Market 3a (WLA) and Market 3b (WCA)”, dated 7 April 2017;

**“ComReg Document No. 17/51”** means ComReg Document No. 17/51 entitled “Consultation on Price control obligations relating to Bundles”, dated 9 June 2017;

**“Decision Instrument”** means this direction and decision instrument which is made pursuant to *inter alia* Regulations 8, 9, 13 and 18 of the Access Regulations;

**“Discount”** means an offer or sale of a product at less than its standard price, for example a price reduction, including a volume related price reduction, a rebate, a reimbursement, a refund, a set-off and any other similar words or expressions;

**“Effective Date”** means the date set out in Section 13 of this Decision Instrument;

**“Eircom”** means Eircom Limited and its subsidiaries and any related companies, and any Undertaking which it owns or controls, and any Undertaking which owns or controls Eircom Limited, and its successors and assigns. For the purpose of this Decision Instrument, the terms “subsidiary” and “related company” shall have the meanings ascribed to them in the Companies Act 2014 (as may be amended from time-to-time);

**“Electronic Communications Network(s)”** or **“ECN(s)”** shall have the same meaning as under Regulation 2 of the Framework Regulations;

**“Electronic Communications Service(s)”** or **“ECS(s)”** shall have the same meaning as under Regulation 2 of the Framework Regulations;

**“End User(s)”** shall have the same meaning as under Regulation 2 of the Framework Regulations. For the avoidance of doubt, End User(s) shall be deemed to include any natural or legal person who facilitates or intends to facilitate the provision of public communications networks or publicly available electronic communications services to other End Users and who is not acting as an Undertaking;

**“Equally efficient operator cost base”** or **“EEO cost base”** is a cost base which is derived from Eircom’s costs and is based on Eircom’s scale of operations;

**“Exchange”** means an Eircom network premises or equivalent facility used to house network and associated equipment and may include a Remote Subscriber Unit (RSU). The Exchange sometimes, but not always, houses the MPoP;



**“Exchange launched very-high-bit-rate digital subscriber line”** or **“EVDSL”** means a very-high-bit-rate digital subscriber line (VDSL) service provided from an Eircom Exchange or equivalent (this encompasses Exchange launched VUA in the WLA Market and Exchange launched Bitstream in the WCA Markets);

**“Exchange launched VUA”** means that the active equipment that is required to provide VUA is housed in an Eircom Exchange building or equivalent;

**“Fibre to the Cabinet”** or **“FTTC”** means fibre to the cabinet which is a variant of the FTTN access network architecture where the Node used to house active equipment is the street cabinet;

**“Fibre to the Home”** or **“FTTH”** means an access network architecture where fibre optic cable is used to connect the End User premises to the ODF in an Exchange;

**“Fibre to the Node”** or **“FTTN”** means an access network architecture where fibre optic cable is used to connect a Node in the local access network to the ODF in an Exchange;

**“FTTC based VUA”** means VUA that is based on FTTC and in the context of this Decision Instrument includes Local VUA and Remote VUA variants and Exchange launched VUA;

**“FTTC VUA and EVDSL Footprint”** means those Exchanges listed in Annex 10 of ComReg Decision D11/18;

**“FTTH based Bitstream”** means Bitstream that is based on FTTH in the WCA Markets;

**“FTTH based VUA”** means VUA that is based on FTTH and in the context of this Decision Instrument includes Local VUA and Remote VUA variants;

**“Framework Regulations”** means the European Communities (Electronic Communications Networks and Services) (Framework) Regulations 2011 (S.I. No. 333 of 2011), as may be amended from time-to-time or replaced with equivalent effect;

**“Historical Cost Accounts”** or **“HCA”** means the historical cost accounts which Eircom is required to publish in accordance with ComReg Decision D08/10;

**“Interconnection”** shall have the same meaning as under Regulation 2 of the Access Regulations, and for the purposes of this Decision Instrument includes, but is not limited to, the Eircom WEIL service;

**“Local Loop”** shall have the same meaning as under Regulation 2 of the Access Regulations;

**“Local VUA”** means a type of VUA where the main distribution frame (MDF) and / or optical distribution frame (ODF) and the customer traffic handover point (serving the Aggregation Node) are co-located in the same Exchange;

**“LRAIC+”** or **“LRAIC plus”** **“Long Run Average Incremental Cost plus”** means the average efficiently incurred directly attributable variable and fixed costs, including an appropriate apportionment of joint and common costs;

**“MDF”** means the main distribution frame;

**“Metropolitan Point of Presence”** or **“MPoP”** means the point of inter-connection between the access and core networks of an Undertaking;

**“Ministerial Policy Directions”** means the policy directions made by Dermot Ahern TD, then Minister for Communications, Marine and Natural Resources, dated 21 February 2003 and 26 March 2004;

**“Network Termination Unit”** or **“NTU”** means the physical interface which provides the service demarcation or Point of Handover of the wholesale service within the customer premises;

**“Next Generation Access”** or **“NGA”** means wired access networks which consist wholly or in part of optical elements and which are capable of delivering broadband and other access services with enhanced characteristics (such as higher throughput) as compared to those provided over exclusively copper access networks;

**“NGA Cost Model”** means the model as amended from time-to-time, used by ComReg and Eircom to assess Eircom’s compliance with the obligations contained in Section 4 of this Decision Instrument. The NGA Cost Model calculates costs based on the BU-LRAIC+ costing methodology and the Top-Down HCA costing methodology. The operation and details of the NGA Cost Model are more particularly described in Chapter 6 of ComReg Decision D11/18;

**“NGN Core Model”** means the model as amended from time-to-time, used by ComReg and Eircom to assess Eircom’s compliance with the obligations contained in Section 4 of this Decision Instrument. The NGN Core Model calculates costs based on the BU-LRAIC+ costing methodology. The operation and details of the NGN Core Model are more particularly described in Chapter 8 of ComReg Decision D11/18;

“**Node**” means any location or concentration point in the access network (excluding termination points at End Users’ premises) which houses equipment for the purpose of providing services to End Users;

“**ODF**” means the optical distribution frame;

“**ONT**” or “**Optical Network Terminal**” means the device that terminates the fibre Access Path at the End User’s premises;

“**Other Authorised Operators**” or “**OAOs**” means an Undertaking that is not Eircom, providing or intending to provide an ECN or an ECS, and is deemed to be authorised under Regulation 4 of the Authorisation Regulations;

“**Plain Old Telephone Service**” or “**POTS**” means the standard telephone service that most homes use;

“**POTS based VUA**” means plain old telephone service sold with FTTC based VUA;

“**Point of Handover**” means the physical point at which two networks are interconnected to allow traffic to pass between these networks;

“**Portfolio-based-approach**” means the method used to determine the margin between the retail price and the wholesale and retail costs across a basket of retail products that are supported by the relevant wholesale input. Under this approach the retail price is calculated based on (a) the average, weighted by number of subscribers, retail price (where more than one retail product is supported by a single wholesale input); or (b) the price of the relevant retail product (where only one retail product is supported by a single wholesale input);

“**Product**” for the purposes of this Decision Instrument shall include product, service and associated facility, where appropriate;

“**Promotion**” means an offer in respect of a product which is available for a finite period of time and which offers a price reduction;

“**Regional WCA Market**” means the market as defined in Section 4 of the decision instrument in Appendix 21 of ComReg Decision D10/18;

“**Relevant Cost Models**” means the NGA Cost Model and the NGN Core Model;

“**Remote VUA**” means a type of VUA where the main distribution frame (MDF) or the optical distribution frame (ODF) and the customer traffic handover point (serving the Aggregation Node) are not co-located in the same Exchange;

**“Retail Product(s)”** means any Eircom FTTH based VUA retail broadband product on offer or on sale in the footprint corresponding to the Urban WCA Market which uses Eircom’s network equipment to transmit data signals and shall include existing FTTH based VUA retail products and new FTTH based VUA retail products;

**“Retail FTTH Margin Squeeze Model”** means the model, as amended from time-to-time, used by ComReg and Eircom to monitor compliance with the Retail FTTH based VUA Margin Squeeze Test for FTTH based VUA services and as described in Chapter 10 of ComReg Decision D11/18;

**“Retail FTTH based VUA Margin Squeeze Test”** as described in Section 6 of this Decision Instrument means the test used to identify the setting of a price by Eircom for a retail broadband product(s) in the footprint corresponding to the Urban WCA Market which does not allow an OAO, relying on FTTH based VUA products to provide the same or similar retail product(s) at a sufficient margin. The margin is tested by reference to the Retail FTTH Margin Squeeze Model;

**“SB-WLR”** means Single Billing Wholesale Line Rental;

**“Similarly efficient operator cost base”** or **“SEO cost base”** is a cost base which means the costs of a hypothetical operator which shares the same basic cost function as Eircom but does not enjoy the same economies of scale and scope as Eircom;

**“Top-Down HCA”** means the methodology in which the HCA and network information of the regulated firm are used as the starting point for calculating the costs of relevant services. These inputs may subsequently be adjusted to reflect efficiencies;

**“Undertaking(s)”** shall have the same meaning as under Regulation 2 of the Framework Regulations;

**“Urban WCA Market”** means the market as defined in Section 4 of the decision instrument in Appendix 21 of ComReg Decision D10/18;

**“VDSL”** means very-high-bit-rate digital subscriber line;

**“Virtual Unbundled Access”** or **“VUA”** means the wholesale active access product provided by Eircom. It is an enhanced Layer 2 product which allows the handover or interconnection of aggregate End Users’ connections at the MPoP. It allows the Undertaking a level of control similar to that afforded to the Undertaking connecting their own equipment to an unbundled Local Loop. VUA includes VUA provided on a stand-alone basis or VUA provided with SB-WLR;

**“Wholesale Central Access”** or **“WCA”** means wholesale central access provided at a fixed location for mass market products as defined in Chapter 9 of ComReg Decision D10/18;

**“Wholesale Central Access Markets”** or **“WCA Markets”** means the Urban WCA Market and the Regional WCA Market;

**“Wholesale Ethernet Interconnection Link”** or **“WEIL”** is the interconnection service provided by Eircom which enables the handover of End User traffic for various wholesale product types including but not limited to Bitstream Plus, VUA and Next Generation Access wholesale products;

**“Wholesale Local Access”** or **“WLA”** means wholesale local access provided at a fixed location;

**“Wholesale Local Access Market”** or **“WLA Market”** means the wholesale local access market provided at a fixed location as defined in Chapter 4 of ComReg Document D10/18;

**“WLA Pricing Statement of Compliance”** means the statement of compliance that is required under Section 7.2 of this Decision Instrument;

**“WLA Retail MST Statement of Compliance”** means the statement of compliance that is required under Section 6.3 of this Decision Instrument;

**“Wholesale FTTH based VUA Margin Squeeze Model”** means the model, as amended from time-to-time, used by ComReg and Eircom to monitor compliance with the Wholesale FTTH based VUA Margin Squeeze Test and as described in Chapter 10 of ComReg Decision D11/18.

**“Wholesale FTTH based VUA Margin Squeeze Test”** as described in Chapter 10 of ComReg Decision D11/18, means the test used to identify the setting of a wholesale price for FTTH based VUA which does not allow an OAO relying on FTTH based Bitstream to provide the same or similar wholesale inputs at a sufficient margin. The margin is tested by reference to the Wholesale FTTH based VUA Margin Squeeze Model;

**“(the) 2014 Recommendation”** means the European Commission Recommendation of 9 October 2014 on relevant product and service markets within the electronic communications sector susceptible to *ex ante* regulation in accordance with Directive 2002/21/EC of the European Parliament and of the Council on a common regulatory framework for electronic communications networks and services (OJ L 295, 11.10.2014, p. 79).

### **3 SCOPE AND APPLICATION**

- 3.1 This Decision Instrument is binding upon Eircom and Eircom shall comply with it in all respects.
- 3.2 This Decision Instrument, pursuant to Regulations 8, 9, 13 and 18 of the Access Regulations, is a further specification of the price control obligation and the transparency obligation imposed upon Eircom in ComReg Decision D10/18, as more particularly set out in Sections 4, 5, 6 and 7 of this Decision Instrument and is a further specification of the price control obligation previously imposed upon Eircom in ComReg Decision D05/15, as more particularly set out at 4.4 below.
- 3.3 Pursuant to Regulations 8, 13 and 18 of the Access Regulations, the price control obligations contained in this Decision Instrument, with the exception of that obligation further specified in Section 4.6 of this Decision Instrument, shall be implemented from 1 March 2019 (“the Implementation Date”). The rental charges in Annex 7 of ComReg Decision D11/18 shall, where appropriate to the WLA Market, apply from the Implementation Date and thereafter for each year commencing 1 July and ending 30 June as determined in accordance with the Relevant Cost Models as outlined in Annex 7 of ComReg Decision D11/18 and shall apply until if and when they are amended.
- 3.4 Price changes required to be introduced by the price control obligations imposed pursuant to this Decision Instrument and as set out in Annex 7 of ComReg Decision D11/18 shall, unless otherwise notified by ComReg, irrespective of the date that those rental charges are due to come into effect and in derogation, where appropriate, from Eircom’s transparency obligations contained in this Decision Instrument, the decision instrument at Appendix H of ComReg Decision D05/15 and the decision instrument at Appendix 20 of ComReg Decision D10/18, be notified by Eircom to ComReg and to OAOs no later than 2 January 2019. For the avoidance of doubt, unless otherwise specified, Eircom shall comply with all transparency obligations, including all pre-notification requirements, imposed in this Decision Instrument, the decision instrument at Appendix H of ComReg Decision D05/15 and the decision instrument at Appendix 20 of ComReg Decision D10/18.

## **PART II - FURTHER SPECIFICATION OF OBLIGATIONS RELATING TO PRICE CONTROL (SECTIONS 4 TO 6 OF DECISION INSTRUMENT)**

### **4 SMP OBLIGATIONS: COST ORIENTATION OBLIGATIONS**

#### ***Virtual Unbundled Access (VUA):***

- 4.1 For the purposes of further specifying requirements to be complied with relating to the cost orientation obligation set out in Section 12.2 and Section 12.9 of the decision instrument at Appendix 20 of ComReg Decision D10/18, and pursuant

to Regulations 8, 13 and 18 of the Access Regulations, Eircom shall ensure that the rental charge offered or charged by Eircom to any other Undertaking in relation to FTTC based VUA shall be equal to the costs incurred by an efficient operator providing FTTC based VUA in the FTTC VUA and EVDSL Footprint which shall be calculated in line with the NGA Cost Model. Such costs shall be based on a combination of a BU-LRAIC+ costing methodology and a Top-Down HCA costing methodology. For the avoidance of doubt, there should be a single rental charge for the FTTC based VUA product.

4.2 Notwithstanding the provisions of Section 4.1, where Eircom can demonstrate, to the satisfaction of ComReg, for reasons contained in Chapter 12 of ComReg Decision D11/18, and based on proper justification provided by Eircom, that it is appropriate for the rental charge offered or charged by Eircom to Undertakings for FTTC based VUA to be a price less than that determined by Section 4.1, the revised rental charge determined in accordance with this Section 4.2 shall not be less than the lower of either:

- (i) Eircom's costs for the provision of FTTC based VUA in the specific geographic area. Such costs shall be based on a combination of a BU-LRAIC+ costing methodology and a Top-Down HCA costing methodology in line with the NGA Cost Model; or
- (ii) The FTTC based VUA price of an OAO, which may be calculated by taking the OAO's retail price minus retail costs and relevant network costs.

4.3 Eircom shall ensure that any reduction to the FTTC based VUA rental charge, in accordance with Section 4.2 above, is consistently applied to the FTTC based Bitstream rental charge in the Regional WCA Market.

***Plain old telephone service (POTS) based FTTC VUA:***

4.4 For the purposes of further specifying requirements to be complied with relating to the cost orientation obligation set out in Section 12.2 of the decision instrument at Appendix H of ComReg Decision D05/15 and pursuant to Regulations 8, 13 and 18 of the Access Regulations, Eircom shall ensure that the price offered or charged by Eircom to any other Undertaking in relation to POTS based FTTC VUA shall be equal to the costs incurred by an efficient operator providing POTS based FTTC VUA which shall be calculated in line with the NGA Cost Model. Such costs shall be based on a combination of a BU-LRAIC+ costing methodology and a Top-Down HCA costing methodology.

***Interconnection:***

4.5 For the purposes of further specifying requirements to be complied with relating to the cost orientation obligation set out in Section 12.2 of the decision instrument at Appendix 20 of ComReg Decision D10/18, and pursuant to Regulations 8, 13 and 18 of the Access Regulations, Eircom shall ensure that it recovers no more than the costs incurred by an efficient operator calculated



based on a BU-LRAIC+ costing methodology for the provision of Interconnection.

***Connection and migration charges for FTTH:***

- 4.6 For the purposes of further specifying requirements to be complied with relating to the cost orientation obligation set out in Sections 12.2 and 12.10 of the decision instrument at Appendix 20 of ComReg Decision D10/18, and pursuant to Regulations 8, 13 and 18 of the Access Regulations, Eircom shall ensure, as outlined in Section 13.2 of ComReg Decision D11/18, unless otherwise agreed with ComReg, that for new connections and migrations to another service provider for FTTH ONT that:
- (i) The charges for new connections and migrations to another service provider are the same; and,
  - (ii) The combination of charges referred to in Section 4.6(i) above shall not exceed the level that would allow Eircom to recover its customer specific connection related investment over the lifetime of the underlying assets.
- 4.7 The obligation at Section 4.6 above shall come into effect, unless otherwise notified by ComReg, four (4) months from the Effective Date.
- 4.8 Any price changes required to be introduced by Section 4.6 on the date specified in Section 4.7 shall, unless otherwise notified by ComReg, in derogation from Eircom's transparency obligations contained in this Decision Instrument and the decision instrument at Appendix 20 of ComReg Decision D10/18, be notified by Eircom to ComReg no later than two (2) months after the Effective Date of this Decision Instrument and to OAOs no later than three (3) months after the Effective Date of this Decision Instrument.

**5 WHOLESALE MARGIN SQUEEZE OBLIGATION**

**Virtual Unbundled Access (VUA):**

- 5.1 For the purposes of further specifying requirements to be complied with relating to the margin squeeze obligation set out in Section 12.12, Section 12.13 and Section 12.17 of the decision instrument at Appendix 20 of ComReg Decision D10/18 and pursuant to Regulations 8, 13 and 18 of the Access Regulations, Eircom shall ensure that the Wholesale FTTH based VUA Margin Squeeze Test between the price for FTTH based VUA and the price for FTTH based Bitstream in the Wholesale Central Access Markets is assessed by reference to the Wholesale FTTH based VUA Margin Squeeze Model. The Wholesale FTTH based VUA Margin Squeeze Test shall be calculated based on an SEO cost base and the relevant cost standard shall be LRAIC+. The Wholesale FTTH based VUA Margin Squeeze Test is assessed on a product-by-product basis.
- 5.2 Notwithstanding the provisions of Section 5.1, the price for FTTH based VUA shall not be less than the lower of either:

- (i) Eircom's costs for the provision of FTTH based VUA in the specific geographic area; or
- (ii) The FTTH based VUA price of an OAO, which may be calculated by taking the OAO's retail price minus retail costs and relevant network costs.

## **6 RETAIL MARGIN SQUEEZE OBLIGATION**

- 6.1 For the purposes of further specifying requirements to be complied with relating to the margin squeeze obligation set out in Section 12.14 and Section 12.19 of the decision instrument at Appendix 20 of ComReg Decision D10/18, and pursuant to Regulations 8, 9, 13 and 18 of the Access Regulations, Eircom shall ensure that the Retail FTTH based VUA Margin Squeeze Test between the price for a FTTH based VUA service provided in the footprint corresponding to the Urban WCA Market and the price of a Retail Product(s) delivered by FTTH based VUA and sold singly in the footprint corresponding to the Urban WCA Market is assessed by reference to the Retail FTTH Margin Squeeze Model. The Retail FTTH based VUA Margin Squeeze Test shall be calculated based on an EEO cost base and the relevant cost standard shall be Average Total Costs. The Retail FTTH based VUA Margin Squeeze Test is assessed using the Portfolio-based-approach.
- 6.2 Eircom shall notify ComReg (by email or other electronic methods as agreed with ComReg) of all retail price changes for Retail Products or retail prices for new Retail Products and for retail price amendments to existing Retail Products no later than five (5) working days, unless otherwise agreed with ComReg, prior to the date that the new or revised price is to become operative (for the avoidance of doubt, the timelines set out at Section 10 of the decision instrument at Appendix 20 of ComReg Decision D10/18 shall not apply in this respect, where no wholesale price amendment is required).
- 6.3 For the purposes of new retail prices for Retail Products or amendments to existing retail prices for the Retail Products, Eircom shall furnish to ComReg, at the same time as it notifies ComReg in accordance with Section 6.2 of this Decision Instrument, a detailed written statement of compliance demonstrating Eircom's proposed compliance with the obligations, as more specifically referred to in Section 6.1 of this Decision Instrument ("WLA Retail MST Statement of Compliance"). The WLA Retail MST Statement of Compliance shall include the following:
- (i) A full and true disclosure of all material facts for the purpose of demonstrating compliance with the obligation referred to in Section 6.1 of this Decision Instrument, which is based on the Retail FTTH based VUA Margin Squeeze Test in the Retail FTTH Margin Squeeze Model;

- (ii) All relevant supporting documentation for the purpose of demonstrating compliance with the obligation referred to in Section 6.1 of this Decision Instrument and which is based on the Retail FTTH based VUA Margin Squeeze Test in the Retail FTTH Margin Squeeze Model; and
  - (iii) Demonstration of how any amendments to the price of the equivalent wholesale offering of an existing product are and will be in compliance with the obligations referred to in Section 6.1 of this Decision Instrument and which is based on the Retail FTTH based VUA Margin Squeeze Test in the Retail FTTH Margin Squeeze Model.
- 6.4 Upon receipt of the WLA Retail MST Statement of Compliance referred to in Section 6.3, ComReg shall review the same. Within the 5 working day period referred to in Section 6.2 (or as otherwise agreed with ComReg) ComReg shall provide Eircom with both (a) an appropriate written view, insofar as possible based on the available information provided by Eircom at that point in time, in relation to the WLA Retail MST Statement of Compliance; and (b) written confirmation that the making available or offering for sale of the new or existing Retail Product(s) appears to be in compliance with Eircom's obligations under Section 6.1. However, any such written view or confirmation provided by ComReg is a *prima facie* view and does not fetter ComReg's future discretion in relation to its statutory powers.
- 6.5 For the avoidance of doubt, for the purposes of Promotions and Discounts, the obligations contained in Sections 6.1 to 6.4 above shall apply in respect of the retail price of new and existing Retail Product(s).

### **PART III - FURTHER SPECIFICATION OF OBLIGATIONS RELATING TO TRANSPARENCY (SECTION 7 OF THE DECISION INSTRUMENT)**

## **7 TRANSPARENCY**

- 7.1 Pursuant to Regulations 8, 9, 13 and 18 of the Access Regulations, and in accordance with the timelines set out in the transparency obligations contained in Section 10.12 and Section 10.13 of the decision instrument at Appendix 20 of ComReg Decision D10/18, Eircom shall notify ComReg before it increases prices, decreases prices or introduces a new wholesale price for the products, services and facilities described in Sections 7 and 8 of the decision instrument at Appendix 20 of ComReg Decision D10/18 in the WLA Market.

- 7.2 For all new wholesale prices or amendments to existing wholesale prices for the products, services and facilities described in Sections 7 and 8 of the decision instrument at Appendix 20 of ComReg Decision D10/18 in the WLA Market, Eircom shall furnish to ComReg, at the same time as it notifies ComReg in accordance with Section 7.1 of this Decision Instrument, a written statement of compliance demonstrating Eircom's compliance with the price control and the obligations referred to in Sections 4 and 5 of this Decision Instrument ("WLA Pricing Statement of Compliance"). The WLA Pricing Statement of Compliance shall include the following:
- (i) A full and true disclosure of all material facts for the purpose of demonstrating compliance with the price control and the obligation referred to in Sections 4 and 5 of this Decision Instrument; and
  - (ii) All relevant supporting documentation for the purpose of demonstrating compliance with the price control and the obligation referred to in Sections 4 and 5 of this Decision Instrument.
- 7.3 Upon receipt of the WLA Pricing Statement of Compliance referred to in Section 7.2, ComReg shall review the same and within one (1) month ComReg shall provide Eircom with both (a) an appropriate written view, insofar as possible based on the available information provided by Eircom at that point in time, in relation to the WLA Pricing Statement of Compliance; and (b) written confirmation that the making available or offering for sale of the new or existing product appears to be in compliance with Eircom's obligations under Sections 4 and 5 of this Decision Instrument. However, any such written view or confirmation provided by ComReg is a *prima facie* view and does not fetter ComReg's future discretion in relation to its statutory powers.

#### **PART IV – OPERATION AND EFFECTIVE DATE (SECTIONS 8 TO 13 OF THE DECISION INSTRUMENT)**

##### **8 STATUTORY POWERS NOT AFFECTED**

- 8.1 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.

##### **9 MAINTENANCE OF OBLIGATIONS**

- 9.1 Unless expressly stated otherwise in this Decision Instrument, all obligations and requirements contained in Decision Notices and Directions made by ComReg applying to Eircom and in force immediately prior to the Effective Date of this Decision Instrument continue in force and Eircom shall comply with same.

**10 CONFLICT**

- 10.1 For the avoidance of doubt to the extent that there is any conflict between a ComReg decision instrument or ComReg document dated prior to the Effective Date and Eircom's obligations now set out herein, this Decision Instrument shall prevail, unless otherwise indicated by ComReg.

**11 SEVERANCE**

- 11.1 If any Section(s), clause(s) or provision(s), or portion(s) thereof, contained in this Decision Instrument, is(are) found to be invalid or prohibited by the Constitution, by any other law or judged by a court to be unlawful, void or unenforceable, that(those) Section(s), clause(s) or provision(s), or portion(s) thereof, shall, to the extent required, be severed from this Decision Instrument and rendered ineffective as far as possible without modifying the remaining Section(s), clause(s) or provision(s), or portion(s) thereof, of this Decision Instrument, and shall not in any way affect the validity or enforcement of this Decision Instrument or other Decision Instruments.

**12 IMPOSITION OF SMP OBLIGATIONS**

- 12.1 Pursuant to Regulations 8, 9, 10, 11, 12, 13 and 18 of the Access Regulations, the obligations set out in Sections 4 to 7 (inclusive) of this Decision Instrument shall only come into effect when the Decision Instrument contained in Appendix 20 of ComReg Decision D10/18 comes into effect.

**13 EFFECTIVE DATE**

- 13.1 The Effective Date of this Decision Instrument shall be the date of its notification to Eircom and it shall remain in force until further notice by ComReg.

**JEREMY GODFREY**

**COMMISSIONER**

**THE COMMISSION FOR COMMUNICATIONS REGULATION**

**THE 19TH DAY OF NOVEMBER 2018**

# Annex: 2 Decision Instrument – WCA Market

## 1 STATUTORY POWERS GIVING RISE TO THIS DECISION INSTRUMENT

1.1 This Decision Instrument (“Decision Instrument”) is made by the Commission for Communications Regulation (“ComReg”) and relates to the market for wholesale central access for mass market products provided at a fixed location as identified by the European Commission in the 2014 Recommendation and analysed by ComReg in ComReg Decision D10/18. This Decision Instrument further relates to the market for call origination on the public telephone network provided at a fixed location, as defined by ComReg in ComReg Decision D05/15. This Decision Instrument relates to further specification of the price control and transparency obligations imposed by ComReg in ComReg Decision D10/18. This Decision Instrument relates to further specification of the price control and transparency obligations imposed by ComReg in ComReg Decision D05/15.

1.2 This Decision Instrument is made:

- (i) Pursuant to Regulations 8, 9, 13 and 18 of the Access Regulations;
- (ii) Pursuant to, and having regard to, the significant market power (“SMP”) designation of Eircom as provided for in Section 5 of the decision instrument at Appendix 21 of ComReg Decision D10/18;
- (iii) Pursuant to, and having regard to, the SMP designation of Eircom as provided for in Section 5 of the decision instrument at Appendix H of ComReg Decision D05/15;
- (iv) Following a notification to the European Commission of a reasoned proposed extension of two years pursuant to Regulation 27(6) of the Framework Regulations, and the European Commission not having objected, and having regard to the fact that ComReg has received a two year extension to the period for carrying out any further analysis of the market for call origination on the public telephone network provided at a fixed location;
- (v) Pursuant to, and having had regard to Sections 10 and 12 of the Communications Regulation Act 2002 (as amended); Regulation 16 of the Framework Regulations; and Regulations 6(1), 8(6) and 13(2) of the Access Regulations;
- (vi) Having, where applicable, pursuant to Section 13 of the Communications Regulation Act 2002 (as amended) complied with Ministerial Policy Directions;

- (vii) Having taken utmost account of the European Commission's Recommendation of 11 September 2013 on non-discrimination obligations and costing methodologies to promote competition and enhance the broadband investment environment and the European Commission's Recommendation of 20 September 2010 on regulated access to Next Generation Access Networks;
  - (viii) Having notified the draft measure and the reasoning on which the measure is based to the European Commission, BEREC and the national regulatory authorities in other EU Member States pursuant to Regulation 13 and Regulation 14 of the Framework Regulations and having taken utmost account of any comments made by these parties;
  - (ix) Having regard to the analysis and reasoning set out in ComReg Document No. 16/96 and having taken account of the submissions received from interested parties in response thereto following public consultations pursuant to Regulation 12 of the Framework Regulations;
  - (x) Having regard to the analysis and reasoning set out in ComReg Decision D10/18;
  - (xi) Having regard to the analysis and reasoning set out in ComReg Document No. 17/26 and having taken account of the submissions received from interested parties in response thereto following a public consultation pursuant to Regulation 12 of the Framework Regulations; and
  - (xii) Having regard to the analysis and reasoning set out in ComReg Decision D11/18.
- 1.3 The provisions of ComReg Document No. 16/96 and ComReg Decision D10/18 and ComReg Document No. 17/26 and ComReg Decision D11/18 and ComReg Document No. 17/51 and ComReg Decision D12/18 shall, where appropriate, be construed consistently with this Decision Instrument. For the avoidance of doubt, however, to the extent that there is any conflict between a decision instrument dated prior to the Effective Date (as defined in Section 2.1 of this Decision Instrument) and this Decision Instrument, this Decision Instrument should prevail.

## **PART I - GENERAL PROVISIONS (SECTIONS 2 TO 3 OF THE DECISION INSTRUMENT)**

### **2 DEFINITIONS**

- 2.1 In this Decision Instrument, unless the context otherwise suggests:

“**Access**” shall have the same meaning as under Regulation 2 of the Access Regulations;



**“Access Path”** means the connection from the NTU/ONT in the End User’s premises to the Point of Handover. The Points of Handover for physical unbundling are the MDF (for metallic) and the ODF (for fibre) in the Exchange, and the Point of Handover for non-physical unbundling (virtual access) is the WEIL at the serving Aggregation Node for the End User, i.e., at the MPoP;

**“Access Regulations”** means the European Communities (Electronic Communications Networks and Services) (Access) Regulations 2011 (S.I. No. 334 of 2011), as amended from time-to-time or replaced with equivalent effect;

**“Aggregation Node”** means network concentration point for Access Paths;

**“Associated Facilities”** shall have the same meaning as under Regulation 2 of the Framework Regulations;

**“Authorisation Regulations”** means the European Communities (Electronic Communications Networks and Services) (Authorisation) Regulations 2011 (S.I. No. 335 of 2011), as may be amended from time to time or replaced with equivalent effect;

**“Average Total Costs”** or **“ATC”** means a cost standard which reflects all costs incurred in the provision of a product or service including variable, fixed, common and joint costs;

**“BEREC”** means the Body of European Regulators for Electronic Communications, as established pursuant to Regulation (EC) No. 1211/2009 of the European Parliament and of the Council of 25 November 2009 (OJ L337, 18.12.2009, p.1);

**“Bitstream”** means a wholesale product which consists of an Access Path to the End User premises and a transmission service to a defined set of Points of Handover;

**“Bitstream Plus”** is a specific implementation of the Bitstream wholesale product. The Bitstream Plus product is described in detail in Eircom’s product description “NGA Product Description Bitstream Plus” V3.0 dated 16 June 2017, as may be amended from time-to-time or replaced with equivalent effect;

**“Bitstream Ethernet Connection Service”** or **“BECS”** means a backhaul connectivity service;

**“BECS over WEIL”** means BECS provided over an Eircom WEIL;

**“Bitstream Managed Backhaul”** or **“BMB”** is a specific implementation of the Bitstream Wholesale product. The BMB product is described in detail in

Eircom's product description V35 dated 13 June 2017, as may be amended or supplemented from time-to-time;

**“Bottom Up Long Run Average Incremental Cost plus”** or **“BU-LRAIC+”** means the methodology used to estimate the “LRAIC plus” of an efficient operator which is derived from an economic and/or engineering model of an efficient network. The LRAIC plus costs are the average efficiently incurred directly attributable variable and fixed costs, including an appropriate apportionment of joint and common costs;

**“Communications Regulation Act 2002 (as amended)”** means the Communications Regulation Act 2002 (No. 20 of 2002), as amended;

**“ComReg”** means the Commission for Communications Regulation, established under Section 6 of the Communications Regulation Act 2002 (as amended);

**“ComReg Decision D08/10”** means ComReg Document No. 10/67 entitled “Response to Consultation Document and Final Direction and Decision, Response to Consultation Document No. 09/75 and Final Direction and Decision: Accounting Separation and Cost Accounting Review of Eircom Limited”, dated 31 August 2010;

**“ComReg Decision D05/15”** means ComReg Document No.15/82 entitled “Market Review, Wholesale Fixed Voice Call Origination and Transit Markets” dated 24 July 2015;

**“ComReg Decision D10/18”** means ComReg Document No. 18/94, entitled “Market Review: Wholesale Local Access (WLA) provided at a Fixed Location, Wholesale Central Access (WCA) provided at a Fixed Location for Mass Market Products. Response to Consultation and Decision” dated 19 November 2018;

**“ComReg Decision D11/18”** means ComReg Document No.18/95, entitled “Pricing of wholesale broadband services, Wholesale Local Access (WLA) market and the Wholesale Central Access (WCA) markets, Response to Consultation Document 17/26 and Final Decision”, dated 19 November 2018;

**“ComReg Decision D12/18”** means ComReg Document No. 18/96, entitled “Response to Consultation and Decision on price control obligations relating to retail bundles – Further specification of the wholesale price control obligation not to cause a margin squeeze in the WLA, and WCA Markets”, dated 19 November 2018;

**“ComReg Document No. 16/96”** means ComReg Document No. 16/96, entitled “Market Reviews: Wholesale Local Access (WLA) provided at a Fixed Location; Wholesale Central Access (WCA) provided at a Fixed Location for

Mass Market Products: Consultation and Draft Decision”, dated 11 November 2016;

“**ComReg Document No. 17/26**” means ComReg Document No. 17/26, entitled “Pricing of wholesale services in the Wholesale Local Access (WLA) market and in the Wholesale Central Access (WCA) markets: Further specification of price control obligations in Market 3a (WLA) and Market 3b (WCA)”, dated 7 April 2017;

“**ComReg Document No. 17/51**” means ComReg Document No. 17/51 entitled “Consultation on Price control obligations relating to Bundles”, dated 9 June 2017;

“**Current Generation Bitstream**” or “**Current Generation Wholesale Central Access**” or “**Current Generation WCA**” means Wholesale Central Access offered or provided exclusively over Eircom’s copper access network infrastructure and its Associated Facilities;

“**Decision Instrument**” means this direction and decision instrument which is made pursuant to, *inter alia*, Regulations 8, 9, 13 and 18 of the Access Regulations;

“**Discount**” means an offer or sale of a product at less than its standard price, for example a price reduction, including a volume related price reduction, a rebate, a reimbursement, a refund, a set-off and any other similar words or expressions;

“**Effective Date**” means the date set out in Section 12 of this Decision Instrument;

“**Eircom**” means Eircom Limited, and its subsidiaries and any related companies, and any Undertaking which it owns or controls, and any Undertaking which owns or controls Eircom Limited, and its successors and assigns. For the purpose of this Decision Instrument, the terms “subsidiary” and “related company” shall have the meaning ascribed to them in the Companies Act 2014 (as may be amended from time-to-time);

“**Electronic Communications Network(s)**” or “**ECN(s)**” shall have the same meaning as under Regulation 2 of the Framework Regulations;

“**Electronic Communications Service(s)**” or “**ECS(s)**” shall have the same meaning as under Regulation 2 of the Framework Regulations;

“**End User(s)**” shall have the same meaning as under Regulation 2 of the Framework Regulations. For the avoidance of doubt, End User(s) shall be deemed to include any natural or legal person who facilitates or intends to

facilitate the provision of public communications networks or publicly available electronic communications services to other End Users and who is not acting as an Undertaking;

**“Equally efficient operator cost base”** or **“EEO cost base”** is a cost base which is derived from Eircom’s costs and is based on Eircom’s scale of operations;

**“Exchange”** means an Eircom network premises or equivalent facility used to house network and associated equipment and may include a Remote Subscriber Unit (RSU). The Exchange sometimes, but not always, houses the MPoP;

**“Exchange launched very-high-bit-rate digital subscriber line”** or **“EVDSL”** means a very-high-bit-rate digital subscriber line (VDSL) service provided from an Eircom Exchange or equivalent (this encompasses Exchange launched VUA in the WLA and Exchange launched Bitstream in the WCA);

**“Exchange launched Bitstream”** means that the active equipment required to provide the service is housed in an Eircom Exchange building or equivalent;

**“Fibre to the Cabinet”** or **“FTTC”** means fibre to the cabinet which is a variant of the FTTN access network architecture where the Node used to house active equipment is the street cabinet;

**“Fibre to the Home”** or **“FTTH”** means an access network architecture where fibre optic cable is used to connect the End User premises to the ODF in an Exchange;

**“Fibre to the Node”** or **“FTTN”** means an access network architecture where fibre optic cable is used to connect a Node in the local access network to the ODF in an Exchange;

**“FTTC based Bitstream”** means Bitstream provided over FTTC and in the context of this Decision Instrument it also includes Exchange launched Bitstream;

**“FTTH based Bitstream”** means Bitstream provided over FTTH;

**“FTTC Bitstream Footprint”** means those exchanges listed in Annex 11 of ComReg Decision D11/18;

**“Framework Regulations”** means the European Communities (Electronic Communications Networks and Services) (Framework) Regulations 2011 (S.I. No. 333 of 2011), as may be amended from time-to-time or replaced with equivalent effect;

**“Historical Cost Accounts”** or **“HCA”** means the historical cost accounts which Eircom is required to publish in accordance with ComReg Decision D08/10;

**“LRAIC+”** or **“LRAIC plus”** **“Long Run Average Incremental Cost plus”** means the average efficiently incurred directly attributable variable and fixed costs, including an appropriate apportionment of joint and common costs;

**“MDF”** means main distribution frame;

**“Metropolitan Point of Presence”** or **“MPoP”** means the point of inter-connection between the access and core networks of an Undertaking;

**“Ministerial Policy Directions”** means the policy directions made by Dermot Ahern TD, then Minister for Communications, Marine and Natural Resources, dated 21 February 2003 and 26 March 2004;

**“Network Termination Unit”** or **“NTU”** means the physical interface which provides the service demarcation or Point of Handover of the wholesale service within the customer premises;

**“Next Generation Access”** or **“NGA”** means wired access networks which consist wholly or in part of optical elements and which are capable of delivering broadband and other access services with enhanced characteristics (such as higher throughput) as compared to those provided over exclusively copper access networks;

**“NGA Cost Model”** means the model as amended from time-to-time, used by ComReg and Eircom to assess Eircom’s compliance with the obligations contained in Section 4 of this Decision Instrument. The NGA Cost Model calculates costs based on the BU-LRAIC+ costing methodology and the Top-Down HCA costing methodology. The operation and details of the NGA Cost Model are more particularly described in Chapter 6 of ComReg Decision D11/18;

**“NGN Core Model”** means the model as amended from time-to-time, used by ComReg and Eircom to assess Eircom’s compliance with the obligations contained in Section 4 of this Decision Instrument. The NGN Core Model calculates costs based on the BU-LRAIC+ costing methodology. The operation and details of the NGN Core Model are more particularly described in Chapter 8 of ComReg Decision D11/18;

**“Node”** means any location or concentration point in the access network (excluding termination points at End Users’ premises) which houses equipment for the purpose of providing services to End Users;

“**ODF**” means the optical distribution frame;

“**ONT**” or “**Optical Network Terminal**” means the device that terminates the fibre Access Path at the End User’s premises;

“**Other Authorised Operators**” or “**OAOs**” means an Undertaking that is not Eircom, providing or intending to provide an ECN or an ECS, and is deemed to be authorised under Regulation 4 of the Authorisation Regulations;

“**Plain Old Telephone Service**” or “**POTS**” means the standard telephone service that most homes use;

“**Point of Handover**” means the physical point at which two networks are interconnected to allow traffic to pass between these networks;

“**Portfolio-based-approach**” means the method used to determine the margin between the retail price and the wholesale and retail costs across a basket of retail products that are supported by the relevant wholesale input. Under this approach the retail price is calculated based on (a) the average, weighted by number of subscribers, retail price (where more than one retail product is supported by a single wholesale input); or (b) the price of the relevant retail product (where only one retail product is supported by a single wholesale input);

“**POTS based FTTC Bitstream**” means plain old telephone service sold with FTTC based Bitstream;

“**Product**” for the purposes of this Decision Instrument shall include product, service and associated facility, where appropriate;

“**Promotion**” means an offer in respect of a product which is available for a finite period of time and which offers a price reduction;

“**Regional WCA Market**” means the market as defined in Section 4 of the decision instrument in Appendix 21 of ComReg Decision D10/18;

“**Relevant Cost Models**” means the NGA Cost Model and the NGN Core Model;

“**Retail FTTH based Bitstream Margin Squeeze Test**” as described in Section 5 of this Decision Instrument means the test used to identify the setting of a retail price for FTTH based Bitstream in the Regional WCA Market which does not allow an OAO relying on FTTH based Bitstream in the Regional WCA Market to provide the same or similar retail product at a sufficient margin. The margin is tested by reference to the Retail FTTH Margin Squeeze Model;

“**Retail FTTH Margin Squeeze Model**” means the model, as amended from time-to-time, used by ComReg and Eircom to monitor compliance with the

Retail FTTH based Bitstream Margin Squeeze Test as described in Chapter 11 of ComReg Decision D11/18;

**“Retail Product(s)”** means any Eircom FTTH based Bitstream retail broadband product on offer or on sale in the Regional WCA Market which uses Eircom’s network equipment to transmit data signals and shall include existing FTTH based Bitstream retail products and new FTTH based Bitstream retail products;

**“SB-WLR”** means Single Billing Wholesale Line Rental;

**“Similarly efficient operator cost base”** or **“SEO cost base”** is a cost base which means the costs of a hypothetical operator which shares the same basic cost function as Eircom but does not enjoy the same economies of scale and scope as Eircom;

**“Top-Down HCA”** means the methodology in which the HCA and network information of the regulated firm are used as the starting point for calculating the costs of relevant services. These inputs may subsequently be adjusted to reflect efficiencies;

**“Undertaking(s)”** shall have the same meaning as under Regulation 2 of the Framework Regulations;

**“Urban WCA Market”** means the market as defined in Section 4 of the decision instrument in Appendix 21 of ComReg Decision D10/18;

**“Virtual Unbundled Access”** or **“VUA”** means the wholesale active access product provided by Eircom. It is an enhanced Layer 2 product which allows the handover or interconnection of aggregate End Users’ connections at the MPoP. It allows the Undertaking a level of control similar to that afforded to the Undertaking connecting their own equipment to an unbundled Local Loop. VUA includes VUA provided on a stand-alone basis or VUA provided with SB-WLR;

**“Wholesale Central Access”** or **“WCA”** means wholesale central access provided at a fixed location for mass market products as defined in Chapter 9 of ComReg Decision D10/18;

**“WCA Pricing Statement of Compliance”** means the statement of compliance that is required under Section 6.2 of this Decision Instrument;

**“WCA Retail MST Statement of Compliance”** means the statement of compliance that is required under Section 5.3 of this Decision Instrument;

**“Wholesale Ethernet Interconnection Link”** or **“WEIL”** is the interconnection service provided by Eircom which enables the handover of End User traffic for

various wholesale product types including but not limited to Bitstream Plus, VUA and Next Generation Access wholesale products;

“(the) **2014 Recommendation**” means the European Commission Recommendation of 9 October 2014 on relevant product and service markets within the electronic communications sector susceptible to *ex ante* regulation in accordance with Directive 2002/21/EC of the European Parliament and of the Council on a common regulatory framework for electronic communications networks and services (OJ L 295, 11.10.2014, p. 79).

### **3 SCOPE AND APPLICATION**

- 3.1 This Decision Instrument is binding upon Eircom and Eircom shall comply with it in all respects.
- 3.2 This Decision Instrument, pursuant to Regulations 8, 9, 13 and 18 of the Access Regulations, is a further specification of the price control obligation and the transparency obligation imposed upon Eircom in ComReg Decision D10/18, as more particularly set out in Sections 4, 5 and 6 of this Decision Instrument and a further specification of the price control obligation previously imposed upon Eircom in ComReg Decision D05/15, as more particularly set out at 4.5 below.
- 3.3 Pursuant to Regulations 8, 13 and 18 of the Access Regulations, the price control obligations contained in this Decision Instrument, with the exception of that obligation further specified in Section 4.7 of this Decision Instrument, shall be implemented from 1 March 2019 (“the Implementation Date”). The rental charges in Annex 7 of ComReg Decision D11/18 shall, where appropriate to the WCA Markets, apply from the Implementation Date and thereafter for each year commencing 1 July and ending 30 June as determined in accordance with the Relevant Cost Models as outlined in Annex 7 of ComReg Decision D11/18 and shall apply until if and when they are amended.
- 3.4 Price changes required to be introduced by the price control obligations imposed pursuant to this Decision Instrument as set out in Annex 7 of ComReg Decision D11/18 shall, unless otherwise notified by ComReg, irrespective of the date that those rental charges are due to come into effect and in derogation, where appropriate, from Eircom’s transparency obligations contained in this Decision Instrument, the decision instrument at Appendix H of ComReg Decision D05/15 and the decision instrument at Appendix 21 of ComReg Decision D10/18, be notified by Eircom to ComReg and to OAOs no later than 2 January 2019. For the avoidance of doubt, unless otherwise specified, Eircom shall comply with all transparency obligations, including all pre-notification requirements, imposed in this Decision Instrument, the decision instrument at Appendix H of ComReg Decision D05/15 and the decision instrument at Appendix 21 of ComReg Decision D10/18.



**PART II - FURTHER SPECIFICATION OF OBLIGATIONS RELATING TO PRICE CONTROL (SECTIONS 4 to 5 OF THE DECISION INSTRUMENT) IN RELATION TO WHOLESALE CENTRAL ACCESS PROVIDED IN THE REGIONAL WCA MARKET**

**4 SMP OBLIGATIONS: COST ORIENTATION OBLIGATION**

***Bitstream:***

- 4.1 For the purposes of further specifying requirements to be complied with relating to the cost orientation obligation set out in Section 12.2 and Section 12.3 of the decision instrument at Appendix 21 of ComReg Decision D10/18, and pursuant to Regulations 8, 13 and 18 of the Access Regulations, Eircom shall ensure that the rental charge offered or charged by Eircom to any other Undertaking in relation to FTTC based Bitstream in the Regional WCA Market shall be equal to the costs incurred by an efficient operator providing FTTC based Bitstream and/or EVDSL in the FTTC Bitstream Footprint which shall be calculated in line with the NGA Cost Model. Such costs shall be based on a combination of a BU-LRAIC+ costing methodology and a Top-Down HCA costing methodology adjusted to reflect an SEO cost base.
- 4.2 Notwithstanding the provisions of Section 4.1, where Eircom can demonstrate, to the satisfaction of ComReg, for reasons contained in Chapter 12 of ComReg Decision D11/18, and based on proper justification provided by Eircom, that it is appropriate for the rental charge offered or charged by Eircom to Undertakings for FTTC based Bitstream to be a price less than that determined by Section 4.1 above, the revised rental charge determined in accordance with this Section 4.2 shall not be less than the lower of either:
- (i) Eircom's costs for the provision of FTTC based VUA (including the costs of EVDSL) in the specific geographic area. Such costs shall be based on a combination of a BU-LRAIC+ costing methodology and a Top-Down HCA costing methodology in line with the NGA Cost Model; or
  - (ii) The FTTC based VUA price of an OAO which may be calculated by taking the OAO's retail price minus retail costs and relevant network costs.
- 4.3 Eircom shall ensure that any reduction to the FTTC based Bitstream rental charge, in accordance with Section 4.2 above, is consistently applied to the FTTC based VUA rental charge in the WLA Market.
- 4.4 For the purposes of further specifying requirements to be complied with relating to the cost orientation obligation set out in Section 12.2 and Section 12.4 of the decision instrument at Appendix 21 of ComReg Decision D10/18, and pursuant to Regulations 8, 13 and 18 of the Access Regulations, Eircom shall ensure that the rental charge offered or charged by Eircom to any other Undertaking in relation to Current Generation Bitstream and/or Bitstream Managed Backhaul in the Regional WCA Market shall be equal to the costs incurred by Eircom

providing Current Generation Bitstream and Bitstream Managed Backhaul in the Regional WCA Market which shall be calculated in line with the NGN Core Model. Such costs shall be based on a BU-LRAIC+ costing methodology.

***Plain old telephone service (POTS) based FTTC Bitstream:***

- 4.5 For the purposes of further specifying requirements to be complied with relating to the cost orientation obligation set out in Section 12.2 of the Decision Instrument contained in Appendix H of ComReg Decision D05/15, and pursuant to Regulations 8, 13 and 18 of the Access Regulations, Eircom shall ensure that the rental charge offered or charged by Eircom to any other Undertaking in relation to POTS based FTTC Bitstream shall be equal to the costs incurred by an efficient operator providing POTS based FTTC Bitstream which shall be calculated in line with the NGA Cost Model. Such costs shall be based on a combination of a BU-LRAIC+ costing methodology and a Top-Down HCA costing methodology.

***Wholesale Ethernet Interconnect Links (WEILs), BECS and BECS over WEIL:***

- 4.6 For the purposes of further specifying requirements to be complied with relating to the cost orientation obligation set out in Section 12.2 of the decision instrument at Appendix 21 of ComReg Decision D10/18, and pursuant to Regulations 8, 13 and 18 of the Access Regulations, Eircom shall ensure that it recovers no more than the costs incurred by an efficient operator calculated based on a BU-LRAIC+ costing methodology for the provision of WEILs, BECS and BECS over WEIL.

***Connection and migration charges for FTTH:***

- 4.7 For the purposes of further specifying requirements to be complied with relating to the cost orientation obligation set out in Sections 12.2 and 12.6 of the decision instrument at Appendix 21 of ComReg Decision D10/18, and pursuant to Regulations 8, 13 and 18 of the Access Regulations, Eircom shall ensure, as outlined in Section 13.2 of ComReg Decision D11/18, that unless otherwise agreed with ComReg, for new connections and migrations to another service provider for FTTH ONT that:
- (i) The charges for new connections and migrations to another service provider are the same; and
  - (ii) The combination of charges referred to in Section 4.7(i) above shall not exceed the level that would allow Eircom to recover its customer specific connection related investment over the lifetime of the underlying asset.
- 4.8 The obligation at Section 4.7 above shall come into effect, unless otherwise notified by ComReg, four (4) months from the Effective Date.

- 4.9 Any price changes required to be introduced by Section 4.7 on the date specified in Section 4.8 shall, unless otherwise notified by ComReg, in derogation from Eircom's transparency obligations contained in this Decision Instrument and the decision instrument at Appendix 21 of ComReg Decision D10/18, be notified by Eircom to ComReg no later than two (2) months after the Effective Date of this Decision Instrument and to OAOs no later than three (3) months after the Effective Date of this Decision Instrument.

## **5 SMP OBLIGATIONS: RETAIL MARGIN SQUEEZE OBLIGATION**

- 5.1 For the purposes of further specifying requirements to be complied with relating to the margin squeeze obligation set out in Section 12.9 and Section 12.11 of the decision instrument at Appendix 21 of ComReg Decision D10/18, and pursuant to Regulations 8, 13 and 18 of the Access Regulations, Eircom shall ensure that the Retail FTTH based Bitstream Margin Squeeze Test is assessed by reference to the Retail FTTH Margin Squeeze Model. The Retail FTTH based Bitstream Margin Squeeze Test shall be calculated based on an EEO cost base and the relevant cost standard shall be Average Total Costs. The Retail FTTH based Bitstream Margin Squeeze Test is assessed using the Portfolio-based-approach.
- 5.2 Eircom shall notify ComReg (by email or other electronic methods as agreed with ComReg) of all retail price changes for Retail Products or new retail prices for new Retail Products and for retail price amendments to existing Retail Products no later than five (5) working days, unless otherwise agreed with ComReg, prior to the date that the new or revised price is to become operative (for the avoidance of doubt, the timelines set out at Section 10 of the decision instrument at Appendix 21 of ComReg Decision D10/18 shall not apply in this respect, where no wholesale price amendment is required).
- 5.3 For the purposes of new retail prices or amendments to existing retail prices for the Retail Products, Eircom shall furnish to ComReg, at the same time as it notifies ComReg in accordance with Section 5.2 of this Decision Instrument, a detailed written statement of compliance demonstrating Eircom's proposed compliance with the obligations, as more specifically referred to in Section 5.1 of this Decision Instrument ("WCA Retail MST Statement of Compliance"). The WCA Retail MST Statement of Compliance shall include the following:
- (i) A full and true disclosure of all material facts for the purpose of demonstrating compliance with the obligations referred to in Section 5.1 of this Decision Instrument, which is based on the Retail FTTH based Bitstream Margin Squeeze Test in the Retail FTTH Margin Squeeze Model;

- (ii) All relevant supporting documentation for the purpose of demonstrating compliance with the obligations referred to in Section 5.1 of this Decision Instrument and which is based on the Retail FTTH based Bitstream Margin Squeeze Test in the Retail FTTH Margin Squeeze Model; and
  - (iii) Demonstration of how any amendments to the price of the equivalent wholesale offering of an existing product are and will be in compliance with the obligations referred to in Section 5.1 of this Decision Instrument and which is based on the Retail FTTH based Bitstream Margin Squeeze Test in the Retail FTTH Margin Squeeze Model.
- 5.4 Upon receipt of the WCA Retail MST Statement of Compliance referred to in Section 5.3, ComReg shall review the same. Within the 5 working day period referred to in Section 5.2 (or otherwise as agreed with ComReg) ComReg shall provide Eircom with both (a) an appropriate written view, insofar as possible based on the available information provided by Eircom at that point in time, in relation to the WCA Retail MST Statement of Compliance; and (b) written confirmation that the making available or offering for sale of the new or existing Retail Product(s) appears to be in compliance with Eircom's obligations under Section 5.1. However, any such written view or confirmation provided by ComReg is a *prima facie* view and does not fetter ComReg's future discretion in relation to its statutory powers.
- 5.5 For the avoidance of doubt, for the purposes of Promotions and Discounts, the obligations contained in Section 5.1 to 5.4 above shall apply in respect of the retail price of new and existing Retail Product(s).

### **PART III - FURTHER SPECIFICATION OF OBLIGATIONS RELATING TO TRANSPARENCY (SECTION 6 OF THE DECISION INSTRUMENT) – GENERAL**

#### **6 TRANSPARENCY**

- 6.1 Pursuant to Regulations 8, 9, 13 and 18 of the Access Regulations, and in accordance with the timelines set out in the transparency obligations contained in Section 10.11 and Section 10.12 of the decision instrument at Appendix 21 of ComReg Decision D10/18, Eircom shall notify ComReg before it increases prices, decreases prices or introduces a new wholesale price for the products, services and facilities described in Sections 7 and 8 of the decision instrument at Appendix 21 of ComReg Decision D10/18 in the Regional WCA Market.

- 6.2 For all new wholesale prices or amendments to existing wholesale prices for the products, services and facilities described in Sections 7 and 8 of the decision instrument at Appendix 21 of ComReg Decision D10/18 in the Regional WCA Market, Eircom shall furnish to ComReg, at the same time as it notifies ComReg in accordance with Section 6.1 of this Decision Instrument, a written statement of compliance demonstrating Eircom's compliance with the price control and the obligations referred to in Section 4 of this Decision Instrument ("WCA Pricing Statement of Compliance"). The WCA Pricing Statement of Compliance shall include the following:
- (i) A full and true disclosure of all material facts for the purpose of demonstrating compliance with the price control and the obligations referred to in Section 4 of this Decision Instrument; and
  - (ii) All relevant supporting documentation for the purpose of demonstrating compliance with the price control and the obligations referred to in Section 4 of this Decision Instrument.
- 6.3 Upon receipt of the WCA Pricing Statement of Compliance referred to in Section 6.2, ComReg shall review the WCA Pricing Statement of Compliance and within one (1) month ComReg shall provide Eircom with both (a) an appropriate written view, insofar as possible based on the available information provided by Eircom at that point in time, in relation to the WCA Pricing Statement of Compliance; and (b) written confirmation that the making available or offering for sale of the new or existing product appears to be in compliance with Eircom's obligations under Section 4 of this Decision Instrument. However, any such written view or confirmation provided by ComReg is a *prima facie* view and does not fetter ComReg's future discretion in relation to its statutory powers.

#### **PART IV – OPERATION AND EFFECTIVE DATE (SECTIONS 7 TO 12 OF THE DECISION INSTRUMENT)**

##### **7 STATUTORY POWERS NOT AFFECTED**

- 7.1 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.

##### **8 MAINTENANCE OF OBLIGATIONS**

- 8.1 Unless expressly stated otherwise in this Decision Instrument, all obligations and requirements contained in Decision Notices and Directions made by ComReg applying to Eircom and in force immediately prior to the Effective Date of this Decision Instrument, continue in force and Eircom shall comply with same.

**9 CONFLICT**

- 9.1 For the avoidance of doubt to the extent that there is any conflict between a ComReg decision instrument or ComReg document dated prior to the Effective Date and Eircom's obligations now set out herein, this Decision Instrument shall prevail, unless otherwise indicated by ComReg.

**10 SEVERANCE**

- 10.1 If any Section(s), clause(s) or provision(s), or portion(s) thereof, contained in this Decision Instrument, is(are) found to be invalid or prohibited by the Constitution, by any other law or judged by a court to be unlawful, void or unenforceable, that(those) Section(s), clause(s) or provision(s), or portion(s) thereof, shall, to the extent required, be severed from this Decision Instrument and rendered ineffective as far as possible without modifying the remaining Section(s), clause(s) or provision(s), or portion(s) thereof, of this Decision Instrument, and shall not in any way affect the validity or enforcement of this Decision Instrument or other Decision Instruments.

**11 IMPOSITION OF SMP OBLIGATIONS**

- 11.1 Pursuant to Regulations 8, 9, 10, 11, 12, 13 and 18 of the Access Regulations, the obligations set out in Sections 4 to 6 (inclusive) of this Decision Instrument shall only come into effect when the Decision Instruments contained in Appendix 20 and 21 of ComReg Decision D10/18 come into effect.

**12 EFFECTIVE DATE**

- 12.1 The Effective Date of this Decision Instrument shall be the date of its notification to Eircom and it shall remain in force until further notice by ComReg.

**JEREMY GODFREY**

**COMMISSIONER**

**THE COMMISSION FOR COMMUNICATIONS REGULATION**

**THE 19TH DAY OF NOVEMBER 2018**

## Annex: 3 Legal basis

### **Obligations relating to the market for wholesale local access provided at a fixed location**

A 3.1 By ComReg Decision D10/18, and pursuant to Regulations 25 and 26 of the Framework Regulations, Section 5 of the Decision Instrument contained in Appendix 20 (“WLA Decision Instrument”) designates Eircom as having significant market power (“SMP”) on the market for wholesale local access (the “WLA” market).

A 3.2 Under Sections 10 and 12 of the WLA Decision Instrument annexed to ComReg Decision D10/18, and pursuant to Regulations 9 and 13 of the Access Regulations, ComReg imposes obligations relating to transparency and price control on Eircom.

A 3.3 Pursuant to Regulation 18 of the Access Regulations, ComReg in ComReg Decision D11/18 further specifies the obligations relating to transparency and price control contained in Sections 10 and 12 of the WLA Decision Instrument annexed to ComReg Decision D10/18.

### **Obligations relating to the market for wholesale central access provided at a fixed location**

A 3.4 By ComReg Decision D10/18, and pursuant to Regulations 25 and 26 of the Framework Regulations, Section 5 of the Decision Instrument contained in Appendix 21 (“WCA Decision Instrument”) designates Eircom as having significant market power (“SMP”) on the regional market for wholesale central access (the “Regional WCA” market).

A 3.5 Under Sections 10 and 12 of the WCA Decision Instrument annexed to ComReg Decision D10/18, and pursuant to Regulations 9 and 13 of the Access Regulations, ComReg imposes obligations relating to transparency and price control on Eircom.

A 3.6 Pursuant to Regulation 18 of the Access Regulations, ComReg, in ComReg Decision D11/18, further specifies the obligations relating to transparency and price control contained in Sections 10 and 12 of the WCA Decision Instrument annexed to ComReg Decision D10/18.

### **Obligations relating to the market for fixed access and call origination provided at a fixed location**

A 3.7 By ComReg Decision D05/15 (SMP FACO Decision), and pursuant to Regulations 25 and 26 of the Framework Regulations, ComReg designated

Eircom as having SMP on the market for call origination on the public telephone network provided at a fixed location (the “FACO” market).

A 3.8 Under Section 12 of the Decision Instrument annexed to ComReg Decision D05/15, and pursuant to Regulation 13 of the Access Regulations, ComReg imposed, *inter alia*, obligations relating to price control and transparency on Eircom.

A 3.9 Pursuant to Regulation 18 of the Access Regulations, ComReg in ComReg Decision D11/18 further specifies the obligations relating to the price control and transparency contained in Section 12 of the Decision Instrument annexed to ComReg Decision D05/15.

**Consultation requirements:**

A 3.10 Regulation 12(3) of the Framework Regulations provides that, except in cases falling within Regulation 13(8) (i.e. exceptional cases involving urgency), before taking a measure which has a significant impact on a relevant market, ComReg must publish the text of the proposed measure, give the reasons for it, including information as to which of ComReg’s statutory powers gives rise to the measure, and specify the period within which submissions relating to the proposal may be made by interested parties. Regulation 12(4) states that ComReg, having considered any representations received under Regulation 12(3), may take the measure with or without amendment. Regulation 12 implements Article 6 of the Framework Directive.

A 3.11 On 7 April 2017, ComReg published the Consultation Document No. 17/26, entitled, “Pricing of Wholesale Services in the Wholesale Local Access (WLA) market and in the Wholesale Central Access (WCA) Markets”. ComReg received a number of submissions in response to this public consultation. ComReg has reviewed all of the submissions received in drafting ComReg Decision D11/18.

A 3.12 Regulation 13(3) of the Framework Regulations provides that, upon completion of the consultation provided for in Regulation 12, where ComReg intends to take a measure which falls within the scope of Regulation 26 or 27 of the Framework Regulations, or Regulation 6 or 8 of the Access Regulations, and which would affect trade between Member States, it shall make the draft measure accessible to the European Commission, BEREC and the NRAs in other Member States at the same time, together with the reasoning on which the measure is based. Regulation 13 implements Article 7 of the Framework Directive.



A 3.13 On 12 September 2018, ComReg notified the European Commission, BEREC and NRAs in other Member States of its draft measures. On 11 October 2018 ComReg received a comments letter from the European Commission. The one comment raised by the European Commission in its letter related to the need for ComReg to review the retail access market.

A 3.14 ComReg took utmost account of the comment raised by the European Commission. Please see Annex 8 of ComReg Decision D12/18 for the details.

## Annex: 4 Glossary of Terms

The glossary is for guidance purposes. It is intended to help the reader in understanding this Decision document, but is not intended to be a legal or other interpretation of acronyms and terms.

<b><u>Acronym</u></b>	<b><u>Full Title</u></b>	<b><u>Description</u></b>
Access Regulations	European Communities (Electronic Communications Networks and Services) (Access) Regulations 2011 (S.I. No. 334 of 2011)	They transpose Directive 2002/19/EC of the European Parliament and the Council of 7 March 2002 (as amended) on access to, and interconnection of, electronic communications networks and associated facilities, in to Irish law.
ADSL	Asymmetric Digital Subscriber Line	A data communications technology that enables faster data transmission over copper telephone lines than a conventional voiceband modem can provide.
ADSL2 Plus	Asymmetric Digital Subscriber Line 2 Plus	ADSL2 Plus is the next generation ADSL. It offers high bandwidth using the same copper lines. It can offer up to 24 Mbps but this depends on a number of parameters.
ARO	Access Reference Offer	A contract containing the various prices and terms and conditions that in Ireland, Eircom offers to OAOs for access to its network.
Backhaul	Backhaul	Infrastructure that enables the transmission of voice and data traffic from a remote site to a central site.
Bitstream	Bitstream	A system whereby wireline incumbent installs a high speed access link to the customer's premises (e.g., by installing ADSL equipment in the local access network) and then makes this access

		link available to third parties, to enable them to provide high speed services to customers. This type of access does not entail any third party access to the copper pair in the local loop.
BRAS	Broadband remote access server	This is routing equipment which provides the inter-connectivity for large circuits carrying IP traffic between different operator networks. Typically, these large circuits will carry the aggregated Bitstream data of multiple users of DSLs to their operators Internet Service Provider (“ISPs”) service to the wider internet or other data service(s)
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.
BU-LRAIC plus	Bottom Up Long Run Average Incremental Cost Plus	BU-LRAIC plus is the costing methodology used to estimate the “LRAIC plus” of an efficient operator which is derived from an economic and/or engineering model of an efficient network. The LRAIC plus costs are the average efficiently incurred directly attributable variable and fixed costs, plus an appropriate apportionment of joint and common costs.
Cable	Cable	A system of providing television to end users via radio frequency signals. It is transmitted to televisions through fixed optical fibres 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.
CCA	Current cost accounting.	A system of valuing assets based on their replacement cost rather than their cost when purchased or produced.
	Cost Orientation	A form of price control whereby prices are set be reference to associated costs.
ComReg	Commission for Communications Regulation.	National regulatory agency for Ireland.
DCCAE	The Department of Communications, Climate Action and Environment	The department of central Government in Ireland of the same name.
Download	Download	To bring files down from the internet and put them on a hard drive so they can be worked on locally.
DP	Distribution Point	A point within a network where the cable or fibre terminates prior to distribution to end customers.
Drop Wire	Drop Wire	Connecting wire from pole to customer premises.
D-side	Distribution side	Access network from exchange to customer premises.
DSL	Digital subscriber line	A family of technologies that provide digital data transmission over the wires of a local telephone network.
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, which 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.
Ducts	Ducts	Tubes through which cables are laid.
	Economic Depreciation	With economic depreciation an exercise is undertaken to estimate amongst other things, future demand and operating costs and then the cost of the asset is allocated in a manner that optimally allocates all costs associated with the asset to the revenues through the assets life.
E-side	Exchange side	Access network within an exchange.
FAC	Fully attributed costs	An accounting method to distribute all costs among a firm's various products and services; hence, the FAC may include costs not directly associated with a particular product or service
FCM	Financial Capital Maintenance	Under CCA, FCM is a concept that considers the financial capability of the local loop operator is maintained. Surpluses or deficits on the restatement of net assets to current cost are put in the income statement.
FDC	Fully distributed costs	See "FAC" Fully attributed costs.
Fibre	Fibre	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
FTTH	Fibre to the home	A form of fibre optic communication delivery in which the optical signal

		reaches the end user's living or office space.
FWA	Fixed wireless access	The use of radio links for the transmission of voice and data communications.
GRC	Gross replacement cost	The value of a brand new asset providing the same level of functionality and capacity as the existing asset.
HCA	Historical cost accounting	A system where assets are valued at their original cost, less accumulated depreciation.
Incumbent	Incumbent	Existing companies often first established as regulated monopolies.
IP	Internet Protocol	Method for moving information from one network to another on the internet.
ISDN	Integrated services digital network	Provision of dial up services at twice the speed of standard telephone connections.
Jumpering	Jumpering	Physically cross-connecting OAO and incumbents equipment using copper or fibre cables, within an exchange (copper wire pairs on the MDF –main dist frame, Co-Ax cable on the DDF-digital distribution frame, Optical jumpers on the ODF (optical dist frame), or within a street cabinet.
KB	Kilobit	One thousand bytes.
Last Mile	Last mile	The last mile is the final leg of delivering connectivity from a communications provider to a customer. Usually referred to by the telecommunications and cable television industries, it is typically seen as an expensive challenge because “fanning out” wires and cables is a considerable physical undertaking.
LLU	Local loop unbundling	The regulatory process of allowing multiple telecommunications operators’

		use of connections from the incumbent's 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 provider's network.
Line Share	Line share	Line share provides OAOs with shared use of a metallic path between an Eircom exchange facility and a customer's premises. Eircom retains the voice-band frequency spectrum of the circuit and continues to provide voice services and the OAO is able to use the remainder of the frequency spectrum.
Margin Squeeze	Margin Squeeze	A margin or price squeeze occurs when the difference between the wholesale price and the retail price of the final good or service does not give an efficient downstream firm a reasonable profit margin.
MB	Megabit	One thousand kilobits.
MDF	Main distribution frames.	A signal distribution frame for connecting equipment (inside an exchange) to cables and subscriber carrier equipment (outside an exchange).
Naked-DSL	Naked Digital Subscriber Line	SABB, stand-alone broadband) provides a standalone DSL (Digital Subscriber Line) broadband service over the Local Loop, without a Public Switched Telephone Network (PSTN) service.
Narrowband	Narrowband	Telecommunication that carries voice information in a narrow band of frequencies.

NBP	National broadband plan	Government initiative to develop broadband infrastructure in the more rural towns and villages in Ireland to give access to high-speed broadband.
NGA	Next generation access	Next Generation Access refers to the introduction of new products including super-fast broadband.
NGN	Next generation networks	The creation of an all IP environment (sometimes referred to as “Next Generation core networks”) and the introduction of high-speed high-bandwidth access networks (often called “Next Generation access networks or NGA networks”).
Node	Node	A point of connection on a network.
NRA	National regulatory agency	A state or government agency which regulates businesses in the public interest.
NRC	Net replacement cost	Value of another asset (of the same age) providing the same level of functionality and capacity as the existing asset.
NTU	Network termination unit	Terminating equipment which is placed in the customer’s premises which presents the physical circuit interface to the customer and to which the customer connects their equipment
OAO	Other authorised operator(s)	A fixed operator other than the incumbent, providing telecommunication services.
OCM	Operating Capital Maintenance	Under CCA, OCM is a concept that considers the operating capability of the local loop operator is maintained. Surpluses or deficits on the restatement of net assets to current cost are put in the balance sheet in the current cost reserve.



POTS	Plain old telephone service	Standard telephone service that most homes use. In contrast, telephone services based on high-speed, digital communications lines are differentiated by speed and bandwidth.
	Predatory pricing	Predatory pricing takes place when a dominant firm sells a good or service below costs of production for a sustained period of time, with the intention of deterring entry, or putting a rival out of business, enabling the dominant firm to further increase its market power and later its accumulated profits
PSTN	Public switched telephone network	PSTN refers to the international telephone system based on copper wires and carrying analogue voice data. This is in contrast to newer telephone networks based on digital technologies such as ISDN.
	Retail Minus	This is a form of price control whereby the SMP's wholesale price is set by reference to its retail price minus an appropriate margin to enable OAOs to cover their retail costs and compete with the SMP.
SABB	Stand Alone Broadband	ADSL/ADSL2plus service delivered over a 2-wire copper pair without a PSTN voice telephony switch.
SB-WLR	Single Billing Wholesale Line Rental	Single Billing through Wholesale Line Rental means that the customer has no relationship with Eircom, and all of the interfaces (ordering, billing, and fault repair) are with the Carrier Pre Select Operator (CPSO). The CPSO and Eircom have a separate contract for wholesale line rental. This product is only available in conjunction with Carrier Pre-Selection 'all calls'

Scorched earth	Scorched earth	A model that is based on an ideal network topology and not the existing network topology of the operator.
Scorched node	Scorched node	A model that takes as its starting point the existing network topology of the operator.
SLU	Sub loop unbundling	Process by which a sub-section of part of the local loop is unbundled.
SMP	Significant market power	A position which is equivalent to dominance of that market, that is to say a position of economic strength affording an undertaking the power to behave to an appreciable extent, independently of its competitors, customers, and, ultimately, end users.
	Standard Annuities	This approach calculates, over time, an increasing depreciation charge and a decreasing cost of capital resulting in a constant annualised charge and price stability given stable asset prices and demand.
	Sunk Costs	A cost which has already been incurred and cannot be recovered.
	Tilted Annuities	A tilted annuity incorporates a tilt in its formula which facilitates the calculation of annuities that evolve in line with asset price changes (it is therefore a current cost approach).
ULMP	Unbundled local metallic path	ULMP provides OAOs with exclusive use of a metallic path between the incumbents exchange facility and a customer's premises.
VoIP	Voice over internet protocol	The transport of voice traffic across the internet.
WCA Market	WCA Market	The market for wholesale central access for mass market products at a fixed location - included in Market 3b.

WLA Market WLA Market

The market for wholesale local access at a fixed location – included in Market 3a.

## **Annex: 5 TERA Report**

A 5.1 Please see ComReg Document 18/95A.

## **Annex: 6 JCA Report**

A 6.1 Please see ComReg Document 18/95B.

## Annex: 7 Monthly prices

**Table 1: Monthly prices for FTTC based NGA services**

The rental prices in this Decision shall apply from 1 March 2019.

Services	1 March 2019 – 30 June 2019	1 July 2019 – 30 June 2020	1 July 2020 – 30 June 2021	1 July 2021 – 30 June 2022	1 July 2022 – 30 June 2023	1 July 2023 – 30 June 2024
	€	€	€	€	€	€
<b>FTTC based VUA<sup>334</sup></b>	19.54*	19.79*	20.10*	20.36*	20.64*	20.92*
<b>FTTC based Bitstream<sup>335</sup>: National Handover</b>						
<i>Per port</i>	24.31*	24.58*	24.94*	25.27*	25.68*	26.16*
<i>Per Mbps</i>	0.56	0.44	0.37	0.31	0.29	0.28
<b>FTTC based Bitstream: Regional Handover</b>						
<i>Per port</i>	21.84*	22.08*	22.40*	22.68*	23.00*	23.36*
<i>Per Mbps</i>	0.20	0.16	0.14	0.12	0.11	0.12
<b>Assumed 90/10 mix for National / Regional Handover</b>						
<i>Per port</i>	22.09*	22.33*	22.65*	22.93*	23.27*	23.64*
<i>Per Mbps</i>	0.24	0.19	0.16	0.14	0.13	0.13
<b>Supplemental POTS costs (to be added to FTTC costs above)</b>						
<b>POTS based FTTC NGA service</b>	2.64	2.77	2.91	3.03	3.17	3.31

\* Includes fault repair costs and provisioning costs

<sup>334</sup> This includes the average costs for Remote VUA, Local VUA and EVDSL.

<sup>335</sup> ComReg will consider any proposals made by Eircom in relation to alternative pricing structures for Bitstream, subject to compliance with the cost orientation obligation and ComReg's pre-approval.

**Table 2: BU-LRAIC+ monthly prices for current generation Bitstream and BMB services<sup>336</sup> in the Regional WCA Market**

The rental prices in this Decision shall apply from 1 March 2019.

<b><u>CGA Bitstream BU-LRAIC+ prices</u></b>	<b>1 March 2019 – 30 June 2019</b>	<b>1 July 2019 – 30 June 2020</b>	<b>1 July 2020 – 30 June 2021</b>	<b>1 July 2021 – 30 June 2022</b>	<b>1 July 2022 – 30 June 2023</b>	<b>1 July 2023 – 30 June 2024</b>
	€	€	€	€	€	€
<b><u>BMB: National handover:</u></b>						
<b>Per port</b>	8.44*	8.53*	8.70*	8.88*	9.10*	9.35*
<b>Per Mbps</b>	0.95	0.73	0.57	0.47	0.39	0.35
<b><u>BMB: Regional handover:</u></b>						
<b>Per port</b>	6.92*	6.90*	6.94*	6.97*	7.03*	7.14*
<b>Per Mbps</b>	0.41	0.32	0.25	0.20	0.17	0.15
<b><u>Bitstream IP: National Handover:</u></b>						
<b>Bitstream IP<sup>338</sup></b>	8.85*	8.95*	9.14*	9.37*	9.64*	10.01*
<b><u>Bitstream IP: Regional Handover:</u></b>						
<b>Bitstream IP<sup>339</sup></b>	7.09*	7.08*	7.13*	7.17*	7.27*	7.43*

\*Including line share and fault repair

<sup>336</sup> ComReg will consider any proposals made by Eircom in relation to alternative pricing structures for Bitstream, subject to compliance with the cost orientation obligation and ComReg's pre-approval.

<sup>337</sup> These prices / costs are incremental to the cost / prices for WLR / POTS.

<sup>338</sup> Bitstream IP prices are based on a combination of the costs of the port and traffic usage. The prices listed here are based on a weighted average assumption of traffic use by the Bitstream IP user for each year, and on the handoff of traffic through a mixture of National and Regional Handover.

<sup>339</sup> Ibid.

# **Annex: 8 Further formal correspondence since consultation**

A 8.1 Please see ComReg Document 18/95C.



# **Annex: 9 Letter from the European Commission**



EUROPEAN COMMISSION

Brussels, 10.10.2018  
C(2018) 6788 final

Commission for Communications  
(ComReg)  
One Dockland Central, Guild Street  
D01 E4X0 Dublin 1  
Ireland

For the attention of:  
Mr. Kevin O'Brien  
Chairperson of the Commission

Fax: +35318788193

Dear Mr O'Brien,

**Subject: Commission Decision concerning Case IE/2018/2115: Wholesale local access provided at a fixed location and wholesale central access provided at a fixed location for mass-market products in Ireland – Remedies**

**Comments pursuant to Article 7(3) of Directive 2002/21/EC**

## **1. PROCEDURE**

On 11 September 2018, the Commission registered a notification from the Irish national regulatory authority, Commission for Communications (ComReg)<sup>1</sup>, concerning the market for wholesale local access provided at a fixed location and wholesale central access provided at a fixed location for mass-market products<sup>2</sup> in Ireland. The notified draft measure concerns also some amendments of remedies imposed on the market for

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<sup>1</sup> Under Article 7 of 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 108, 24.4.2002, p. 33, as amended by Directive 2009/140/EC, OJ L 337, 18.12.2009, p. 37, and Regulation (EC) No 544/2009, OJ L 167, 29.6.2009, p. 12.

<sup>2</sup> Corresponding to markets 3a and 3b in Commission Recommendation 2014/710/EU of 9 October 2014 on relevant product and service markets within the electronic communications sector susceptible to ex ante regulation in accordance with Directive 2002/21/EC of the European Parliament and of the Council on a common regulatory framework for electronic communications networks and services (Recommendation on Relevant Markets), OJ L 295, 11.10.2014, p. 79.

retail access to the public telephone network at a fixed location and on the market for call origination on the public telephone network provided at a fixed location<sup>3</sup>.

The national consultations<sup>4</sup> ran from 7 April to 26 June 2017<sup>5</sup> and from 9 June 2017 to 11 August 2017<sup>6</sup>.

On 18 September 2018, a request for information<sup>7</sup> (RFI) was sent to ComReg and a response was received on 21 September 2018. A second RFI was sent to ComReg on 21 September 2018 and a response was received on 26 September 2018.

Pursuant to Article 7(3) of the Framework Directive, national regulatory authorities (NRAs), the Body of European Regulators for Electronic Communications (BEREC) and the Commission may make comments on notified draft measures to the NRA concerned.

## **2. DESCRIPTION OF THE DRAFT MEASURE**

### **2.1. Background**

The markets for wholesale local access provided at a fixed location (WLA) and for wholesale central access provided at a fixed location for mass-market products (WCA) in Ireland were previously notified to and assessed by the Commission under cases IE/2018/2089-2090<sup>8</sup>. The retail market for access to the public telephone network at a fixed location was previously notified to and assessed by the Commission under case IE/2014/1629<sup>9</sup>. The market for fixed voice call origination was notified to and assessed by the Commission under cases IE/2015/1746 and IE/2016/1860<sup>10</sup>.

#### *2.1.1. WLA and WCA markets*

##### *2.1.1.1. Market definition and SMP*

ComReg defined the WLA market as including, a) Current Generation (CG) WLA products provided over copper networks, including local loop unbundling (LLU),

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<sup>3</sup> Corresponding to markets 1 and 2 in Commission Recommendation 2007/879/EC 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 (2007 Recommendation on Relevant Markets), OJ L 344, 28.12.2007, p. 65

<sup>4</sup> In accordance with Article 6 of the Framework Directive.

<sup>5</sup> Consultation 17/26 relating to the "Pricing Decision".

<sup>6</sup> Consultation 17/51 relating to the "Bundles Decision".

<sup>7</sup> In accordance with Article 5(2) of the Framework Directive.

<sup>8</sup> C(2018) 4786.

<sup>9</sup> C(2014) 5482.

<sup>10</sup> C(2015) 5011 and C(2016) 3034, respectively.

line share and sub-loop unbundling (SLU) products; and b) Next Generation (NG) WLA products provided over FTTx networks, including Virtual Unbundled Access (VUA) products<sup>11</sup>. The relevant geographic market was national in scope.

ComReg defined the relevant WCA market as including CG and NG products provided over copper, fibre and CATV. ComReg divided the wholesale central access market into two separate markets: (i) the Urban WCA Market, and (ii) the Regional WCA Market.

ComReg designated Eircom with significant market power (SMP) in the WLA and in the Regional WCA markets. ComReg found that the Urban WCA Market is competitive and therefore lifted regulation in this market.

#### 2.1.1.2. Remedies

ComReg imposed on Eircom the following obligations: access, transparency, non-discrimination, accounting separation, cost accounting and price control on both markets.

Regarding the price control obligation, ComReg imposed a set of obligations including cost orientation and margin squeeze tests (MST).

ComReg imposed cost orientation for a) LLU, line share, civil engineering infrastructure (CEI) and dark fibre<sup>12</sup>; b) copper bitstream; c) FTTC-based VUA and FTTC-based bitstream; and d) NG and CG ancillary services. In particular, ComReg considered that there was need to introduce (for the first time) cost orientation for FTTC services.

With respect to the margin squeeze tests, ComReg imposed a wholesale standalone MST on a) FTTH-based VUA (and FTTH-based bitstream); and b) WLA services (and WCA services)<sup>13</sup>. ComReg also proposed to impose a set of retail MSTs on a) FTTH-based VUA, FTTH-based bitstream and copper bitstream (standalone and bundles test); and on b) FTTC-based VUA, FTTC-based bitstream and copper bitstream services (bundles test)<sup>14</sup>.

ComReg further clarified that prices and costing methodologies for FTTC services (and for copper-based bitstream services) as well as the implementation of the margin squeeze tests would be further specified in the 2018 Pricing Decision and in the 2018 Bundles Decision, still to be notified to the Commission at the time.

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<sup>11</sup> VUA is the wholesale product that is Eircom's implementation of VULA.

<sup>12</sup> ComReg explained that the prices for LLU, SLU, LS, CEI and dark fibre will continue to be set in line with the 2016 Access Pricing Decision (IE/2016/1858), namely by a combination of BU-LRAIC+ costing methodology and a Top-down HCA costing methodology (the revised copper access model - CAM). Indeed, the 2016 Access Pricing Decision set also indicative prices for the period 1 July 2019 – 30 June 2021 in case ComReg does not update the 2016 Pricing Decision prior to that.

<sup>13</sup> ComReg has re-imposed a margin squeeze obligation between LLU and copper-based standalone broadband. Nevertheless, in the current notification, ComReg explains that this test is no longer required.

<sup>14</sup> ComReg maintained that FTTC services (VUA and bitstream) should be subject only to a retail bundle margin squeeze test because they are cost oriented.

ComReg also considered that the costing methodology for FTTC services (and for copper-based bitstream services) should be consistent with the costing methodology applied to LLU, SLU, CEI and dark fibre.

ComReg explained that the measure notified under case IE/2018/2089-2090 and the above Pricing and Bundles Decisions would be issued simultaneously.

### 2.1.1.3. Consultation with the Commission

The Commission issued three comments relating to a) the need to include alternative operators' FTTH network infrastructures in the market definition; b) the need for an appropriate and consistent price control of wholesale products; and c) the need for updated current generation access prices.

#### 2.1.2. *Retail market for access to the public telephone network at a fixed location*

In 2014 (Case IE/2014/1629), ComReg designated Eircom with SMP on the following three markets for retail narrowband access: a) market 1a – standalone lower level voice access (LLVA); b) market 1b - bundled lower level voice access (LLVA) and c) market 1c – high level voice access (HLVA). ComReg imposed as remedies: a WLR access, a retail price cap (subject to an increase depending on the inflation rate), the obligation not to unreasonably bundle, which encompasses the NRT (Net Revenue Test: measure aimed at avoiding a margin squeeze<sup>15</sup>), transparency and cost accounting. In its comments letter, the Commission urged ComReg to complete the assessment of the (upstream) market for call origination as soon as possible and to reassess whether the retail markets still warranted ex ante regulation without any undue delay.

#### 2.1.3. *Wholesale market for fixed access and call origination*

In 2015 (Case IE 2015/1746) ComReg defined a wholesale market for fixed access and call origination (FACO) comprising a fixed access (FA) or wholesale line rental (WLR) component and a fixed call origination (FVCO)<sup>16</sup> component. As the FACO market was not listed in the Recommendation on Relevant Markets, ComReg carried out the three-criteria test and concluded that it was still fulfilled. ComReg designated Eircom as operator with SMP and imposed the following obligations: i) access (including SB-WLR<sup>17</sup>); ii) non-discrimination; iii) transparency; iv) price control (WLR prices set with retail minus methodology) and v) accounting separation. In its comments letter, the Commission invited ComReg again to proceed with the review of the retail access market without undue delay.

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<sup>15</sup> ComReg explains that the NRT is the price control remedy used to assess whether or not Eircom is covering its total costs when it offers or sells a bundle of services together (that contains LLVA/HLVA and broadband) and therefore complying with the obligation not to unreasonably bundle services. The NRT had been imposed pursuant to Regulation 13 of the Universal Service Regulations corresponding to Article 17(2) of the Universal Service Directive (notified under cases IE/2012/1381-1382).

<sup>16</sup> FVCO is defined as calls originated at a fixed location of an end-user which are conveyed and routed through any switching stages (or equivalent) up to a point of interconnection.

<sup>17</sup> Single Billing Wholesale Line Rental.

In 2016 (Case IE/2016/1860) ComReg amended the price control remedies related to SB-WLR, switching from a retail-minus price control obligation to a cost orientation price control<sup>18</sup>. It has further specified the two high-level margin squeeze obligations<sup>19</sup> imposed in the FACO.

Also in this occasion the Commission commented on the need to review the retail access market, inviting ComReg once again to monitor developments in the retail access market and to examine without undue delay whether, in light of retail developments, regulation in the retail access (and FACO) markets remained appropriate.

## **2.2. The notified draft measures**

In the present draft measures, ComReg notifies a Pricing Decision and a Bundles Decision, as anticipated in its 2018 WLA/WCA Market Review Decision notification (case IE/2018/2089-2090).

### *2.2.1. The Pricing Decision*

ComReg proposes to further specify the price control obligations (including margin squeeze obligations) imposed in the 2018 WLA/WCA Market Review Decision in relation to the wholesale services included in the WLA market and the regional WCA market. In addition, this draft measure specifies the cost orientation obligation in the FACO Markets for wholesale voice/POTS when it is sold with FTTC services.

#### 2.2.1.1. WLA market

With respect to the obligation of cost orientation, ComReg proposes that Eircoms' rental charges in relation to FTTC based VUA and POTS based FTTC VUA shall be based on the cost incurred by an efficient operator providing those services, which shall be calculated in line with the NGA cost model<sup>20</sup>. Such costs shall be based on the combination of a BU-LRAIC+ cost methodology (for assets that cannot be reused for NGA services) and a top down HCA (for assets that can be reused) cost methodology. For the provision of interconnection, Eircom shall ensure

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<sup>18</sup> According the current regulation Eircom should apply prices based on the higher of the following: i) Eircom's TD HCA costs of providing SB-WLR nationally (with BU costs applied to the line card); and ii) BU costs in the LEA (Modified Larger Exchange Area) (with BU-LRAIC+ for non-reusable and TD HCA for reusable assets).

<sup>19</sup> The first test between retail and wholesale line rental (or SB-WLR) should ensure a sufficient margin between the respective services, so that another authorised operator can replicate Eircom's retail prices on a standalone basis. The second test is to ensure sufficient economic space between the price for POTS-based Virtual Unbundled Access (VUA) and the price for standalone VUA / NGA bitstream (including a contribution towards the cost of managed VoB), so that an operator is not dis-incentivised from moving to alternative technologies as appropriate. According to ComReg, this should ensure technological neutrality.

<sup>20</sup> The cost model is based on a scorched node approach. A tilted annuity approach is used to derive costs in the NGN Core Model for copper and fibre. The Economic Depreciation approach is used in the NGA Cost Model (the economic depreciation is determined for each network component and considers both changes in asset prices and changes in service demand).

that it recovers no more than the costs incurred by an efficient operator based on a BU-LRAIC+ costing methodology.

Regarding the margin squeeze test, ComReg proposes to specify a) the wholesale margin squeeze obligation between the price for FTTH based Bitstream and the price for FTTH based VUA, and b) the retail margin squeeze obligation for FTTH based VUA provided within the footprint of the Urban WCA market for standalone services<sup>21</sup>.

With a wholesale margin squeeze test between FTTH based Bitstream and FTTH based VUA ComReg aims to ensure that Eircom cannot set the price for FTTH based Bitstream lower than the price for FTTH based VUA as this would discourage investment in FTTH based VUA. ComReg considers that the wholesale MST between FTTH based VUA and FTTH based bitstream should be assessed on a product-by-product basis (that is, by speed/profile). Such MST between FTTH based Bitstream and FTTH based VUA would be a SEO<sup>22</sup> test based on an adjustment to Eircom's own costs to reflect the lower level of economies of scale and scope available to a hypothetical entrant with a retail broadband market share of 25%. The cost standard would be LRAIC+. Finally, such MST shall include an uplift for WACC which recognises that Eircom should earn a return on its investment.

With the standalone retail MST between FTTH based VUA (in the area corresponding to the Urban WCA market) and retail broadband delivered by FTTH based VUA, ComReg aims at preventing foreclosure and excessive prices. ComReg considers that an EEO cost base in this case is appropriate because competitors in exchanges within the Urban WCA market are likely to have similar cost functions to Eircom, and similar size of customer base, and should therefore benefit from similar economies of scale. The cost standard would be ATC<sup>23</sup> and the model type the DCF model<sup>24</sup>. The test should be assessed on a Portfolio-based-approach<sup>25</sup>.

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<sup>21</sup> As per the 2018 Market Review Decision, ComReg is no longer imposing a standalone retail margin squeeze test between FTTC based VUA and retail services delivered by FTTC based VUA and sold singly. Also, there is no longer a requirement for a specific retail margin squeeze obligation between current generation WLA services and current generation retail services.

<sup>22</sup> Similarly Efficient Operator cost base.

<sup>23</sup> The Average Total Costs standard reflects all costs incurred in the provision of a product or service including variable, fixed, common and joint costs. ComReg considers that the difference between ATC and LRAIC+ in the context of retail costs is generally not material as both approaches include a portion of common costs. In addition, ComReg currently uses Eircom's Regulated Accounts to derive these retail costs, which is more akin to the ATC approach.

<sup>24</sup> ComReg explains that the DCF approach includes one-off start-up costs, ongoing fixed and variable operating costs including capital costs and a terminal value. In addition, a number of costs are inflated by an overhead mark-up of 25% to create an additional margin buffer to reflect the likely new retail broadband market entrant mark-up of common costs. In order to derive the total retail costs incurred by a new entrant the above cost categories can be adjusted for scale and scope depending on the chosen operator cost base i.e., REO or SEO.

<sup>25</sup> ComReg wants to ensure that alternative operators that are dependent on Eircom's FTTH based VUA input have a sufficient margin over a portfolio of different NGA retail broadband products, while allowing Eircom some flexibility regarding pricing in the retail market. In addition, the actual demand

Moreover, ComReg proposes to specify the transparency obligation relating to pre-notification and compliance procedures with the relevant price control obligations.

#### 2.2.1.2. WCA market

With respect to the obligation of cost orientation, ComReg proposes that Eircom's rental charges in relation to FTTC based (and POTS based FTTC) bitstream (in the Regional WCA) should be equal to the costs incurred by an efficient operator, calculated in line with the NGA cost model. Such costs shall be based on a combination of BU-LRAIC+ (for assets that cannot be reused for NGA services) and Top-Down HCA (for assets that can be reused) adjusted to reflect a SEO cost base (SEO has different scale from an efficient operator). CG bitstream and /or bitstream managed backhaul costs shall be based on a BU-LRAIC+ cost model<sup>26</sup>.

With respect to the margin squeeze test, ComReg proposes to impose a standalone retail MST between FTTH based bitstream and FTTH based retail broadband services delivered by FTTH based bitstream and sold singly<sup>27</sup>. ComReg considers that Eircom's own retail costs should be applied in the test based on an EEO cost base, as other operators in the Regional WCA market could realise similar economies of scope and scale to those of Eircom. According to ComReg, a portfolio approach should be used, as it reflects the actual patterns of demand and supply of FTTH based bitstream services and retail services delivered by FTTH based bitstream, and other operators are also likely to offer a portfolio of services (and could therefore compete with Eircom across a similar product portfolio). In addition, the demand for FTTH based products remains uncertain and ComReg believes that some flexibility can allow for price alterations within the portfolio in response to actual take-up of FTTH products. The cost standard shall be ATC.

Moreover, ComReg proposes to specify the transparency obligation relating to pre-notification and compliance procedures with the relevant price control obligations in the Regional WCA market.

#### 2.2.2. *The Bundles Decision*

ComReg proposes to impose margin squeeze tests (MST) to ensure that Eircom cannot cause a margin squeeze between the prices of the wholesale regulated services it offers to alternative operators and the price of an Eircom retail bundle of services – where those wholesale services are required as inputs by those alternative operators in order to replicate that Eircom retail bundle. ComReg also proposes to withdraw the obligation not to unreasonably bundle imposed on the market for retail narrowband fixed access (in particular in the bundled low and high level voice

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for FTTH based products remains uncertain and ComReg believes that Eircom should be given the flexibility to price specific products above or below retail costs (provided it meets the overall portfolio margin squeeze test) so that Eircom can alter prices in response to actual take-up of FTTH products.

<sup>26</sup> Also WEILs (wholesale Ethernet Interconnection Links), BECS, BECS over WEIL shall be based on BU-LRAIC+.

<sup>27</sup> As already set in the 2018 WLA/WCA Market Review Decision, the standalone retail MST for current generation WCA services in the Regional WCA market are no longer warranted. Similarly, a MST between End-to-End bitstream (CG and NG) and bitstream (CG and NG) is no longer required.



access markets) and the relating net revenue test (NRT) which had been further specified in 2014.

The MST includes a 'bundle by bundle' and a portfolio assessment.

In particular, separate assessments will be carried out on two portfolios: 1) the sum of all CGA bundles (and standalone retail CGA broadband) and 2) the sum of all NGA bundles (and standalone NGA retail broadband except for standalone FTTH retail broadband)<sup>28</sup> based on Average Total Costs. Within each portfolio, assessments will also be carried out on a bundle by bundle basis using LRIC. The cost benchmarks for Eircom's retail services (broadband, calls and line rental) will be set at EEO. The MSTs will allow cross-subsidy from regulated services to unregulated services and vice versa within a bundle.

All Eircom's bundles (including broadband plus any other service)<sup>29</sup> shall comply with a MST<sup>30</sup>.

The broadband inputs to the bundles MST will be WLA VUA (POTS or standalone based) for NGA bundles, and WCA bitstream (POTS or standalone based) for CGA bundles.

MSTs relating to the WLA market will be applied on a national basis and MSTs relating to the Regional WCA market will be applied across that market as a whole.

According to ComReg, the bundles MST concerns all bundles and automatically reflects changing market dynamics<sup>31</sup> without the need to continually redefine the test for the latest flagship product (which in any case would only be one part of the bundle being assessed).

Finally, ComReg proposes to include the 'net costs'<sup>32</sup> of eir Sports (an unregulated service that Eircom offers at no cost to its retail broadband subscribers) in the proposed bundles MST to ensure that alternative operators can replicate those retail bundle broadband services. ComReg envisages the recovery of two cost categories: acquisition costs<sup>33</sup> and on-going costs<sup>34</sup>. In order to allow Eircom a certain level of

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<sup>28</sup> There will be no cross-subsidies between the two portfolios.

<sup>29</sup> ComReg includes FACO inputs in the bundles MST when FACO inputs are bundled WLA or WCA broadband.

<sup>30</sup> The effect of this is that, when Eircom offers an NGA bundle, then the wholesale price of the NGA WLA components, which an alternative operator would need to replicate that retail Eircom NGA bundle, will be included in the cost stack of the Eircom bundle offer.

<sup>31</sup> In particular, as certain bundles (and the components thereof) become more popular they will automatically represent a bigger share of Eircom's portfolio.

<sup>32</sup> The 'net costs' are those costs not already covered by Eircom's external revenue from selling eir Sports to other entities. The costs of eir Sports exceed the revenue generated from actual paying customers and advertising. Therefore, to ensure that the remaining cost is recovered, ComReg proposes that the 'net costs' of this service should be included in the cost stack for those relevant offers which get Eir Sports at no charge.

<sup>33</sup> Costs incurred in the purchase of Setanta Sports, from Setanta Sports Broadcasting Limited by Eircom in December 2015, such as sports content rights; a television studio; current and former customer

flexibility in recovering costs of eir Sport, ComReg provides that Eircom may use a maximum recovery period of ■ months since the acquisition to recover the acquisition costs. If an excess margin is available it may be used to recover the acquisition costs ahead of the maximum period.

### 3. COMMENTS

The Commission has examined the notification and the additional information provided by the ComReg and has the following comment:<sup>35</sup>

#### **Need to urgently review the retail access market**

The Commission notes that the retail market for access to the public telephone network at a fixed location is still regulated in Ireland and the latest market review dates back to August 2014. In particular, a retail price regulation is still in place.

In the notified draft measure ComReg proposes to partially withdraw the retail price regulation obligation not to unreasonably bundle (and the relating Net Revenue Test) in view of the strength of remedies to be imposed on the upstream wholesale market. Indeed, ComReg has recently put in place wholesale regulation that is likely to render the existing retail regulation disproportionate.

The Commission has repeatedly invited ComReg to reassess the retail access market and already in 2016 (case IE/2016/1860) ComReg has informed the Commission about its intention to carry out a market review in the course of 2016 and to notify it in the fourth quarter of 2016 or first quarter of 2017. In the context of the present notification, ComReg explained that it intends to start preliminary works on the retail fixed voice access market review in parallel with its review of the FACO markets in November 2018, with a view to issuing a public consultation in the fourth quarter of 2019.

Also in view of ComReg's earlier commitments, the Commission considers the proposed timing unjustified and urges ComReg to examine without undue delay whether, in light of retail developments and wholesale regulation in place, regulation in the retail access market is still proportionate.

Pursuant to Article 7(7) of the Framework Directive, ComReg shall take the utmost account of the comments of other NRAs, BEREC and the Commission and may adopt the resulting draft measure; where it does so, shall communicate it to the Commission.

The Commission's position on this particular notification is without prejudice to any position it may take *vis-à-vis* other notified draft measures.

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database; and management know-how.

<sup>34</sup> All other cost incurred in providing the service, e.g. new content rights (since the acquisition), production costs / presenter salaries, etc.

<sup>35</sup> In accordance with Article 7(3) of the Framework Directive.

Pursuant to Point 15 of Recommendation 2008/850/EC<sup>36</sup> the Commission will publish this document on its website. The Commission does not consider the information contained herein to be confidential. You are invited to inform the Commission<sup>37</sup> within three working days following receipt whether you consider that, in accordance with EU and national rules on business confidentiality, this document contains confidential information which you wish to have deleted prior to such publication.<sup>38</sup> You should give reasons for any such request.

Yours sincerely,



For the Commission,  
Roberto Viola  
Director-General

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<sup>36</sup> Commission Recommendation 2008/850/EC of 15 October 2008 on notifications, time limits and consultations provided for in Article 7 of 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 301, 12.11.2008, p. 23.

<sup>37</sup> Your request should be sent either by email: [CNECT-ARTICLE7@ec.europa.eu](mailto:CNECT-ARTICLE7@ec.europa.eu) or by fax: +32 2 298 87 82.

<sup>38</sup> The Commission may inform the public of the result of its assessment before the end of this three-day period.

# **Annex: 10 FTTC VUA and EVDSL Footprint**

	<b>Exchange Name</b>	<b>County</b>
1	ASHBOURNE	MEATH
2	ABBEYLEIX	LAOIS
3	ATHBOY	MEATH
4	ACLARE	SLIGO
5	AUGHNACLIFFE	LONGFORD
6	ANNACOTTY	LIMERICK
7	ARDARA	DONEGAL
8	ADRIGOLE	CORK
9	ARDAGH	LIMERICK
10	ARDRAHAN	GALWAY
11	ADARE	LIMERICK
12	ARDCRONEY	TIPPERARY NR
13	ASHFORD	WICKLOW
14	ABBEYFEALE	LIMERICK
15	ARDFINNAN	TIPPERARY SR
16	ARIGNA	ROSCOMMON
17	AUGHRIM	GALWAY
18	ANNAGRY	DONEGAL
19	AHERLA	CORK
20	AHASCRAUGH	GALWAY
21	AUGHRIM	WICKLOW
22	ARKLOW	WICKLOW
23	AYLE	MAYO
24	ALLENWOOD	KILDARE
25	ARDMORE	WATERFORD
26	ANABLAHA	KERRY
27	ANNESTOWN	WATERFORD
28	ATHENRY	GALWAY
29	ABBEYDORNEY	KERRY
30	ARDEE	LOUTH
31	ARDFERT	KERRY
32	ASHMOUNT	CORK
33	ASKEATON	LIMERICK
34	ATHLUNKARD	LIMERICK
35	ATHEA	LIMERICK
36	ATHLONE HPO	WESTMEATH
37	ATHLEAGUE	ROSCOMMON
38	ARDATTIN	CARLOW
39	ADAMSTOWN, THE PADDOCKS	DUBLIN
40	ATHY	KILDARE
41	NAVAN	MEATH
42	ARVA	CAVAN
43	AVOCA	WICKLOW

44	ANNAYALLA	MONAGHAN
45	BALLA	MAYO
46	BALLINAFAD	SLIGO
47	BALLINAMORE	LEITRIM
48	BLARNEY	CORK
49	BALLYHAHILL	LIMERICK
50	BALLINEEN	CORK
51	BALLYROAN	LAOIS
52	BARNA	GALWAY
53	BALLYGLASS	MAYO
54	BANTRY	CORK
55	BALLYBAY	MONAGHAN
56	BOHERBUE	CORK
57	BEGGARS BUSH	DUBLIN
58	BALLYBUNION	KERRY
59	BAILIEBORO	CAVAN
60	BALLYBRITTAS	LAOIS
61	BALLACOLLA	LAOIS
62	BALLYCASTLE	MAYO
63	BALLINCURRIG	CORK
64	BALLYCONNELL	CAVAN
65	BELCARRA	MAYO
66	BALLYCARNEY	WEXFORD
67	BALLYDEHOB	CORK
68	BUNDORAN	DONEGAL
69	BLANCHARDSTOWN	DUBLIN
70	BROADWAY	WEXFORD
71	BRUREE	LIMERICK
72	BUNBEG	DONEGAL
73	BALLAGHADERREEN	ROSCOMMON
74	BALLYCONNELLY	GALWAY
75	BROADFORD	CLARE
76	BEAUFORT	KERRY
77	BALLYGORMAN	DONEGAL
78	BRIDGEND	DONEGAL
79	BALLINAGH	CAVAN
80	BALLYGAR	GALWAY
81	BALTINGLASS	WICKLOW
82	BALLINGARRY	LIMERICK
83	BALLYHAISE	CAVAN
84	BALLYHEIGUE	KERRY
85	BIRDHILL	TIPPERARY NR
86	BALLYHAUNIS	MAYO
87	BANAGHER	OFFALY
88	BALLINHASSIG	CORK
89	BALLINACLASHET	CORK

90	BALLYHOOLEY	CORK
91	BIRR	OFFALY
92	BALLINTOGHER	SLIGO
93	BALLINDERRY	TIPPERARY NR
94	BALLYJAMESDUFF	CAVAN
95	BALLICKMOYLER	LAOIS
96	BALLINA	MAYO
97	BALLYBODEN	DUBLIN
98	BALLINALEE	LONGFORD
99	BALLYDUFF	WATERFORD
100	BALLINLOUGH	ROSCOMMON
101	BLIARY	WESTMEATH
102	BELCLARE	GALWAY
103	BALLON	CARLOW
104	BELCAMP	DUBLIN
105	DUNDALK BLACKROCK	LOUTH
106	BALLYGARVAN	CORK
107	BALLINGEARY	CORK
108	BALLYDESMOND	CORK
109	B'MORE EUSTACE	KILDARE
110	BALLYMAHON	LONGFORD
111	BALLYMOE	GALWAY
112	BALLYMACELLIGOTT	KERRY
113	BALLINCOLLIG	CORK
114	BANDON	CORK
115	BALLINDINE	MAYO
116	BARNADERG	GALWAY
117	BALLYMONEEN	Galway
118	BANTEER	CORK
119	BERRINGS	CORK
120	BALLYCOOLIN	DUBLIN
121	BALLYBOFEY	DONEGAL
122	BOHOLA	MAYO
123	BORRISOKANE	TIPPERARY NR
124	BORRISOLEIGH	TIPPERARY NR
125	BURTONPORT	DONEGAL
126	BALLINTRA	DONEGAL
127	BROADFORD	KILDARE
128	BALLINROBE	MAYO
129	BALRATH	MEATH
130	BRAY	WICKLOW
131	BROOMFIELD	MONAGHAN
132	BALBRIGGAN	DUBLIN
133	BORRIS	CARLOW
134	BALLYRAGGET	KILKENNY
135	BRUFF	LIMERICK

136	BANSHA	TIPPERARY SR
137	BALLINASLOE	GALWAY
138	BALLYSHANNON	DONEGAL
139	BLESSINGTON	WICKLOW
140	BORRIS IN OSSORY	LAOIS
141	BALLINSPITTLE	CORK
142	BETTYSTOWN	MEATH
143	BENNETTSBRIDGE	KILKENNY
144	BALLYMOTE	SLIGO
145	BALTIMORE	CORK
146	BALLYTORE	KILDARE
147	BRITTAS	DUBLIN
148	BUNCRANA	DONEGAL
149	BUNCLODY	WEXFORD
150	BELTURBET	CAVAN
151	BALLIVOR	MEATH
152	BUTTEVANT	CORK
153	BALLYWILLIAM	WEXFORD
154	BALLINAHOWEN	WESTMEATH
155	BLACKWATER	WEXFORD
156	BALLYCULLANE	WEXFORD
157	BOYLE	ROSCOMMON
158	BALLYDANGAN	ROSCOMMON
159	BALLYLINAN	LAOIS
160	BALLYSPILLANE	KERRY
161	BALLYVARY	MAYO
162	CORNAMONA	GALWAY
163	CABRA	DUBLIN
164	CLANE	KILDARE
165	CHARLESTOWN	MAYO
166	CARRIGART	DONEGAL
167	CAVAN	CAVAN
168	CASTLEBELLINGHAM	LOUTH
169	COOLBOY	WICKLOW
170	CASTLEBAR	MAYO
171	CLONTIBRET	MONAGHAN
172	CASTLECONNELL	LIMERICK
173	CASTLECOMER	KILKENNY
174	CLARA	OFFALY
175	CARRICKMACROSS	MONAGHAN
176	CULDAFF	DONEGAL
177	CARNDONAGH	DONEGAL
178	CLIFDEN	GALWAY
179	CASTLEDERMOT	KILDARE
180	COILL DUBH	KILDARE
181	CLONEE	DUBLIN



182	CELBRIDGE	KILDARE
183	CLONMELLON	MEATH
184	CLOONFAD	ROSCOMMON
185	COACHFORD	CORK
186	CUFFESGRANGE	KILKENNY
187	CORNAFULLA	ROSCOMMON
188	COROFIN	CLARE
189	CARLINGFORD	LOUTH
190	CLIFFONY	SLIGO
191	CROSSAGALLA	LIMERICK
192	CLOGHEEN	TIPPERARY SR
193	CARRIGALINE	CORK
194	CREGMORE	GALWAY
195	CAHERDAVIN	LIMERICK
196	CRUSHEEN	CLARE
197	CHURCHFIELD	CORK
198	CLOGHERHEAD	LOUTH
199	CAHIR	TIPPERARY SR
200	CARRIGTWOHILL	CORK
201	CASTLEISLAND	KERRY
202	CARRIGALLEN	LEITRIM
203	CASTLEFIN	DONEGAL
204	CORK CENTRAL	CORK
205	CLONSKEAGH	DUBLIN
206	CK-ON-SHANNON	LEITRIM
207	CROOKEDWOOD	WESTMEATH
208	CLONAKILTY	CORK
209	CLARINA	LIMERICK
210	CLONBERN	GALWAY
211	NANGOR ROAD	DUBLIN
212	CLOYNE	CORK
213	CLAREGALWAY	GALWAY
214	CLERIHAN	TIPPERARY SR
215	COOLOCK	DUBLIN
216	CLONMEL	TIPPERARY SR
217	CALLAN	KILKENNY
218	CURRACLOE	WEXFORD
219	CLONLARA	CLARE
220	CASTLELYONS	CORK
221	CLONTARF	DUBLIN
222	CLOONE	LEITRIM
223	COLPE BUILDIN	DUBLIN
224	COLLOONEY	SLIGO
225	CROSSMOLINA	MAYO
226	CARROWMORELACKEN	MAYO
227	CAMOLIN	WEXFORD

228	CAMP	KERRY
229	CASTLEMARTYR	CORK
230	CLAREMORRIS	MAYO
231	CLONMANY	DONEGAL
232	CLONBUR	GALWAY
233	CLONES	MONAGHAN
234	CONG	MAYO
235	CENTREPOINT BUSINESS PARK	DUBLIN
236	CARNAROSS	MEATH
237	CARRIGANS	DONEGAL
238	CARRIGNAVAR	CORK
239	CARNEW	WICKLOW
240	CLOGHAN	DONEGAL
241	COLLON	LOUTH
242	CARRICK-ON-SUIR	TIPPERARY SR
243	COBH	CORK
244	CONVOY	DONEGAL
245	CAPPAGH	WATERFORD
246	CAMPILE	WEXFORD
247	CAPPAMORE	LIMERICK
248	CAPPOQUIN	WATERFORD
249	CASTLEPLUNKETT	ROSCOMMON
250	COORACLARE	CLARE
251	CASTLEREA	ROSCOMMON
252	CARRICK	DONEGAL
253	CRUMLIN	DUBLIN
254	CROOM	LIMERICK
255	CARRAROE	GALWAY
256	COURTOWN HARBOUR	WEXFORD
257	CROSSHAVEN	CORK
258	CARLOW	CARLOW
259	CARBURY	KILDARE
260	COLLINS LANE	OFFALY
261	CLONASLEE	LAOIS
262	CREESLOUGH	DONEGAL
263	CROSSAKIEL	MEATH
264	CASHEL	TIPPERARY SR
265	COSTELLO	GALWAY
266	CASTLEPOLLARD	WESTMEATH
267	CEANANNUS	MEATH
268	CASTLESHANE	MONAGHAN
269	CASTLEBLAYNEY	MONAGHAN
270	CASTLETOWNBERE	CORK
271	CASTLETOWNSHEND	CORK
272	CRATLOE	CLARE
273	COOTEHILL	CAVAN

274	CLEARISTOWN	WEXFORD
275	CARLANSTOWN	MEATH
276	CASTLETROY	LIMERICK
277	CURRAGHBOY	ROSCOMMON
278	CURRAGH CAMP	KILDARE
279	CUSTOMS HS DOCKS	DUBLIN
280	CAHIRCIVEEN	KERRY
281	CHERRYWOOD	DUBLIN
282	CRAUGHWELL	GALWAY
283	CROOKSTOWN	CORK
284	CITYWEST	DUBLIN
285	CRETTYARD	LAOIS
286	DROGHEDA AEH	LOUTH
287	DROGHEDA	LOUTH
288	DOONBEG	CLARE
289	DOLPHINS BARN	DUBLIN
290	DONABATE	DUBLIN
291	DOIRE CHONAIRE	DONEGAL
292	DUNCORMICK	WEXFORD
293	DRUMCOLLOGHER	LIMERICK
294	DUNCANNON	WEXFORD
295	DONADEA	KILDARE
296	DUNDALK	LOUTH
297	DUNDRUM	DUBLIN
298	DUNDRUM	TIPPERARY SR
299	DUNBOYNE	MEATH
300	DUNFANAGHY	DONEGAL
301	DINGLE	KERRY
302	DUAGH	KERRY
303	DONEGAL	DONEGAL
304	DAINGEAN	OFFALY
305	DOUGLAS	CORK
306	DUNGOURNEY	CORK
307	DONOHILL	TIPPERARY SR
308	DROMAHAIR	LEITRIM
309	DUNKINEELY	DONEGAL
310	DUNLAOGHAIRE	DUBLIN
311	DRIMOLEAGUE	CORK
312	DULEEK	MEATH
313	DUNGLOE	DONEGAL
314	DUNLEER	LOUTH
315	DONOUGHMORE	CORK
316	DRUMSHANBO	LEITRIM
317	DUNMORE	GALWAY
318	DUNMANWAY	CORK
319	DRUMSNA	LEITRIM

320	DONARD	WICKLOW
321	DONAMON	ROSCOMMON
322	DRANGAN	TIPPERARY SR
323	DUNMORE EAST	WATERFORD
324	DROICHEAD NUA	KILDARE
325	DUNLAVIN	WICKLOW
326	DONERAILE	CORK
327	DRUMCONRATH	MEATH
328	DRINAGH	CORK
329	DROMIN	TIPPERARY NR
330	DURRUS	CORK
331	DURROW	LAOIS
332	DUNSHAUGHLIN	MEATH
333	DRUMKEEN	DONEGAL
334	DOON	LIMERICK
335	DUNGARVAN	WATERFORD
336	DELVIN	WESTMEATH
337	DROMORE WEST	SLIGO
338	DENNEHYS CROSS	CORK
339	EDENDERRY	OFFALY
340	ENFIELD	MEATH
341	EFFIN	LIMERICK
342	ELPHIN	ROSCOMMON
343	ENNISKERRY	WICKLOW
344	ENNISKERRY	WICKLOW
345	EDMONSTOWN	LOUTH
346	EMYVALE	MONAGHAN
347	EMLY	TIPPERARY SR
348	ENNIS	CLARE
349	EASTPOINT	DUBLIN
350	EYERIES	CORK
351	EASKY	SLIGO
352	ENNISTYMON	CLARE
353	EDGEWORTHSTOWN	LONGFORD
354	ENNISCORTHY	WEXFORD
355	FERRYBRIDGE	GALWAY
356	FERRYBANK	WATERFORD
357	FURBO	GALWAY
358	FALCARRAGH	DONEGAL
359	FENAGH	CARLOW
360	FERNS	WEXFORD
361	FETHARD	TIPPERARY SR
362	FRESHFORD	KILKENNY
363	FARRANFORE	KERRY
364	FETHARD	WEXFORD
365	FAHAN	DONEGAL

366	FEAKLE	CLARE
367	FARMLEIGH	DUBLIN
368	FOURMILEHOUSE	ROSCOMMON
369	FOULKSMILLS	WEXFORD
370	FREEMOUNT	CORK
371	FERMOY	CORK
372	FINGLAS	DUBLIN
373	FOYNES	LIMERICK
374	FOXROCK	DUBLIN
375	FRENCHPARK	ROSCOMMON
376	FERBANE	OFFALY
377	FOXFORD	MAYO
378	GALWAY	GALWAY
379	GARRISTOWN	DUBLIN
380	GORESBRIDGE	KILKENNY
381	GLENBEIGH	KERRY
382	GREENCASTLE	DONEGAL
383	GLENCOLUMBKILLE	DONEGAL
384	GLENDALOUGH	WICKLOW
385	GLENGARRIFF	CORK
386	GEASHILL	OFFALY
387	GLIN	LIMERICK
388	GRAIGUENAMANAGH	KILKENNY
389	GLANMIRE	CORK
390	GLENAMADDY	GALWAY
391	GRANARD	LONGFORD
392	GRENAGH	CORK
393	GLENBROOK	CORK
394	GREENOGE	DUBLIN
395	GLENEALY	WICKLOW
396	GRANGE	TIPPERARY SR
397	GREYSTONES	WICKLOW
398	GORT	GALWAY
399	GOREY	WEXFORD
400	GLENTIES	DONEGAL
401	GURTNAHOE	TIPPERARY NR
402	GLENVILLE	CORK
403	GLANWORTH	CORK
404	GOWRAN	KILKENNY
405	HOLYCROSS	TIPPERARY NR
406	HACKBALLSCROSS	LOUTH
407	HOLLYFORD	TIPPERARY SR
408	HOLLYFORT	WEXFORD
409	HODSONS Bay	ROSCOMMON
410	HEADFORD	GALWAY
411	HEUSTON SOUTH QUARTER	DUBLIN

412	HETTYFIELD	CORK
413	INISTIOGE	KILKENNY
414	INCHIGEELAGH	CORK
415	INNISCRONE	SLIGO
416	INVER	DONEGAL
417	INVERIN	GALWAY
418	INNISKEEN	MONAGHAN
419	INCH ST. LAWRENCE	LIMERICK
420	INNISHANNON	CORK
421	JENKINSTOWN	KILKENNY
422	JOHNSTOWN	KILDARE
423	JOHNSTOWN	KILKENNY
424	JULIANSTOWN	MEATH
425	KILMAINE	MAYO
426	KNOCK AIRPORT	MAYO
427	KINCASSLAGH	DONEGAL
428	KILBRIDE	WICKLOW
429	KILBEGGAN	WESTMEATH
430	KILLYBEGS	DONEGAL
431	KNOCKBOY	WATERFORD
432	KILCONNELL	GALWAY
433	KESHARRIGAN	LEITRIM
434	KILCAR	DONEGAL
435	KILMACOW	KILKENNY
436	KILLINADRISH	CORK
437	KILDALKEY	MEATH
438	KILDANGAN	KILDARE
439	KILDIMO	LIMERICK
440	KILLEIGH	OFFALY
441	KILNALECK	CAVAN
442	KILKELLY	MAYO
443	KILFENORA	CLARE
444	KILFINANE	LIMERICK
445	KINNEGAD	WESTMEATH
446	KILCOLGAN	GALWAY
447	KINGSCOURT	CAVAN
448	KILGARVAN	KERRY
449	KILLERIG CROSS	CARLOW
450	KILLEA	DONEGAL
451	KILCARN	MEATH
452	KILL	KILDARE
453	KILMEAGE	KILDARE
454	KEALKILL	CORK
455	KILLALA	MAYO
456	KILBRITTAIN	CORK
457	KILCULLEN	KILDARE

458	KILDARE	KILDARE
459	KILLEAGH	CORK
460	KILLINICK	WEXFORD
461	KELLS	KERRY
462	KILMINCHY	LAOIS
463	KILLARNEY	KERRY
464	KILLALOE	CLARE
465	KILTYCLOGHER	LEITRIM
466	KILLURIN	WEXFORD
467	KILMACRENAN	DONEGAL
468	KENMARE	KERRY
469	KILMALLOCK	LIMERICK
470	KILMEADEN	WATERFORD
471	KILMACANOGUE	WICKLOW
472	KILMACTHOMAS	WATERFORD
473	KILMUCKRIDGE	WEXFORD
474	KILMAINHAM WOOD	MEATH
475	KILLENARD	OFFALY
476	KILLANNE	WEXFORD
477	KNOCKNAGREE	CORK
478	KNOCK	MAYO
479	KILLENAULE	TIPPERARY SR
480	KNOCKMORE	MAYO
481	KILKENNY	KILKENNY
482	KILCOCK	KILDARE
483	KILMORE	ROSCOMMON
484	KILMORE QUAY	WEXFORD
485	KILNAMARTYRA	CORK
486	KILLORGLIN	KERRY
487	KILRUSH	CLARE
488	KILCORMAC	OFFALY
489	KILTORMER	GALWAY
490	KILLESHANDRA	CAVAN
491	KINSALE	CORK
492	KILSHEELIN	TIPPERARY SR
493	KILTIMAGH	MAYO
494	KANTURK	CORK
495	KILTOOM	ROSCOMMON
496	KILTEGAN	WICKLOW
497	KNOCKTOPHER	KILKENNY
498	KILLUCAN	WESTMEATH
499	KILLAVULLEN	CORK
500	KILWORTH	CORK
501	KILLYGORDON	DONEGAL
502	KERRYKEEL	DONEGAL
503	LATTIN	TIPPERARY SR

504	LISMACAFFREY	WESTMEATH
505	LOMBARDSTOWN	CORK
506	LANESBORO	LONGFORD
507	LOUISBURGH	MAYO
508	LUCAN BALLYDOWD	DUBLIN
509	LAHERDANE	MAYO
510	LITTLE ISLAND	CORK
511	LEGLINBRIDGE	CARLOW
512	LEAP	CORK
513	LEITRIM VILLAGE	LEITRIM
514	LEIXLIP	KILDARE
515	LOUGHREA	GALWAY
516	LOUGHGLYNN	ROSCOMMON
517	LOCH GOWNA	CAVAN
518	LORRHA	TIPPERARY NR
519	LAGHY	DONEGAL
520	LIFFORD	DONEGAL
521	LISTOWEL	KERRY
522	DOORADOYLE	LIMERICK
523	LETTERFRACK	GALWAY
524	LETTERKENNY	DONEGAL
525	LISMORE	WATERFORD
526	LIMERICK	LIMERICK
527	LETTERMACAWARD	DONEGAL
528	LUCAN	DUBLIN
529	LEENANE	GALWAY
530	LINSFORT	DONEGAL
531	LAHINCH	CLARE
532	LIXNAW	KERRY
533	LISCARNEY	MAYO
534	LONGFORD	LONGFORD
535	LISCARROLL	CORK
536	LISSELTON	KERRY
537	LOUTH	LOUTH
538	LETTERMORE	GALWAY
539	LITTLETON	TIPPERARY NR
540	LISDOONVARNA	CLARE
541	LONGWOOD	WESTMEATH
542	LAURENCETOWN	GALWAY
543	MAHON	CORK
544	MALIN	DONEGAL
545	MARTINSTOWN	LIMERICK
546	MAYNOOTH BUSINESS CA	KILDARE
547	MUINE BHEAG	CARLOW
548	MOUNTBELLEW	GALWAY
549	MOUNTCHARLES	DONEGAL



550	MANORCUNNINGHAM	DONEGAL
551	MOONCOIN	KILKENNY
552	MIDLETON	CORK
553	MERRION	DUBLIN
554	MULTYFARNHAM	WESTMEATH
555	MONAGHAN	MONAGHAN
556	MULLINGAR	WESTMEATH
557	MOHILL	LEITRIM
558	MALAHIDE	DUBLIN
559	MILTOWN	KERRY
560	MILTOWN	GALWAY
561	MILFORD	CORK
562	MOVILLE	DONEGAL
563	MILFORD	DONEGAL
564	MULLAGH	CAVAN
565	MALLOW	CORK
566	MOUNTMELICK	LAOIS
567	MINANE BRIDGE	CORK
568	MONKSLAND TWO	ROSCOMMON
569	MAYNOOTH	KILDARE
570	MOUNTNUGENT	CAVAN
571	MOONE	KILDARE
572	MOATE	WESTMEATH
573	MOYNALTY	MEATH
574	MACROOM	CORK
575	MANORHAMILTON	LEITRIM
576	MURROE	LIMERICK
577	MURRISK	MAYO
578	MITCHELSTOWN	CORK
579	MILLSTREET	CORK
580	MOUNTRATH	LAOIS
581	MUFF	DONEGAL
582	MUCKLAGH	OFFALY
583	MULLINAHONE	TIPPERARY SR
584	MONIVEA	GALWAY
585	MOYVORE	WESTMEATH
586	MONASTEREVAN	KILDARE
587	MULLINAVAT	KILKENNY
588	MERVUE	GALWAY
589	MOYCULLEN	GALWAY
590	MOYVANE	KERRY
591	THE NAUL	DUBLIN
592	NARIN	DONEGAL
593	NAAS	KILDARE
594	NEWBRIDGE	GALWAY
595	NEWBLISS	MONAGHAN

596	NEWCASTLE	TIPPERARY SR
597	NEWTOWNCUNNINGHAM	DONEGAL
598	NUTGROVE EP	DUBLIN
599	NEWHALL BUS PK	KILDARE
600	NEWTOWNMTKENNEDY	WICKLOW
601	NORTH MAIN	DUBLIN
602	NEWMARKET	CORK
603	NENAGH	TIPPERARY NR
604	NEWMARKET-ON-FERGUS	CLARE
605	NOBBER	MEATH
606	NEW ROSS	WEXFORD
607	NEWPORT	TIPPERARY NR
608	NURNEY	KILDARE
609	NEWTOWNSHANDRUM	CORK
610	NEWTOWN FORBES	LONGFORD
611	NEWTOWN	MEATH
612	NUTLEY	DUBLIN
	NORTHWEST BUSINESS PARK (MITCHELSTOWN CO.	
613	DUBLIN)	Dublin
614	NEWLANDS CROSS	DUBLIN
615	NEWCASTLE WEST	LIMERICK
616	OUGHTERARD	GALWAY
617	OOLA	LIMERICK
618	OLDCASTLE	MEATH
619	OULART	WEXFORD
620	ORANMORE	GALWAY
621	OMEATH	LOUTH
622	OLDTOWN	KILKENNY
623	OYLGATE	WEXFORD
624	PALMERSTOWN	DUBLIN
625	PORTARLINGTON	LAOIS
626	PETTIGO	DONEGAL
627	PORTLAOISE	LAOIS
628	PHIBSBORO	DUBLIN
629	PARK WEST	DUBLIN
630	PALLASKENRY	LIMERICK
631	PELLETSTOWN	DUBLIN
632	PORTMARNOCK	DUBLIN
633	PARTREE	MAYO
634	PRIORY PARK	DUBLIN
635	PROSPEROUS	KILDARE
636	PASSAGE EAST	WATERFORD
637	PILTOWN	KILKENNY
638	PORTLAW	WATERFORD
639	PORTUMNA	GALWAY
640	PATRICKSWELL	LIMERICK

641	PAULSTOWN	KILKENNY
642	QUAKER ROAD	CORK
643	QUIGLEYS POINT	DONEGAL
644	QUIN	CLARE
645	QUARRYVALE	DUBLIN
646	RAHAN	OFFALY
647	RATHDOWNEY	LAOIS
648	ROCHFORTBRIDGE	WESTMEATH
649	RUSHBROOK	CORK
650	RATHCOOLE	DUBLIN
651	ROSCOMMON	ROSCOMMON
652	RATHCABBIN	TIPPERARY NR
653	RECESS	GALWAY
654	ROSSCARBERRY	CORK
655	RHODE	OFFALY
656	RATHDRUM	WICKLOW
657	RAFFEEN	CORK
658	RAPHOE	DONEGAL
659	REDHILLS	CAVAN
660	RINGASKIDDY	CORK
661	RIVERSTOWN	SLIGO
662	RATHKEALE	LIMERICK
663	ROCKCORRY	MONAGHAN
664	RATHLUIRC	CORK
665	ROSSLARE STRAND	WEXFORD
666	ROSSLARE HARBOUR	WEXFORD
667	RATHMORE	KERRY
668	RATHMULLEN	DONEGAL
669	RATHMORE	KILDARE
670	RATHMINES	DUBLIN
671	RAMELTON	DONEGAL
672	ROSENALLIS	LAOIS
673	ROCHESTOWN	DUBLIN
674	ROSSES POINT	SLIGO
675	ROSCREA	TIPPERARY NR
676	ROSSCAHILL	GALWAY
677	ROSMUC	GALWAY
678	ROSLEVIN	WESTMEATH
679	ROBERTSTOWN	KILDARE
680	RATHEDMOND	SLIGO
681	RATOATH	MEATH
682	RATHANGAN	KILDARE
683	RUSH	DUBLIN
684	ROOSKEY	ROSCOMMON
685	RAVENSDALE	LOUTH
686	RIVERSTICK	CORK

687	RIVERSTOWN	LOUTH
688	RATHVILLY	CARLOW
689	ROUNDWOOD	WICKLOW
690	RYLANE	CORK
691	SANTRY	DUBLIN
692	SHANNON AIRPORT	CLARE
693	SIXMILEBRIDGE	CLARE
694	SMITHBOROUGH	MONAGHAN
695	STRADBALLY	LAOIS
696	SCARRIFF	CLARE
697	SHERCOCK	CAVAN
698	SCHULL	CORK
699	SCOTSTOWN	MONAGHAN
700	STRAFFAN	KILDARE
701	SHILLELAGH	WICKLOW
702	SHANAGOLDEN	LIMERICK
703	SLIGO HPO	SLIGO
704	SHRULE	MAYO
705	STRANDHILL	SLIGO
706	SHANNON TOWN	CLARE
707	SHIP STREET	DUBLIN
708	SHINRONE	OFFALY
709	SKIBBEREEN	CORK
710	SHANKILL	DUBLIN
711	STROKESTOWN	ROSCOMMON
712	SKERRIES	DUBLIN
713	SHANTALLA	GALWAY
714	SLANE	MEATH
715	SALLINS	KILDARE
716	SUMMERHILL	MEATH
717	SANDYFORD	DUBLIN
718	SANDYFORD AEH	DUBLIN
719	STRANODDEN	MONAGHAN
720	SPIDDAL	GALWAY
721	SWORDS	DUBLIN
722	SUMMERHILL	DUBLIN
723	STRADONE	CAVAN
724	SCOTSHOUSE	MONAGHAN
725	ST JOHNSTON	DONEGAL
726	SUTTON	DUBLIN
727	SWINFORD	MAYO
728	TUBRID	KILKENNY
729	TARBERT	KERRY
730	TUBBERCURRY	SLIGO
731	TERMONFECKIN	LOUTH
732	TEMPLEGLANTINE	LIMERICK

733	TOGHER	LOUTH
734	THURLES	TIPPERARY NR
735	TINAHELY	WICKLOW
736	TULLA	CLARE
737	TIMOLEAGUE	CORK
738	TALLAGHT	DUBLIN
739	TULLAMORE	OFFALY
740	TULLYALLEN	LOUTH
741	TYRRELLSPASS	WESTMEATH
742	TULLOGHER	KILKENNY
743	TYRRELSTOWN	DUBLIN
744	TULLOW	CARLOW
745	TOMHAGGARD	WEXFORD
746	TEMPLEMORE	TIPPERARY NR
747	TURLOUGHMORE	GALWAY
748	TEERANEA	GALWAY
749	TALLOW	WATERFORD
750	TIPPERARY	TIPPERARY SR
751	TERENURE	DUBLIN
752	TRIM	MEATH
753	TRAMORE	WATERFORD
754	TULSK	ROSCOMMON
755	THE HEATH	LAOIS
756	THOMASTOWN	KILKENNY
757	TUAM	GALWAY
758	TRALEE	KERRY
759	WATERFORD TYCOR	WATERFORD
760	UPPER GLANMIRE	CORK
761	VIRGINIA	CAVAN
762	WALKINSTOWN	DUBLIN
763	WATERGRASSHILL	CORK
764	WHITEGATE	CORK
765	WHITEHALL	DUBLIN
766	WILKINSTOWN	MEATH
767	WICKLOW	WICKLOW
768	WILLIAMSTOWN	GALWAY
769	WELLINGTON ROAD	CORK
770	WESTPORT	MAYO
771	WELLINGTON BRIDGE	WEXFORD
772	WATERFORD	WATERFORD
773	WATERVILLE	KERRY
774	WEXFORD ANNE ST	WEXFORD
775	WEXFORD	WEXFORD
776	YOUGHAL	CORK

## Annex: 11 FTTC Bitstream Footprint

	<b>Exchange Name</b>	<b>County</b>
1	ABBEEKNOCKMOY	GALWAY
2	AUGHNACLIFFE	LONGFORD
3	ARDARA	DONEGAL
4	ADRIGOLE	CORK
5	ARDAGH	LIMERICK
6	ADAMSTOWN	WEXFORD
7	ARDCRONEY	TIPPERARY NR
8	ABBEEFEALE	LIMERICK
9	ARIGNA	ROSCOMMON
10	AUGHRIM	GALWAY
11	AGLISH	WATERFORD
12	ANNAGRY	DONEGAL
13	AHERLA	CORK
14	AGHANCON	OFFALY
15	AHASCRAUGH	GALWAY
16	AHERLOW	TIPPERARY SR
17	ACHILL SOUND	MAYO
18	ARDFIELD	CORK
19	ALLIHIES	CORK
20	ARDMORE	WATERFORD
21	ARDEE	LOUTH
22	ASDEE	KERRY
23	ATHLUNKARD	LIMERICK
24	ATHEA	LIMERICK
25	ATHLEAGUE	ROSCOMMON
26	ARDATTIN	CARLOW
27	ATHY	KILDARE
28	AUGHACASHEL	LEITRIM
29	ARVA	CAVAN
30	ANNYALLA	MONAGHAN
31	BALLINAFAD	SLIGO
32	BALLINAMORE	LEITRIM
33	BALLAGH	LIMERICK
34	BLARNEY	CORK
35	BALLINEEN	CORK
36	BANTRY	CORK
37	BALLYBAY	MONAGHAN
38	BALLYBUNION	KERRY
39	BAILIEBORO	CAVAN
40	BALLINTUBBERT	LAOIS

41	BAWNBOY	CAVAN
42	BALLINCURRIG	CORK
43	BALLYMACKEY	TIPPERARY NR
44	BALLYCONNELL	CAVAN
45	BALLYDEHOB	CORK
46	BUNDORAN	DONEGAL
47	BUNBEG	DONEGAL
48	BALLAGHADERREEN	ROSCOMMON
49	BALLYFORAN	ROSCOMMON
50	BALLYGORMAN	DONEGAL
51	BRIDGEND	DONEGAL
52	BALLINAGH	CAVAN
53	BALLYAGRAN	LIMERICK
54	BALLYGAR	GALWAY
55	BALLYHAISE	CAVAN
56	BIRDHILL	TIPPERARY NR
57	BANAGHER	OFFALY
58	BALLINACLASHET	CORK
59	BALLYHOOLEY	CORK
60	BIRR	OFFALY
61	BALLINDERRY	TIPPERARY NR
62	BALLYMAKEERA	CORK
63	BRACKNAGH	OFFALY
64	BALLYCOTTON	CORK
65	BALLYLONGFORD	KERRY
66	BALLYDUFF	WATERFORD
67	BALLINLOUGH	ROSCOMMON
68	BELCLARE	GALWAY
69	BALLYNOE	CORK
70	BALLYLANDERS	LIMERICK
71	BALLYGARVAN	CORK
72	BALLINGEARY	CORK
73	BALLYMACODA	CORK
74	BONMAHON	WATERFORD
75	BALLYMOE	GALWAY
76	BROSNA	KERRY
77	BANDON	CORK
78	BARNADERG	GALWAY
79	BERRINGS	CORK
80	BALLYBOFEY	DONEGAL
81	BORRISOKANE	TIPPERARY NR
82	BALLYPOREEN	TIPPERARY SR
83	BURTONPORT	DONEGAL
84	BALLINTRA	DONEGAL

85	BALLINROBE	MAYO
86	BROADFORD	LIMERICK
87	BROOMFIELD	MONAGHAN
88	BALLINGARRY	TIPPERARY NR
89	BALLINASLOE	GALWAY
90	BALLYSHANNON	DONEGAL
91	BALLINSPIITTE	CORK
92	BALTIMORE	CORK
93	BALLYTORE	KILDARE
94	BRITTAS	DUBLIN
95	BELTURBET	CAVAN
96	BWEENG	CORK
97	BALLYNABOLA	WEXFORD
98	BALLYCULLANE	WEXFORD
99	BALLYFARNAN	ROSCOMMON
100	BALLYHEANE	MAYO
101	BALLYLINAN	LAOIS
102	BALLYCONDON	CORK
103	BALLYCROY	MAYO
104	CORNAMONA	GALWAY
105	CROGHAN	ROSCOMMON
106	CAVAN	CAVAN
107	CANNINGSTOWN	CAVAN
108	CLONBULLOGUE	OFFALY
109	COOLBAWN	TIPPERARY NR
110	CLONTIBRET	MONAGHAN
111	CASTLEBLAKNEY	GALWAY
112	COOLCARRIGAN	KILDARE
113	CARRICKMACROSS	MONAGHAN
114	CULDAFF	DONEGAL
115	CAHERAGH	CORK
116	CLOONFAD	ROSCOMMON
117	CLOGHAN	OFFALY
118	CREGGS	GALWAY
119	CHURCHCROSS	CORK
120	CARRIGALLEN	LEITRIM
121	CARRIGANIMMY	CORK
122	CASTLEFIN	DONEGAL
123	CLOUGHJORDAN	TIPPERARY NR
124	CARRICK ON SHANNON	LEITRIM
125	COOLKENNO	WICKLOW
126	CROOKEDWOOD	WESTMEATH
127	CLONAKILTY	CORK
128	CLONBERNE	GALWAY



129	CLOYNE	CORK
130	CASTLELYONS	CORK
131	CLOONE	LEITRIM
132	COLLINSTOWN	WESTMEATH
133	CASTLEMAHON	LIMERICK
134	CASTLEMARTYR	CORK
135	CLONMANY	DONEGAL
136	CLONBUR	GALWAY
137	CLONES	MONAGHAN
138	CONG	MAYO
139	CONNA	CORK
140	CARNAROSS	MEATH
141	CARRIGANS	DONEGAL
142	CLOGHAN	DONEGAL
143	COOTEHALL	ROSCOMMON
144	COBH	CORK
145	CAPPAGH	WATERFORD
146	CAPPAMORE	LIMERICK
147	CAPPOQUIN	WATERFORD
148	CASTLEPLUNKET	ROSCOMMON
149	CAPPAWHITE	TIPPERARY SR
150	CASTLEREA	ROSCOMMON
151	CARRICK	DONEGAL
152	Clonshaugh Data Centre	N.A
153	CROSSAKIEL	MEATH
154	CASTLEPOLLARD	WESTMEATH
155	CEANANNAS MOR	MEATH
156	CASTLESHANE	MONAGHAN
157	CASTLEBLAYNEY	MONAGHAN
158	CASTLETOWNBERE	CORK
159	CASTLETOWNSHEND	CORK
160	COOTEHILL	CAVAN
161	CARLANSTOWN	MEATH
162	CURRANE	MAYO
163	CRAUGHWELL	GALWAY
164	Citywest Data Centre	N.A
165	CROOKSTOWN	CORK
166	CLONYGOWAN	OFFALY
167	DRUMCOLLOGHER	LIMERICK
168	DUNDRUM	TIPPERARY SR
169	DUAGH	KERRY
170	DONEGAL	DONEGAL
171	DUNGOURNEY	CORK
172	DONOHILL	TIPPERARY SR

173	DUNKINEELY	DONEGAL
174	DRIMOLEAGUE	CORK
175	DONOUGHMORE	CORK
176	DRUMSHANBO	LEITRIM
177	DUNMORE	GALWAY
178	DUNMANWAY	CORK
179	DRUMSNA	LEITRIM
180	DONAMON	ROSCOMMON
181	DOWRA	LEITRIM
182	DRUMCONRATH	MEATH
183	DRINAGH	CORK
184	DROMIN	TIPPERARY NR
185	DURRUS	CORK
186	DOON	LIMERICK
187	DUNIRY	GALWAY
188	DUNGARVAN	WATERFORD
189	EYRECOURT	GALWAY
190	EFFIN	LIMERICK
191	EMMOO	ROSCOMMON
192	EDMONDSTOWN	LOUTH
193	EMYVALE	MONAGHAN
194	EMLY	TIPPERARY SR
195	EYERIES	CORK
196	FERRYBRIDGE	GALWAY
197	FINUGE	KERRY
198	FEENAGH	LIMERICK
199	FAHAN	DONEGAL
200	FINTOWN	DONEGAL
201	FOUR MILE HOUSE	ROSCOMMON
202	FOULKSMILLS	WEXFORD
203	FERMOY	CORK
204	FINEA	WESTMEATH
205	FRENCHPARK	ROSCOMMON
206	FERBANE	OFFALY
207	FOUR ROADS	ROSCOMMON
208	FIVE ALLEY	OFFALY
209	GALBALLY	LIMERICK
210	GREENCASTLE	DONEGAL
211	GRACEFIELD	OFFALY
212	GLENCOLUMBKILLE	DONEGAL
213	GOLDEN	TIPPERARY SR
214	GLENEELY	DONEGAL
215	GLENGARRIFF	CORK
216	GLIN	LIMERICK

217	GOLEEN	CORK
218	GLASSLOUGH	MONAGHAN
219	GLANMIRE	CORK
220	GLENAMADDY	GALWAY
221	GRANAGH	LIMERICK
222	GREENOGUE	DUBLIN
223	GOOLDSCROSS	TIPPERARY SR
224	GORTNAGOWNA	TIPPERARY NR
225	GLENTIES	DONEGAL
226	GURTEEN	GALWAY
227	GLENVILLE	CORK
228	GLANWORTH	CORK
229	HERBERTSTOWN	LIMERICK
230	HOLLYFORD	TIPPERARY SR
231	HACKETTSTOWN	CARLOW
232	HOLLYMOUNT	MAYO
233	HOSPITAL	LIMERICK
234	HEADFORD	GALWAY
235	INCHIGEELAGH	CORK
236	INVER	DONEGAL
237	INCHYDONEY	CORK
238	INNISHANNON	CORK
239	KILMAINE	MAYO
240	KINCASSLAGH	DONEGAL
241	KILLYBEGS	DONEGAL
242	KILRICKLE	GALWAY
243	KILCROHANE	CORK
244	KILCONNELL	GALWAY
245	KESHCARRIGAN	LEITRIM
246	KILCAR	DONEGAL
247	KILCONLY	GALWAY
248	KILLINADRISH	CORK
249	KILNALECK	CAVAN
250	KNOCKNAGOSHEL	KERRY
251	KINGSCOURT	CAVAN
252	KILLEA	DONEGAL
253	KILLIMOR	GALWAY
254	KEALKILL	CORK
255	KNOCKADERRY	LIMERICK
256	KILBRITTAIN	CORK
257	KILDARE	KILDARE
258	KNOCKLONG	LIMERICK
259	KILLEAGH	CORK
260	KILMEAD	KILDARE

261	KILMACTHOMAS	WATERFORD
262	KILMAINHAM WOOD	MEATH
263	KILMEEDY	LIMERICK
264	KILLENARD	OFFALY
265	KINNITY	OFFALY
266	KILLADOON	MAYO
267	KILMORE	ROSCOMMON
268	KILNAMARTYRA	CORK
269	KILCORMAC	OFFALY
270	KILTORMER	GALWAY
271	KILLESHANDRA	CAVAN
272	KINSALE	CORK
273	KILTULLA	GALWAY
274	KILTEGAN	WICKLOW
275	KILWORTH	CORK
276	KILLYGORD	DONEGAL
277	LEABEG	OFFALY
278	LATTIN	TIPPERARY SR
279	LISMACAFFREY	WESTMEATH
280	LOUISBURG	MAYO
281	LEAP	CORK
282	LEITRIM VILLAGE	LEITRIM
283	LOUGHREA	GALWAY
284	LOUGHGLYNN	ROSCOMMON
285	LOGH GOWNA	CAVAN
286	LORRHA	TIPPERARY NR
287	LAGHY	DONEGAL
288	LISTOWEL	KERRY
289	LEMYBRIEN	WATERFORD
290	LISMORE	WATERFORD
291	LETTERMACAWARD	DONEGAL
292	LINSFORT	DONEGAL
293	LIXNAW	KERRY
294	LISCARNEY	MAYO
295	LOSKERAN	WATERFORD
296	LISSELTON	KERRY
297	LAURENCETOWN	GALWAY
298	MAHON	CORK
299	MALIN	DONEGAL
300	MAYNOOTH BUSINESS CA	KILDARE
301	MOUNTBELLEW	GALWAY
302	MOUNTCHARLES	DONEGAL
303	MANORCUNNINGHAM	DONEGAL
304	MIDLETON	CORK

305	MONEYGALL	OFFALY
306	MONAGHAN	MONAGHAN
307	MOHILL	LEITRIM
308	MILLTOWN	GALWAY
309	MILFORD	CORK
310	MOVILLE	DONEGAL
311	MULLAGH	CAVAN
312	MINANE BRIDGE	CORK
313	MAYNOOTH	KILDARE
314	MOUNTNUGENT	CAVAN
315	MOONE	KILDARE
316	MOYNALTY	MEATH
317	MACROOM	CORK
318	MACROOM WEST	CORK
319	MURRISK	MAYO
320	MITCHELSTOWN	CORK
321	MUFF	DONEGAL
322	MOYVANE	KERRY
323	NARIN	DONEGAL
324	NEWBRIDGE	GALWAY
325	NEWBLISS	MONAGHAN
326	NEWTOWNCUNNINGHAM	DONEGAL
327	NEWTOWNMOUNTKEN	WICKLOW
328	NENAGH	TIPPERARY NR
329	NEWPORT	MAYO
330	NEW ROSS	WEXFORD
331	NEWTOWNSHANDRUM	CORK
332	OOLA	LIMERICK
333	ORANMORE	GALWAY
334	PORTARLINGTON	LAOIS
335	PALLASGREEN	LIMERICK
336	PETTIGO	DONEGAL
337	PARTREE	MAYO
338	PEDLAR	CORK
339	PORTUMNA	GALWAY
340	QUIGLEYS POINT	DONEGAL
341	RATHCOOLE	DUBLIN
342	ROSCOMMON	ROSCOMMON
343	RATHCABBIN	TIPPERARY NR
344	ROSSCARBERRY	CORK
345	REDHILLS	CAVAN
346	ROCKCORRY	MONAGHAN
347	RATHLUIRC	CORK
348	RING	WATERFORD

349	ROSCREA	TIPPERARY NR
350	RATHANGAN	KILDARE
351	ROOSKEY	ROSCOMMON
352	RIVERSTICK	CORK
353	ROSSNOWLAGH	DONEGAL
354	RYLANE	CORK
355	SMITHBOROUGH	MONAGHAN
356	SHERCOCK	CAVAN
357	SCHULL	CORK
358	SCOTSTOWN	MONAGHAN
359	SHRULE	MAYO
360	SHINRONE	OFFALY
361	STROKESTOWN	ROSCOMMON
362	STRANODDEN	MONAGHAN
363	STRADONE	CAVAN
364	SCOTSHOUSE	MONAGHAN
365	ST JOHNSTON	DONEGAL
366	TARA	MEATH
367	TARBERT	KERRY
368	TEMPLEGLANTINE	LIMERICK
369	TIMOLEAGUE	CORK
370	TULLOGHER	KILKENNY
371	TULLOW	CARLOW
372	TEMPLEMORE	TIPPERARY NR
373	TALLOW	WATERFORD
374	TIPPERARY	TIPPERARY SR
375	TULSK	ROSCOMMON
376	TUAM	GALWAY
377	TULLYVIN	CAVAN
378	WATERGRASSHILL	CORK
379	WHITEGATE	CORK
380	WILLIAMSTOWN	GALWAY
381	WESTPORT	MAYO
382	YOUGHAL	CORK

# Annex: 12 Cost Modelling Annex

## Introduction

A 1.1 In Chapter 6 and in Chapter 8 of the Decision document ComReg has discussed the general costing principles and key parameters that are adopted in the NGA Cost Model and in the NGN Core Model developed by ComReg and its consultants, TERA for the purposes of assessing the costs associated with FTTC based VUA (including EVDSL) and FTTC based Bitstream (including EVDSL) after taking into account the responses received to the Consultation. This annex is intended to explore in further detail the issues raised by respondents in relation to the application of those principles in the NGA Cost Model and in the NGN Core Model and it outlines ComReg's final position in relation to these matters, including the revised approach ComReg has taken to forecasting future demand in the NGA Cost Model and the NGN Core Model.

## NGA Cost Model

A 1.2 As set out in Chapter 6, the model for determining the costs and prices associated with FTTC based services is referred to throughout this Decision as the NGA Cost Model. In the Consultation we asked respondents for views regarding the proposed timeframe, the demand forecasts and the network costs in the NGA Cost Model for determining the costs associated with FTTC/EVDSL based VUA and Bitstream services and POTS based FTTC/EVDSL services. While Chapter 6 addresses the respondents' concerns regarding the general costing principles and key parameters of the NGA Cost Model, this annex deals with the issues raised by respondents in respect of the application of those principles and ComReg's assessment of these issues.

### Migration costs

#### *Issues raised*

A 1.3 Eircom stated that [REDACTED]

[REDACTED]

A 1.4 The use of a tilted annuity with a positive price trend of [REDACTED] % to recover these migration /connection costs was also a concern on the basis that

<sup>340</sup> Eircom Annex (Review of Cost Models), §27- §28.

*“a tilted annuity introduces an unacceptable level of risk regarding the future cost recovery of connection costs given that the charges are back loaded and future FTTC demand is uncertain<sup>341</sup>.”*

- A 1.5 Eircom also take issue with the application of “a factor equal to  $(1+WACC)^{(-1/2)}$  that implies that costs are incurred six months after the work is rendered. A significant proportion of the costs relates to externally contracted services which are on [ $\leq$  ██████████ ] days net payment terms. Therefore applying this factor is incorrect.<sup>342</sup>”
- A 1.6 The AM Report requested ComReg to provide more transparency on what is included in the ‘cost of migrating end users from CGA services to NGA services’ that forms part of the monthly rental cost and how this avoids double counting with non-recurring fees charged upfront.

#### *ComReg’s position*

- A 1.7 As regards the period over which FTTC connection costs should be amortised, Eircom’s conclusion that the period of [ $\leq$  ██████████ ] years that is used to amortise FTTH connections was based on an unsupported assumption provided by ComReg’s advisers is not correct. ComReg is aware that Eircom’s accounting policy is to capitalise FTTC connection/migration costs and the documentation provided as part of the Regulatory Accounts discloses that the [ $\leq$  ██████████ ] year period assumed in the NGA Cost Model is consistent with the life of the asset<sup>343</sup> against which the majority of FTTC connection costs are capitalised. Consequently, ComReg amortised the connection costs over the same period as the life of the equivalent asset in Eircom’s accounts. Basing the period to recover FTTC connection costs in the NGA Cost Model on the amortisation period that Eircom considers appropriate in its statutory and regulatory accounts does not appear to be unreasonable.
- A 1.8 With regard to the issue on the level of connection costs that should be amortised in the NGA Cost Model, Eircom has been recovering a portion of the connection cost via an up-front connection charge. Consequently, in finalising the NGA Cost Model ComReg sought further information from Eircom on the average costs that Eircom have incurred in providing FTTC connections in recent years and also on the level of revenues generated by Eircom in relation to FTTC connection in order to calculate a net cost (average connection cost less average revenues). This average net cost per connection is then amortised over [ $\leq$  ██████████ ] years to be consistent with the asset life Eircom has adopted in its statutory and regulatory accounts. This has resulted in a reduction in the contribution of connection costs to the monthly VUA rental charge from [ $\leq$  ██████████ ].

<sup>341</sup> Eircom Annex (Review of Cost Models), § 29

<sup>342</sup> Eircom Annex (Review of Cost Models), §30.

<sup>343</sup> Asset 2601 – Customer Installation work for FTTC.



- A 1.9 In relation to the price trend for connections, ComReg considers that the price trend should be consistent with the cost of the underlying asset. As the majority of the costs associated with FTTC connections tend to be labour related ComReg has applied a positive price trend of [3% ██████████] to recover these migration /connection costs. While ComReg recognises that applying a positive price trend would tilt the unit price and hence cost recovery into the future, Eircom can mitigate any concerns it might have regarding future cost recovery by recovering a proportion of the connection cost by way of an up-front connection fee.
- A 1.10 In respect of the six month payment term in the calculation of the annualised charge, ComReg notes Eircom's comments and wishes to clarify that the model uses the same annuity formula as per industry best practices around Europe. The payment term is intended to reflect the interval between when the investment payment is made by the operator and when that investment first generates revenues.
- A 1.11 When making network investments, an operator generally begins generating revenues from its asset several months after the investment is completed (the generated cash can then be used to finance the business, reimburse shareholders, etc.). This period generates working capital and is sometimes referred as the "time to build" and can vary significantly from one asset to another. ComReg considers a six month time lag between the out payments of the investment and revenue generation strikes a reasonable balance between assuming simultaneous recovery (as might arise in the context of connections) and recovery in periods in excess of one year or more (as might arise for network expansion). Therefore, the annuity formula captures the effect of Eircom paying for the building of the network six months before the network becomes operational, that is, before it commences generating revenues.
- A 1.12 Therefore, having considered Eircom's concerns, ComReg remains of the view that is appropriate to continue to apply a payment term of six months and to maintain a price trend of [3% ██████████]. We have also revised the average cost to be amortised to be consistent with the net cost incurred, i.e. the average connection cost net of average connection revenue, and we continue to use a period of [3 ██████████] years to amortise FTTC migrations.
- A 1.13 Regarding the request in the AM Report, as noted in A 1.6, for greater clarity on what is included in the 'cost of migrating end users from CGA services to NGA services', this is the cost of connecting the customer to the fibre feed at the cabinet and to the DSLAM at the exchange and carrying out the initial tests. ComReg avoids any double counting with the non-recurring fees charged upfront by only including the average cost net of the average revenues from up-front charges for recovery as part the ongoing rental fee.

## Modelling of migration between technologies and rival platforms

### *Issues raised*

- A 1.14 Eircom identified a number of concerns with the approach taken to modelling migration between technologies in the NGA Cost Model. These included concerns, including the calculations implying all CGA migrations will be to FTTC and that volume loss to NBP are not deducted from the total base and are therefore treated as migrating to FTTC with the consequence that EVDSL lines are over-stated and that all FTTH demand will be from increased penetration<sup>344</sup>.
- A 1.15 Both the CEG Report and Eircom's response raised concerns with the modelling of level of line loss to rival platforms and Eircom also raised a number of concerns with regards to the historical migration calculation in the NGA Cost Model. These concerns included the application of a simple arithmetic average across all exchanges, setting 100% as the target value of the take-up curve and applying FTTC based data as an estimation of FTTH migration without any adjustment to be derived from market condition differences. Eircom also recommended using the weighted average of half year-based data to estimate increments.<sup>345</sup>

### *ComReg's position*

- A 1.16 ComReg and its advisors (TERA) have reviewed the approach to modelling migrations and have revised the take-up curve so that it is now based on the weighted average migration (taking into account the exchange size). However, we don't see any significant benefit from using a half-year based calculation instead of the full year.
- A 1.17 ComReg also considers that a 100% target value 8 years after the initial deployment of the network is a reasonable assumption as 100% is referencing the active line base in 2016 and not the lines passed.
- A 1.18 Also, a proportion of the FTTH demand in the 300k rural network is now assumed to be from CGA while EVDSL demand is also assumed to be deployed to target some customers in the 300k area.
- A 1.19 The level of future demand in the NGA Cost Model also considers future growth in the fixed broadband market and the likely impact of the increased competition from rival platforms on Eircom's future market share to estimate the net impact of line loss to rival platforms (including NBP) on the modelled line base. Please see Chapter 6 for further discussion on the general approach to demand modelling in the NGA Cost Model.

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<sup>344</sup> Eircom Annex (Review of Cost Models), § 17 to §19

<sup>345</sup> Eircom Annex (Review of Cost Models), §22.

## DSLAM dimensioning and capital costs

### *Issues raised*

- A 1.20 Eircom argued that the dimensioning of DSLAM assets: *“needs to be developed to recognise the combined effects of migration from FTTC to eir FTTH and the migration of demand to other NGA infrastructures as these are extended into the DSLAM area. This affect cannot be modelled by using a single efficient fill per DSLAM...When the NGA model includes projected declines in demand ...there must be an adjustment to DSLAM unit costs.*<sup>346</sup>”
- A 1.21 Eircom also noted that the annual power requirement costs per equipment is derived from the Regulated Accounts for financial year 2015/16 as a hard coded value with the result that this cost remains unchanged when it should scale in line with changing equipment demands. Eircom also identified an apparent formula error in the Economic Depreciation calculation for DSLAMs in the draft NGA Cost model, as it only takes [ $\frac{1}{50}$ ] years into account and not the full 50 years.
- A 1.22 Eircom also criticised ComReg for applying a zero price trend for the cabinet plinth (and cabinet cross connect plant, including duct and power) as *“we do not think that, for this item the assumption that price inflation will be offset by technology and product improvement by vendors is a valid one and therefore the price trend applied should reflect a positive price trend as a result of the increased cost of labour.*<sup>347</sup>”
- A 1.23 Eircom also argued that the costs of *“Opex, Power and Floors should not be capitalised. 100% of these costs should be paid in their actual year”* and noted the *“return on the capital is missing for the first year’s investment*<sup>348</sup>”.
- A 1.24 Sky and the AM Report also commented that, in their view, the dimensioning of DSLAMs does not follow a truly bottom up approach as it is based on the number of those assets operated by Eircom in 2016, whereas a *“truly bottom-up approach would initially include a lower number of assets (e.g. one per DSLAM/OLT location according to the deployment schedule) with demand over time driving the deployment of additional DSLAM/OLTs*<sup>349</sup>”.

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<sup>346</sup> Eircom Annex (Review of Cost Models), §39.

<sup>347</sup> Eircom Annex (Review of Cost Models), §, §37.

<sup>348</sup> Eircom Annex (Review of Cost Models), § 41.

<sup>349</sup> The AM Report, § 4.1.1

- A 1.25 The AM Report also stated that the dimensioning of FTTC DSLAMs that all components of the FTTC DSLAM are included in the NGA Cost Model as a single asset with a stated capacity of 192 ports and a more modular approach could be adopted by having separate assets for the FTTC DSLAM chassis, additional cards and shelves and that “*ComReg should consider the modelling the same DSLAMs for EVDSL and CGA to avoid asset duplication in exchanges*<sup>350</sup>”.
- A 1.26 BT queried why special mention and consideration is being given to cabinet design costs in the draft NGA Cost Model, noting that “*the equipment within the cabinet is standard vendor supply and any design would be included in the cost of that equipment*<sup>351</sup>”. The AM Report also sought clarity on whether ‘design and planning costs’ are assumed to be incurred only once per assets or if these costs are assumed to be incurred every time the asset is replaced.

#### *ComReg’s position*

- A 1.27 As noted at paragraph 6.115, Eircom raised concerns on the dimensioning of DSLAMs where the draft NGA Cost Model uses a single efficient fill per DSLAM, which in Eircom’s view does not allow for declines in demand due to migration from FTTC to FTTH or to rival platforms. As discussed in Chapter 6, paragraphs 6.39 to 6.65, ComReg considers that the demand forecasts in the NGA Cost Model reasonably allow for the migration of demand from Eircom’s network to other NGA infrastructures as these are extended into the DSLAM area. Also, because VDSL is being considered as an anchor technology, ComReg assumes that Eircom will not overlay its FTTC network with FTTH in the future so the NGA Cost Model does not include migration from FTTC to Eircom’s FTTH. Furthermore, the NGA Cost Model does not dimension DSLAMs by using a single efficient fill per DSLAM as Eircom assert.
- A 1.28 A single efficient fill per DSLAMs would be consistent with taking the national demand and dividing it by the efficient fill rate to derive the number of DSLAM’s and this is not how DSLAMs are dimensioned in the NGA Cost Model. Instead, DSLAMs are dimensioned at the exchange level to be consistent with data supplied by Eircom. The engineering rules in the NGA Cost Model then approximate the number of DSLAMs per exchange depending on the following:
- If demand of the year is superior the installed DSLAMs capacity (respecting the DSLAM fill rate), additional DSLAMs are deployed to cope with the demand.

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<sup>350</sup> The AM Report § 4.1.2

<sup>351</sup> BT Response, §5.3

- If demand is declining in future years then not all DSLAMs may be replaced at a site, if the demand at that site has fallen to a level that can be accommodated on a smaller number of DSLAMs. This is subject to the need to maintain at least one DSLAM at each location where FTTC services are provided.

A 1.29 Consequently, rather than applying a single fill rate for all DSLAMs as Eircom appear to suggest, the achieved fill rate for a specific DSLAM in the NGA Cost Model will depend on the level of FTTC demand that is assumed to be achieved at that location in that year and the average fill rate achieved across all FTTC DSLAMs will be less than the design capacity that is assumed for an individual DSLAM. Therefore, ComReg considers that the fill rate assumptions used to dimension DSLAMs are appropriate.

A 1.30 With respect to Eircom's concern, noted in paragraph A 1.21, in relation to the modelling of the power requirement costs for NGA equipment, Eircom is incorrect to state that the costs remain unchanged. For example, in the case of DSLAMs the regulatory accounts data for financial year 2015/2016 is used to derive an annualised unit cost for power usage per DSLAM. This unit cost is then applied to the number of DSLAMs required each year to cater for the modelled level of demand. As a result, the total annualised power costs is linked to the equipment quantities that are modelled each year, i.e. the annual costs scale with the number of DSLAMs. This approach is also adopted for other cost elements in the NGA Cost Model such as operating expenditure and accommodation. Therefore, ComReg is of the view that, in the absence of any further precision provided by Eircom, the current approach to modelling these cost elements is the best possible approximation to these costs.

A 1.31 ComReg has also reviewed the Economic Depreciation calculation for DSLAMs and we have corrected the formula error (from  $\frac{1}{n}$  to  $\frac{1}{50}$ ) as raised by Eircom (see A 1.21).

A 1.32 In relation to the issue on the price trend for plinth costs noted in A 1.22, while ComReg considers that a significant proportion of these costs might be labour related we also note Eircom's position that FTTC is not a "future proof"<sup>352</sup> technology suggesting that Eircom does not expect that it will actually need to replace the plinth in the future. As discussed in Chapter 6 (see paragraphs 6.168 to 6.173), in the NGA Cost Model the asset life determines how often assets need to be replaced and a  $\frac{1}{n}$  trend. In such circumstances, applying a positive price trend to the plinth price would only serve to inflate a future cost that Eircom do not expect to incur. Consequently, ComReg is of the view that applying a zero price trend to model

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<sup>352</sup> Eircom response, §87.

the cost of plinths in the NGA Cost Model appears to be a reasonable assumption in this context.

- A 1.33 In relation to Eircom's point, as noted in A 1.23, that the costs of opex, power and floors (as determined in the NGA Cost Model) should not be capitalised but should be recovered in the actual year, ComReg disagrees. A newly deployed network will incur opex, power and floor costs in its first year of operation but will not have sufficient demand to generate the revenues capable of recovering these costs in that year. Also, Eircom is not correct to say that the opex, power and floor costs are capitalised as these costs are assessed each year based on the network dimensioning algorithms and then included in the Economic Depreciation calculation. Under this approach all the cash flows in each year of the model time frame, including operating expenditure and capital investments, are discounted to net present value ('NPV') terms and recovered on the basis of discounted service demands.
- A 1.34 Moreover, the return on capital is not missing from the first year's investment as Eircom assert as the WACC is not used to calculate the return on capital in the Economic Depreciation calculation. Instead, the WACC is used to discount future cash flows to derive the NPV and there is no need to discount expenditure in the first year.
- A 1.35 The consequences of using an Economic Depreciation approach for the timing of the recovery of costs is further discussed in Chapter 6, paragraphs 6.168 to 6.173.
- A 1.36 In response to points raised by Sky and in the AM Report, and noted in A 1.24, regarding the concern that the modelling approach does follow a truly bottom-up approach as it is based on the number of those assets deployed by Eircom in 2016, ComReg can clarify that the reference in the consultation to "*Eircom's deployment of DSLAMs in 2016*<sup>353</sup>" was intended to refer to the planned deployment of DSLAMs rather than to the numbers then installed. While a Top Down model would base equipment numbers on the quantity of equipment actually deployed by Eircom, the NGA Cost Model uses a BU-LRAIC+ approach which requires that equipment quantities are determined by factors such as the engineering rules associated with the equipment and the number of services the equipment is expected to support.
- A 1.37 The network dimensioning algorithm in the NGA Cost Model assumes that there is minimum deployment of one DSLAM in an exchange area, as indicated by Eircom's deployment schedule, with subsequent VDSL demand over time at those sites being used to determine if there is a need for additional DSLAMs. The dimensioning of DSLAMs thus references the exchanges where Eircom deployed FTTC in 2016 (including those sites where FTTC may be planned

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<sup>353</sup> Chapter 6, paragraph 6.46 in the Consultation.

but not yet in operation) and allows for additional DSLAMs to be deployed should the assumed level of demand in an exchange area require it. In fact, due to the demand assumptions in the NGA Cost Model the maximum number of DSLAMs is not achieved until 2018.

- A 1.38 The AM Report, as noted in paragraph A 1.25, also suggests that the dimensioning of DSLAMs could be more modular, noting that all components of the FTTC DSLAM are included in the NGA Cost Model as a single asset with a stated capacity of 192 ports and that a more modular approach would allow for separate assets for the FTTC DSLAM chassis, additional shelves and cards. However, when an FTTC DSLAM is initially deployed the most significant investments are associated with installing the plinth and cabinet and providing the connectivity between the copper cabinet and FTTC cabinet with the result that an efficient operator will only deploy cabinets at sites that can serve a potential line base of sufficient scale to justify this initial investment. ComReg has reviewed the number of cabinets deployed in the NGA Cost Model and ComReg is of the view that the average fill rates achieved at each cabinet are consistent with an efficient deployment. Consequently, a more modular approach to modelling DSLAM costs is unlikely to materially change the model results and therefore we consider that a more modular approach is not necessary in this instance.
- A 1.39 ComReg has accepted the suggestion in the AM Report, also noted in paragraph A 1.25, to model the same DSLAMs for EVDSL and CGA to avoid asset duplication in exchanges. This approach has now been adopted in the NGA Cost Model so that the same DSLAM is assumed for CGA and eVDSL demand for those years after 2016.
- A 1.40 As noted in paragraph A 1.26, BT questioned why special mention and consideration is being given to cabinet design costs, which it assumed would be included in equipment costs. However, the aspect of 'design' here is used by ComReg to reference the design of the layout of the FTTC network in terms of planning the location of cabinets while BT appears to be referring to the 'design' of the equipment within the cabinet. ComReg notes that Eircom incurred significant costs in identifying and agreeing the location of FTTC cabinets with the various local authorities across Ireland and in obtaining planning permission for their installation. Agreements also had to be reached with the ESB to arrange power supplies to the planned FTTC cabinets and this means that these 'design' costs are relevant to an FTTC DSLAM but are not relevant to an EVDSL DSLAM that is located in the exchange.



- A 1.41 In addition, and with reference to the query noted in the AM Report and as outlined in A 1.26 above, these ‘design and planning’ related activities are only incurred when the FTTC cabinet is first deployed and will not be repeated should the cabinet be replaced or upgraded. Hence, ComReg finds that it is appropriate to model these planning/design type activities as separate elements in the NGA Cost Model.

### **FTTH modelling dimensioning and capital costs**

#### *Issue raised*

- A 1.42 Eircom noted that the engineering rules that have been assumed for FTTH deployment in the draft NGA Cost Model do not reflect Eircom’s FTTH engineering deployment. Eircom stated that the draft NGA Cost Model assumes a single splitter layer deployment while Eircom’s FTTH deployment consists of a two-stage splitting for rural areas. This results in differences in asset requirement and capital costs for FTTH as calculated in the draft NGA Cost Model from the actual costs incurred by Eircom<sup>354</sup>.

#### *ComReg’s position*

- A 1.43 With regard to the dimensioning of FTTH in the draft NGA Cost Model, ComReg recognises Eircom’s point that the engineering rules adopted in the draft NGA Cost Model were not consistent with the FTTH deployment that Eircom is undertaking in the rural 300k FTTH network. However, as outlined in the Consultation<sup>355</sup>, cost oriented prices for FTTH services are not derived in the NGA Cost Model as ComReg proposes to continue with a margin squeeze approach to setting FTTH prices. The only purpose for modelling FTTH in the NGA Cost Model was to consider what possible implications FTTH deployment and demand would have on the total costs of FTTC and EVDSL services as a result of network sharing and common cost recovery between the technologies.
- A 1.44 Since the Consultation, ComReg has engaged with Eircom to better understand the rural FTTH deployment and to separately estimate the FTTH network costs based on the technical solution that Eircom is adopting in the 300k FTTH network. As a result, ComReg has modified the expected level of demand on the 300k rural network to recognise that not all premises within the 300k footprint are to be targeted with FTTH as some customers that are closest to the local exchange are to be served with EVDSL. This analysis has helped ComReg to improve the modelling of the level of demand for FTTC/EVDSL and the degree of cost sharing between FTTH services and other access services in the NGA Cost Model. As a result, it is no longer necessary to explicitly model the costs of Eircom’s FTTH deployment in the NGA Cost Model in order to estimate the FTTC/EVDSL costs, hence ComReg has removed the

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<sup>354</sup> Eircom Annex (Review of Cost Models), §42.

<sup>355</sup> See paragraph 6.6 of the Consultation Document



dimensioning algorithms and capital cost calculations for FTTH from the final NGA Cost Model.

- A 1.45 To conclude, the cost of deploying Eircom's FTTH network are no longer explicitly calculated in the NGA Cost Model but the implications of the use of FTTH to serve customers in the 300k rural network are factored into the demand calculations, and cost recovery in the NGA Cost Model also considers how fixed and common costs can be shared between the various technologies in the access network, including FTTH.

### **Opex and Common costs**

#### *Issue raised*

- A 1.46 Eircom noted that common costs are based on an analysis of Eircom's costs and have been modelled with no adjustment to reflect inflation whereas Eircom argued that the level of costs should increase each year by CPI with the expectation that CPI will be positive in future years. Furthermore, Eircom considered that a significant share of common costs *"is related to staff pay and will be subject to nominal increases, if pay is to be related to general level of prices<sup>356</sup>."*
- A 1.47 Eircom considered that ComReg's approach to modelling significant elements of operating expenditure, including those related to maintenance, repair and power (but also common costs) costs as fixed over the model time frame is unreasonable, as it *"requires eir to generate operating efficiencies that cancel out nominal pay increases or any upward adjustments to contractor arrangements... What would be reasonable to assume is that, at least over the growth period considered by ComReg (i.e. up to 2026) and while eir migrates between technologies, such level of efficiency gains will fall short of inflationary pressures, as maintenance and pay are mostly driven by pay costs<sup>357</sup>".* Eircom also argue that the "highly arbitrary" justification provided by ComReg that pay increases can be offset by general efficiency gains is not substantiated.
- A 1.48 Eircom also noted that non-pay costs would also be expected to increase as many of its support systems such as the BSS/OSS systems would require capital refreshes over the coming years to support new services coming on board.

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<sup>356</sup> Eircom Annex (Review of Cost Models), §63.

<sup>357</sup> Eircom Annex (Review of Cost Models), §58.

A 1.49 The CEG report estimates that:

*“For a zero growth rate in common costs, eir would have to achieve efficiency gains that offset inflation. If eir’s common costs were to rise from FY2016 levels at an annual rate of 0.7%, to reflect CPI in March 2017, they would have risen to €[§< ██████████ ] in 2026 and € [§< ██████████ ] in 2052, increases of [§< ██████████ ]% and [§< ██████████ ]% respectively that would need to be offset by efficiency gains”<sup>358</sup>.*

A 1.50 Eircom raised a concern that modelling the level of common costs in the draft NGA Cost Model based on Regulatory Accounts for the financial year 2015/16, when a significant share of Eircom’s revenues are derived from legacy fixed telephony services, stating that: *“with the decline in legacy services and eir becoming increasingly broadband-centric, a greater share of common costs will need to be recovered from broadband revenues - and NGA broadband revenue in particular. Therefore, capping the costs at the current level will lead to an under recovery in the future”<sup>359</sup>.*

A 1.51 ComReg’s approach to modelling fault repair costs in the draft NGA Cost Model was also criticised by Eircom on the basis that the modelled level of costs did not *“allow for a higher level of repair costs required to meet forward-looking service levels<sup>360</sup>”* that were subsequently agreed with industry.

A 1.52 In addition, Eircom raised concerns with the approach taken by ComReg to modelling the operating and common costs of broadband fault repair, which is based on an analysis of Eircom’s Regulatory Accounts. Eircom stated that: *“The analysis suggests that [§< ██████████ ] of the costs are, in fact, made up of indirect (e.g. customer care) and common costs...However, ComReg has taken the approach that indirect and common costs are variable with volumes by calculating a cost per line, which include these costs<sup>361</sup>.* Eircom also stated that [§< ██████████ ] of these costs are currently absorbed by CGA and as the customers migrate to NGA the modelled approach is bound to generate an under-recovery of indirect and common costs.

A 1.53 Eircom also argued that, as the maintenance costs associated with DSLAMs include an element of costs that are indirect and common, *“ComReg should have modelled these costs as a fixed cost and not as a cost that varies with number of DSLAMs<sup>362</sup>”.*

<sup>358</sup> The CEG Report, page 88, §308.

<sup>359</sup> Eircom Annex (Review of Cost Models), §60.

<sup>360</sup> Eircom Annex (Review of Cost Models), §31.

<sup>361</sup> Eircom Annex (Review of Cost Models), §53.

<sup>362</sup> Eircom Annex (Review of Cost Models), §56.

- A 1.54 Eircom also disagreed with the inclusion of the common costs associated with DSLAM equipment in the NGN Core Model and proposes that all common costs relating to customer facing equipment should be modelled in the NGA Cost Model.
- A 1.55 Furthermore, Eircom also raised concerns with the modelling of accommodation costs as a per unit cost for VDSL set with reference to the level of network accommodation costs for VDSL reported in the financial year 2015/16 Regulatory Accounts. Eircom argued that this approach will result in an under-recovery of these costs in the future as customers move away from traditional services to new services.
- A 1.56 Eircom also argued that the Economic Depreciation approach to recovering common costs sets a path of recovery which is unreasonable and estimated that “almost [363] of the recovery is modelled to occur after 2026, when ComReg has ceased to model cash flows as the level of uncertainty of demand is higher<sup>363</sup>”.
- A 1.57 The AM Report also sought clarity on whether any efficiency checks / adjustments have been made to the cost model inputs derived from Eircom’s data (i.e., design and planning costs, network management systems, cost of migrating end users from CGA services to NGA services, etc.). To help parties other than Eircom assess the reasonableness of any efficiency adjustments made in the cost modelling, “ComReg should disclose where it made efficiency adjustments, of what magnitude and on what basis”<sup>364</sup>.

#### *ComReg’s position*

- A 1.58 As noted above at paragraphs A 1.46 - A 1.49, Eircom and the CEG Report raised concerns that significant elements of common and operating costs have been modelled as fixed over the modelled period. Furthermore, Eircom stated that a significant share of common costs are related to staff pay which should be subject to nominal increases while Eircom also noted that non-pay costs would also be expected to increase.
- A 1.59 However as Eircom noted, as outlined in A 1.46, the levels of common and operating costs that are considered in the NGA Cost Model are based on an analysis of Eircom’s costs and it is also the case that ComReg did not apply any specific efficiency adjustments to these operating and common costs before their inclusion in the NGA Cost Model. If ComReg was to consider indexing common costs and operating costs in the manner suggested by Eircom and in the CEG Report, it would first be necessary to determine what efficiency adjustments should be applied to the actual costs reported in Eircom’s accounts to ensure that only efficiently incurred costs are included in

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<sup>363</sup> Eircom Annex (Review of Cost Models), §61.

<sup>364</sup> The AM Report, Section 4.1.8.

the NGA Cost Model.

A 1.60 The fact that Eircom is continuing to implement cost saving measures through redundancy programmes and staff re-structuring is, in itself, a recognition of the scope to increase efficiency and achieve increased cost savings through revised work practices within the organisation. An example of the impact that recent restructuring is having on Eircom's ability to generate cost savings is evident in a review of the costs associated with fault repair in light of the revised SLAs recently agreed with industry.

A 1.61 Eircom, as noted in paragraph A 1.51, argued that ComReg should allow for a higher level of repair costs required to meet these revised service levels. In particular, Eircom noted that the operating costs for the access network in the Revised CAM in the 2016 Access Pricing Decision were an average of the three financial years 2012/2013, 2013/2014, and 2014/2015 but that since the Revised CAM was finalised, Eircom has reached agreement on a new SLA with industry to deliver a higher percentage of fault clearance within 2 working days. Eircom proceed to conclude that:

*“Clearly the operating costs modelled for the access network delivering FTTC and VDSL services must now be increased in the NGA Cost Model to reflect the additional resources required to enable eir’s compliance with the SLA”<sup>365</sup>.*

A 1.62 However, when ComReg requested Eircom to provide an assessment of the impact of the revised SLAs on operating costs, Eircom's review indicated that,  
[§<

[REDACTED]

[REDACTED]

A 1.63

[REDACTED]

<sup>365</sup> Eircom Response, § 103.

<sup>366</sup> Eircom Response to ComReg data request: Maintenance costs and the FTTC/EVDSL service.

- A 1.64 The fact that the pay costs in previous years reflect the grade and age profile of the staff employed at that time also means that the costs input into the models that are used to inform the level of operating costs to set cost-oriented prices for wholesale fixed access services are higher than existing market levels. This supports ComReg's position that, before the efficiency gains suggested by Eircom could be considered in the NGA Cost Model the level of operating and common costs factored into the base year of the model would first have to be discounted to recognise the inefficiencies that were embedded in the operating costs extracted from Eircom's regulatory accounting systems. Eircom is continuing to drive greater efficiencies through a series of voluntary leaving schemes, system upgrades and other cost saving measures and the impact of these measures should be apparent in future accounts .
- A 1.65 In relation to the Eircom's comment as noted in A 1.48 above that non-pay costs are expected to increase as BSS/OSS systems have to be upgraded or replaced, ComReg would expect that such investment should itself lead to improved efficiencies given the improved performance and additional functionality that newer systems deliver.
- A 1.66 In relation to the calculations in the CEG Report, as outlined in paragraph A 1.49 above, that applying a CPI related index to common costs would increase the level of common costs to be recovered each year by [§< ██████████ ], ComReg consider that achieving sufficient efficiencies to offset this level of increase over the price control period of 50 years is achievable, particularly given the fact that the base year figures still include some legacy inefficiencies.
- A 1.67 Consequently, it is ComReg's view that maintaining the operating and common cost levels as fixed by assuming zero growth should give a similar result for cost recovery over the period of the price control as would be achieved by first discounting the base year for efficiency and then applying an upward trend to subsequent years. Therefore, the position in the NGA Cost Model, that future cost increases to operating and common costs can be offset by general efficiency gains, is reasonable.
- A 1.68 As noted in A 1.52, Eircom raised concerns with ComReg's approach to modelling broadband repair costs noting that [§< ██████████ ] of the relevant costs have been classified as indirect (e.g. customer care) and common costs in the Regulatory Accounts, yet ComReg has then adopted the approach that indirect and common costs are variable by calculating a cost per line, which includes these costs. ComReg remains of the view that this is a reasonable approach as it does not accept the implication in Eircom's argument that the classifications of indirect and common costs under consideration are not variable.

- A 1.69 To support its case, Eircom has cited customer care costs as an example of an indirect and common cost that should not vary with customer numbers but ComReg does not agree as a customer care centre can handle calls in relation to a range of services such as SB-WLR, ADSL, FTTC or FTTH. As the volumes of these services evolve it seems reasonable to expect that the attribution of customer care costs would be revised in the Regulatory Accounts to reflect this, with the result that a greater share of the customer care costs would be attributed to NGA services as customers migrate from CGA to NGA. In addition, and based on our understanding of recent changes to work practices in Eircom, significant elements of repair and customer care activities are outsourced with the result that resources can more readily respond to changes in service demand. Therefore, ComReg considers that categorising customer care as an indirect and common cost but one that varies over time as the level of service demand changes is a reasonable approach.
- A 1.70 Eircom raised a similar concern in respect of the maintenance and repair costs associated with DSLAMs where they consider that indirect and common costs should be fixed and should not vary with the number of DSLAMs in the NGA Cost Model. However, when we consider that such indirect and common costs can include activities and processes such as network management, fault handling systems, logistical support and fleet related costs it seems reasonable to consider that these cost will tend to behave in a similar manner to the direct maintenance costs with which they are associated.
- A 1.71 Eircom also raised concerns that [§< [REDACTED] ] of indirect and common costs are currently absorbed by CGA and as the customers migrate to NGA the modelled approach is bound to generate an under-recovery of indirect and common cost. However, modelling the costs on a per service basis helps ensure that as the CGA line base declines and the NGA line base increases the NGA line base absorbs a larger share of these indirect and common costs, which should mitigate the risk of under-recovery.
- A 1.72 A further point to consider in this regard is that the NGA Cost Model adopts a BU-LRAIC+ approach that takes a long run view of cost recovery. One of the reasons for adopting a long run view is that this means that no costs are considered 'fixed' and all costs are variable. Even accommodation costs, which are often considered to be fixed, can vary over time as evidenced by Eircom's disposal of significant office space in recent years and its decision to relocate its headquarters from Heuston South Quarter ('HSQ'). Therefore, ComReg remains of the view that the approach to modelling some elements of indirect and common costs on a per service basis in the NGA Cost Model is reasonable.

- A 1.73 As set out above in paragraph A 1.54, Eircom also disagreed with the inclusion of the common costs associated with the DSLAM equipment for CGA services in the NGN Core Model on the basis that all common costs relating to customer facing equipment should be modelled in the NGA Cost Model. ComReg's reason for including these costs in the NGN Core Model rather than the NGA Cost Model is that the NGN Core Model is used to calculate the costs for CGA bitstream. As CGA Bitstream costs includes the costs related to DSLAMs the associated common costs are included in the NGN Core Model rather than the NGA Cost Model. However, the NGA Cost Model has been revised to ensure that, as services migrate from CGA to NGA, there will be a corresponding increase in the share of customer facing common costs to reflect the migration of CGA services to NGA so that a consistent level of cost recovery is maintained across the broadband portfolio.
- A 1.74 Eircom also raised a concern that modelling the level of common costs in the draft NGA Cost Model based on the Regulatory Accounts for the financial year 2015/2016, when a significant share of Eircom's revenues are derived from legacy fixed telephony services, effectively puts a cap on common costs that can be recovered from NGA. However, ComReg has endeavoured to ensure in the NGA Cost Model that, as customers migrate from SB-WLR and CGA broadband to NGA, the derived charges for NGA services recover the same level of common costs that were previously recovered from the legacy services. The NGA Cost Model analyses the level of common costs that is included in the Revised CAM (in the 2016 Access Pricing Decision) and then derives a cost per access service based on the estimated level of service demand in the future. This should provide a safeguard that, as customers migrate from telephony based services, either to standalone broadband or to another operator, Eircom can still recover all of its common costs.
- A 1.75 As noted in paragraph A 1.56 above, Eircom raised a concern that the Economic Depreciation approach used to recover common costs sets a path of recovery which is unreasonable and that almost [3< ██████████ ]% of the common cost recovery is modelled to occur after 2026. ComReg would like to clarify that common costs in the NGA Cost Model have been modelled as a recurring cost. Consequently, given the assumption of constant common costs in the NGA Cost Model, every year over the lifetime of the model the same annual level of common costs are incurred. Economic depreciation ensures all costs are recovered in NPV terms in the model time frame and ComReg do not consider that recovering over [3< █████ ]% of the discounted cost flows associated with common costs are recovered in the first 14 years (2013 – 2026) of a model with a 50 year time horizon is unreasonable.

- A 1.76 Indeed, in a model with a 50 year time horizon and a constant level of common costs each year, only 28% (14\*2%) of the total costs in nominal terms would have been incurred in the first 14 years of the model time horizon. Because the Economic Depreciation approach is used to model the recovery of common costs, very little of the costs that are incurred in the early years are assumed to be recovered in those years as network demand is too low to support full recovery. As a result more costs have to be recovered in those years when demand has matured and the network is operating at more efficient levels. This means that the large “deficits” that are modelled to arise in the NGA Cost Model take place in the years from 2013 to 2017, which are the years immediately after network deployment, when service uptake and demand on the network is modelled as being at its lowest. By 2018, demand is modelled to be nearer efficient levels and the model starts to recover more in common costs each year than the annual cost that is incurred in that year, on the basis that the model has to generate a surplus in these years to offset the ‘deficits’ recorded in the earlier years.
- A 1.77 Therefore, for those years covered by the price control, the prices derived in the NGA Cost Model should allow Eircom to fully recover the annual common costs that it incurs each year in that period. By 2027 it is modelled to recover almost 100% of the total common costs in nominal terms that have been incurred to date.
- A 1.78 In relation to the request for further clarification in the AM Report on the basis and magnitude of any efficiency adjustments made in the cost models (see paragraph A 1.57), ComReg did not consider that it was necessary to make the same level of operating costs adjustments in the NGA Cost Model compared with those made in the Revised CAM. The Revised CAM is a BU-LRAIC+ model of Eircom’s copper access network and, because of the age of the copper access network, ComReg felt that it was necessary to make significant adjustments to Eircom’s historical operating costs to ensure the operating costs were more aligned with the assumption of an access network comprising new copper cables that underpins the BU-LRAIC+ approach<sup>367</sup>.
- A 1.79 Similarly, Eircom still operate legacy platforms in parallel with its NGN core network and there is a greater need to recognise the potential efficiencies that a move to a full NGN core network can achieve. Therefore, ComReg has factored efficiency adjustments into the operating costs inputted into the NGN Core Model and these are discussed under the Operating Expenditure section starting at paragraph A 1.146 below.

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<sup>367</sup> Further discussion on the modelling of operating costs for BU-LRAIC+ in the Revised CAM can be found in ComReg 15/67, paragraphs 5.238 to 5.240.



A 1.80 On the other hand, Eircom only started investing in the FTTC/EVDSL infrastructure that is modelled in the NGA Cost Model in 2013, so ComReg did not consider that there was a need to make significant efficiency adjustments to the associated operating costs recorded in Eircom's Regulatory Accounts, as the issues that affect Eircom's legacy copper network do not apply in the case of the recently deployed FTTC/EVDSL network. Therefore, rather than imposing efficiency adjustments to the operating costs that are inputted into the NGA Cost Model ComReg has approached the issue of future efficiency by holding the level of operating and common costs constant for the modelling period without considering any nominal increases. This has the effect of requiring Eircom to drive efficiency gains to offset any future inflationary pressures in operating costs and, given how recent the investment in FTTC/EVDSL technologies has occurred, ComReg is of the view that this is a reasonable approach to take in the NGA Cost Model.

### **Application of Economic Depreciation**

#### *Issues raised*

- A 1.81 The AM Report suggested that the use of Economic Depreciation is reasonable in the NGA Cost Model but that the implementation could be improved. In particular, the AM Report notes "*that the ED calculation only takes into account asset cost trends when calculating the discounted volume for subscribers (if that option is selected). The ED calculation does not appear to apply the asset cost trend to the result of the division (discounted costs/discounted volumes of subscribers) to calculate a price that changes over time*<sup>368</sup>".
- A 1.82 The AM Report suggested that a price which is constant for every year of the cost model is not consistent with an Economic Depreciation method reflecting the economic value of the assets (i.e. the asset cost trend).

#### *ComReg's position*

- A 1.83 The AM Report suggested that the Economic Depreciation calculation in the NGA Cost Model could be improved by applying the asset cost trend to the discounted cost calculation that is undertaken in the model. ComReg is of the view that the amendment to Economic Depreciation calculation proposed in the AM Report is appropriate when a general inflation index such as the Retail Price Index (RPI) is taken into account in the calculation of the depreciation of assets but that the calculation in the NGA Cost Model is reasonable when the depreciation of assets does not consider the general inflation index.

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<sup>368</sup> The AM Report, Section 4.1.2.

A 1.84 The two approaches are similar but ComReg and its advisors have used the approach that disregards RPI and does not apply the price trend to the unit cost calculation as it is closer to the tilted annuity approach used in other fixed models.

### **Additional WACC mark-up**

#### *Issues raised*

A 1.85 The CEG Report argued that the application of cost based regulation to Eircom's FTTC investment would harm investment incentives as it prevents Eircom from earning a 'fair bet' on its investment.

A 1.86 The CEG Report proposed that ComReg can "*moderate (although not eliminate) the harm to investment*" by applying a mark-up to the regulated WACC for FTTC investment, and noted that a mark-up of 1.5% would be in line with the mark-ups allowed by a number of other regulators in Europe<sup>369</sup>.

#### *ComReg's position*

A 1.87 The point raised on 'fair bet' is discussed in Chapter 3, paragraph 3.116.

A 1.88 ComReg does not accept that it is appropriate to include an additional WACC mark-up in relation to FTTC investments in the NGA Cost model for a number of reasons.

- Firstly, while ComReg recognises that in some circumstances it can be appropriate to include a risk premium in the WACC, it is also the case that the deployment of different NGA technologies can be exposed to different market risks. As noted in the TERA Report, the 2010 EC Recommendation recognised that the risk premium for FTTH products is significantly higher than for FTTC products and the TERA Report also recognises that FTTC networks tend to require less investment per customer than FTTH, as the FTTC service shares a larger part of the network (D-side sub loops) with CGA networks<sup>370</sup>. This also makes the per-customer cost for FTTC less dependent on the NGA penetration rate. Consequently, the requirement for a mark-up on the WACC for FTTC investment is much less than it might be in the context of FTTH. Please also see Chapter 6, paragraph 6.58 - 6.59 of the Consultation for further details.

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<sup>369</sup> The CEG Report, Section 8.3.1.

<sup>370</sup> The TERA Report, § 5.2.6.

- Secondly, Eircom began to deploy its network in 2013 and the published Separated Accounts for the following years indicate that Eircom continued to record returns above the regulated cost of capital in the Wholesale Access Market, as the higher level of returns in wholesale fixed narrowband access more than compensated for the lower returns experienced in wholesale fixed broadband access. Despite the price reductions for copper based services following from the 2016 Access Pricing Decision, the level of returns reported in the Wholesale Access Market in the 2016/2017 Separated Accounts are still above the regulated level of return of 8.18%, indicating that, even allowing for the increase in NGA investment as it deploys a rural FTTH network, Eircom is not being prevented from getting a 'fair bet' on its investments. Please also see Chapter 3, paragraph 3.116.

### **Wholesale Ethernet Interconnect Link (WEIL) cost**

#### *Issue raised*

A 1.89 Eircom noted that regional handover would require an interconnect link at every region so the modelled number of WEILs should be calculated at a regional basis, with the minimum of one link per region. Eircom also noted that the calculation of the port costs for NGA Bitstream in the NGA Cost model is inflated by the inclusion of the cost of the WEIL. "As ComReg are aware, open air charges for WEILs and NGA Bitstream separately. This double count inflates the cost/price of the port price in each year of the NGA Cost Model<sup>371</sup>".

#### *ComReg's position*

A 1.90 ComReg notes that in the NGA Cost Model the WEIL is considered to be located at the local VUA site and that this approach is consistent with regional modelling outlined by Eircom. We also accept that the cost of the WEIL should not have been included in the cost stack to derive the NGA Bitstream port price and have amended the NGA Cost Model accordingly.

### **Pots based FTTC**

#### *Issue raised*

A 1.91 In a letter to ComReg Sky raised concerns that the [redacted] [redacted] ]<sup>372</sup>. Sky cite the reallocation of access costs from the narrowband to broadband in Eircom's financial year 2016/2017 Regulatory Accounts, which Eircom note (by way of explanation in the Regulatory Accounts) as being due to an increase in standalone broadband volumes, and Sky consider that this is evidence of a "double recovery" of costs being proposed on sellers of POTS based FTTC. Furthermore, Sky is of the view that this implies ComReg's proposals would [redacted]

<sup>371</sup> Eircom Response, §135.

<sup>372</sup> Sky letter, January 2018, Section v, paragraphs 18 and 19.

[REDACTED]

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*ComReg's position*

- A 1.92 In the Consultation, ComReg proposed that the POTS based VUA charge should be derived with reference to the additional costs that are incurred when a POTS based service is provided on top of an FTTC/EVDSL VUA service. As a result, the supplemental charge for the POTS based VUA service is added to FTTC VUA charge rather than the SB-WLR charge. ComReg considered that this approach better aligns with the principles of cost orientation and helps ensure that when a reseller opts for a POTS based VUA service it is not double charged for any of the network elements that are required to deliver the service.
- A 1.93 Therefore, as noted in paragraphs 6.147 and 6.148 of the Consultation, the incremental copper loop costs relevant to POTS based VUA for FTTC based VUA can be derived as the difference between the cost of SLU that is recovered in the FTTC based VUA charge and the full costs of LLU, while for EVDSL based VUA services the incremental cost should only be the cost of the POTS line card as the full LLU cost is already recovered in the EVDSL charge.
- A 1.94 In its letter to ComReg, Sky noted Eircom's explanation that a reduction in the overall level of depreciation costs reported in the wholesale fixed narrowband market in its Regulatory Accounts for the financial year 2016/2017 was '*due to the increase in **standalone broadband** volumes which **has the effect of moving access costs to the broadband products***' while '*overall operating costs have increased by 9% due primarily to the continued expansion of NGA and **increased SABB volumes***' in the wholesale broadband market (Sky's emphasis).
- A 1.95 Sky then suggested that cost causation principles should see lower charges for the POTS based element of the POTS based FTTC services due to the reduced depreciation charge that Eircom is reporting in the wholesale fixed narrowband market while ComReg is ignoring that [REDACTED] is the factor that is contributing to the increased cost allocations to broadband. Sky also asserted that "*what is causing the costs to be increased is not where ComReg is seeking to have these costs recovered.*"<sup>373</sup>

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<sup>373</sup> Sky letter, paragraph 21.

- A 1.96 However, ComReg does not agree with Sky's interpretation of the implications of the cost explanations in Eircom's Regulatory Accounts that Sky quoted in the letter. In particular, ComReg do not agree with Sky's conclusion that the pricing approach adopted for POTS based VUA [§< [REDACTED] ]...*This double injustice (over paying on POTS and paying for SABB FTTCs newly allocated access costs) is arbitrary, unfair and based on irrational considerations by ComReg and must be amended before the final decision. There is no proportionality argument than can or has been presented by ComReg to justify this approach*<sup>374</sup>."
- A 1.97 To date, Eircom allocate all the costs of the copper loop to the Wholesale Fixed Narrowband Access statement in the Regulatory Accounts when the loop is being used to provide a SB-WLR service and only allocate the loop costs to the Wholesale Fixed Broadband statement when the loop is used to support a Standalone Broadband service. This is consistent with the assumption that all the copper local loop costs are recovered against the SB-WLR service and, hence, no copper local loop costs need to be attributed to the Wholesale Fixed Broadband service that is sharing the copper local loop with SB-WLR. Consequently, the costs associated with the copper local loop are only attributed to the Wholesale Fixed Broadband market when a standalone broadband (SABB) service is sold.
- A 1.98 However, although an increase in SABB volumes will result in more local loop costs being allocated to the wholesale fixed broadband statement in Eircom's Regulatory Accounts and less costs being allocated to SB-WLR services in the fixed narrowband statement, it does not mean that we should necessarily see lower charges for the POTS based services as a result. As customers migrate from SB-WLR to SABB both the costs allocated to SB-WLR and the revenues reported against SB-WLR will be lower but the unit costs for SB-WLR may be unaffected if the overall number of local loops on the copper access network remains unchanged.
- A 1.99 Indeed, the revised prices for standalone VUA and POTS based VUA that ComReg is introducing should lead to relatively less local loop costs per VUA services being allocated to the Wholesale Broadband Market in future Regulatory Accounts in recognition of the lower costs of lines in the FTTC/EVDSL footprint, whereas the SB-WLR services continue to use the longer loops outside this footprint.

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<sup>374</sup> Sky letter, paragraph 22.

A 1.100[3<



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A 1.101 Consequently, Sky's assertion that ComReg "*ignore that what is driving up the cost of broadband service is a transfer of assets*<sup>375</sup>" is unfounded as the approach to modelling the cost oriented prices for FTTC and EVDSL VUA explicitly factors in the use of these assets by the VUA services. Indeed, as the cost oriented prices for FTTC VUA recognise that an FTTC customer only uses an E-Side copper feed when it is using a POTS based VUA service the danger is that the unit costs of the E-Side copper could increase for the residual POTS base as customers migrate from POTS based services to SABB and this is one of the concerns that Eircom has raised in relation to access cost recovery<sup>376</sup>.

A 1.102 As discussed in Chapter 6 of this Decision, ComReg has reviewed the recovery of the copper access costs across all services in light of the responses received to the Consultation. In determining cost oriented prices for FTTC and EVDSL VUA, the calculations in the Revised CAM and the in NGA Cost Model recognises that these services can only be provided to customers that are within 1.5km of the FTTC cabinet and within 3km's of the local exchange. Sky raised a concern that any contribution to WLR lines outside the FTTC footprint is a "*de facto subsidy*"<sup>377</sup> but ComReg can confirm that the derived prices for FTTC and EVDSL VUA do not make any contribution to the costs of the infrastructure that is used solely to provide longer WLR lines outside this footprint.

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<sup>375</sup> Sky letter, paragraph 21.

<sup>376</sup> For further information, see the section on copper cost recovery in Chapter 6.

<sup>377</sup> Sky letter, paragraph 23.





- A 1.108 Eircom further noted that the WACC appears to be used as a price trend for the D-side assets of the FTTH network and Eircom considered that this was due to a formula error.
- A 1.109 Eircom also raised the point that the costs associated with carrier billing and carrier administration are multiplied by a figure of [ $\%$  ██████████]%, which is hard coded with no details on how the figure is produced.
- A 1.110 Eircom also raised a concern that there were inconsistencies with the way that unit cost data and price trends were applied in the NGA Cost Model and that, due to a regrouping of cost elements, some elements in the model have zero cost trends and zero cost data<sup>381</sup>. A footnote also noted that the cost element for the copper link cable between the FTTC cabinet and the copper cabinet is modelled with [ $\%$  ██████████] price trend, despite the 2015 and 2016 unit cost data suggesting an [ $\%$  ██████████] increase in costs year on year<sup>382</sup>.
- A 1.111 Eircom also expressed a concern that the common costs associated with the NGA link are not modelled to increase and argued that the costs should be indexed with a general price increase factor
- A 1.112 Eircom also argued that the fill rate for links should be between [ $\%$  ██████████ ██████████] to “*reflect the high quality of service provision of the efficient service provider*”<sup>383</sup>.

#### *ComReg's position*

- A 1.113 In relation to the modelling of NGA link costs, we agree with Eircom's finding that there was an error in the NGA Cost Model whereby the NGA link cost that applied in 2013 used an input price from 2016, with no adjustment. This has been corrected.
- A 1.114 The use of '12' as a conversion factor from an annual to a monthly cost is based on the 12 calendar months in the year. The costs are annualised for a particular network asset using the Economic Depreciation calculations by deriving the NPV of all expenditures undertaken for that network asset in each year of the model's time horizon and the NPV of all the demand supported by that asset for each year. This gives a discounted unit cost based on projected expenditure and projected demand across the 50 years of the model time horizon.
- A 1.115 While ComReg accept that, in any one year, the average number of customers per month can differ from the number of customers at the mid date of the year divided by 12, the fact that the NGA Cost Model is annualising a unit cost with reference to the annual costs and demands experienced over a 50 year time frame mitigates the impact that any one year's demand pattern can have on

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<sup>381</sup> Eircom Annex (Review of Cost Models), §50.

<sup>382</sup> Eircom Annex (Review of Cost Models), footnote 33.

<sup>383</sup> Eircom Annex (Review of Cost Models), §52.



the outcome. Consequently, ComReg remains of the view that the current approach to converting the annual unit cost to a monthly equivalent is appropriate.

- A 1.116 As noted above, Eircom raised concerns on the modelling of the line lengths for SLU. ComReg notes that the draft NGA Cost model that accompanied the Consultation included five different scenarios for SLU line length and, for ease of modelling, the model applied a single price trend to all the scenarios. In the updated NGA Cost Model, ComReg has decided that the SLU costs should be determined with reference to the costs of all SLU lines that are within 1.5km from the FTTC cabinet, rather than 2.5kms as proposed in the Consultation. Consequently, all other SLU scenarios have been removed from the NGA Cost Model. The Revised CAM is used to calculate the relevant SLU costs for the years 2016 – 2020 and these are then used as an input to the NGA Cost Model, where a price trend is then derived from the evolution of the 2016 to 2020 annual SLU costs, in order to calculate the cost that should apply in 2021 and subsequent years. Please see Chapter 6, paragraphs 6.211 to 6.227 for the discussion on the change in the SLU line length from 2.5kms to 1.5kms.
- A 1.117 In relation to Eircom's point regarding the use of the WACC as a price trend in the formula to calculate the costs of D-Side assets in the FTTH cost calculations, ComReg notes that this the relevant cells should have been labelled as "WACC" rather than "Price Trend" and accept that there was an error in the formula cell references. This has now been corrected.
- A 1.118 As noted above, Eircom raised concerns on the use of a [§< ██████████ ] factor that is applied to the carrier billing and carrier administration costs in the NGA Cost Model. ComReg notes that this factor is derived in the Revised CAM and it represents the proportion of total local loop costs that are accounted for by the SLU related network elements (D-side copper and final drop). As the Revised CAM derived the costs of carrier billing and carrier administration as percentage mark-ups on the network element costs, this was considered to be an appropriate basis for determining the share of carrier billing and carrier administration costs for local loop that should be recovered from the SLU charge, which is used as an input to the VUA cost stack. However, ComReg has now included the carrier billing and carrier administration costs for VUA services in the NGA Cost Model on the basis of the average costs for FTTC/EVDSL rental services as recorded in the latest regulatory accounts.

A 1.119 In relation to Eircom's concern about the use of unit cost data and price trend data in the NGA Cost Model, as noted in A 1.110 above, the cost data is based on information provided by Eircom and the model itself was also reviewed by Eircom. ComReg accept that, as the model developed a number of cost elements were regrouped with the result that some cost elements were considered redundant. Applying zero values to these elements is equivalent to removing them from the model. Also, ComReg is of the view that basing a price on two year's data would not be robust, particularly when the price change was as significant as the variance in [redacted] unit costs highlighted by Eircom. Therefore, ComReg has accepted the recommendation of its advisors and remains of the view that the price trends used in the models are appropriate.

A 1.120 ComReg acknowledges Eircom's point (see paragraph A 1.111) that the fill rates used for links in the NGA Cost model should be consistent with efficient service provision. As a result, the backhaul fill rate has been amended to [redacted]. Regarding the indexing of common costs (see A 1.111) ComReg's position on the modelling of common costs is outlined in paragraphs A 1.58 to A 1.67 above.

## **NGN Core Model**

A 1.121 As set out in Chapter 8 of the Decision, the model for determining the costs for the provision of core network services is referred to as the NGN Core Model. The main outputs of the NGN Core Model in the context of this Decision are Eircom's BU-LRAIC+ costs for current generation broadband services (Bitstream and BMB services) and the costs of NGA Bitstream backhaul for conveyance across the core network. In addition, the NGN Core Model also determines the costs of an OAO (a REO) providing current generation Bitstream and BMB services, which can be used in order to set a Bitstream price floor.

A 1.122 In the Consultation (Chapter 8) ComReg asked respondents for views regarding the proposed inputs and assumptions in the NGN Core Model. While Chapter 8 of this Decision deals with the general costing principles and key parameters of the NGN Core Model, this annex deals with the issues raised by respondents on the application of those principles and ComReg's assessment of them.

### **Exclusion of CDWM and DWDM**

#### *Issue raised*

A 1.123 Eircom noted that it was unclear why the CDWM and DWDM network equipment costs were excluded from the NGN Core Model in deriving the summary cost base for the network.

### *ComReg's position*

A 1.124 At paragraph 8.91 of the Consultation ComReg stated that “*The NGN Core Model parameters allows for the exclusion of WDM technology costs as the cost model has deployed sufficient fibre optic cable capacity of up to 48 fibres so removing the need for optical multiplexing*”. Therefore, given that the NGN Core Model includes sufficient fibre capacity to cater for the assumed levels of demand there is no need to CWDM or DWDM to augment the fibre capacity so the costs of these technologies are excluded from the cost base used to determine cost oriented tariffs for services using the NGN network.

A 1.125 However the NGN Core Model does continue to include the cost of next generation optical multiplex and switching equipment known as ROADM (Reconfigurable optical Add-Drop Multiplex), which are included in the cost base for routers (in the worksheet Nodes). The inclusion of this technology reflects the augmented switching capacity associated with ROADM equipment, which brings design and cost efficiency to the upper layers of the NGN network hierarchy.

### **Credit terms**

#### *Issue raised*

A 1.126 Eircom also raised an issue relating to the annuity equations used in the NGN Core Model for the cost recovery of WDM and APT equipment costs. This related to the degree of credit terms offered by suppliers to Eircom. Eircom noted that the equation suggested that supplier credit terms extended to up to six months, whereas Eircom noted that its experience is of payment terms that are substantially less than 6 months, “*being largely between 30 and 45 days*<sup>384</sup>”.

#### *ComReg's position*

A 1.127 ComReg notes Eircom's views, but wishes to clarify the nature of the 6 month period which is contained in the annuity calculations. This period reflects the interval between the investment payment made by the operator and when that investment starts to generate revenues from products/services using the investment asset. This period is often referred to as the “time to build” and determines the cost of working capital linked to such investments. The period of 6 months as a time to build period is regarded by ComReg and its advisors (TERA) as reflecting best industry practice across Europe.

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<sup>384</sup> Eircom Annex (Review of Cost Models), §78.

## Allocation of fixed NGN costs

### *Issue raised*

A 1.128 Eircom noted that the proposed allocation of fixed NGN costs based on revenue is informed by an analysis by network element of the share of NGN costs attributable to each service category (voice, broadband and leased lines) taken from Eircom's Separated Accounts model for financial year 2015/2016 and this detailed analysis includes network elements that Eircom consider to be "*inconsistent with ComReg's proposed approach*". In particular, Eircom argued that Subscriber unit (line-card sensitive) costs are attributed to the access network and are recovered through access prices (WLR) while Interconnect facilities are not – strictly speaking – within the scope of the NGN network and recovered through the RIO interconnect prices rather than through charges for wholesale voice services<sup>385</sup>.

### *ComReg's position*

A 1.129 ComReg notes that the inclusion of the line sensitive costs associated with the line card in the analysis of voice related revenues was an error and this has been corrected in the updated version of the NGN Core Model.

A 1.130 ComReg also recognises that not all the revenues associated with interconnect facilities are within the scope of the NGN Core Model, principally those associated with Outpayments. Therefore, revenues and costs associated with Outpayments are excluded. In addition, not all the associated costs are recovered directly from the RIO interconnect prices, but rather through charges for wholesale voice services. However, part of the interconnect revenue is related to the use of NGN network elements and this is reflected in the revised assessment of revenues.

### *Issue raised*

A 1.131 Eircom also noted that the allocation of the fixed costs within the NGN Core Model contained what it considered to be an 'error' as the input average peak traffic demands for FTTC services referenced the peak consumption for CGA broadband services as opposed to NGA FTTC peak consumption<sup>386</sup>.

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<sup>385</sup> Eircom's Annex (Review of cost models), §81.

<sup>386</sup> Eircom's Annex (Review of cost models), §82.

*ComReg's position*

- A 1.132 Eircom is correct that the calculation of the per port costs per zone for FTTC/VDSL is calculated with reference to the peak CGA demand rather than the peak NGA demand as would be expected. However, this calculation is allocating the broadband service share of the NGN fixed costs between the aggregation and core nodes between CGA and NGA demands, i.e. the costs do not vary if traffic/service volumes change. Consequently, traffic is not a cost driver and weighting the CGA and NGA demands by the relative peak traffic demands for each technology is not required. However, as previous versions of the NGN Core Model did attribute core NGN costs with reference to relative traffic demands in the NGN Core Model in the Consultation weighted both the CGA and NGA demands equally by referencing both sets of demands to the same peak CGA demand.
- A 1.133 To avoid further confusion, the updated NGN Core Model now contains a 'Port Cost Scenario' option, where Option 1 applies the same peak bandwidth for all broadband technologies (effectively no weighting) and Option 2 applies a different peak bandwidth depending on the technology (higher weighting for NGA compared with CGA). Option 2 would only be appropriate if the allocation of fixed NGN costs to services is performed using the capacity based allocation approach<sup>387</sup>. If fixed NGN costs are allocated to the different service categories (broadband, leased lines, voice, IPTV) based on the peak hour traffic of each service making use of the asset then selecting Option 2 would provide consistency as bandwidth is used to first allocate the fixed costs to services and then used to further allocate the broadband share of these costs to NGA and CGA demands.
- A 1.134 However, the fact that ComReg has now decided (in Chapter 8) that the fixed costs should be allocated to service categories based on the number of users by service weighted by the average 'core' revenues of the various services implies that Option 1 is more appropriate as this is consistent with the volume based weighting used to allocate costs to service categories and is not impacted by changes in the peak demand per service. Please see Chapter 8 for further details. The average incremental impact on FTTC based Bitstream in relation to this point has resulted in an increase to national handover FTTC based Bitstream price by €3.65 and an increase to regional handover FTTC based Bitstream of €1.47. Please see Figure 11 at Chapter 7. For current generation services, the current generation Bitstream national handover price increased by €3.47, the current generation Bitstream regional handover price increased by €2.50 and the Bitstream IP price increased by €2.67. Please see Figure 14 in Chapter 9.

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<sup>387</sup> See Chapter 8, section 8.5.8 of the Consultation.

## Demand and core network usage

### *Issue raised*

A 1.135 Eircom argued that the NGN Core Model over-states the use of the core network in 3 ways:

- ComReg has not calculated the effect that VUA will have in reducing the use of the higher layers of the core network (i.e. beyond the aggregation nodes).
- ComReg has not calculated the effect that regional handover will have in reducing the use of the higher layers of the core network.
- ComReg's demand forecasts have not captured the decline in retail's share of overall broadband base and the impact this will have on the use of core network.

### *ComReg's position*

A 1.136 As noted in paragraphs 8.30-8.31 and 8.47-8.48 in Chapter 8 of the Consultation, the migration of OAO demand from national handover either to regional handover or to VUA will reduce the use of the higher layers of the core network by broadband services. The Consultation considered this matter in the context of regional and national handover, noting in particular, that regional handover "*avoids the use of network components which are in place to facilitate traffic transiting between regions e.g., IP Core Router... This results in the OAO incurring lower charges for its use of Eircom's network but to avail of this option OAOs need to invest in interconnection facilities in each of the NGN network regions where this option is required*<sup>388</sup>". In addition, the NGN Core Model demand profile was updated to recognise the larger share of broadband demands coming from other operators in the wholesale market.

A 1.137 However, although the NGN Core Model that informed ComReg's Consultation did distinguish between regional and national handover in the modelling of wholesale demand, Eircom is correct in observing that it did not make adequate allowance for OAOs migrating to VUA and the impact this would have on the overall use of the various parts of the core network and the implications this might have for charges for core network services. To address this matter ComReg has now segmented the broadband base into four sub-categories comprising:

- wholesale VUA;
- wholesale regional handover;
- wholesale national handover;
- retail broadband.

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<sup>388</sup> ComReg Document 17/26, § 8.34,

A 1.138 Routing factors for each of these broadband sub-categories are also derived for the different network elements that are modelled in the NGN Core Model, including:

- APT Equipment electronics at the remote exchange sites.
- Fibre and trench costs from the remote exchanges to their parent Aggregation node location.
- The fixed cost element of the Aggregation Node routers.
- Fibre and trench costs from each of the Aggregation node exchanges to their parent Edge or regional node location.
- The fixed cost element of the Edge Node routers.
- Fibre and trench costs from each of the Edge node exchanges to their parent Core router or node location.
- The fixed cost element of the Core Node routers.

A 1.139 ComReg has also reviewed the demand forecasts to ensure that the level of demand of each of the services takes the increased use of VUA and regional handover into consideration and recognises Eircom retail's declining market share. The allocation of the network element costs to services is then determined by the relative usage of each network element, which is derived as the product of the volumes of each service (revenue weighted users per service) and the routing factors associated with each of the network elements.

A 1.140 Further information on routing factors can be found in Chapter 8, Section 8.4.3 of the Consultation.

### **OAO scenario**

A 1.141 In Chapter 7 of the Consultation ComReg considered the option of basing the FTTC based Bitstream price on Local VUA sites yet to be unbundled in the Regional WCA Market<sup>389</sup>, i.e., 48 sites or 397 exchanges which are connected to those 48 Aggregation Node sites in the Regional WCA Market. This means establishing the cost for FTTC based Bitstream using a BU-LRAIC+ methodology and with Eircom's Indexed RAB for Reusable Assets e.g., ducts and poles. We also adjusted the specific NGA Bitstream costs to the scale of a hypothetical SEO with 25% market share, as an appropriate proxy for REO costs. The price derived is based on the average cost per line in those Local VUA sites yet to be unbundled.

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<sup>389</sup> There are 141 local VUA sites on the open eir network, of which 79 are currently unbundled. Of the remaining 62 yet to be unbundled sites, 12 are in the urban market and 48 are in the regional market.

*ComReg's position*

- A 1.142 The intention in modelling the OAO scenario is to identify the margin between FTTC based Bitstream and FTTC based VUA that is necessary to encourage an alternative operator to invest in VUA in those sites or exchanges where VUA is currently not available. Therefore, this approach aims to ensure that the appropriate investment signals are provided in the relevant areas i.e., in those exchanges which have not been unbundled to date but which are commercially viable for alternative operator investment.
- A 1.143 Additionally, under the OAO scenario the hypothetical operator is assumed to purchase VUA at the 48 sites and to backhaul the traffic from these sites across its core NGN. Therefore, the broadband services that are carried on the OAO's core NGN can be modelled as a combination of regional and national handover with the majority of traffic carried as national handover. Consequently, in the OAO scenario 95% of the traffic is assumed to be carried in the form of national handover with the remaining 5% carried as regional handover. Modelling the cost of bitstream in this way should ensure that the bitstream price provides sufficient margin to recover the backhaul costs borne by alternative operators having unbundled exchanges where remote VUA is available.
- A 1.144 Another difference between the Eircom and OAO scenarios as they are applied in the NGN Core Model relates to the degree of network sharing that is assumed to exist between the core and access networks. The Eircom scenario is based on Eircom's network and recognises that there is a degree of infrastructure sharing with core and access cables making use of the same trench infrastructure on some routes. Therefore, the costs of trench connecting core nodes is shared between the Access and Core networks, which results in a lower level of costs for trench infrastructure applicable to the core network's use of duct.
- A 1.145 However under the OAO scenario, the operator is assumed to have limited sharing of trench costs between the access and core networks, as the hypothetical operator is not considered to have a pervasive access network. As a result, there is a slightly higher cost for core duct usage under the OAO scenario when compared with the equivalent costs in the Eircom scenario.

**Operating expenditure***Issue raised*

- A 1.146 Eircom expressed concerns that ComReg has excluded or reduced the costs associated with some of the activities that relate to legacy services when deriving the operating expenditure for the NGN Core Model from Eircom's top down Separated Accounts. Eircom considered that, as the legacy network is retired, the use of the NGN will increase and the cost allocations in future Top Down accounts will see some of these costs being attributed to NGN.



A 1.147 In particular, Eircom noted that a number of activities associated with legacy platforms have been reduced by [%< [REDACTED] ] and they consider that this level of reduction is unwarranted and there is no basis for such a factor<sup>390</sup>.

A 1.148 Section 8.2.2 of the CEG Report notes that in the NGN Core Model opex values for eight categories are taken from Eircom's accounts for years 2012-2015, with trends applied to forecast these out to 2022. The trends used are calculated at an average level across the following three cost groups: [%< [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED] ]

A 1.149 [%< [REDACTED]  
[REDACTED] ]

#### *ComReg's position*

A 1.150 The NGN Core Model is a BU-LRAIC+ model that follows a current cost approach using the Modern Equivalent Asset (MEA) method as the basis of valuation for network assets. As noted by Eircom, ComReg has endeavoured to determine the appropriate level of operating expenditure for inclusion in the NGN Core Model based on a detailed analysis of the network element costs contained in Eircom's Separated Accounts. This process was undertaken to ensure that the model struck the correct balance between costing historical and future investments and work practices.

A 1.151 When operators are first deploying an NGN network there will be a period when the new network is being deployed at the same time as the legacy platforms remain operational, with the level of network duplication diminishing as the evolution to NGN completes. Eircom still operate a number of legacy platforms including an SDH transmission network, leased lines infrastructure and other legacy data platforms that operate in parallel with the multi-service NGN network, and the costs of maintaining these platforms still featured in the sequence of Top Down Separated Accounts that were assessed to determine the appropriate level of operating costs for inclusion in the NGN Core Model.

A 1.152 ComReg's view is that it is reasonable to expect that an operator investing in an NGN network will achieve efficiencies as legacy technologies are retired, and multiple services are streamlined onto a single platform. To this end, ComReg has applied efficiency adjustments to some of the activities associated with the legacy platforms in the historic Separated Accounts.

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<sup>390</sup> Eircom's Annex (Review of cost models), §85.

- A 1.153 ComReg notes the suggestion in the CEG Report that projection of operating costs in the NGN Core model could be performed at a more accurate level. Consequently, ComReg has re-assessed the cost projections at the level of granularity proposed in the CEG Report and we have also considered the cost trends evident in the opex data from more recent versions of the Separated Accounts. The results of this review indicated that a more granular analysis would not materially alter the projected opex values that were contained in the NGN Core Model consulted on. Therefore, ComReg remains of the view that the approach taken to project operating costs in the NGN Core Model is appropriate and does not require further amendment.
- A 1.154 The cost base for direct pay and non-pay and indirect capital costs associated with a range of core network elements cost components within Eircom's Separated Accounts for 2015/16 are discounted by [%< █████ ] overall before inclusion in the NGN Core Model.
- A 1.155 To clarify, [%< █████ ] of this efficiency adjustment relates to the costs associated with the maintenance and management of the legacy SDH transmission equipment. This is a legacy network which is operating in parallel with the NGN Ethernet network, and is in declining use. The cost savings did not apply to indirect costs, nor indeed to the maintenance of external plant such as trench and cable, but was narrowly focussed on the duplication of maintenance and support costs for some aspects of the legacy SDH network electronics.
- A 1.156 The remaining adjustment [%< █████ ] relates to the operating costs associated with other legacy data platforms for non-Ethernet based services such as ATM. This is also compounded by the fact that many of the network components in the network statement of costs in the Separated Accounts include activities linked to customer premises plant and the access network that are excluded from the projections on the basis that they have no relevance for the operating costs of a core NGN.