An Coimisiún um
Rialáil Cumarsáide
Commission for
Communications Regulation

Review of Non-Geographic Numbers

Response to Consultation 18/65 and Decision

Response to Consultation and Decision

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Additional Information

Review of Non-Geographic Numbers Consultation Document	ComReg Document 17/70
Report from DotEcon on Non-Geographic Numbers in Ireland	ComReg Document 17/70a
Non-Geographic Numbers: Consumer Study (B&A and The Research Perspective)	ComReg Document 17/70b
Non-Geographic Numbers: Organisation Study (B&A and The Research Perspective)	ComReg Document 17/70c
Non-Geographic Numbers: Cost Study (B&A and The Research Perspective)	ComReg Document 17/70d
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1 Introduction

1 The Commission for Communications Regulation ("ComReg") is responsible for regulating the electronic communications sector in the State, in accordance with European Union ("EU") and Irish law. This includes managing the national numbering resource[1] which is essential to all telecommunications and thus underpins many key economic and social activities. In exercising its number management function ComReg must ensure, amongst other things, that numbers are used efficiently and effectively in a manner that protects consumers and promotes competition.[2]

2 In February 2016, ComReg, pursuant to its number management function, published an Information Notice[3] in which it stated that it had commenced a review of five classes[4] of Non-Geographic Numbers ("NGNs"): 1800 (Freephone); 1850 (Shared cost - fixed charge); 1890 (Shared cost - per minute charge); 0818 (Universal Access); and 076 (Nomadic).[5]

3 In August 2017, ComReg commenced a public consultation on its review of NGNs ("Consultation 17/70").[6] ComReg noted therein that NGNs are used by various organisations and businesses ("Service Providers" or "SPs") to provide various telephone-based services such as public information services, banking services, and consumer helplines. ComReg also noted that growth in mobile usage, increased market competition, and the varying needs of SPs appeared to have contributed to the creation of a relatively complex NGN platform, consisting of several different classes of NGN and multiple retail tariffs.

4 ComReg, in Consultation 17/70, also described its main preliminary concerns with the NGN platform, in the following terms:

[1] ComReg's functions, objectives and powers in relation to managing the national numbering resource are set out in the Communications Regulation Acts 2002 – 2017 and in the Common Regulatory Framework, including the Framework Regulations 2011 and Authorisation Regulations 2011, as amended.
[2] Two of ComReg's Strategic intents are competition and consumer protection, i.e. setting the rules for competition, and protecting and informing consumers. ComReg Document 17/31 – Electronic Communications Strategy Statement: 2017-2019 – published 13 April 2017.
[3] ComReg Document 16/11 – Strategic Review of Non-Geographic Numbers: Project Update – published 11 February 2016.
[4] The terms 'class', 'type' and 'range' are used interchangeably throughout this document.
[5] Any reference to a NGN or NGNs is a reference to one or more of these five classes of NGNs.
[6] ComReg Document 17/70 – Review of Non-Geographic Numbers – published 16 August 2017.

- fixed-line and mobile operators are not communicating their retail tariffs for NGN calls in a sufficiently clear manner so as to enable consumers to know, or to reasonably estimate, the retail tariff for any NGN call in advance and this lack of price transparency discourages many consumers from calling NGNs;

- a significant number of consumers do not know how NGN calls are charged under the various telephone subscription packages available and/or do not know the different designation of each of the five classes of NGNs;

- if a significant number of consumers do not know, or cannot reasonably estimate, the retail tariff for any NGN call in advance and/or if they do not know the designation of each class of NGN then the potential for consumer harm through the use of NGNs is much greater (and this will likely act as a disincentive for using NGNs where otherwise they would do so); and

- relatively high NGN retail prices deter a significant number of consumers from calling NGNs and/or cause a significant number of consumers to call NGNs only when absolutely necessary (i.e. when they have no alternative means of contact) and this reduced level of consumer utilisation of the NGN platform and consequential reduced accessing of services provided by SPs through NGNs is to the detriment of consumers and SPs.

5 Prior to publication of Consultation 17/70, and in order to address an information deficit regarding the NGN platform (including as to call volumes and consumer / organisational perceptions and behaviour) ComReg engaged Behaviour & Attitudes Ltd ("B&A") to survey consumers and organisations as to:

(a) levels of awareness and understanding of NGNs among consumers, their experiences of accessing services via NGNs, and their attitudes towards NGNs including their understanding of NGN call costs; and

(b) the extent to which organisations use NGNs to deliver services and their reasons for doing so (or not doing so), their understanding of retail tariffs and the cost of calls to the caller, and their general awareness of, and attitudes to, NGNs

6 In addition to its above "Consumer Study"[7] and "Organisation Study"[8], B&A also conducted a "Cost Study"[9] which explored the extent to which migrating from NGNs imposes additional costs on SPs.

7 ComReg also engaged DotEcon Ltd ("DotEcon") to develop models to inform ComReg's understanding of the NGN platform.[10] In particular, DotEcon:

(a) reviewed regulatory management and use of NGNs in a selection of comparable jurisdictions;

(b) provided an overview of NGNs in Ireland including the types of services typically provided, the level of demand and trends over a 5 year period (2011 – 2015), retail tariffs for NGN calls, and the extent to which NGN calls are included in-bundle;[11]

(c) described the wholesale supply chain for each class of NGN and the interaction between each participant in the chain, including flows of revenue (for each class of NGN) between the consumer, Originating Operator, the Terminating Operator and the SP, as well as any intermediaries involved in carrying a call (such as transit operators); and

(d) recommended remedies to address concerns with the current NGN platform.

8 ComReg issued a statutory Information Requirement to fixed and mobile operators regarding NGNs and held a workshop with operators to explain the requirement. DotEcon assisted with this work.

9 ComReg and DotEcon also conducted in depth, one-to-one interviews with eight large SPs (public and private) who provided a substantial body of information as to their experiences in using NGNs, including the costs and perceived benefits of doing so.

[7] ComReg Document 17/70b – Non-Geographic Numbers: Consumer Study – published 16 August 2017.
[8] ComReg Document 17/70c – Non-Geographic Numbers: Organisation Study – published 16 August 2017.
[9] ComReg Document 17/70d – Non-Geographic Numbers: Materials Cost Study – published 16 August 2017.
[10] ComReg Document 17/70a – Strategic Review of Non Geographic Numbers in Ireland: A Report for ComReg – published 16 August 2017.
[11] "In-bundle" means where calls to certain classes of numbers are included as free call minutes up to a number of inclusive minutes as part of a consumer's telephone subscription for a headline fee.

10 ComReg considers that B&A's market research and surveys and DotEcon's data gathering and modelling both remain current as there do not appear to have been any significant changes in the NGN sector to which such information relates and from which it was derived. Therefore, ComReg has not considered it necessary to conduct additional market research or to gather any additional data.

11 As noted above, in Consultation 17/70 ComReg identified what it considered (and still considers) to be certain core problems with the NGN platform. There is, firstly, a lack of understanding amongst many consumers as to the different classes of NGN and the various retail tariffs that apply in each class. This lack of understanding, coupled with relatively high retail tariffs that apply to some NGN calls, has over time had the effect of deterring many consumers from calling NGNs altogether, or else they do so reluctantly and only when necessary. This widespread consumer wariness or distrust of NGNs has resulted in reduced utilisation of the NGN platform which could affect its future viability.

12 ComReg also found that SPs that use NGNs as contact numbers for their customers do so mainly for their customers' benefit – i.e. to reduce the cost to customers of calling the SP and/or to provide a memorable or single contact number. It is thus also in the interests of SPs that current issues surrounding the NGN platform be properly resolved.

13 To address these observed problems, ComReg consulted on three proposed measures aimed at ensuring the more efficient and effective functioning of the NGN platform at the retail level, the ultimate objective being to better meet the reasonable needs of consumers. The measures, which are now being implemented, are:

(i). To apply two retail tariff principles to NGNs:

- A "Freephone" retail tariff for '1800' NGNs (i.e. retain the current tariff principle); and

- A retail tariff for the other four classes of NGNs which would be equivalent to calling Geographic Numbers i.e. to 'Geo-link' NGN calls to equivalent Geographic Number calls so that, for example, if a consumer's Geographic Number calls are included in their bundle of call minutes then that consumer's NGN calls must also be included in their bundle of call minutes.

(ii). To consolidate the number of NGN classes from five to two over a three year period, to one Freephone class ('1800') and one 'Geo-Linked' class ('0818') while closing the '1850', '1890', and '076' classes.

(iii). To consider possible future measures to improve price transparency for NGN calls in order to better inform consumers of the cost/charging structure of NGNs and to raise consumer awareness.

14 There were 19 responses to Consultation 17/70[12] and those responses were considered in Consultation 18/65[13], published on 11 July 2018, which included a draft Decision Instrument and asked five questions.

15 There were 12 respondents to Consultation 18/65, comprised of SPs and operators:

- BT Communications Ireland (BT)
- Colt Technology Services Limited (Colt)
- Commission for Regulation of Utilities (CRU)
- Eircom Limited and Meteor Mobile Communications Limited (Eir)
- ESB Networks Ltd. (ESBN)
- Gas Networks Ireland[14] (GNI)
- Irish Water[15] (IW)
- Office of the Chief Government Information Officer (OGCIO)
- Office of the Revenue Commissioners (Revenue)
- Three Ireland Ltd.(Three)
- Verizon Enterprise Services
- Vodafone

16 This Response to Consultation and final Decision describes the submissions to Consultation 18/65 and sets out ComReg's assessment of same, its final positions, and its final decision. Nothing in the responses to Consultations 17/70 or 18/65 have caused ComReg to significantly alter its original preliminary views, as set out in Consultation 17/70. In particular, no respondent provided any countervailing facts or arguments to convince ComReg not to take any or all of the identified measures. ComReg's position is thus essentially unchanged.

17 5-to-2 Consolidation, to be implemented over a three year transition period, should

[12] ComReg Document 18/65s – Review of Non-Geographic Numbers: Submissions to Consultation 17/70 – published 11 July 2018.
[13] ComReg 18/65: Review of Non-Geographic Numbers – Response to Consultation and Draft Decision
[14] Part of Ervia Group.
[15] Ibid

address current widespread consumer confusion by simplifying to two ranges – Freephone (1800) and Geo-linked (0818). ComReg recognises that certain SPs may have particular requirements that will have implications for their own migration planning. ComReg will engage with industry and SPs in planning the implementation of the final decision, in order to accommodate such needs as far as is practical.

18 The Geo-Linking Condition will be implemented in 12 months' time and will specify that the retail tariff for any call to an 1850, 1890, 0818 or 076 NGN shall not exceed the retail tariff for calling a Geographic Number, at the point of use.

19 Throughout this consultation ComReg has had regard to its statutory functions, objectives and duties relevant to its management of the national numbering resource (see Annex 2) and to all relevant information before it, including all responses to Consultations 17/70 and 18/65. ComReg also carefully considered the expert analysis and advice provided by DotEcon, its external consultant.[16]

20 This document summarises the submissions received to Consultation 18/65 and sets out ComReg's final positions on the various issues and its final decision. It is structured as follows:

- Chapter 2 - Assessment of the respondents' submissions on the proposals (Questions 1), on the wholesale issues and price control proposal (Q2 and Q3) and ComReg's position.
- Chapter 3 - Final Regulatory Impact Assessment.
- Chapter 4 - Assessment of legal points raised by respondents.
- Chapter 5 - Assessment of the respondents' submissions on the proposed transparency measures.
- Chapter 6 - Assessment of the respondents' submissions on the proposed implementation and next steps.
- Annex 1 - Decision Instrument.
- Annex 2 - Legal Framework and Statutory Objectives.

[16] ComReg Document 17/70a: Report from DotEcon on Non-Geographic Numbers in Ireland and ComReg Document 18/65a – DotEcon: Response to Document 17/70.

2 Responses to ComReg's Proposals

2.1 Introduction

21 In order to address the identified concerns with the NGN platform, as set out in Chapter 4 of Consultation 17/70, ComReg conducted two draft Regulatory Impact Assessments (RIAs):

- the draft "*NGN Pricing RIA*" assessed how best to ensure that NGN retail tariffs do not unduly limit access to services provided over NGNs; and
- the draft "*NGN Consolidation RIA*" assessed whether it is necessary to rationalise the five existing NGN ranges and, if so, how many NGN ranges are required.

22 ComReg, on foot of both draft RIAs, expressed a preliminary preference for two regulatory measures ("Preferred Options"):

a) that a 'Geo-linked' tariff condition should attach to the 1890, 1850, 0818 and 076 NGN ranges and that the 1800 NGN range should remain free to call ("Geo-Linking Condition"); and

b) that the 1890, 1850 and 076 NGN ranges should be withdrawn following a transitional period of 2-3 years ("5-to-2 Consolidation").

23 Chapter 2 of Consultation 18/65 assessed the various concerns received in response to Consultation 17/70[17]. Having assessed same, ComReg expressed the view that it had not been provided with any additional information as would cause it to amend its Preferred Options, other than to set the time period for 5-to-2 Consolidation at three years (to allow SPs enough time to migrate to alternative number ranges). The Freephone 1800 range and the Geo-linked 0818 range would be the only two NGN ranges to remain in effect, at the end of the three year period.

24 Accordingly, the draft Number Consolidation RIA and draft NGN Pricing RIA, as set out in Consultation 18/65, were both substantially the same as the draft versions in Consultation 17/70. The draft Decision was set out in Chapter 7 of Consultation 18/65. ComReg also provided further information on how it proposed to address related issues at the wholesale level, in Chapter 3 of Consultation 18/65.

25 The following sections of this chapter assess the responses to each revised draft RIA in Consultation 18/65.

[17] ComReg Document 17/70 – Review of Non-Geographic Numbers – published 16 August 2017.

2.2 Response to NGN Pricing RIA

2.1.1 ComReg's position in Consultation 18/65

26 16 of the 19 respondents to Consultation 17/70 submitted views on the NGN Pricing RIA. ComReg divided the 16 respondents into three categories. Fixed and Mobile Operators; SPs; and consumers and representative Bodies.

27 ComReg assessed the views of Fixed and Mobile Operators under nine headings[18].

28 ComReg noted that all SPs and consumer and representative bodies supported the Geo-Linking Condition and their experience of the NGN platform was consistent with the evidence presented in Consultation 17/70. Evidence of consumer harm provided by SPs was taken into account in the revised draft RIA.

29 ComReg, having noted its concerns and having considered all relevant information before it, considered that its preliminary views were unchanged. The Geo-linking Condition should attach to the 1850, 1890, 0818 and 076 NGN ranges and the 1890, 1850 and 076 NGN ranges should be withdrawn in 3 years.

2.1.2 Views of respondents to Consultation 18/65

30 Eir disagrees with ComReg's proposals for reasons which may be summarised as follows:

- The point for significant intervention to halt what Eir describes as the inevitable decline of the NGN market has now passed.
- Data used by ComReg is at least 3 years old and will be 4 and 6 years out of date by the time the Preferred Options are implemented while the Consumer Study and Organisation Study data is over two years old.
- The Geo-linking Condition will cause consumer harm as increased retail tariffs will not be spread across the entire consumer base but will be concentrated on those consumers who subscribe to bundles with inclusive call allowances.
- The benefits of the Preferred Options would not outweigh the associated costs and ComReg has dismissed the consumer harm that would ensue without adequate assessment.
- Consumers are not indifferent to retail tariffs for NGNs but rather their usage

[18] Consumer Detriment, Alternative Solutions, Relevance of NGNs to Consumers, Relevance of Alternative Contact Options, Waterbed Effects, Impact on SPs, Declining NGN Market, Ofcom (UK Regulator) Proposals, Wholesale issues.

patterns, and thus the value they place on certain services, are reflected when choosing their provider/package. If customers placed greater value on calls to NGNs then bundles would be designed with this in mind.

- The Geo-linking Condition will have little or no impact on consumers (potentially more vulnerable users) who have no inclusive allowance or whose allowances are limited.
- ComReg's claim that consumers cannot easily react to different retail tariffs by switching from a voice service provided over an NGN to the same voice service provided over a Geographic Number or Mobile Number.

31 Three disagrees with the Geo-Linking Condition for reasons which may be summarised as follows:

- Most customers would rather use a Geographic Number or Mobile Number to call an organisation than an NGN. ComReg's transparency initiatives in respect of NGNs should be structured so as to encourage SPs to make Geographic Numbers available to their customers, in addition to or instead of NGNs.
- It would reduce the incidence of bundles including free call minutes and lead to consumer harm.
- It would impose implementation costs on originating operators. This would be a large scale project that would require modification to rating, pricing and billing systems. It would take Three 5,000 man days to make the changes to its systems to implement the Geo-linking Condition.
- ComReg has not established consumer harm or excessive retail tariffs in respect of NGNs.
- ComReg has not established that there is, at present, a reduced level of contact between end-users[19] and SPs that can be attributed to current NGN retail pricing.

32 Vodafone disagrees with the Geo-Linking Condition for reasons which may be summarised as follows:

[19] The Framework Regulations 2011 (S.I. 333/2011) defines "consumer" as "*any natural person who uses or requests a publicly available electronic communications service for purposes which are outside his or her trade, business or profession*" and defines "end-user" as "*a user not providing public communications networks or publicly available electronic communications services*" and defines "user" as "*a legal entity or natural person using or requesting a publicly available electronic communications service*". This consultation is principally concerned with promoting and protecting the rights of consumers as defined and the terms "consumer" and "end-user" may be read as being interchangeable throughout this document unless the context otherwise implies.

- It is not proportionate to the NGN issues and will be counterproductive and lead to a further decline of the NGN market.
- If the wholesale NGN regime is not changed, operators will be expected to carry NGN calls while losing money on those calls; the retail solution should not be implemented in advance of a wholesale solution.
- The timing of including NGN calls in-bundle should be extended to two years. This would allow many contracts between operators and SPs to terminate without having to be amended and would enable orderly negotiation of new contracts.

33 Revenue agrees with the Geo-linking Condition as its main complaint, from customers who call its 1890 NGN from a Mobile Number, concerns the retail tariffs for such calls. Revenue submits that mobile operators should advertise the relevant cost reductions and bundle changes to their customers clearly and with definite start dates during the 12-month time period prior to the Geo-linking Condition coming into effect.

34 Colt asks for sufficient time to make necessary changes to give effect to the Geo-linking Condition. It submits that if there is any ‘slippage’ then the overall programme of works should change to reflect a 12-month lead time for implementation. ComReg should have an industry meeting ahead of issuing an information notice to set out a clear timetable and set of deliverables.

2.1.3 ComReg Response

35 Before responding to the various submissions received, ComReg considers that it must first address the following statements by Eir in respect of the NGN consultation (edited):

- “*ComReg has simply ignored the valid arguments presented, suggesting a failure to operate a fair process*”.
- *“ComReg ... does not appear to have any robust evidence to support its position … and its complete refusal to consider and acknowledge the views of any operator, SP or interested party where they are in disagreement with ComReg is entirely unreasonable”*.
- “*ComReg has decided to simply dismiss the reasoned arguments presented to it*”.
- “*It appears therefore that this is not a genuine consultation process, but is rather a decision that has already been made by ComReg”*.
- “*ComReg’s internal bias is concerning, in particular where operators have*

raised detailed and evidence-based objections based on their in-depth understanding of the market and the relevant market dynamics".

36 The above assertions do not accurately reflect the NGN consultation process to date or the content of Consultations 17/70 & 18/65. At the commencement of the NGN review there was a strong indication that all was not right but there was also a lack of evidence. ComReg therefore went and gathered evidence, principally by conducting the extensive and statistically reliable Consumer Study and Organisation Study and by submitting detailed written information requirements to 38 authorised undertakings under s.13D of the Communications Regulation Act 2002. ComReg also gave full consideration to all 19 responses to Consultation 17/70 and all 12 responses to Consultation 18/65.

37 Though ComReg certainly expressed its preliminary views, no issue was prejudged nor did ComReg dismiss or ignore any relevant information or argument that did not support, or which ran contrary to, any of its preliminary views. ComReg also followed its consultation procedures[20] throughout and has not acted in a biased or selective manner in its assessment of any submissions received. ComReg treats any response to consultation on its merits and having regard to the information available to it. ComReg has not ignored any argument presented by Eir or by any other respondent. Consultation 18/65 is a record of the fact that ComReg addressed all responses to Consultation 17/70, and Consultation 18/106 is a record of the fact that ComReg addressed all responses to Consultation 18/65.[21]

38 Further, and for the avoidance of doubt, ComReg has not relied upon what Eir describes as SPs' "bare expressions of support" for the Geo-linking Condition to justify its decision to implement that measure. Rather, certain SP and end-user respondents described their first-hand experiences in using the NGN platform and those experiences are consistent with evidence obtained prior to publication of Consultation 17/70 (i.e. the consumer and organisational surveys[22]). For example CIB, in its submission to Consultation 17/70, described its difficulties in providing important social services to vulnerable citizens over the NGN platform and Revenue recently announced that it had ceased using its 1890 NGN precisely because of the cost to it and to its customers. ComReg considers such information to be compelling and to be entirely consistent with earlier information.

39 Finally, ComReg's consultation procedures[23] states that a public consultation allows ComReg to consider the views of interested parties prior to making a

[20] ComReg Document 11/34: ComReg Consultation Procedures.
[21] ComReg Consultation 18/65: Response to Consultation - Review of Non-Geographic Numbers
[22] ComReg Document 17/70b: Non-Geographic Numbers: Consumer Study and
ComReg Document 17/70c: Non-Geographic Numbers: Organisation Study
[23] ComReg Document 11/34 "Information Notice on ComReg Consultation Procedures" dated 6 May 2011

decision on any matter but a consultation is not equivalent to a voting exercise[24] and the final decision on any matter lies solely with ComReg.

40 ComReg now assesses the issues raised in relation to the NGN Pricing RIA under twelve headings:

- Network cost differences (Eir)
- Waterbed effects (Eir)
- Out of bundle minutes (Eir)
- Age of evidence (Eir)
- Declining market (Eir)
- Consumer preferences (Eir)
- Volume of NGN calls (Eir)
- Substitutability (Eir)
- Transparency (Three)
- Consumer detriment (Three)
- Timing (Eir, Vodafone)
- Wholesale

Network Cost Differences

41 Eir submits that the Dutch[25] provisions cited by ComReg in Consultation 18/65 also state that operators may impose different tariffs for NGNs in circumstances where wholesale costs for calls to NGNs are higher and[26] that ComReg appears to have ignored the possibility of such wholesale cost differences. However ComReg did

[24] For example, Eir notes that: "*Despite the* *<u>numerous objections of operators</u>* *ComReg has indicated that it will be proceeding with the proposal to introduce a new geo-linked pricing tariff*"…"*<u>there is a prevailing view among operators</u>, as indicated in the responses to the consultation, that a retail price control implemented in the manner proposed by ComReg will instead result in overall consumer harm*.

[25] KPN BV v Autoriteit Consument en Markt (ACM) - Case C-85/14 (http://curia.europa.eu/juris/liste.jsf?num=C-85/14)

[26] Para. 17 (2) - "*must apply tariffs or other charges which are comparable to the tariffs or other charges levied by those providers for calls to geographic numbers, and that they may levy a different tariff or different charge only if that is necessary in order to cover the additional costs related to the calls to those nongeographic numbers."* In Case C-85/14, REQUEST for a preliminary ruling under Article 267 TFEU from the College van Beroep voor het bedrijfsleven (Netherlands), made by decision of 12 February 2014, received at the Court on 18 February 2014.

assess this issue in the section titled "*Network Cost Difference*" of Consultation 17/70 (Para. 5.35 – 5.47) and in Consultation 18/65 (Para. A1.34 – A1.46). That assessment is not repeated here, save to note that ComReg determined that there are no observable network cost differences between originating NGN calls and Geographic Number calls. Such cost differences as do exist mainly relate to set-up costs that have already been incurred. This conclusion was informed by:

- Previous wholesale market reviews;
- Operators' responses to the 2016 Information Requirement;
- The views of DotEcon; and
- DotEcon's Response to Consultation 17/70.

42 ComReg refers in particular to the Information Requirement issued to all operators in 2016, which included the following question:

i). In your view, are there differences between the origination costs for geographic and non-geographic calls?

ii). If so, what contributes to these cost differences? Please be clear where this cost is related to core set-up costs or per minute costs.

iii). Do these costs/factors vary across the different classes of NGNs?

43 Eir provided a detailed response to the Information Requirement. In response to Question (i) Eir stated:

- "*There are* ***no fundamental differences*** *between call origination costs for calls to geographic numbers or to non-geographic numbers on the open eir network*". [Emphasis added]
- "*This is because the Intelligent Network query where the number translation information required for subsequent call routing* ***is implemented for both geographic and NGC*** *(Non-Geographic Code) calls (arising out of a requirement to route ported geographic numbers to the recipient network)*". [Emphasis added]
- "*So, the routing and costs for calls to geographic numbers hosted on the open eir network and non-geographic numbers used by service providers also served from the open eir network* ***are identical"***. [Emphasis added].
- "*In the same way the routing and costs for a call to a geographic number hosted on an* ***Operator network are the same*** *as for a call to an NGC hosted on the same Operator network*." [Emphasis added]

- "*It is worth noting that BT are a special case where both calls to geographic numbers and to NGC services are hand off and interconnect paths located at open eir primary switches. This is reflected in the special BT rates for 1800 retention published in the open eir RIO Price List Service Schedule 206 - and in similar special rates for 1850, 1890, 0818, and 076 services in later service schedules*."

44 In response to Question (ii) Eir stated:

- "*As explained above **there are no cost differences** as between calls to geographic numbers and calls to an NGC number translation code service that terminates at the same network location as the geographic number*". [Emphasis added].

45 In response to Question (iii) Eir stated:

- "*Not applicable. As described at (i) above there are three different categories of calls to NGCs that may be distinguished by cost.*

  These are:

  - *A - calls from a calling party connected to the open eir network to an NGC service provider served from the open eir network;*
  - *B - calls from a calling party connected to the open eir network to an NGC service provider served from the BT network;*
  - *C - calls from a calling party connected to the open eir network to an NGC service provider served from an Operator network other than open eir or BT.*

- *In **all three cases** the originating costs of calling geographic numbers hosted on the same terminating network **are identical to the costs** of calling NGC services on that network*". [Emphasis added].

46 Eir's above response is in line with ComReg's conclusions that differences between origination costs for NGN calls and Geographic Number calls as exist do not explain or justify separate retail pricing of Geographic Number and NGN calls. Eir's response is also set out in Para. 5.43 of Consultation 17/70 and in Para. A1.42 Consultation 18/65, showing that ComReg has given full consideration to this issue.

47 Three, in its response to the Information Requirement, stated that it had not finished forming its opinion and it would be more appropriate for it to provide such information at consultation stage. However, Three did not provide any additional information on its Geographic Number or NGN call origination costs, in its responses to Consultations 17/70 and 18/65, nor did any other respondent provide

any information showing NGN call origination costs to be so sufficiently different from Geographic Number call origination costs as to justify different retail pricing.

Waterbed effects

48 Eir submits that increased retail tariffs as may arise (so called waterbed effects) would not be spread across the entire consumer base but would be concentrated on consumers who subscribe to bundles with inclusive call allowances. ComReg has previously provided its views on such waterbed effects in the following:

- Paragraph 2.54 - 2.55 (Consultation 18/65)
- Paragraph A1.138 – A1.142 (Consultation 18/65)
- Paragraph 5.137 - 5.138 (Consultation 17/70)

49 In summary, ComReg remains of the view that such possible waterbed effects are not a valid reason for not proceeding with the Geo-Linking Condition, for the following reasons:

- Operators' revenues from NGN calls make up a very small portion of their total revenues (around 1%);
- Any waterbed effect would be limited or unlikely to arise in practice given competition for electronic communication services generally; and
- Reduced revenues may cause operators to alternatively reduce their expenditure on acquiring new customers and retaining existing customers rather than price increases that would alter their competitive offering.
- Potential waterbed effects could in theory arise whenever one price component of an otherwise competitively supplied product or service is lowered. However, this possibility is not reason by itself to justify that price component being maintained at an excessive level and prevent prices that are in the better general interests of consumers.

50 Eir submits that increased retail tariffs would be concentrated on customers with bundled minutes, rather than the entire consumer base. However, ComReg considers that material waterbed effects are unlikely to occur, for reasons as previously stated. Operators compete for customers based on their package offerings, rather than on the price per call minute or per individual call, and this competition should restrict the extent to which those operators would increase prices for bundles.

51 To the extent that the Geo-Linking Condition may reduce operators' margins in respect of originated NGN calls any such reduction would, at most, have a negligible

impact on retail pricing of bundles as NGN calls make up a very small share of total call revenue. Furthermore, any reduced margins would be unlikely to be passed through in a profit-neutral manner, so as to result in higher retail prices, because any reduced margins might be partially absorbed through reduced expenditure on customer acquisition and retention activities. Therefore, it is not credible that retail prices for bundles would or could increase to such extent as to harm consumers, or to such extent as would outweigh the significant harm currently being experienced by consumers, due to current NGN pricing.

52 Eir also submits that the NGN platform is in "*inevitable decline*" and "*the need for chargeable NGNs is passing*". If Eir believes that the NGN platform is in decline and that the need for chargeable NGNs is passing then it must logically follow that it believes that any impact from the Geo-linking Condition would also decline over time. If there are few NGN calls, there can be little impact on profitability and so little pressure to increase retail prices for service bundles.

53 ComReg thus remains of the view that operators are unlikely to increase their retail prices to any significant degree in reaction to the Geo-linking Condition, as competition at the call package/bundle level should act as a significant restraint against doing so. It is equally unlikely that operators would risk increasing prices for consumers or any subset of consumers,[27] or change their bundle offerings due to lost revenues from NGN calls, which make up less than 1% of all calls. Indeed, if NGN calls are in steady and inevitable decline (as asserted by Eir) then the revenue impact would be less than 1% by the time the Preferred Options have had effect.

Out of bundle minutes

54 Eir submits that the Geo-linking Condition would result in more call minutes being out of bundle, resulting in consumer harm, and that ComReg overlooked this outcome. This is incorrect as ComReg considered this issue in Consultation 17/70 (Para. 5.132 – 5.139) and in Consultation 18/65 (Para. A1.135 – A1.142). ComReg stated *"that the out of bundle NGN rate in some instances is less than the corresponding out of bundle GN rate and that OOs may decide to increase this rate"*.[28] However ComReg concluded, and remains of the view, that the vast majority of consumers would be significantly better off with the Geo-linking Condition in place. ComReg provides additional clarity on this point below.

55 As noted in Consultations 17/70 and 18/65, all NGN calls being in-bundle should not cause a significant number of consumers to exceed their monthly call allowance. If this was an issue, one would expect there to be competitive pressure to modify offers, possibly increasing the bundled call allowance to better meet consumers' needs. Also, there is nothing to prevent an operator from charging less for an out-

[27] 48% of all subscriptions are post-pay (increasing at 5% a year)
[28] See Para. 5.138 (Document 17/70) and Para. A1.141 Consultation 18/65.

of-bundle NGN call than for an out-of-bundle Geographic Number call, if it so wished. The following figures show that NGN call minutes make up a small share of total call minutes:[29]

- The average fixed-line residential subscriber usage is 75.1 call minutes per month[30];
- The average mobile subscriber usage is 165.7 call minutes per month[31];
- The average number of NGN call minutes per voice subscriber (excluding 1800) is around 5 minutes per month[32];
- NGN minutes (excluding 1800) account for around 2% of total voice minutes; and
- Few customers use NGNs on a regular basis.[33] For example:
    - 8% dial 1800 NGNs regularly;
    - 6% use 1890 and 1850 NGNs regularly;
    - 4% use 0818 NGNs regularly; and
- 3% use 076 NGNs regularly.

56 Eir does not refer to or factor in the above information in its '*sample scenario*' (discussed below and previously considered by ComReg). Had Eir done so, the 'sample scenario' might have demonstrated that a net welfare reduction would result only for those consumers who regularly exceed their monthly allocation of call minutes *and* who regularly call NGNs.

57 However, and as previously noted, most consumers do not regularly call NGNs or exceed their monthly allocation of call minutes (because retail tariffs for out of bundle calls are high). Hence most consumers do not regularly incur out of bundle retail tariffs while those who do have an incentive to switch to a subscription package with more voice call minutes.

58 A welfare reduction in a particular month would only occur where a consumer uses his or her entire allocation of call minutes *and* makes many NGN calls, all in the

[29] ComReg has updated these figure in line with its latest Quarterly Report
[30] Quarterly Key Data Report (QKDR) Q2 2018 (excluding international and advanced minutes which are normally not included in bundles)
[31] Quarterly Key Data Report (QKDR) Q2 2018 (excluding international and advanced minutes which are normally not included in bundles)
[32] Total NGN minutes (excluding 1800)/Total fixed and mobile subscriptions
[33] See Slide 30 of ComReg Document 17/70b – Non-Geographic Numbers: Consumer Study – published 16 August 2017.

same month. However most consumers do not make many NGN calls. The average mobile subscriber spends 165.7 minutes on his or her mobile phone each month (rather than 400 minutes as in Eir's sample example) while the average use of NGNs is 5 minutes per month (rather than 30 mins as in Eir's sample example).

59 Further, even where some consumers do incur additional retail charges in a particular month, because they have used their entire allocation of call minutes and made many NGN calls, such additional charges incurred by a very small number of consumers in one month must be weighed against the benefits for those consumers in all months, based on more typical usage and where retail charges for NGN calls do not exceed those of Geographic Number calls and are in bundle.

60 Eir also appears to have considered the impacts of the Geo-linking Condition in isolation from ComReg's other proposed measures (5-to-2 Consolidation and future wholesale pricing intervention). In particular, such relatively rare instances of resulting consumer harm as discussed above are likely to become rarer still once those other measures are implemented. 5-to-2 Consolidation will result in only one Geo-linked range (0818) and all SPs using 1850 and 1890 NGNs would migrate to 0818 or 1800 or to a Geographic Number or Mobile Number. SPs using an 1890 or 1850 NGN may be able to migrate to 1800 (Freephone) and be better off, in terms of the incurred cost of providing services over their new 1800 NGNs. In respect of those SPs that switch to an 1800 NGN, Eir's sample scenario would not apply as 1800 NGNs are Freephone and therefore are not counted against any user's allocation of call minutes.

61 Finally, the Geo-linking Condition will require operators not to exceed the retail tariff that would be charged for a national call made to a Geographic Number at the same time. Eir shall not have to ensure that its NGN and Geographic Number retail tariffs are the same but rather must ensure that its NGN retail tariffs do not exceed its Geographic Number retail tariffs. Any consumer harm would thus result from an operator raising its retail tariffs rather than from any requirement resulting from the Geo-linking Condition.

62 ComReg considered the impact of the Geo-linking Condition on pre-pay customers (all of whom do not have bundled call minutes) in Para 5.125 of Consultation 17/70 and in Para A1.128 of Consultation 18/65. ComReg remains of the view that pre-pay customers should be no worse off as a result of the Geo-linking Condition. As each call made by a pre-pay customer incurs its own retail charge, such customer will most likely continue to manage their monthly phone expenditure on a call by call basis, as they do currently (noting that the volume of call minutes made by pre-pay customers is significantly less than the volume of call minutes made on post-pay).[34] Though some pre-pay customers may be worse off as a result of the Geo-linking Condition in a given month, or may pay a higher price per minute than they

[34]ComReg Quarterly Key Data Reports.

currently pay on Eir's network (if Eir was to increase its retail tariffs) pre-pay customers as a group should be net beneficiaries of the Geo-linking Condition, as many SPs on 1890 or 1850 are likely to migrate to 1800 Freephone and there is likely significant usage of pre-pay plans with 'inclusive minutes'[35].

63 Finally, ComReg noted in Consultation 17/70 (Paragraph 5.253) and in Consultation 18/65 (Paragraph A1.253) that although a very limited number of pre-pay customers may, in certain circumstances, be worse off, there should be a significant overall net benefit to most consumers arising from the Geo-linking Condition. As noted in the RIA, the possibility of harm to a very small number of consumers, in a given month, is not a valid reason for preventing larger net benefits from accruing to the large majority of consumers.

Age of evidence

64 Eir's argument that the evidence gathered by ComReg, and upon which ComReg now relies, is out of date is mainly addressed in Chapter 4 in which ComReg sets out why it does not agree with Eir. A consultation of this magnitude can take about two years to complete and it is not realistic to contend that evidence must be continuously updated just for the sake of doing so. The applicable question is whether the evidence still reflects the market. In this case it does noting, in particular, that Eir has not shown why more recent evidence would cause change ComReg to change its views, nor has Eir produced any information which shows or indicates that the 2016 evidence, upon which ComReg relies, is no longer current. Bare assertions of evidence being unreliable due to its age are insufficient, absent actual proof that evidence is no longer reliable. In the absence of any information which shows or indicates that the evidence is out of date, ComReg considers it reasonable and appropriate to continue to rely on it for the purposes of the decision made herein.

65 Finally on this point, Eir has stated that the NGN platform has continued to decline since 2016. If the declining trend described by the 2016 data is ongoing, and has not been reversed, then that would generally indicate that the 2016 data is still current.

Declining Market

66 Eir's original assertion that NGNs are a declining market, made in response to Consultation 17/70, were addressed in Para. 2.69 and 2.72 of Consultation 18/65.

[35] An assessment of fixed and mobile call plans available to consumers and advertised by operators indicates the prevalence of pre-pay plans that provide '*inclusive minutes*'. Data collected from 'ComReg Compare' (July 2018) provides detailed information on 6,700 active call plan combinations (including add-ons) that are currently available to consumers. Of these 1,504 are pre-pay plan combinations with 902 providing 'any network' minutes and nearly a quarter of such plans offer 3,000 minutes or more. Further, an assessment of advertised plans (November 2018) shows that all mobile operators and MVNOs offer multiple pre-pay plans that include any network minutes.

Eir's response to Consultation 18/65 indicates that Eir believes that ComReg's objective is to cause a "*sudden uptake*" in the use of NGNs.

67 The objective of the Geo-linking Condition was set out in Para. 5.10 and 5.22 of Consultation 17/70 and in Para. A1.10 and A1.21 of Consultation 18/65 and is unchanged. That objective is to ensure that retail tariffs for NGN calls do not unduly limit access to voice-based services provided over NGNs and are not detrimental to the efficient and effective functioning of the NGN platform. The NGN platform will need to compete with alternative ways of delivering services to some or all users, such as Geographic Numbers, web-based messaging, and social media; however, such choices should be made neutrally, rather than because the NGN platform has been compromised in some manner. Though an increase in the volume of NGN calls is possible and should benefit those who use the NGN platform, any increase or decrease in call volumes as may occur should result from informed decisions made by SPs and consumers, rather than being the result of widespread confusion amongst consumers as to the different NGN ranges and the tariffs in each range, as is the case at present. The potential for increased usage is also supported by evidence:

- 40% of organisations who do not use NGNs think they are too expensive for customers to call would consider using NGNs in future if customer call costs were reduced.[36]

- 44% of organisations who do not use NGNs think they are too expensive for the organisation to use but would consider using NGNs in future if the costs of using NGNs were reduced.[37] [38]

- Larger organisations and/or certain sectoral organisations with large customer bases are likely to generate more NGN calls than smaller organisations - e.g. two thirds of organisations with 10 - 100 employees indicated a willingness to consider using NGNs, if the cost to organisations was reduced.[39]

- The main reason why consumers avoid calling NGNs is the (actual or perceived) cost of doing so - up to 72% of consumers who do not dial NGNs do so for reasons related to cost, perceived or otherwise. [40]

68 Organisations have a variety of means to provide services to their consumers but

[36] See Slide 66 – ComReg 17/70c: Non-Geographic Numbers: Organisation Study
[37] Ibid
[38] As noted in 'Wholesale' section below, proposals on the wholesale side of the platform will likely significantly reduce the costs to SPs of providing services over the NGN platform.
[39] This data was obtained from the raw data provided by B&A to ComReg.
[40] See Slide 87 (For example, 72% avoid dialling 1890 numbers for reasons related to expense) of ComReg Document 17/70b – Non-Geographic Numbers: Consumer Study – published 16 August 2017.

there is still strong demand amongst many organisations (and particularly larger organisations) for NGNs:

- 10% of all organisations use an NGN.
- There is greater demand for NGNs amongst larger organisations than smaller organisations[41]:
    - o One-third of organisations with 41-99 employees use an NGN.
    - o 58% of organisations with 100+ employees use an NGN.[42]
- SPs have various requirements and they use number ranges to suit those different requirements (i.e. memorability, reduces cost to consumers, single point of contact).[43] Importantly, SPs consider that their requirements cannot be met by GNs or Mobile numbers in the same way. If the NGN platform was not available, such SPs would have to migrate to such less preferable alternatives.

69 ComReg would also again note, (as stated in Para. 2.72 of Consultation 18/65), that it would not be acting in accordance with its statutory remit if it considered, as it does, that consumers were being harmed in their use of NGNs yet failed to intervene in a lawful and proportionate manner.

70 The current decline in the NGN platform is acknowledged by Eir. A key question is whether that decline is due to the platform not working efficiently and effectively, for the reasons set out by ComReg over the course of this consultation, or whether there are other reasons. Eir submits that there are other reasons; specifically, that ComReg has failed to recognise that migration from NGNs to Geographic Numbers and Mobile Numbers could explain the decline in use of NGNs.

71 ComReg, during this consultation, has noted that there is some degree of substitutability between number ranges and it is aware that some SPs have migrated from a NGN to a Geographic Number or Mobile Number. However the evidence indicates that this usually occurs not because an SP has a preference for a Geographic Number or Mobile Number over an NGN or because it views all number ranges as being essentially equivalent to one another. Instead such migration usually occurs because the SP decides that the cost of providing an NGN for its customers is too high and/or becomes aware that many of its customers view or perceive the cost of calling its NGN as too high, such that they avoid calling the

[41] For example, smaller organisations do not feel NGNs are necessary (82%), because they use a landline or mobile number instead (75%) or because the organisation is not big enough/have substantial turnover to warrant a NGN (70%) (Slide 33 of ComReg 17/70c)

[42] Slide 81 of ComReg 17/70c: Non-Geographic Numbers: Organisation Study

[43] See Section 5.5.4 - ComReg 17/70 – Review of Non-Geographic Numbers – published 16 August 2017.

NGN altogether or insofar as possible. If the NGN platform operated effectively then SPs should have no need to migrate to a Geographic Number or Mobile Number.

72 In support of its argument, Eir states that [✂ [redacted]] This statement is correct on the face of it but it does not set out *why* [✂ [redacted]] is moving away from its [✂ [redacted]] NGN.

73 Revenue informed ComReg of its intention to migrate from its 1890 NGN in its response to Consultation 18/65. Revenue describes its 1890 NGN as "toxic" and its decision[44] to switch to a Geographic Number is mainly to reduce the cost burden to its customers who call from Mobile Numbers, because Mobile Operators do not include 1890 NGN calls in their bundles of call minutes and apply separate retail tariffs. The main customer complaint received by Revenue in relation to its 1890 NGN relates to the cost of calling it. It is quite clear that Revenue moved to a Geographic Number because the retail charges incurred by its customers in calling its 1890 NGN were too high; it is not because Revenue had a preference for a Geographic Number over its NGN or because it viewed Geographic Numbers and NGNs as essentially equivalent to one another. Revenue also noted that an 0818 Geo-linked NGN range would provide it with a useful option in future, to supplement its move to a Geographic Number.

74 ComReg thus remains of the overall view that consumer harm in respect of the NGN platform is, in large part, the result of relatively high NGN retail tariffs (known and unknown)[45] which have had the effect of supressing the volume of NGN calls, to the detriment of consumers and SPs.

Consumer preferences

75 Eir seems to accept that consumers are not indifferent to retail tariffs for NGNs but submits that if consumers did place a value on NGNs then bundles would be designed accordingly. However ComReg believes that consumers do place a value on NGN calls as they make about 700,000 of them a day[46], noting that in some cases they have no alternative number to call[47] and around 40% of these calls incur a charge to the consumer (i.e. are not Freephone) The suggestion that those consumers are altogether, or even largely, apathetic as to the retail cost of those NGN calls is not substantiated. Eir submits that operators' call minute bundles would include NGN calls if consumers placed a value on those calls; however this

[44] https://revenue.ie/en/corporate/press-office/press-releases/2018/pr-260918-revenue-replaces-1890-locall-system-to-reduce-costs-for-customers.aspx

[45] See Section 3.4.4 of the RIA below for the assessment of known and unknown prices.

[46] Figure based on Table 3 of ComReg 17/70a: Report from DotEcon on Non-Geographic Numbers in Ireland

[47] Slide 81 of ComReg 17/70b: Non-Geographic Numbers: Consumer Study, majority of those who every dialled any NGN said 'I had no option apart from the NGN used for the service I needed'.

does not take into account that consumers currently do not have the option of including NGN calls in their bundles. Because most consumers do not make NGN calls frequently (total NGN calls account for about 4% of total voice minutes[48]) it is natural that consumers would be more attentive to the non-NGN telephone services that they use most often (i.e. Geographic calls, Mobile calls, text, and data). Further, because operators do not offer NGN calls as part of their bundled packages, it is not possible for consumers to factor in NGN calls when choosing between subscription packages based on bundles (in the way that they factor in the number Geographic / Mobile call minutes, the data allowance, and the number of SMS messages). In closing, and to put all of this another way, if a person mostly drinks coffee then she will be mainly concerned with the price of a cup of coffee but it does not follow that, on the rare occasion when she buys a cup of tea, that she will be indifferent as to its price or value that cup of tea.

76 Therefore, ComReg remains of the view that consumers are concerned about retail tariffs[49] for NGN calls and competition alone cannot be expected to constrain these retail tariffs because consumers are more likely to choose a subscription package based on a monthly tariff and its components (i.e. number of in-bundle call minutes and data allowance). It is probably true that many consumers do not factor in whether NGN calls are in bundle, as most people make NGN calls infrequently, but that does not mean that when people *do* make NGN calls that they are indifferent as to what those calls cost.

Volume of NGN Calls

77 Eir submits that ComReg's estimate that nearly 770,000 NGN calls are made in the State every day is incorrect, on the grounds that this figure is based on outdated data and is simply an average calculated using 5 years of data.

78 ComReg was clear as to how the estimate was calculated and its purpose. Regardless of the exact current volume of NGN calls, the figure illustrates the magnitude of the issue; SPs that use NGNs are in daily contact with a very large number of consumers. The most recent 2015 figures shows around 700,000 calls made per day. Further, if there has, as Eir asserts, been a decline in NGN call volumes in the period since then that fact supports ComReg's position that the NGN

[48] ComReg Quarterly Report – NGN originated minutes (2015) / total voice call minutes (2015).
[49] For example, as described in the RIA:

- From Slide 81 of ComReg 17/70b: 49% of all aware of NGNs said 'calls to these numbers are expensive'
- From Slide 63 of ComReg 17/70b: 25% of all who ever dialled NGNs (722) were surprised at the cost of calls to NGNs. Also from slides 64 and 65, many changed their behaviour after calling NGNs.
- From Slide 87 of ComReg 17/70b: Main reason for avoiding calling was related to cost

platform is in decline because it is not working effectively, and therefore intervention is necessary.

Substitutability

79 Eir contests, as *'patently untrue'*, ComReg's view that many consumers cannot easily react to a difference in retail prices between an NGN and a Geographic Number (or Mobile Number) by switching from the former to the latter. First, such an argument presupposes the consumers are *aware* of such price differences whereas the evidence shows that very often they are not. And second, 18% of SPs that provide access to voice services over an NGN do not provide an alternative Geographic Number or Mobile Number.

80 Eir quotes ComReg in support of its assertions but the quoted text is selective. The full text, from Consultation 18/65, is set out below:

> *"Many consumers, therefore, cannot easily react to different retail prices by switching from an NGN voice service to the same service provided over a Geographic or Mobile Number, because:*
>
> *a) the SP does not readily provide the service over a Geographic or Mobile Number; and/or*
>
> b) *SPs that do provide an alternative Geographic or Mobile Number do not always know this as the NGN is promoted as the main contact number*." [50]

81 In is clear from the above that ComReg does not and did not hold the views ascribed to it by Eir. ComReg formed its view on the basis of (a) and (b) above, and not just (a).

82 ComReg noted that "*82% of organisations provide an alternative Geographic or Mobile Number, in order to access the same voice service as provided over their NGNs*". However it also noted that only 14% of surveyed consumers indicated that they knew they could call an alternative non-NGN.[51] There thus appears to be a strong divergence between the large number of SPs who offer an alternative non-NGN and the very low number of consumers who are aware of such an alternative (also noting that not all consumers are aware that they ought to seek an alternative to the NGN – i.e. some do not know that they will incur a separate retail charge if

[50] For the avoidance of doubt, this refers to where SPs provide an alternative Geographic or Mobile Number, and consumers do not always know this as the NGN is promoted as the main contact number."

[51] Slide 81 of ComReg Document 17/70b – Non-Geographic Numbers: Consumer Study – published 16 August 2017

they call the NGN).

83 Therefore, although many SPs provide alternative non-NGNs, most consumers are unaware of such alternatives and because it is consumers who make the calls it is their level of awareness which ultimately determines which number is called – the NGN or some other. In summary, a non-NGN alternative that is not upfront and visible, and of which most consumers are unaware, is not much of an alternative. In that regard, SP may have particular reasons for promoting an NGN (i.e. single point of contact, more memorable etc.).

84 In practice, therefore, most consumers do not have a choice between a NGN and a Geographic Number when seeking to contact an SP, or they do not know that they have a choice which in effect is the same as not having one.

85 If consumers did know that they had a choice then the consumer survey evidence indicates that in many cases they would be unlikely to call the NGN over the Geographic Number. This is because many consumers view NGNs as expensive and Geographic Numbers as less expensive or free (in the sense that calls to Geographic Numbers are typically in bundle with an incremental cost per minute of zero up to the number of inclusive minutes). [52]

86 ComReg, for the reasons set out above, remains of the view that many consumers cannot easily react to a difference in retail prices between an NGN and a Geographic Number (or Mobile Number) by switching from the former to the latter:

a) the SP does not readily provide the service over a Geographic Number or Mobile Number; and/or

b) For SPs that do provide an alternative Geographic Number or Mobile Number, consumers do not always know this as the NGN is promoted as the main contact number.

Transparency

87 Three submits that the proposed intervention is not appropriate as it does not properly address what it claims is the main issue, namely transparency.

88 ComReg has previously addressed the issue of transparency on a number of occasions throughout the consultation process. For example:

- Para 5.9 and 6.8 – 6.9 in Consultation 17/70;

[52] Slide 80 of ComReg Document 17/70b – Non-Geographic Numbers: Consumer Study – published 16 August 2017 (49% think calls to NGNs are expensive vs 15% for landlines)

- Para 2.26 and 2.35 – 2.36 in Consultation 18/65.

89 In summary, ComReg is of the view that retail price transparency measures alone would not be sufficient to best ensure the efficient and effective functioning of the NGN platform, for consumers and SPs. The Consumer Study and Organisation Study and DotEcon's analysis shows that action is required at the retail and wholesale level to address problems along the entire NGN supply chain including price transparency, user perception and understanding, retail pricing structures, and the wholesale relationship between Originating Operators and Terminating Operators.

90 ComReg has provided detailed evidence of the impact that high retail tariffs, whether actual or perceived, have had on the NGN platform. This evidence, as described in the draft RIA (Section 5.4.5 of Consultation 17/70), strongly indicates that high retail tariffs (or the perception of high retail tariffs) deter many consumers from calling NGNs. ComReg thus remains of the overall view that consumer harm in respect of the NGN platform is, in large part, the result of relatively high NGN retail tariffs (known and unknown).

91 Improved transparency alone would not address high retail tariffs and would most likely result in more consumers becoming aware that many NGN calls are relatively expensive (often because they are out of bundle) as opposed to the many consumers who, at present, merely perceive NGN calls as being relatively expensive. Hence the likely net effect of improved retail price transparency, absent any other measures, would be for the decline in NGN usage to continue at its current rate or else to increase.

92 In order to address current issues with the NGN platform, ComReg is adopting two regulatory measures – the Geo-linking Condition and rationalising the number of NGN types from five to two, to take effect in three years. Following a future consultation ComReg will also introduce appropriate measures on the wholesale side of the NGN platform. ComReg, in future, may take other measures in order to better inform and protect consumers in respect of the cost/charging structure of NGNs and to raise consumer awareness, as may be deemed necessary (see Chapter 5).

Consumer detriment

93 Three submits that ComReg has proposed an unprecedented level of regulatory intervention where no clear consumer detriment has been established. In summary Three contends that:

- ComReg has not demonstrated that any reduction in contact between consumers and contact centres can be attributed to current retail tariffs for NGNs calls;

- ComReg has not presented evidence that consumers make less contact with organisations for reasons of retail tariffs associated with NGN calls;
- ComReg has not established that NGN retail tariffs are excessive or what minimum tariff reduction is required to resolve the issue; and
- ComReg's view that retail tariffs for NGN calls are high compared tariffs for Geographic Calls (in bundle) is subjective and ignores the fact that Geographic calls are charged the same as NGN calls in particular instances.

94 Three states that it "*cautiously supports*" 5-to-2 Consolidation (though it asserts that additional work must be completed in order to understand how such rationalisation would be achieved and its implications). Three thus seems to acknowledge and accept that there are at least some problems with the current NGN platform though it disagrees with the Geo-linking Condition.

95 In response to Three's submissions as outlined above, ComReg would first note that in Consultation 17/70 it set out, in some detail, the evidence of there being significant ongoing consumer harm. ComReg also previously responded to the assertion as to consumer detriment not having been established – see the section titled 'Consumer Detriment' (Para 2.22 – 2.34) in Consultation 18/65.

96 Three, in its most recent submissions as outlined above, did not acknowledge or refer to ComReg's past analyses or to the draft RIAs in Consultations 17/70 and 18/65. ComReg has not repeated its past analyses herein but would merely again note that a large body of clear and robust evidence does exist which shows widespread consumer confusion as to the differences between the five NGN ranges and the retail tariffs in each range, which confusion has over time caused many consumers to avoid using all NGNs or else to use them only when having no other option, thus reducing the extent to which consumers contact SPs using NGNs. For example:

- around 40% of those surveyed avoid calling certain NGNs (except 076) due to the perceived cost of such calls;[53]
- of those who have experienced "bill-shock" and thereby discovered the retail tariff for a NGN call (i.e. an unknown retail tariff became "known") more than 80% (83% landline and 89% mobile) subsequently altered their behaviour[54]:

[53] Slide 87 of ComReg Document 17/70b – Non-Geographic Numbers: Consumer Study – published 16 August 2017

[54] Slides 64 and 65 of ComReg Document 17/70b – Non-Geographic Numbers: Consumer Study – published 16 August 2017.

- 25% of mobile users and 22% of fixed-line users stopped calling NGNs altogether;

- 54% of mobile users and 55% of fixed-line users only call NGNs when absolutely necessary;

- The main reason given by approximately 30% of surveyed consumers as to why they avoid making 1850, 1890 and 0818 calls, is '*I don't know how much it costs per minute/call but I avoid it because I think it's expensive'*[55]; and

- 61% of those who ever dialled any NGN did so with reservations, including 20% who minimised the length of the call and 32% who first sought an alternative.[56]

97 The survey findings are further supported by the experience reported by a number of SPs in delivering services over the NGN platform. For example, the CIB in its response to Consultation 17/70[57] noted the following:

- Consumers regularly ask how much are they being charged or ask if there is a normal national rate telephone number that they can use;

- Consumers report that when using the 076 NGN, their credit either runs out or they become anxious that it will run out;

- There is a general reluctance on the part of the public to use NGNs based on a lack of familiarity with the specific retail tariffs relating to calling NGNs, from either their landlines or mobile phones;

- There is widespread suspicion on the part of the public that NGNs are expensive and typically involve a system which quickly uses up their mobile phone credit.

98 Furthermore, and as noted above, Revenue has now ceased using its 1890 NGN specifically because of costs incurred by its customers. Similarly, it has been reported in the Irish media that the Health Service Executive (HSE), in response to numerous complaints from patients and/or patients' family members about the high costs of contacting it, has ceased using 076 NGNs in at least one facility.[58]

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[55] Slide 87 of ComReg Document 17/70b – Non-Geographic Numbers: Consumer Study – published 16 August 2017.

[56] Slide 84 of ComReg Document 17/70b – Non-Geographic Numbers: Consumer Study – published 16 August 2017.

[57] ComReg Consultation 18/65s: Submissions to Consultation - Review of Non-Geographic Numbers

[58] 25/09/2018: Extra.ie attributes the following statement to the HSE *"We no longer purchase 076 numbers and we haven't purchased them since some mobile phone providers decided not to include them in certain bundle plans"*

99 If a consumer with bundled minutes makes a call to a Geographic Number or Mobile Number then he or she faces a zero marginal retail charge up to the number of call minutes that are in-bundle. If the same customer makes a call to a NGN then he or she can be charged up to 40c per call minute. To suggest that reasons unrelated to these retail tariffs are behind consumers' preferring to use alternative numbers to NGNs runs contrary to normal consumer behaviour, the results of the Consumer Study (ComReg 17/70b), and the related experience of a number of large SPs.

100 ComReg also has not ignored the fact that retail tariffs for NGN calls are the same as for Geographic and Mobile calls where *all* calls are out of bundle. ComReg previously reminded respondents that NGN calls are already capped at 'out of bundle' rates and the price at which operators' charge for a Geographic Number (Para. 2.33 of Consultation 18/65). Retail tariffs for out of bundle Geographic calls are not and never were the subject of this consultation. However, consumers are subject to entirely different retail tariffs for calls that are delivered in very similar ways, as NGN calls and Geographic calls are both switched services carried through the network. But despite these similarities, most NGN calls are charged at the out-of-bundle Geographic Number rate, with a marginal cost of up to 40c per minute, whereas Geographic Number calls generally have a marginal cost of zero (up to the number of in-bundle call minutes).

101 It is not merely subjective opinion that retail tariffs for NGN calls (other than 1800) are high compared to retail tariffs for in-bundle Geographic Numbers calls; it is a fact. For consumers with bundled call minutes, the retail tariff for calling an out-of-bundle NGN (other than 1800) is always higher and in some cases is significantly higher than the retail tariff for calling the same SP over an in-bundle Geographic Number. Further, retail tariffs for calls to NGNs from a Mobile Number are typically of the order of 3 – 5 times higher than calls to the same NGNs made from a Geographic Number. Finally, and as previously noted, there is often no alternative for consumers other than to access the SP over the NGN.

102 As noted above, the Consumer Study shows that consumers view NGNs as expensive and this is supported by the related experience of those SPs who have received numerous complaints from irate consumers about retail charges paid for accessing their voice services (noting that many such consumers blame the SP, usually on the mistaken assumption that some portion of the retail charge for the NGN call passes to the SP, whereas in fact this does not happen).

103 ComReg thus considers it justified and proportionate to set a tariff principle that will require operators to treat equivalent calls with equivalent costs the same, regardless of whether those calls are made in or out of bundle.

Timing

104 Vodafone submits that the Geo-linking Condition should not come into effect for two

years, to allow for contract negotiation and because it may be more efficient for SPs to communicate price changes and number changes together. Colt submits that a 12 month period should be provided regardless of any slippage in finalising decisions.

105 Consultation 18/65 set out why 12 months from the date of final decision should be the maximum period before the Geo-linking Condition comes into effect. A longer period would unnecessarily delay the benefits to consumers. In support of its views, ComReg observed that a new and amended tariff condition for 1850, 1890, 0818 and 076 NGNs came into effect in ComReg Document 11/17[59] and three months was considered sufficient to update systems and subscriber contracts and to implement those new and amended tariff conditions.

106 Three claims that it would require 5,000 man-days to make necessary changes to its systems, referring to some other unspecified project which it states took a similar length of time. However no detailed information was provided to support this claim and it is not evident that the Geo-linking Condition would require 5,000 man-days since three months was sufficient to implement the new and amended tariff conditions referred to above. ComReg also notes that Eir considers 12 months to be an achievable implementation period.

107 Customers can already itemise their bundles[60] and operators update their bundle offerings regularly to include other ranges (i.e. some bundles included international call minutes and others do not). Further, changes to current bundle offerings resulting from the Geo-linking Condition would not require case by case assessment as all bundles that include Geographic Number call minutes would also include NGN call minutes. In relation to retail tariffs, operators would only be required to ensure that the price per minute for an NGN call is no higher than the price per minute for an equivalent Geographic Number call, at the point of use. Any decision to increase an out-of-bundle NGN tariff would be a commercial decision and not one required by the Preferred Options.

108 DotEcon suggested that 6 months seemed reasonable and ComReg has settled on 12 months as sufficient time for operators to update their billing systems and make all necessary changes to existing contracts, noting that the longer to implement the Geo-linking Condition the longer the current consumer harm continues. ComReg is also cognisant of costs to operators as may arise from the Geo-linking Condition. However such costs are unlikely to be especially high and must be weighed against addressing the ongoing, significant consumer harm that ComReg seeks to address.

109 As to terms and conditions of existing contracts, ComReg previously noted that modifications to same would be a direct consequence of a regulatory condition

[59] ComReg Document 11/16 and Decision Document 01/11 – National Numbering Conventions Update to V.7: Response to Consultation – published 9 March 2011. (Decision Nos. 2, 3 and 6)
[60] https://www.three.ie/plans/phone/add-ons/

imposed on operators by the National Regulatory Authority, as a condition attached to the General Authorisation, and operators, in order to comply with said condition, would have no option but to modify their contracts to the extent and in the manner required; therefore no negotiation of existing contracts will be required. Finally, SPs would be unlikely to favour two years for the Geo-linking Condition to take effect as this would delay the benefits of the condition to those consumers who wish to avail of SPs' voice services.

110 ComReg's final position, therefore, is that the Geo-linking Condition shall come into effect 12 months from the date of the Decision.

Wholesale issues

111 A number of respondents refer to matters concerning the wholesale side of the NGN platform. These shall be subject to a separate consultation to be published in Q1 2019 though ComReg shall, at this point, provide clarity on three aspects of that future consultation:

1. The timing of wholesale and retail implementation.

2. Would any wholesale regime cause operators to make a loss from originating a NGN?

3. The likely per minute costs of using 1800 (Freephone).

112 **In relation to 1**, the Decision herein provides that the Geo-linking Condition shall come into effect on 1 December 2019. Separately, ComReg will publish a draft Decision and consultation in Q1 2019 setting out any proposed changes at the wholesale level regarding NGNs. A decision in respect of the wholesale consultation will be published in Q2 2019 and any wholesale changes will also come into effect on 1 December 2019 - i.e. concurrent with the Geo-linking Condition. 12 months will be allowed to implement the Geo-linking Condition, reflecting the time needed to implement changes to billing consumers on the retail side rather than interconnection billing on the wholesale side.

113 **In relation to 2**, ComReg agrees with those respondents who submit that the Geo-linking Condition should not cause operators to incur a net loss in originating NGN calls. ComReg stated in Para. 3.73 of Document 18/65: "*A price control would consider whether excessive wholesale origination charge differences are accounted for in the cost of supply. Originating Operators and Terminating Operators should be able to cover their costs on an incremental basis, so they are no worse off from providing NGN services*." This remains ComReg's view and subject to modelling relevant costs, Originating Operators and Terminating Operators should be able cover their costs on an incremental basis.

114 **In relation to 3**, while wholesale cost modelling has yet to be completed, SPs

currently paying for 1890 or 1850 NGNs who in future migrate to 1800 Freephone (as part of consolidation) or 0818 may be better off in terms of the cost of providing voice services over those NGNs (and in terms of receiving fewer complaints from irate customers who have incurred unexpected call charges).

2.3 Response to NGN Consolidation RIA

2.3.1 ComReg's position in Consultation 18/65

115 ComReg assessed the views of all respondents under the following headings.

- Wholesale concerns
- Migration costs (Eir, ESB)
- Removal of 076 (BT, OGCIO, Vodafone)
- Removal of 1890 (Revenue)
- Removal of 1850 (ESB)
- Retention of 0818 (Vodafone)
- New Number ranges (Three)
- Transition period

116 ComReg, In Consultation 18/65, stated that having considered all responses to Consultation 17/70 and all other relevant information before it, it maintained its original preliminary views while ComReg also noted that it had not been provided with any additional information that would warrant an amendment to its preferred option to withdraw the 1850, 1890 and 076 NGN ranges over a three year transitional period. Accordingly, ComReg's revised draft 'Number Consolidation' RIA in Consultation 18/65 was substantially the same as that in Consultation 17/70, while the 5-to-2 Consolidation measure was set out in the draft Decision Instrument.

117 Notwithstanding, ComReg, in Consultation 18/65, also recognised that certain SPs may have particular requirements that would have implications for their migration planning. ComReg stated that it would welcome more information about such requirements, in planning implementation of any final decision, and indicated that it would engage with SPs and accommodate their needs insofar as was practical.

2.3.2 Views of respondents

118 BT disagrees with removal of the 076 NGN range, submitting that it is ideal for VoIP nomadic voice services and that there would be a strong risk that operators would

use Geographic Numbers for VoIP based services without observing the Minimum Numbering Areas (MNAs). BT suggests a longer period (e.g. 5 years) to close the 076 range.

119 ESBN does not agree with the withdrawal of 1850 NGNs. It submits that it would suffer significant costs in marketing new numbers for the safety of the electrical network and people in Ireland - for example, having to update numbers displayed on its poles network.

120 OGCIO in the main supports rationalising of the NGN ranges. It understands the motivation to reduce the complexity of the ranges and appreciates that the market has become complex in terms of how NGNs are billed, though it has concerns with removal of the 076 range for reasons which may be summarised as follows:

- The take up of the 076 range across the public sector has been significant and it would be very costly for government agencies to have to migrate from the 076 range.
- The 076 range is used as the number range for public services and has been widely adopted.
- The 076 range is not associated with a particular geographic area which is seen as a considerable advantage (in terms of public perception when dealing with sensitive matters).
- CIB uses a large block of 076 NGNs to provide services throughout Ireland from a single number range without having to maintain Geographic Number blocks in each area.
- [✂ [redacted]]
- The 0818 and 076 ranges should be retained as Geo-linked Numbers. If this is not the case then the 076 range should be assigned for use by the Irish Government on a Geo-linked basis.

121 Three cautiously supports ComReg's proposal to rationalise the NGN ranges from five to two. Three is cautious as it believes that additional work is needed to understand how rationalisation would work and its implications.

122 Vodafone submits that removal of the 076 range would cause unnecessary disruption to many complex Government services and number management systems. It submits that the trend is towards a national geographic area and it may be attractive for SPs with premises in multiple areas to use numbers that do not

identify their business as limited to a specific geographic area.

123 Vodafone also submits that the use of averages for time required to replace stationery and other materials is not appropriate. Many organisations would not want to make the significant investment necessary to switch to a new NGN and will want to allow the current numbers to lapse over a longer time period.

124 Vodafone submits that ComReg has significantly underestimated the cost and timescales for SPs to make the changes necessary to support the new NGN regime and further submits that it is unlikely that the companies surveyed carried out full analyses of the relevant network and IT costs.

125 Gas Networks Ireland (GNI) and Irish Water (IW) oppose ComReg's removal of the 1850 NGN range for reasons which may be summarised as follows:

- It would require GNI and IW to transition to alternative numbers for all emergency service and customer service numbers currently using 1850 NGNs.
- The withdrawal of 1850 NGNs would have serious and significant safety and cost implications for gas consumers, the general public, and GNI.
- GNI's emergency service number is documented on virtually all GNI assets, stickers on consumer's gas boilers, station signage (tens of thousands), gas pipeline market posts (about 14,000), fleet vehicles and many marketing materials.
- IW uses 1850 NGNs to support customers in possible emergency scenarios, including flood reporting and 'vulnerable customers' communications.
- Changing the emergency service number would require all assets and signage to be updated. GNI currently replaces gas meters on a 20-year cycle so changing numbers on gas meters through existing processes would take a minimum of 20 years.
- GNI estimates that the cost of the necessary steps would run to several million euros and would not eliminate the risk of someone being unable to report a potential gas emergency.
- Whilst the majority of callers obtain the 1850 GNI emergency number from the GNI website, many continue to access the number from fixed sources such as where the number is printed or stored on their phone.
- A detailed analysis of the potential cost to industry (and to consumers and the economy) of removing specific NGNs should be undertaken prior to any decision, to ensure that such costs do not outweigh the envisaged benefits.

- The 1850 range is more customer friendly than the 1890 and 0818 ranges and should be retained.

126 The CRU agrees in principle with the withdrawal of the 1850 range but has some concerns regarding implementation and the potential consequences for the 'gas escapes' line. The CRU considers that altering the 'gas escapes' number across all gas meters would not be insignificant and would be challenging within the timelines indicated by ComReg.

2.3.3 Response of ComReg

127 The remainder of this section sets out ComReg's response to issues raised in relation to the NGN 'Consolidation' RIA. ComReg assesses the view of respondents under 3 headings:

- Removal of 076 range (Vodafone, OGCIO, BT)
- Removal of 1850 range (CRU, ESBN, GNI and IW)
- Migration Cost Survey (Vodafone)

Removal of 076 range

128 In relation to BT's view that the 076 range is ideal for VoIP nomadic voice services, ComReg addressed such concerns in Consultation 18/65 (Para. 2.127 - 2.129) noting that operators have alternative means of allowing consumers to take calls from a fixed location in a different geographic area.[61] However, it remains the case that '*a Geographic Number shall only be assigned to an end-user whose residential/business premises is physically located within the designated minimum numbering area (MNA) for that Geographic Number*'[62] For residential customers, Geographic Numbers remain appropriate. Those who move from one geographic area to another would change their Geographic Number/s in the usual way. The extent to which residential customers require nomadic numbers, that would not change when they change address, has been substantially reduced by the proliferation of mobile devices and number portability.

129 In relation to the submissions by OGCIO and Vodafone that the 076 range has the advantage of not being tied to a particular location, ComReg agrees that this would likely be a requirement for many SPs. Indeed it was identified in the Organisation Study as one of the SP requirements (to avoid showing where the organisation is based or so that the organisation can change address without changing number). ComReg previously discussed the need for this requirement in Consultation 17/70

[61] As noted in Consultation 18/65, fixed operators such as Virgin and Eir are providing such flexibility by providing apps in order to make and answer calls on your home phone on a mobile device. Vodafone's One Net Lite uses a landline number that connects to your mobile

[62] Numbering Conditions of Use and Application Process – Document 15/136R1.

and again in Consultation 18/65 noting that NGNs, by purpose and design, do not have specific geographic locations associated with them. However, the 076 range has limitations in this regard because it has similar features to Geographic Numbers such as the three-digit prefix and the fact that consumers may confuse and 076 number with the North-West of Ireland or elsewhere.

130 [✂ [redacted]]
ComReg notes that TETRA is a closed user group; its 076 NGNs are not consumer facing in the same way as other NGNs. Hence the consumer harm described in Consultations 17/70 and 18/65 should not apply in the specific case of TETRA and ComReg is therefore of the view that continued use of the 076 range for TETRA should not cause consumer harm. ComReg therefore considers it appropriate to allow the 076 range to continue to be used for the TETRA.

131 As to the submission by the OGCIO that the 076 range currently assigned to government services be retained, ComReg notes that the 076 range is not widely recognised by the public as a number range associated with government services. Only 16% of those surveyed were even aware of the 076 range[63] and 35% stated that the main reason why they would avoid dialling a 076 NGN is that they have never heard of the range.[64] Retaining 076 for government services would thus likely cause further confusion as not all government services use 076 NGNs. Rather they use a variety of NGNs, including 0818 and 1800 both of which are being retained[65]. As noted in Consultation 18/65, the 076 range was adopted by some government services to address retail pricing problems for consumers, particularly with regard to the 1890 range, and not with the intent of creating a distinct number range for all such services. Also, the 076 range has added to consumer harm as retail tariffs for 076 calls are higher than for 1890 calls and most 076 calls are out of bundle.

132 It appears that this was the main reason why the HSE, having received numerous complaints has, as reported in the press, ceased using 076 NGNs in at least one of its facilities. The Geo-linking Condition, when in effect, will ensure that retail tariffs for calls to 1850, 1890, 0818 and 076 NGNs do not exceed retail tariffs for calls to Geographic Numbers. This should substantially reduce retail tariffs to consumers accessing government services over NGNs. In any event, retaining the 076 range solely for government services could be discriminatory given that other non-government SPs would have to migrate to other number ranges. ComReg would also again note that some State bodies have ceased using the 076 range or have stated that they wish to do so (CIB).

[63] See Slide 27 of ComReg Document 17/70b – Non-Geographic Numbers: Consumer Study – published 16 August 2017

[64] See Slide 87 of of ComReg Document 17/70b – Non-Geographic Numbers: Consumer Study – published 16 August 2017.

[65] For example, Motor Tax and Vehicle Registration (0818 411 412) and Office of the Ombudsman for Children (1800 20 20 40).

133 In relation to BT's submission that a 5-year period should apply to the withdrawal of the 076 range, BT did provide any rationale for extending ComReg's proposed time period by two years. ComReg's assessment of the time required to rationalise NGNs is assessed in the Final RIA and was previously set out in the draft RIAs.[66] The migration costs survey indicated that a period of around one year may have been appropriate. However, ComReg considered that this could still unduly impose costs on some firms with a longer replacement cycle. In that regard, a period of three years was considered sufficient time for SPs to migrate to a new number range in line with the natural replacement of such items.

134 In addition, extending the withdrawal period for just one NGN range (076) could create confusion, as two NGN ranges (1850 and 1890) would be withdrawn after three years while 076 would be withdrawn after five years. The impact on SPs must be weighed against the overall objective of restoring the NGN platform to a more efficient and effective state, in an effort to remedy or mitigate the current significant consumer harm.

135 In relation to the OGCIO's submission that the 076 range be retained for DDI (Direct Dial In) numbers (i.e. corporate numbers), ComReg addressed this in its draft RIA in Consultation 17/70 and in Chapter 2 of Consultation 18/65 (Para. 2.130 – 2.133). ComReg noted therein that it was not clear what requirement corporate users have in relation to using the 076 range, above Geographic Numbers and Mobile Numbers. ComReg expressed its then preliminary view that corporate users have sufficient alternatives such as Geographic Numbers and Mobile Numbers to satisfy their user requirements. ComReg has not received any further information to show why these alternatives are not appropriate.

136 In relation to the OGCIO's concerns about the CIB's use of the 076 range [67], ComReg addressed this issue in Consultation 18/65 in which it noted that the main user of the 076 range for government services, the CIB, stated in its response to Consultation 17/70 that the 076 range has not been effective and that it supports 5-to-2 Consolidation and Geo-linking Condition.

137 ComReg recognises that certain SPs may have particular requirements that will have implications for their own migration planning. ComReg will engage with industry and SPs in planning implementation of its final decision in order to accommodate such needs as far as is practical.

Removal of 1850 (CRU, GNI, IW and ESBN)

138 GNI, IW (Ervia[68]), ESBN and CRU all raised similar issues and these are

[66] Consultation 18/65 (Para. A1.197 – A1.213) and Document 17/70 (Para. 5.195 -5.212).
[67] OGCIO submission notes that 8,000 numbers are currently assigned to CIB
[68] GNI and IW are subsidiaries of Ervia a commercial semi-state company with responsibility for the delivery of gas and water infrastructure and services in Ireland

considered together. ComReg notes the following in relation to claims that removal of the 1850 range would have serious and significant safety and cost implications for consumers and for the general public.

139 First is the assertion that the 1850 range is unlikely to be appropriate for the provision of safety services where GNI must be easily contactable at all times to ensure the continued safe operation of the gas network[69]. Currently, 52.8% of mobile subscribers are pre-paid (over 800,000 subscribers) and some pre-pay mobile users could run out of credit or already be out of credit when an emergency call needs to be made. At present, 1850 calls from a Mobile Number can cost up to €0.30 per call. This increases the risk that certain consumers may be unable to report a safety issue relating to the gas, electricity or water networks. The existing gas safety line (or water or electricity line) is thus already exposed to the risk of certain consumers being unable to report an actual or suspected gas leakage. For example:

a) where a consumer is at home, lack of mobile phone credit may prevent or delay that consumer from making a call;

b) where a consumer is on the street, he or she might ignore an actual or suspected gas leakage and "*assume someone else will*" make the call, because there is a retail charge for an 1850 call that they do not wish to incur and/or because they have no phone credit.

140 Similarly, the CIB which promotes the gas[70] and electricity[71] service numbers through its services to consumers, notes that its experience of service delivery is broadly similar to the ComReg research findings. It notes that "*most utility providers provide only an 1850 number for people to provide a meter reading, query a bill, report a loss of service or an emergency*"[72].

141 Alternatively, use of 1800 (Freephone) would allow any consumer to report a potential gas leak at home or on the street immediately and without delay. This is current practice in other jurisdictions – for example:

- National Gas Emergency Freephone Number 0800 111 999 (UK)[73]

[69] ComReg provides this response by reference to the gas network however, similar issues arise in respect of water and ComReg's views apply to both.

[70] http://www.citizensinformation.ie/en/consumer_affairs/energy_and_water_services/natural_gas_services_in_ireland.html

[71] http://www.citizensinformation.ie/en/consumer_affairs/energy_and_water_services/electricity_services_in_ireland.html

[72] Consultation 18/65s - Submissions to Consultation - Review of Non-Geographic Numbers, published 11 July 2018.

[73] https://www.nationalgridgas.com/safety-and-emergencies/emergencies-and-safety-advice

- Gas Rapid Response Number: 800 900 860 (Italy)[74]
- National Fault Number (Gas and Electricity) 0800 9009 (Netherlands)[75]
- Emergency Smell of Gas – 0800 19 400 (Belgium)[76]

142 As noted above, under the new wholesale regime, SPs using 1850 NGNs should be able to migrate to 1800 (Freephone) as part of any 5-to-2 Consolidation and at a lower cost in terms of the cost of providing services over NGNs. This should remove the risk of consumers being unwilling to report gas leakages due to the costs of calling an 1850 NGN, or being unable to call due to lack of mobile phone credit.

143 In relation to the cost of migrating to a new number, ComReg considers that the benefits of reducing the risk of a consumer being unable to contact GNI in the event of an emergency should outweigh any costs, given the safety considerations at issue. Further, and as acknowledged by GNI, most consumers find the emergency number online on their phone and are not reliant on where the number is printed.

144 ComReg is of the view that SPs' costs of migrating to a new number would be significantly less than those claimed by GNI. Moreover, such migration costs as may arise must be netted against SPs' potential savings from the reduced costs of operating NGNs (for safety reasons or other). In that regard, ComReg is providing three years from the date of the Decision before 5-to-2 Consolidation occurs. This should allow for replacement cycles for materials. For example:

- The approx. 688,000 domestic and commercial customers can be contacted and informed of changes in the normal manner. Customers are billed for gas usage on a monthly / bi-monthly basis and a current emergency number must be printed on the bill.[77] [78] The updated number should be provided on each new bill with appropriate inserts reminding consumers over an extended period of time about the number change.
- GNI already advises its customers to have their boiler and other natural gas appliances serviced by a Registered Gas Installer once a year.[79] Registered gas installers can be informed of contact number changes and can ensure that the correct numbers are displayed on equipment.[80] In

[74] https://www.italgas.it/en/learn-about-italgas/contact-us/
[75] https://www.gasenstroomstoringen.nl/
[76] https://www.sibelga.be/en/connections-and-meters/security/smell-of-gas
[77] https://www.cru.ie/home/customer-care/energy/about-my-bill/
[78] https://www.bordgaisenergy.ie/docs/publications/codes-of-practice/BGE_NG_BPCOP_0714%20Natural%20Gas%20Bill%20Payment%20COP.pdf
[79] https://www.gasnetworks.ie/home/safety/rgi/
[80] In that regard, ComReg notes that the CRU holds regular meetings to discuss Natural Gas Safety issues on an on-going basis with all relevant stakeholders including BGN, Gaslink, shippers / suppliers, RGII and the DCCAE. Wider industry stakeholders such as the National Standards Authority of Ireland

effect, a 20 year cycle is not required to replace numbers on boilers given that they are typically serviced once a year and consumers can replace numbers themselves by including stickers bearing such numbers in bills, as described above.

- In relation to vehicles and marketing materials, ComReg remains of the view that 3 years is appropriate and proportionate for SPs to migrate to a new number range, in line with the natural replacement of such items.

- GNI already runs several annual public safety awareness campaigns to promote gas safety issues to the public including our 24-Hour Gas Emergency Service, Dial-Before-You-Dig and Carbon Monoxide awareness.[81] GNI also offer ‘Dial Before You Dig’ posters or stickers for your organisations.[82]

145 In relation to the ESB, similar points apply:

- Most customers receive an electricity bill once every two months. All suppliers are required to print the ESBN Emergency contact number on their bill [83] and this allows customers to be updated on multiple occasions within the 3-year implementation period.

- Roll-out of 2.3 million Smart Meters is scheduled to begin in Q4 2019[84] and will facilitate any new Electricity Safety Number to be included with same.

- ESBN previously introduced, on a temporary basis, an alternative Geographic Number (021 4537000)[85] to complement its 1850 Emergency Number. This alternative was subsequently changed to 021 2382410. It is not clear whether this alternative number has been updated on its poles network but it is promoted on its cable marker warnings[86] .

- More than 150,000 of the two million poles are already inspected every year, with around 5,000 being replaced for a variety of reasons. [87]

146 GNI also contacted ComReg in June 2018 to discuss what options are available to

(NSAI), the Health and Safety Authority (HSA), Consumer groups and associations are also involved in communications on safety with CER as required.

[81] https://data.oireachtas.ie/ie/oireachtas/committee/dail/32/joint_committee_on_communications_climate_action_and_environment/submissions/2018/2018-02-27_opening-statement-mike-quinn-ceo-ervia_en.pdf

[82] https://www.gasnetworks.ie/business/safety-in-the-business/dial-before-you-dig/Safety-Steps-for-landowners.pdf

[83] https://www.cru.ie/home/customer-care/energy/about-my-bill/

[84] https://www.cru.ie/wp-content/uploads/2018/08/CRU1818164-Smart-Meter-Upgrade-Standard-Smart-Tariff-Decision-Paper-.pdf

[85] https://www.esb.ie/tns/press-centre/2015/2015/04/17/5234

[86] https://www.esbnetworks.ie/new-connections/multi-unit-development/cable-marker-warning-tape

[87] https://www.irishexaminer.com/ireland/workers-told-stay-away-from-rotting-esb-poles-300843.html

secure a blue light service for the Gas release number 1850 20 50 50. The possibility of using a short code was raised by GNI. Similarly, ESBN previously submitted that ComReg should consider additional 3-digit dialling numbers for critical national services, e.g. for reporting emergency electrical or gas faults.[88] Both organisations have therefore, at the very least, previously contemplated or even taken certain actions towards migrating from their current 1850 NGNs to numbers in other ranges. ComReg previously expressed its view, which is unchanged, that stated that certain NGN ranges, such as 1800, are suitable for reporting faults to utility infrastructure as they are easy for the general public to recognise and remember.

147 ComReg also recognises that certain SPs may have particular requirements that will have implications for their own migration planning. ComReg will engage with industry and SPs in planning the implementation of the final decision in order to accommodate such needs as far as is practical.

Migration Cost Survey

148 In relation to Vodafone's submission that using average cycles to estimate the time required to replace stationary etc. is not appropriate, ComReg notes that use of average cycles indicated that a transition period of about one year (except for vehicles) would be appropriate. However ComReg decided that a more conservative period of three years would be more appropriate, in order to provide greater scope for a greater number of organisations to avoid costs while not unduly delaying the benefits to consumers.

149 In relation to any organisations whose replacement cycle may exceed the proposed implementation period, ComReg notes:

- One third of SPs would be willing to switch to improve consumer understanding of the NGN platform;
- SPs would ultimately benefit from consumers' increased use of the NGN platform as a result of the proposed Consolidation;
- DotEcon's view that any costs incurred in the short to medium term should be assessed against the benefits associated with the simplification of the NGN regime to meet the needs of SPs and callers of these numbers; and
- SPs will benefit from the reduced cost of providing services over NGNs (See 'Wholesale' section above.

150 Finally, while ComReg takes account of costs likely to arise from its proposed

[88] Numbering Conditions of Use and Application Process - Response to Consultation and Decision – Document 15/137.

measures, it also recognises that any such impacts should be balanced against the benefits of achieving relevant statutory objectives, including promoting the interests of other users (i.e. consumers), protecting consumers more generally, promoting competition, and ensuring the efficient and effective use of numbers.

151 The Final RIA is set out in the following Chapter.

3 Final Regulatory Impact Assessment

3.1 Introduction and background

152 The NGN platform covers a wide variety of services provided by SPs which can be accessed by consumers/end-users using fixed-line or mobile telephones. The emergence of mobile telephone services, increased market competition, and the needs of SPs have resulted in an increasingly complex NGN platform in terms of the various types of NGN and their associated retail tariffs.

153 ComReg considers it appropriate and timely to assess the extent to which NGNs are being used efficiently and effectively and in a manner that promotes competition and protects consumers and to determine if any regulatory intervention is necessary.

154 ComReg's review of the NGN platform has involved gathering a large amount of information which has been used to inform the RIAs. Prior to publication of Consultation 17/70, and in order to address an information deficit regarding the NGN platform (including as to call volumes and consumer and organisational perceptions and behaviour) ComReg engaged Behaviour & Attitudes Ltd ("B&A") to survey consumers and organisations as to:

a) levels of awareness and understanding of NGNs among consumers, their experiences of accessing services via NGNs, and their attitudes towards NGNs including their understanding of NGN call costs (the "Consumer Study"[89]); and

b) the extent to which organisations use NGNs to deliver services and their reasons for doing so (or not doing so), their understanding of retail tariffs and the cost of calls to the caller, and their general awareness of, and attitudes to, NGNs (the "Organisation Study"[90]).

155 In addition to its Consumer Study and Organisation Study, B&A also conducted a Materials Cost Study[91] which explored the extent to which migrating from NGNs would impose additional costs on SPs.

156 ComReg also engaged DotEcon Ltd ("DotEcon") to develop models to inform ComReg's understanding of the NGN platform. In particular, DotEcon:

[89] ComReg Document 17/70b – Non-Geographic Numbers: Consumer Study – published 16 August 2017.
[90] ComReg Document 17/70c – Non-Geographic Numbers: Organisation Study – published 16 August 2017.
[91] ComReg Document 17/70d – Non-Geographic Numbers: Materials Cost Study – published 16 August 2017.

a) reviewed regulatory management and use of NGNs in a selection of comparable jurisdictions;

b) provided an overview of NGNs in Ireland including the types of services typically provided, the level of demand and trends over a 5 year period (2011 – 2015), retail tariffs for NGN calls, and the extent to which NGN calls are included in-bundle[92];

c) described the wholesale supply chain for each class of NGN and the interaction between each participant in the chain, including flows of revenue (for each class of NGN) between the consumer, the Originating Operator, the Terminating Operator, and the SP, as well as any intermediaries involved in carrying an NGN call (such as transit operators);

d) recommended remedies to address concerns with the current NGN platform; and

e) provided a response to the submissions received from interested stakeholders on Consultation 17/70

157 ComReg and DotEcon also conducted in depth, one-to-one interviews with eight large SPs (public and private) who provided a substantial body of information as to their experiences in using NGNs, including the costs and perceived benefits of doing so.

158 ComReg has also had regard to the views received in response to the draft RIAs set out in Consultation 17/70[93], in Consultation 18/65[94], and in DotEcon's response to Consultation 17/70.

159 Prior to setting out the RIAs, this section summarises the economic framework in order to give context to ComReg's subsequent assessment of each of the regulatory options identified.

3.2 Economic framework and issues arising on the NGN platform

160 A SP providing a voice-based telephone service over the NGN platform requires that service to be accessible to all possible NGN callers (being the customers of Originating Operators) at an affordable price or free of charge. From the SP's perspective, Originating Operators are complements to, and not substitutes for, one

[92] For the purpose of this review, "in-bundle" means where calls to certain classes of numbers are included as free call minutes up to a number of inclusive minutes as part of a consumer's telephone subscription for a headline fee.
[93] ComReg Document 17/70 – Review of Non-Geographic Numbers – published 16 August 2017.
[94] ComReg Consultation 18/65 – Review of Non-Geographic Numbers, Response to Consultation and daft Decision – published 11 July 2018.

another as the SP will want to offer its service to all possible callers regardless of the Originating Operator. If customers of even a relatively small Originating Operator were unable to access a SP's service then that could significantly devalue the benefit of that service for the SP and for those excluded customers. SPs thus require all Originating Operators to enable their customers to access the SPs' services, at an affordable price or free of charge.

161 However, Originating Operators could assert bottleneck control over their customers' access to SPs, by raising their retail and/or wholesale tariffs. Originating Operators could thereby capture some or all of the consumer surplus associated with the voice-based service provided by SPs. If an Originating Operator should increase its retail tariffs to such an extent as to effectively foreclose its customers from accessing a SP, then the SP would not receive the calls which that Originating Operator's customers would otherwise have made. DotEcon notes that in such circumstances the SP would have few viable alternative options for providing its voice-based service[95], other than using a Geographic Number or Mobile Number, neither of which may be suitable in some instances for reasons including the following:

- Switching to a Geographic Number or Mobile Number may not fit a SP's requirements - for example, if a SP does not wish to be associated with a specific geographic location because its services are national or international in nature (these are assessed in the section 'SP Requirements' below');
- Switching to an alternative NGN may not satisfactorily resolve the SP's problem if:
    - the Originating Operator also increases its retail tariffs for that alternative NGN; and/or
    - the associated wholesale origination charges are too high for the SP; and
- If a SP should switch from a NGN voice-based service to a non-voice based alternative (e.g. email or social media) then the SP may run the risk of losing callers as the non-voice based alternative may not have the same universality as the NGN voice-based service.[96]

162 Furthermore, in deciding to increase its retail tariff an Originating Operator might not consider, or might not have sufficient incentives to consider, any consequential

[95] Disconnecting from any Originating Operator who creates a retail price bottleneck may not be feasible if the SP needs to be accessible to all possible callers.

[96] The B&A study confirmed than consumers still value voice based services. 67% prefer to contact organisations by telephone over alternative forms of communication (Slide 23 of ComReg 17/70b: Non-Geographic Numbers Consumer Study).

reduction in the volume of NGN calls and the resulting adverse impact on SPs. This results in at least two externalities that could lead to market failures, thereby preventing the efficient and effective functioning of the NGN platform:

(a) **Vertical externalities** – Originating Operators may be able to increase their retail tariffs to such extent that the number of calls to certain NGN ranges are reduced; and

(b) **Horizontal externalities** – Originating Operators would be unlikely to consider the impact which their retail tariffs could have on the reputation and consumer perception of any NGN range or on the overall NGN platform (including that each NGN prefix should signal that a particular retail tariff applies).

163 Chapter 4 of Document 17/70a sets out the evidence which strongly indicates that several issues in the Irish NGN platform require regulatory intervention, including:

- Excessive retail tariffs for NGN calls;
- Poor consumer / SP understanding of the different NGN ranges and their characteristics;
- Poor consumer awareness of the retail tariffs for NGNs calls in different ranges;
- Bottleneck control by Originating Operators and the resultant impact on SPs' incentives to use NGNs to provide consumers with voice-based telephony services; and
- Pricing and lack of understanding leading to reductions in the use of NGNs by consumers.

164 A key issue is the transparency of retail tariffs for NGN calls and consumer awareness and understanding of those tariffs. Chapter 6 of Consultation 17/70 and Chapter 5 of Consultation 18/65 set out possible regulatory measures for improving the transparency of NGN retail tariffs. These possible price transparency measures apply to all regulatory options and are not discussed further in this Final RIA. However, ComReg considers that improving retail price transparency alone would not be sufficient to correct the observed consumer harm as some of the underlying problems appear to be caused by structural issues in the NGN value chain.

165 In line with ComReg's statutory remit, and having regard to the issues outlined above, this Chapter sets out the following RIAs:

(a) "**NGN Pricing RIA**" **-** how best to ensure that retail tariffs for NGN calls do not unduly limit access to voice-based services provided over NGNs; and

(b) "**NGN Consolidation RIA**" - based on the preferred option arising from the NGN Pricing RIA, whether it is necessary to rationalise the five existing NGN ranges and, if so, how many NGN ranges are required.

166 This section concludes with ComReg's assessment of its preferred option arising from the above two RIAs (the "Preferred Option") against its relevant statutory objectives, regulatory principles and duties.

167 Chapter 3 of Consultation 18/65 outlined ComReg's preliminary views in relation to wholesale intervention. In summary, wholesale price control is also necessary to ensure the effective functioning of the NGN platform. ComReg provides a further update on its views in relation to wholesale intervention in Chapter 2 of this Document. This RIA has been prepared having regard to the fact that such an intervention would take effect at the same time as the preferred option outlined in the NGN 'Pricing RIA' that follows.

3.3 RIA Framework

168 A RIA analyses the likely effects of a proposed regulatory measure in order to determine if it would be appropriate, effective, proportionate and justified, having regard to its intended purpose, and assesses whether any form of regulatory intervention is necessary. A RIA should help to identify the most effective and least burdensome regulatory measure and should seek to establish if any such measure is likely to achieve the desired objective(s), having considered all apparent alternatives and the likely impact(s) on stakeholders.

Structure of a RIA

169 ComReg's RIA Guidelines[97] sets out the five steps in a RIA:

Step 1: Identify the policy issues and identify the objectives.

Step 2: Identify and describe the regulatory options.

Step 3: Determine the impacts on stakeholders.

Step 4: Determine the impact on competition.

Step 5: Assess the impacts and choose the best option.

170 In the following sections, ComReg identifies the stakeholder groups, the policy issues to be addressed, and the objectives (i.e. Step 1 of the RIA process). ComReg then considers the two policy issues, each in a separate RIA and in accordance

[97] ComReg Document 07/56a – Guidelines on ComReg's approach to Regulatory Impact Assessment – published 10 August 2007.

with Steps 2-5 inclusive of the RIA process.

Identification of stakeholders

171 Step 3 assesses the likely impact of a regulatory measure on stakeholders. Hence a necessary precursor is to identify such stakeholders who, in these RIAs, fall into two main groups:

1. Users of the NGN platform:
   - (i). Consumers[98] (the impact on consumers is assessed separately in "Impact on Consumers");
   - (ii). SPs (the impact on SPs is assessed in "Impact on stakeholders"); and
   - (iii). Other users (the RIA also assesses the impact on other users of the NGN platform such as nomadic or corporate users who use the 076 range for their IP-based Unified Communications).
2. Industry stakeholders:
   - (i). Fixed-line and mobile Originating Operators;
   - (ii). Fixed-line and mobile Terminating Operators;
   - (iii). Transit operators; and
   - (iv). Other operators (resellers, including MVNOs).

172 Some industry stakeholders may occupy more than one of the above roles and ComReg considers the combined impact on such stakeholders. This includes all parties who provided information to ComReg under its Information Requirement (see Annex D of the Document 17/70a) and who responded to Consultation 17/70 and/or Consultation 18/65.

173 Step 4 assesses the impact of the proposed measures on competition having regard to ComReg's statutory objective to promote competition (see Annex 2).

174 The RIA Guidelines and the RIA Policy Direction do not specify how much weight to place on stakeholders' submissions (Step 3) or on the impact on competition (Step 4). Accordingly, ComReg will be guided by its statutory objectives in the exercise of its function to manage the national numbering resource (see Annex 2) which may be summarised as follows:

- to ensure the efficient and effective use of numbers; [99]

[98] ComReg notes that consumers includes anyone who calls a NGN.
[99] Such as: by promoting the provision of clear information, in particular requiring transparency of tariffs and conditions for using publicly available ECS; addressing the needs of specific social groups, in

- to promote competition;
- to contribute to the development of the internal market; and
- to promote the interest of users within the Community. [100]

175 The RIAs adopt the following sequence for completing Steps 3 and 4 – impact on stakeholders is assessed first, then impact on competition, then impact on consumers. The order of assessment does not indicate the importance of each impact but reflects a logical progression. For example, a measure which safeguards and promotes competition should also impact positively on consumers. Hence the assessment of the impact on consumers can draw from the assessment of the impact on competition.

Identify the policy issues and identify the objectives (Step 1)

Policy Issues

176 In light of the analysis and issues identified by DotEcon and ComReg's proposed wholesale intervention, there are two main policy questions to consider in the context of encouraging efficient use and ensuring effective management of the NGN platform:

(a) How best to ensure that retail tariffs for calling NGNs are not detrimental to the efficient and effective functioning of the NGN platform?

(b) Having determined the appropriate pricing framework, is the current quantity of NGN ranges appropriate for the efficient and effective functioning of the NGN platform while also meeting the reasonable requirements of consumers and SPs?

177 The above two policy questions are related but sequential and so they are considered separately. Both are reflected in the options set out below.

Objectives

178 ComReg is undertaking these RIAs having regard to its statutory objectives (summarised in Annex 2 and above). These RIAs also have regard to the fact that ComReg, as the designated national regulatory authority for the electronic communications sector in the State, is required to take all reasonable measures which are aimed at achieving its prescribed statutory objectives while such measures must also be proportionate to those objectives.

179 ComReg notes that "users" for the purposes of NGNs include consumers (i.e. NGN

particular disabled users, elderly users and users with special needs; and promoting the ability of end-users to access and distribute information or use applications and services of their choice.

[100] Such as by ensuring that users (included disabled users, elderly users and users with special social needs) derive maximum benefit in terms of price, choice, and quality.

callers) and SPs[101]. Some SPs may have to make certain changes if the proposed measures were implemented and may incur some costs in doing so. While ComReg takes account of costs likely to arise from its proposed measures, it also recognises that any such impacts should be balanced against the benefits of achieving relevant statutory objectives, including promoting the interests of other users (i.e. consumers), protecting consumers more generally, promoting competition, and ensuring the efficient and effective use of numbers. Further, SPs are likely to benefit from a wholesale price control that will reduce their costs of providing voice services over NGNs.

180 Having identified the policy issues and objectives, as outlined above, the remainder of this Annex is divided between the two policy issues identified above – the "NGN Pricing RIA" and the "NGN Consolidation RIA".

Implications of the Preferred Options on each RIA

181 The RIAs herein are not in any particular order and the issues they address can overlap. If an option in one RIA has or may have implications for any option in the other RIA, then this is considered.

3.4 NGN Pricing RIA

Regulatory Options (Step 2):

Option 1 – No new regulatory measure - current NGN pricing regime to continue with no intervention by ComReg.

Option 2 – Impose a new Geo-Linked Condition specifying that NGN calls shall be no more expensive than Geographic Number calls and shall be treated the same as national[102] Geographic Number calls at the point in time.

182 These Options are illustrated in Figure 1.

[101] "user" means a legal entity or natural person using or requesting a publicly available electronic communications service. S.I. No. 333 of 2011 - European Communities (Electronic Communications Networks And Services) (Framework) Regulations 2011

[102] As described by DotEcon using the rate of a national geographic call would allow the grouping of all of these numbers in a single "basket". Given that retail rates for calls to these numbers from mobiles seem to be a more significant issue and the distinction between local and national geographic numbers is not relevant on mobile, shifting the reference geographic call to a 'national' call in all cases would seem logical. In addition, this should not in-fact lead to any price rises, given that there does not appear to be such a clear distinction between the way in which local and national calls are charged these days. For example, according to the eir price list 2017 for customer dialled calls, local and national calls are charged the same rate during the daytime and at the weekend, https://www.eir.ie/opencms/export/sites/default/.content/pdf/pricing/Part2.1.pdf.

Figure 1: Pricing RIA Options

OPTION 1	OPTION 2
'Status Quo' Current NGN pricing regime to continue with no intervention by ComReg.	***'Geo-Linked'*** Tariffs/tariff rates for NGN calls shall be treated the same for equivalent GN calls at the point in time.

183 ComReg previously mandated a form of "Geo-Linked" pricing. The former Numbering Conventions[103], when revised in 2011, introduced a "standard rate" against which the NGN retail price can be pegged and that standard rate is intended to apply equally to calls originating from a fixed or mobile Originating Operator. However, NGN calls are currently charged at the out-of-bundle rate for a call to a Geographic Number whereas most calls to Geographic Numbers benefit from being in-bundle (up to the number of inclusive call minutes). Therefore, currently calls to Geographic Numbers and calls to NGNs are treated very differently for the purposes of retail pricing – NGN calls, on average, have a higher marginal price because they are not in-bundle.

184 Under Option 2, in terms of retail pricing the new Geo-Linked Condition would require that calls to NGNs be no more expensive than calls to Geographic Numbers, made at the same point in time. For example:

- If a caller's Geographic Number calls are in-bundle at the time the caller makes a NGN call then that NGN call must also be in-bundle; or
- If a caller's package does not include in-bundle call minutes or if a caller has exhausted his/her in-bundle of call minutes, at the time of calling a NGN, then that NGN call must be charged at a tariff rate which is no higher than the tariff rate for an equivalent Geographic Number call, made by that same caller at that time.

Impact on Stakeholders and Competition (Steps 3 and 4)

185 This section sets out a comparative analysis of Options 1 and 2 in terms of their likely impact on:

[103] ComReg, through Response to Consultation and Decision 15/137, published in December 2015, replaced the "National Numbering Conventions" (Doc 11/17) and the "Numbering Application Procedures and Application Forms (ComReg Document 11/18) with the Numbering Conditions of Use and Application Process (ComReg Document 15/136R1).

(i) Industry stakeholders (Section 3.4.1);

(ii) Impact of Option 2 on wholesale origination charges (Section 3.4.2);

(iii) Impact on Competition (Section 3.4.3); and

(iv) Impact on Consumers (Section 3.4.4).

3.4.1 Impact on Industry Stakeholders

186 Originating Operators, Terminating Operators, and transit providers form the main groups likely to be affected by the proposed regulatory measures.

Option 1 versus Option 2 – Fixed and Mobile Originating Operators

187 The extent to which fixed and mobile Originating Operators may prefer a particular option depends on several factors of which the following are considered the most important:

1. The extent to which network costs for originating NGN calls are the same/different as network costs for originating Geographic Number calls;
2. The extent to which NGN calls are already included in-bundle (where customers face a zero marginal retail charge at the point in time up to the number of call minutes included in-bundle);
3. Originating Operators' revenue from NGNs calls which (i) are purposely not included in-bundle; or (ii) are made outside of bundle due to the in-bundle minutes having been exhausted;
4. The extent to which an option is likely to result in an increase/decrease in NGN call volumes; and
5. The extent to which an option is likely to create additional billing or technical changes.

1. Network cost difference

188 Geographic Number calls and NGN calls are both delivered in very similar ways. Both are switched services carried through the network. In order to deliver a NGN call, the dialled NGN must be "translated" at the terminating network end into a Geographic Number and this requires an intelligent network query. However, this is also a feature of many calls to ported Geographic Numbers as the dialled Geographic Number needs to be "translated" for routing to the called party. Therefore, ComReg considers that the network costs in originating Geographic Number calls do not differ materially from the network costs in originating NGN calls, as calls to both number types have the same features and network elements.

189 This view is informed by:

- Wholesale market reviews;
- Information provided by Fixed-Line Operators and Mobile Operators in response to the 2016 Information Requirement as to any costs differences in originating NGN calls, as opposed to Geographic Number calls;
- The DotEcon Report (ComReg 17/70a); and
- Operators' responses to Consultations 17/70 and 18/65.

Wholesale market reviews

190 As explained by ComReg in its Wholesale Fixed Voice Call Origination and Transit Markets Review[104], there are many similarities between the different types of calls that can be made from a specific location (i.e. fixed-line calls to Geographic Numbers and NGNs). In particular, the initial phase of a fixed-line call (equivalent to Fixed Voice Call Origination) involves the same network equipment regardless of the type of number being called. All Fixed-Line Operators must interconnect with other Fixed-Line Operators, either directly or indirectly, in order to provide a telephony service. This requires the routing and handing over of originated calls to other networks for transit or termination, as necessary. Hence a Fixed-Line Operator capable of providing one type of outbound call is generally capable of providing all types of outbound calls, which indicates a high degree of supply-side substitutability in the provision of different types of calls.

191 In relation to transit services, Geographic Numbers, NGNs, and Mobile Numbers are likely to require common network infrastructure while transit operators typically provide transit services to all types of numbers. From a pricing perspective, Eir does not change its pure transit price based on the type of number being called.[105] Instead, Eir publishes one set of national transit prices and the transit price for any call is determined not by the type of number being called but by the time of day that the transit service is being provided.[106]

Response of operators to ComReg's Information Requirement

192 Eighteen respondents to ComReg's Voluntary Information Request and Section 13D Information Requirements expressed views on the differences between the origination costs for Geographic Number calls and NGN calls.

193 Eight respondents[107] submit that there are some cost differences between

[104] ComReg Document 14/26 – Market Review: Wholesale Fixed Voice Call Origination and Transit Markets – published 4 April 2014.
[105] It should be borne in mind that Eircom's pricing has been subject to SMP based price regulation.
[106] Eircom's transit prices are published in Table 002 of the STRPL which is available on Eircom's wholesale website at http://www.eircomwholesale.ie/Reference_Offers/.
[107] ComReg notes that four responses appeared to confuse costs with retail or wholesale prices. Another agreed there was differences but these were mostly set up costs that did not provide a justification for higher per minute costs.

Geographic Number calls and NGN calls, including:

(a) Having to maintain an Intelligent Network (IN) infrastructure in order to route NGN calls (Viatel, Colt, Magnet and BT). In particular:

(i). Switching and forwarding infrastructure is quite manual and not particularly efficient and has to be monitored for spikes (BT);

(ii). A proper "Non-Geographic Number Portability" ("NGNP"), which would allow a more efficient egress path, is not available (BT);

(iii). There may be possible cost differences between originating NGN calls and Geographic Number calls such as routing (Vodafone);

(b) Capital investment in IN systems cannot be recovered in the case of failed calls (Viatel);

(c) There is a potential debt risk associated with NGN as an additional cost driver (Colt); and

(d) Rating, billing and invoicing requirements for NGN calls are more complicated and costly as not all of the costs are recovered from the caller; some of the costs are recovered from other parties (Viatel).

194 Ten respondents[108] submit that there are no network cost differences, or no observable network cost differences, between originating NGN calls and Geographic Number calls.

195 The primary cost difference, as claimed by some respondents, relates to the routing of calls and the IN. However, no specific details were provided to support the claimed cost difference. For example, Vodafone does not provide any detail about the extent of such costs but rather submits that such costs cannot be observed because the network costs of administering NGN calls are not separated from the network costs of administering Geographic Number calls. However, ComReg is of the view that the very fact that these two sets of network costs are not separated from one another indicates that there is little or no difference between origination costs for Geographic Number calls and NGN calls, as an IN is also required to facilitate the routing of calls to ported Geographic Numbers.

196 ComReg also notes the following:

[108] Airspeed, Eir, Meteor, Equant, Imagine, In2Tel, Intellicom, Lycamobile, Magrathea and Nova.

- As set out in ComReg's Wholesale Fixed Voice Call Origination and Transit Markets Review, the costs of maintaining services such as IN for NGNs are likely to represent normal costs of doing business in electronic communications markets and do not represent an additional cost in the origination of NGN calls.[109]

- DotEcon's view that maintaining these IN services is a 'normal cost' of operating in electronic communications markets.

- The views of Eir/Meteor[110] that the IN query required for routing a NGN call is also required for a Geographic Number call and, in particular, the following statements:

  - "*There are no fundamental differences between call origination costs for calls to geographic numbers or to non-geographic numbers on the open eir network.*"[111]

  - *…"the Intelligent Network query where the number translation information required for subsequent call routing is implemented for both geographic and NGC (Non-Geographic Code) calls (arising out of a requirement to route ported geographic numbers to the recipient network)"*;

  - *"…the routing and costs for calls to geographic numbers hosted on the open eir network and non-geographic numbers used by service providers also served from the open eir network are identical*." [Emphasis added]

  - *"…the routing and costs for a call to a geographic number hosted on an Operator network are the same as for a call to an NGC hosted on the same Operator network*."

  - *"…there are no cost differences as between calls to geographic numbers and calls to an NGC number translation code service that terminates at the same network location as the geographic number."*

  - *"In all three cases[112] the originating costs of calling geographic numbers hosted on the same terminating network* are identical to

[109] Paragraph 7.169 of ComReg Document 14/26 – Market Review: Wholesale Fixed Voice Call Origination and Transit Markets – published 4 April 2014.
[110] Meteor response noted that "*answer to be provided in Eir fixed response*".
[111] As noted by DotEcon, this applies whether the SP (called party) is served by Eir, BT or some other network operator, i.e. for both on-net and off-net calls for Eir.
[112] A - calls from a calling party connected to the open eir network to an NGC service provider served from the open eir network;
B - calls from a calling party connected to the open eir network to an NGC service provider served from the BT network;
C - calls from a calling party connected to the open eir network to an NGC service provider served from an Operator network other than open eir or BT.

the costs *of calling NGC services on that network"*

[Emphasis added]

- The following views of In2Tel:
    - o *"a call to a free 1800 number (for example) takes the same amount of physical resource as dialling a normal 01 number*."[113];
    - *o "NGN and Geographic Number calls both use the same switching resources and in theory could terminate across the same points of interconnect";* and
    - *o "we see no difference in resource requirements between a mobile user calling a normal land line number or a 18xx type number."*

- The views of Magnet that while "*there are operational overheads to operate an IN Infrastructure for Non-geo Numbering routing so some cost difference is justifiable. This is mostly on the setup side. There's little or no justification for higher per minute costs*." [Emphasis added].

- Such network cost differences as are claimed to exist appear to only apply to certain originators (four respondents submit that such cost differences exist) and relate to those originators' overall network systems and processes for dealing with the routing of NGN calls. All other respondents appear to be able to facilitate this as part of their current network.

- Bad debt is mainly associated with calls to Premium Rate Service rather than calls to the NGN ranges at issue.

197 Hence, the views of respondents largely confirm that there are no observable network cost differences between originating NGN calls and Geographic Number calls and that such cost differences as do exist mainly relate to set-up costs that have already been incurred.

DotEcon Report

198 From a technical perspective, DotEcon notes that NGN calls and Geographic Number calls originate in very similar ways and both are switched services carried through the network. The Terminating Operator "translates" the dialled number in order to deliver the call. Therefore, the scope for genuine cost differences between NGN calls and Geographic Number calls should be minimal and so it is unlikely that there is any cost-based justification for pricing NGN calls differently than nto Geographic Numbers calls.

199 Further, having assessed the views of operators as described above, DotEcon

[113] ComReg Document 14/130 – Update on treatment of non-geographic numbers – published 5 December 2014.

considers *"that there are no unilateral and significant differences in the costs of processing geo and non-geo calls*".

200 ComReg's position is that it agrees with DotEcon's assessment and conclusion, as summarised above.

Response of operators to Consultation 17/70 and Consultation 18/65

201 ComReg did not receive any material from respondents challenging its view that the network costs of originating Geographic Number calls do not differ from the network costs of originating NGN calls.

202 ComReg received one response from Eir in response to Consultation 18/65. These views which do not provide any cost-based justification for pricing NGN calls differently to calls to Geographic Numbers are addressed in Chapter 2.

203 ComReg therefore maintains its position that such differences between the origination costs for Geographic Number and NGN calls as do exist do not warrant separate retail pricing of Geographic Number and NGN calls.

2. Inclusion of NGNs in-bundles

204 Retail tariffs for NGN calls (except to 1800 NGNs) and for Geographic Number calls are generally the same, however certain Originating Operators charge less for NGN calls than for out-of-bundle Geographic Number calls while other Originating Operators charge a higher rate for NGN calls than for out-of-bundle Geographic Number calls. [114] [115] [116] [117]

205 However, the DotEcon Report confirms that most Geographic Number calls are in-bundle whereas most NGN calls are not in-bundle. Under the Section 13D Information Requirements, each operator was required to set out the extent to which its NGN calls fall in-bundle, across its fixed and mobile subscription packages. Section 3.4 and Annex E of Document 17/70a sets out DotEcon's analysis of the extent to which NGN calls are in-bundle and the retail tariffs charged by fixed and mobile operators. The results of DotEcon's analysis are as follows:

[114] Lycamobile's standard pay as you go rate for calls to landline numbers is 9c/min, while calls to 1890 NGNs are charged at 16c/min and 0818 NGNs at 25c/min. https://www.lycamobile.ie/en/nationalrates and https://www.lycamobile.ie/sysimages/editorfiles/Ireland_premium.pdf. Accessed on 30 May 2017.

[115] Postmobile's standard prepay rate for calls to landline numbers is 28c/min, while calls to 1890 and 076 NGNs are charged at 30c/min https://postmobile.ie/call-costs/standard-calls/ and https://postmobile.ie/call-costs/other-calls/. Accessed on 30 May 2017.

[116] Digiweb's rate for a peak rate for a national call is 4.29c/min, while calls to 076 NGNs are charged at 8.95c/min and 0818 NGNs at 12.5c/min. https://www.digiweb.ie/price-plan-rules/#call_charges_terms_conditions. Accessed on 30 May 2017.

[117] Permanet's rate for a peak rate for a call to a landline is 2c/min, while calls to 1890 NGNs are charged at 9c/min and 076 and 0818 NGNs at 11c/min and 10c/min respectively http://www.permanet.ie/irish-rates/. Accessed on 30 May 2017.

(a) No Originating Operator includes all NGN calls in any of its bundles;

(b) No Originating Operator includes 1850 or 1890 NGN calls in any of its bundles:

- All Originating Operators apply per-call retail tariffs for calls to 1850 NGNs; and
- All Originating Operators apply per-minute retail tariffs for calls to 1890 NGNs;

(c) Only Sky and Vodafone include (some) 0818 NGN calls in their bundles:

- Sky offers calls to its own 0818 customer care number in-bundle[118];
- Vodafone's mobile bill pay customers have 0818 NGNs included "in bundle"[119];

(d) Several Originating Operators offer 076 NGN calls[120] in-bundle, particularly calls to the '076 1XX XXX' portion of the subscriber number range[121]. Those operators include Eir, Lycamobile, Meteor[122], Pure Telecom, Ripplecom, and Tesco Mobile.

206 Under Option 1, which is to maintain the status quo, Originating Operators could continue to apply retail charges for NGN calls at the same or different tariff rates compared to Geographic Number calls and could continue to treat NGN calls differently with respect to bundling. The current retail tariff rates are summarised in Table 2 below.

207 Under Option 2, Originating Operators would be required to treat NGN calls (except calls to 1800 NGNs) no differently to Geographic Number calls for the purposes of retail charges. For example, to the extent that any Originating Operator includes its customers' Geographic Number calls in-bundle, that Originating Operator would be required to also include its customers' NGN calls in-bundle.

208 It would appear that Originating Operators do not have any commercial incentive to change from their current practice of largely excluding NGN calls from their call bundles, given the revenues which result directly from that current practice. Though

118 However, Sky does not attribute any retail revenues earned from these in-bundle 0818 calls.

119 If the caller exceeds his/her inclusive minutes then calls to 0818 numbers are charged at the mobile to landline rates as per the caller's price plan,

120 DotEcon note that for a number of these operators, 076 numbers are not differentiated from geographic numbers at all (at the retail level) and are offered in-bundle by default as a result of some calls to geographic numbers being offered in-bundle, rather than calls to 076 numbers being offered in-bundles as a deliberate marketing decision.

121 Government Networks has been assigned the 076 100 0000 – 076 119 9999 range.

122 Operator data request shows Meteor as including calls to 076 numbers in bundle, their website only implies that calls to 076 1XX XXXX numbers on billpay tariffs are included.

ComReg previously suggested[123] that Originating Operators may be able to obtain a competitive advantage by including NGN calls in their customers' bundles of call minutes, Consultation 17/70 shows that, over the past 7 years, Originating Operators do not appear to have considered including NGN calls in bundles and the Consumer Study (ComReg 17/70b) confirms this.[124] ComReg is therefore of the view that Originating Operators would prefer Option 1, being the option which would allow them to continue to exclude NGNs from their customers' bundles of call minutes.[125]

3. Revenue earned from consumers[126]

209 The DotEcon report (ComReg 17/70a) describes how revenue from NGN calls is allocated across various parts of the NGN platform, between Originating Operators, transit operators, Terminating Operators, and SPs.

210 The DotEcon revenue allocation model shows that operators, over the period 2011 to 2015, earned an average of about €29m[127] p.a. in call revenue, across all operators combined, from customers calling NGNs. 62% of those revenues came from 1890 calls and the remaining 38% was spread across the other four NGN ranges – see Table 1 below:

Table 1: Average per annum retail revenue earned from customers calling NGNs 2011-2015 (2015 figures in parentheses)

NGN Range	Total Call Revenue, €m	Fixed Retail Revenue, €m	Mobile Retail Revenue, €m
1850	3.6 (3.2)	1.7 (1.4)	1.9 (1.8)
1890	17.9 (19.2)	6.2 (5.6)	11.7 (13.5)
0818	6.4 (6.7)	2.5 (2.2)	3.9 (4.4)
076	0.9 (1.6)	0.44 (0.7)	0.40 (0.9)
Total	**28.8 (30.7)**	**10.9 (9.9)**	**17.9 (20.7)**

[123] ComReg Document 10/60 – Consultation Paper: Sixth Review of the National Numbering Conventions – published 4 August 2010.
[124] See Slide 52 onwards of ComReg Document 17/70b – Non-Geographic Numbers: Consumer Study – published 16 August 2017.
[125] While operators would be free to exclude NGNs from bundle of minutes under Option 2, ComReg considers this unlikely given retail competition for bundled minutes. See impact on competition.
[126] This refers to revenues earned from callers dialling NGN ranges. The remaining revenue is earned from wholesale origination which is not assessed in this RIA.
[127] This is the average revenue raised for the period 2011- 2015. Over the entire period revenue has risen every year from €27m in 2011 to €30.6m in 2015.

211 Under Option 2, fixed-line and mobile Originating Operators would be required to treat NGN calls the same as Geographic Number calls. This would include, for example, that where Originating Operators offer subscription packages with bundled call minutes then any bundle that includes Geographic Number calls would also have to include NGN calls. Originating Operators would cease to generate (direct) retail revenues from NGN calls if such calls were in-bundle. ComReg notes that the proportion of revenue earned from customers whose subscription does not included bundled minutes (i.e. certain prepay customers) and other customers who use up their monthly minute allowance would continue to be earned under Option 2. Therefore, a proportion of revenues earned as set out in Table 1 would continue to be earned as normal. However, Option 2 would effectively eliminate a proportion of the Originating Operators' current additional NGN revenues which results from most NGN calls being out-of-bundle (where a consumer has minutes remaining), except in the following cases:

1. Originating Operators may earn additional revenues from Geographic Number calls and/or NGN calls made out-of-bundle and at out-of-bundle rates (for example, where a caller has used up his/her allowance of in-bundle call minutes)
2. Option 2 could have a 'waterbed effect' in that Originating Operators could increase prices of their other services in order to gain additional revenues (i.e. attempt to off-set the revenues lost from NGNs being treated the same Geographic Number calls).

212 The "Impact on Consumers" section in Section 3.4.4 below considers cases 1 and 2 above and concludes that it is likely that the negative impact of Option 2 on consumers, if any, would be relatively small. It thus appears that fixed and mobile Originating Operators would lose a significant amount of revenue if they had to treat NGN and Geographic Number calls the same for the purposes of retail pricing. It is therefore assumed that they are likely to prefer Option 1 as this would allow them to continue to treat NGN and Geographic Number calls differently for the purposes of retail pricing (thereby retaining the current higher revenues from NGN calls).

4. Increased/decreased call volumes

213 ComReg's proposed wholesale intervention would likely increase the extent to which SPs provide services over the NGN platform. However, Option 2 would also likely result in more NGN calls being made over time because it should cause retail charges for NGN calls to fall significantly (mainly due to NGN calls being in-bundle at which point the marginal price of a call would be zero). Option 2 would lead to consumers (a) making more calls to existing NGNs and (b) making calls to new NGNs introduced on foot of the wholesale intervention. This view is supported by the results of the Consumer and Organisation Studies by B&A (ComReg 17/70b and ComReg 17/70c respectively) which include the following:

- 49% of consumers who are aware of NGNs consider NGN calls to be more expensive than landline calls[128];
- Consumers' main reasons for not making NGN calls (except 076 calls)[129] are their concerns that such calls:
  - may be expensive;
  - are expensive; or
  - that a previous telephone bill included an unexpectedly large charge for a NGN call. [130]
- Of those mobile callers who were surprised at the cost of NGN calls, only 11% did not change their call behaviour while the remaining 89% did change their call behaviour: 25% stopped making NGN calls; 54% only make NGN calls when absolutely necessary; and 11% keep NGN calls as short as possible;[131]
- Of those fixed-line callers who were surprised at the cost of NGN calls, only 17% did not change their call behaviour while the remaining 83% did change their behaviour: 22% stopped making NGN calls; 55% only make NGNs calls when absolutely necessary; and 7% keep NGN calls as short as possible;[132]
- 28% of organisations do not consider using NGNs because they think NGN calls are too expensive for consumers [133]; and
- Of the organisations which think that NGN calls are too expensive for consumers, 40% would consider using NGNs if the retail charges to consumers for calling NGNs were reduced.[134]

214 Finally, the preferred option (reduce NGN ranges from five to two) in the 'NGN Consolidation RIA' would improve transparency and increase usage of NGNs.

215 ComReg considers that two effects on stakeholders could result from an increase

[128] 15% of consumers think calls to geographic numbers are more expensive than calls to NGNs and 36% think there is no difference in expense between calls to NGNs and calls to landline. See Slide 80 of ComReg Document 17/70b – Non-Geographic Numbers: Consumer Study – published 16 August 2017.

[129] The main reason for avoiding 076 numbers is that "*I have never heard of this number*". See Slide 87 of ComReg Document 17/70b – Non-Geographic Numbers: Consumer Study – published 16 August 2017.

[130] See Slide 87 (For example, 72% avoid dialling 1890 numbers for reasons related to expense) of ComReg Document 17/70b – Non-Geographic Numbers: Consumer Study – published 16 August 2017.

[131] See Slide 65 of ComReg Document 17/70b – Non-Geographic Numbers: Consumer Study – published 16 August 2017.

[132] See Slide 64 of ComReg Document 17/70b – Non-Geographic Numbers: Consumer Study – published 16 August 2017.

[133] See Slide 33 of ComReg Document 17/70c – Non-Geographic Numbers: Organisation Study – published 16 August 2017.

[134] See Slide 66 of ComReg Document 17/70c – Non-Geographic Numbers: Organisation Study – published 16 August 2017.

in the volume of NGN calls:

(a) More NGN and Geographic Number calls might be made outside of bundled minutes – this potential effect is assessed in Section 3.4.4 below – "Impact on consumers"; and/or

(b) Operators' wholesale call termination revenues could increase for terminating 0818 and 076 calls and fixed originated calls to 1850 and 1890 – this potential effect is assessed in the next section below (Option 1 v Option 2 – Terminating Operators).

216 Notwithstanding, ComReg is of the view that any positive effects on Originating Operators' revenues, as may result from an increase in the volume of NGN calls, would not be sufficient to overcome their likely overall reductions in retail revenues. Therefore, ComReg considers that Originating Operators would likely prefer Option 1.

5. Billing and technical changes

217 Under Option 2, there would likely be some implementation costs on Originating Operators which they otherwise would not incur, such as having to make necessary adjustments to their billing systems. ComReg is of the view that a period of one year would provide sufficient time for operators to update their billing systems and make changes to existing contracts. The new and amended tariff conditions for 1850, 1890, 0818 and 076 NGNs (Decision No. 2, 3 and 6)[135] came into effect in ComReg Document 11/17 and three months was considered sufficient to update systems and subscriber contracts, and implement the new tariff conditions. Similarly, BT provided three months' notice of its price change (on leaving 'deemed- to-be') to allow Operators "*to implement these new BT prices into their billing systems in a timely way*".[136] Vodafone's mobile bill pay customers already have 0818 NGN calls in bundle and so any additional costs should be more limited for Vodafone.[137]

218 Further, DotEcon is of the view that "*6 months seems reasonable. Whilst this may be extended up to 12 months to allow some additional time for operators to make the changes, we consider that any unnecessary delay of implementing the retail remedies beyond this time period would allow significant harm to consumers to continue and should be avoided where possible*". Further, in relation to Vodafone its mobile bill pay customers have 0818 NGNs included "in bundle" already so any additional costs would be limited.[138]

219 As noted in Chapter 2 billing changes are not likely to be significant since NGNs will

[135] ComReg Document 11/16 and Decision Document 01/11 – National Numbering Conventions Update to V.7: Response to Consultation – published 9 March 2011
[136] open eir Switched Transit Routing and Price List.
[137] Annex E – DotEcon Report (ComReg 17/70a).
[138] Annex E – DotEcon Report – Document 17/70a.

be treated in the same way as Geographic Numbers across all tariff plans. Out of bundle tariffs are only required not to be higher than those for Geographic Numbers. Therefore, given that all existing NGN retail tariffs are either lower or the same as Geographic retail tariffs, any increases would be a commercial decision rather than as a result of Option 2. A time period any longer would delay significant benefits to consumers that would not be justified, given the rents that have already been appropriated by operators over a long period.

Option 1 versus Option 2 – Terminating Operators

220 Most NGN calls terminate on a fixed network and therefore Mobile Operators that provide NGN hosting services to SPs typically purchase a wholesale service from a Fixed-Line Operator. For example, Vodafone provides retail fixed telephony services largely by purchasing wholesale services from BT Ireland and Eir. Therefore, NGN call termination is not separated into mobile and fixed components.

221 For the purposes of this section, Terminating Operators are considered in two groups:

(a) Terminating Operators that also originate calls[139] ('Terminators A'); and

(b) Terminating Operators that do not originate calls ('Terminators B').

222 In relation to Terminators A, in certain instances the Originating Operator and the Terminating Operator may be the same operator – i.e. where a NGN call originates and terminates on the same network. Alternatively, an operator may be the Terminating Operator for some calls but the Originating Operator for other calls. The NGN call revenues currently accruing to Originating Operators are such that Terminating Operators who also originate NGN calls are likely to prefer Option 1, regardless of the fact that they originate and terminate some NGN calls. As a distinct group, Terminators A would likely prefer Option 1 as most Terminating Operators also originate NGN calls. However, the revenue allocation model indicates that the termination revenues of certain operators exceed their origination revenues, meaning that such operators would likely prefer Option 2.

223 In relation to Terminators B, ComReg notes that:

(a) for mobile calls to 1850 and 1890 NGNs, Terminating Operators recover their costs from SPs; and

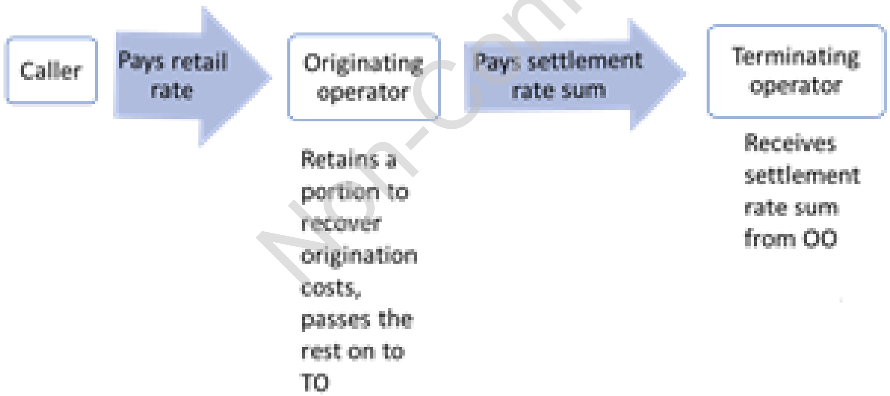
[139] The majority of fixed operators provide both call origination and call termination services with the exception of two respondents who only provide call termination services. Mobile operators operate mostly on the call origination side, though Vodafone also provide call termination services to service providers.

(b) for fixed/mobile calls to 0818/076 NGNs and for fixed calls to 1850/1890 NGNs, the caller pays the Originating Operator a retail tariff and the Originating Operator retains a portion of that tariff to cover its origination costs (the “retention rate”) and passes the balance to the Terminating Operator. For fixed calls to 1850/1890 NGNs, Terminating Operators also collect a payment from SPs for terminating calls.

224 For a single Geo-linked NGN, the Terminating Operator would recover its costs for calls to 0818 and 076 NGNs and for fixed-line originated calls to 1850 and 1890 NGNs. In theory, Option 2 should allow termination rates to be recovered. Therefore, Terminators B would likely prefer Option 2, as these Terminators B may benefit from the increase in total termination revenue likely to result from an increase in the volume of NGN calls.

225 As earlier outlined, ComReg considers that Option 2 would likely lead to an increase over time in the volume of NGN calls. As set out in the ‘NGN Consolidation (which follows) RIA’, 0818 is ComReg’s preferred Geo-linked NGN range. Currently, a 0818 caller pays a retail tariff to the Originating Operator. The Originating Operator retains a portion of that retail tariff to cover its origination costs and passes the balance to the Terminating Operator. This regime is illustrated in Figure 2 below.

Figure 2: Current revenue arrangements for calls to 0818 NGNs



226 To the extent that the regime illustrated above would remain in place after implementation of Option 2, Terminators B would likely prefer Option 2 as Terminators B may benefit from an increase in termination revenues resulting from the likely increase in the volume of NGN calls.

227 Notwithstanding, the current settlement regime for the 0818 NGN class is, in theory, open to change and any changes to retail tariffs could affect Originating Operators’ incentives to pass an appropriate settlement rate onto Terminating Operators. A number of respondents submitted that there is a risk that Originating Operators might respond to a loss in retail margins by reducing termination rates (which Originating Operators set for Terminating Operators). As noted by DotEcon, currently high retail margins make it possible for Originating Operators to pass

through some excess returns to Terminating Operators through more generous termination rate. In that regard, ComReg considers that Option 2 could lead to less favourable wholesale rates for Terminating Operators. The extent to which Terminators B would prefer Option 2 would thus depend on the extent to which settlement rates may be changed, if at all. In that regard, ComReg will consider such matters in its wholesale consultation and draft Decision in early 2019.

Option 1 versus Option 2 – Transit Operators

228 Some off-net[140] NGN calls have to be routed via a third transit network (i.e. not the Originating Operator's network nor the Terminating Operator's network). Such NGN calls involve a Transit Operator who will levy a transit fee for each call on the Terminating Operator. Though the Terminating Operator is the purchaser of the transit service and is charged for same, the Terminating Operator cannot choose the Transit Operator or the most efficient routing path for the call; those decisions are made by the Originating Operator.

229 Transit Operators (if they perform the sole function of transiting calls between operators) would likely prefer Option 2 because an increase in the volume of NGN calls should increase their revenues. However, no entity currently operates solely as a Transit Operator. For example, Eir is the main Transit Operator in Ireland, but even if Option 2 did cause Eir to gain additional revenues from transit fees, those revenues would be unlikely to off-set Eir's reduced NGN retail revenues also resulting from Option 2. Therefore, ComReg considers that Eir and other Transit Operators are unlikely to prefer Option 2.

Service Providers (Option 1 v Option 2)

230 62% of surveyed SPs stated that one of their main reasons for providing access to their services over NGNs (other than 1800) is to reduce the cost of calls for their customers.[141] Therefore, it is not in SPs' interests that NGN calls be suppressed as this would limit the extent to which SPs can interact with their actual and prospective customers.

<u>Option 1</u>

231 As described in Section 3.4.4 ("Impact on Consumers") below and in the DotEcon Report, it would appear that the volume of NGN calls has been suppressed by the relatively high retail charges for those calls, coupled with the generally poor consumer understanding of NGNs and high retail charges. In particular:

[140] This occurs where a call originated on one network terminates on a different network.
[141] Slide 30 of ComReg 17/70c: Organisational Study

- Over a quarter of consumers avoid dialling 1850 and 076 NGNs and almost a third avoid dialling 1890 and 0818 NGNs[142]**.** More specifically:
  - o pre-pay consumers avoid dialling NGNs more than bill-pay customers;
  - o rural consumers avoid dialling NGNs more than urban consumers. Nearly 40% of rural consumers avoid dialling 1890 and 0818 NGNs and almost a third avoid dialling 1850 NGNs. Avoidance by urban consumers is about 25% for all NGN ranges except 1800; and
  - o Regions outside Dublin have the highest avoidance rates – for example, about 50% of consumers in Connacht and Ulster avoid dialling 0818 and 1890 NGNs[143].
- Consumers change their behaviour when they become aware of the relatively high retail charges for NGN calls. For example, 83% of fixed-line consumers[132] and 89% of mobile consumers[131] changed their behaviour by making fewer, shorter, or no calls to NGNs.
- Many consumers think that SPs make money from NGN calls. For example, 41% of those surveyed who were aware of NGNs thought that SPs can make money from consumers dialling 1850 and 1890 NGNs. Only 29% correctly understood that none of the five NGN classes can be used by SPs to make money from consumers dialling those NGNs.[144]

232 Consequently, there appears to be a serious disconnect between the benefits which SPs think they are providing to consumers through the use of NGNs and the benefits, or lack thereof, which those same consumers think they are receiving. Retail prices for NGN calls are not being set at a level or in a manner that reflects SPs' preferences and, as a consequence, SPs are likely to be harmed in a number of ways, including the following:

- A significant number of consumers avoid all use of NGNs or strongly curb their use of NGNs and so such consumers cannot access the voice-based telephony services which SPs provide;
- Rural consumers and regions outside Dublin are more likely to require access to voice-based telephony services, due to their greater distance from physical locations, but are more likely to avoid use of NGNs;
- SPs' reputations are likely to be harmed if a large percentage of consumers wrongly believe that SPs earn revenue from the NGN calls

[142] See Slide 85 of ComReg Document 17/70b – Non-Geographic Numbers: Consumer Study – published 16 August 2017.
[143] See Slide 123 of ComReg Document 17/70b – Non-Geographic Numbers: Consumer Study – published 16 August 2017.
[144] See Slide 37 of ComReg Document 17/70b – Non-Geographic Numbers: Consumer Study – published 16 August 2017.

they (SPs) receive (in fact, certain voice-based NGN services represent an ongoing operational cost to SPs and such services are not a source of direct revenue);

- SPs cannot advertise the retail charges for NGN calls to consumers in a transparent way (due to the variation in the retail tariffs charged by Fixed-Line Operators and Mobile operators), noting in particular that the Organisation Study (ComReg 17/70c) found that:
  - o 63% of organisations currently using NGNs think it is important that customers are aware of the cost of calling NGNs[145]; and
  - o While 77% of organisations[146] currently using NGNs think it is not difficult to inform customers of the exact retail charges for NGN calls, only 21% of those provide guidance to their customers on the cost of calling NGNs.[147]
- SPs' lack of influence over the level and type of retail charges for NGN calls means that SPs cannot provide clear pricing messages in their promotional material. Consequently, SPs are more likely to receive complaints from consumers about the retail charges incurred for making NGN calls. For example, Revenue which handled almost 2.5m 1890 calls in 2016 submitted in response to Consultation 17/70 that "*These costs have resulted in many complaints and dissatisfaction amongst our customers*." In that regard, Revenue have ceased providing services using the 1890 range system to reduce costs for customers using mobile phones.

233 Therefore, ComReg is of the view that SPs would be unlikely to favour Option 1.

Option 2

234 ComReg considers that the effective functioning of the NGN platform depends on callers having a reasonable notion of what each NGN range means and of the retail charge which they are likely to pay for making any NGN call.

235 Under Option 2, consumers should view retail charges for NGN calls (except 1800 calls) as being the same as for Geographic Number calls. In particular, consumers with bundled call minutes should view NGN calls as being essentially no different to Geographic Number calls and should therefore have no reason to suppress their NGN calls (there being no pricing incentive to do so particularly if NGN calls are in-

[145] Slide 56 of ComReg Document 17/70c – Non-Geographic Numbers: Organisation Study – published 16 August 2017.
[146] Slide 58 of ComReg Document 17/70c – Non-Geographic Numbers: Organisation Study – published 16 August 2017.
[147] Slide 57of ComReg Document 17/70c – Non-Geographic Numbers: Organisation Study – published 16 August 2017.

bundle).

236 ComReg is of the view that the comparatively high retail charges for NGN calls (including their general exclusion from bundled call minutes) and the apparent widespread lack of consumer understanding as to the different NGN ranges are the two main reasons for the volume of NGN calls being lower than it otherwise should be. ComReg is also of the view that a Geo-linked condition (Option 2) should significantly reduce the extent to which the retail pricing of NGN calls deters consumers from accessing SP services using a NGN.[148]

237 ComReg is also of the view that Option 2 would be likely to aid in overcoming the problems associated with Option 1, as set out above, and to result in an increased volume of NGN calls. If NGN calling is incentivised (or at the very least not deterred) as a consequence of NGNs being priced the same as Geographic Numbers then this should increase the value of the NGN platform to SPs and significantly reduce the identified current harm to SPs. In that regard, ComReg notes that all SPs who responded to Consultation 17/70 supported Option 2.

238 Finally, SP respondents to this consultation all prefer Option 2 for reasons similar to those set out above. Therefore, ComReg is of the view that SPs would prefer Option 2.

3.4.2 Impact of Option 2 on wholesale origination charges

239 DotEcon observes that any retail pricing remedies, made without any corresponding wholesale pricing remedies, could create difficulties for SPs if Originating Operators should seek to recover their lost retail revenues (resulting from Option 2) by increasing their wholesale call origination rates. Wholesale call origination rates are in effect set by Originating Operators; they decide how much to retain in order to cover their call origination costs[149]. Wholesale call origination rates are important because they directly affect the charges paid by SPs (for those NGNs for which the SP pays a portion of the NGN call).

240 SPs may therefore be concerned about the impact that Option 2 may have on wholesale call origination rates (which, as indicated by the DotEcon Report, are currently excessive, particularly for mobile). As outlined in Chapter 2 and Chapter 3 of Consultation 18/65, ComReg will review wholesale NGN call origination rates in a separate consultation. This will include an assessment of any impact of any preferred option on wholesale call origination rates, including whether Originating Operators could recover their lost margins from SPs.

[148] The preferred option in the draft NGN Consolidation RIA will reduce confusion and subsequent suppression of calls.

[149] In the case of 1800 numbers they decide how much the terminating operator pays the originator in settlement fees to cover their call origination costs.

3.4.3 Impact on Competition

241 Competition can take place at different levels of the NGN supply chain:

1. At the retail level Originating Operators compete to attract subscribers and callers ("Retail Competition"); and

2. In the market for call termination, Terminating Operators compete to provide hosting to SPs ("Terminating Markets").

242 It is important to ensure that competition is effective at the different levels of the NGN supply chain.

1. Retail competition

243 For retail competition to be effective, consumers must be able to clearly identify the main differences between NGN ranges and the retail charges which apply in each range. In particular, in order to make an informed decision when choosing an appropriate call package across all operators, consumers must consider their potential use of all services[150] and the charges for each service.

244 The B&A surveys indicate that consumers are aware of the existence of NGNs but that awareness does not extend to the particular features of the different NGN ranges or the specific retail charges for NGN calls. DotEcon observes that there is strong evidence that consumers, when deciding upon the network operator to which they will subscribe, typically do not give much weight to retail charges for NGN calls. Such charges are likely to be too small a share of consumers' total spending to incentivise competition between Originating Operators so as to constrain retail charges for NGN calls to any significant degree. It would appear that consumers are more likely to choose a network operator based on monthly access charges and on the number of in-bundle call minutes and the data allowance. Therefore, under Option 1 competition cannot be expected to constrain NGN retail charges.

245 If competition is to be effective in delivering competitive NGN retail charges under Option 1, consumers would require a reasonable notion of what any class of NGN means, in terms of knowing what they will be charged if they call any NGN. However, it is apparent that most consumers have a very poor understanding of the different NGNs and of the retail charges which apply to each NGN. For example:

[150] This includes bundles, data allowance and the price of calls and texts.

- 85% of consumers (fixed-line and mobile) do not consider the inclusion of NGN minutes in different call packages when choosing their provider/package;[151]

- Many consumers seem to confuse NGNs with Premium Rate Service numbers - 41% of those aware of NGNs think that SPs can make money from consumers dialling 1850 and 1890 NGNs;[152]

- Only 33% of those aware of NGNs correctly identified 1800 NGNs as free to call from a mobile while only 40% understand that 1800 NGNs are free to call from a fixed-line. However, almost one-third of those aware of 1800 NGNs think they are expensive to call (when in fact they are entirely free of charge to the caller);[153]

- 86% of adults surveyed did not know the per minute charge or the per call charge for NGN calls;[154]

- Most consumer estimates of the retail charges for NGN calls were far higher than the actual charges. Average estimates of retail charges for a NGN call (per call/minute) from a landline ranged from €0.42 for 1800 NGNs to €1.20 for 0818 NGNs[155]; and

- Only 4% of adults had looked up the cost of a NGN call in the previous 3 months. More had looked up the cost of calls to Geographic Numbers or Mobile numbers (7% and 10%) despite the fact that calls to such numbers are in-bundle for most fixed-line and mobile bill-pay customers and for some mobile prepay customers.

246 In addition, it cannot be assumed that other non-NGN services are cross-subsidised through lower prices or lower subscription charges. Rather, it may be that the excess margins from NGN calls are being dissipated through greater customer acquisition and retention expenditures. As noted by DotEcon, the excess margin appropriated by operators from NGN calls will likely result in a net loss to consumers in two ways:

(a) a portion of the excess margin is likely to be retained as excess profits;

[151] See Slide 56 of ComReg Document 17/70b – Non-Geographic Numbers: Consumer Study – published 16 August 2017.
[152] See Slide 37 of ComReg Document 17/70b – Non-Geographic Numbers: Consumer Study – published 16 August 2017.
[153] See Slide 41 of ComReg Document 17/70b – Non-Geographic Numbers: Consumer Study – published 16 August 2017.
[154] See Slide 66 of ComReg Document 17/70b – Non-Geographic Numbers: Consumer Study – published 16 August 2017.
[155] See Slides 68, 69 and 70 of ComReg Document 17/70b – Non-Geographic Numbers: Consumer Study – published 16 August 2017.

and/or

(b) while consumers may benefit from certain consumer retention/acquisition expenditures, such as price promotions and upgrades[156], other retention/acquisition expenditures include more marketing and advertising which do not provide any direct benefit or gain to consumers.

247 Further, retail charges for NGN calls could increase as consumer uncertainty/confusion regarding such charges means that price competition for NGN calls is less than for other telephony services. This distorts the structure of retail charges, with high retail charges for NGN calls relative to calls to other numbers.

248 Under Option 2, retail charges for NGN calls would align with retail charges for Geographic Number calls in that Originating Operators would be required to treat them the same at the point in time. This would extend current retail competition for Geographic Number calls, largely based on subscriptions for bundles of call minutes, to include NGN calls. DotEcon notes that there is no reason to suppose that competition is not effective across the bundles offered by Originating Operators. Therefore, NGNs should benefit from the same competition at the retail level that has, for example, resulted in Geographic Number calls being in-bundle.

249 Though Option 2 would not directly remedy some of the identified consumer awareness issues, it should result in increased competition because NGN calls would be in-bundle and, therefore, consumers may not need to know the exact or even the approximate retail charge for any NGN call, be it a per minute or per call charge. Once consumers have a reasonable notion of call charges, they should then be able to make decisions that improve the effectiveness of competition. For example, it may be sufficient for consumers to know that the retail charge for any NGN call may be high if the call is made out of bundle (for example, where a consumer has used all of his/her call minutes) and to adjust their usage and behaviour accordingly.

250 The key point is that retail competition appears to occur at the bundle/call package level, and not at the level of individual components of the bundle. Consumers currently have low levels of awareness about the retail charges for Geographic Number calls[157]; however, competition is nevertheless effective because consumers are aware that Geographic Number calls are included in-bundled minutes and that relatively high charges apply for Geographic Number calls made out-of-bundle. The NGN platform should similarly benefit from such retail competition arising from increased consumer awareness – i.e. by consumers

[156] ComReg also notes that subsidising handsets can often be inefficient as consumers could often retain their current handset absent the subsidy.

[157] See slides 71 and 77 of ComReg Document 17/70b – Non-Geographic Numbers: Consumer Study – published 16 August 2017.

becoming aware that NGN calls are in-bundle with relatively high retail charges applying to any NGN calls made out-of-bundle. Therefore, ComReg is of the view that Option 2 would have a positive impact on retail competition.

2. Terminating Markets

251 As noted above, SPs' costs (in the form of retail charges paid to the Terminating Operator) are directly affected by the wholesale call termination rates for:

(a) 1850 and 1890 NGNs (set by the mobile Originating Operators[158]); and

(b) 1800 NGNs (set by the fixed and mobile Originating Operators).

252 Therefore, the following assessment considers the impact on competition arising from changes to NGN retail charges only, under Option 1 which represents the current situation.

253 Under Option 1, Terminating Operators face the possibility that any Originating Operator could assert bottleneck control over its customers by raising the retail charge, thereby capturing some or all of the consumer surplus associated with the service being provided by the SP. However, and as previously discussed, the extent to which Originating Operators could raise retail charges under Option 2 appears to be limited, given the relatively high level of retail competition for call packages that would be likely to occur.

254 Under Option 2, it is likely that the volume of NGN calls would increase which, in turn, could increase revenues for Terminating Operators. This should increase competition because each Terminating Operator should have greater incentives to compete for as many SP calls as possible to be terminated on its network.

255 In light of the above, ComReg is of the view that Option 2 is the preferred option in terms of the impact on competition between Terminators.

3.4.4 Impact on Consumers

Option 1 (*status quo*)

256 ComReg is of the view that consumers would be unlikely to prefer Option 1, as currently in effect. In particular, ComReg considers that the DotEcon Report, B&A surveys and responses to consultation contain cogent and convincing evidence that Option 1 is detrimental to consumers.

257 In setting out a framework for assessing consumer harm, the DotEcon Report notes the following:

[158] The end of the 'deemed to be' regime means this also may arise for fixed originators.

1. Consumers facing known high retail prices will reduce calling, entailing a loss of consumer surplus (“Known prices”); and

2. To the extent that retail prices are unknown, consumers may also reduce calling in order to avoid bill shock (“Unknown prices”).

1. Known retail prices

258 As noted in the ‘Impact on stakeholders’ section above, most NGN calls are not in-bundle and so they are charged at out-of-bundle rates as set out below (exceptions are certain 076 and 0818 calls). Geographic Number calls, on the other hand, are generally in-bundle with the customer paying a fixed retail charge for a bundle of minutes (up to a specified number of total call minutes). Geographic Number calls therefore have a zero marginal price at the point in time (up to the total number of call minutes included in-bundle) - i.e. there is no charge for each voice minute made in-bundle and additional per minute retail charges only apply once the inclusive minutes have been exhausted. Current retail charges for NGN calls are therefore high relative to current retail charges for Geographic Number calls and retail charges for NGN calls are significantly higher for such calls made from mobile. As set out in Table 2 below, the retail charge for NGN calls from mobile are typically 3 – 5 times higher than NGN calls from landline. Mobile phone users are also more likely to regularly dial NGNs than landline phone users[159].

259 To the extent that callers are aware of the relatively high retail charges for NGNs calls, there is lost consumer surplus and a reduction in the volumes of NGN calls. In particular, 44% of those that avoid dialling 1890 NGNs do so because of reasons related to the known cost of call, 36% for 1850 NGNs, 35% for 0818 NGNs, and 22% for 076 NGNs.[160] In addition, the consumer surplus is left unused because many consumers do not use some portion of their in-bundle minutes each month while those same consumers are charged at per min/call rates for NGN calls. The Consumer Study presents clear evidence of this.

Table 2: Typical daytime charges to NGNs from fixed and mobile[161]

NGN	Fixed NGN Calls (price)[162]	Mobile NGN Calls (price)
1850 (per call)	7 – 9	30 – 35

[159] See slide 24 of ComReg Document 17/70b – Non-Geographic Numbers: Consumer Study – published 16 August 2017.
[160] See slide 87 of ComReg Document 17/70b – Non-Geographic Numbers: Consumer Study – published 16 August 2017.
[161] Charges as per DotEcon Report (ComReg Document 17/70a). Certain operators may charge a connection fee for calls to certain NGNs. This can be up to 29c.
[162] Cent per minute

1890 (per minute)	4 - 7	15 – 45
0818 (per minute)	4 - 13	15 – 45
076 (per minute)	4 – 9	4 - 45

2. Unknown retail prices

260 To the extent that retail charges for NGN calls are unknown, consumers may alter their behaviour due to their perceptions of such charges. There appears to be a resulting loss for the following two categories of consumer:

(a) Those who think that retail charges for NGN calls are *higher* than they actually are and therefore do not make NGN calls; and/or

(b) Those who think that retail charges for NGN calls are *lower* than they actually are and therefore do make NGN calls which they otherwise would not have made (and who may subsequently experience bill shock).

261 In relation to category (a) above, there is strong evidence that some consumers have reservations about dialling NGNs and that some do not make NGN calls at all because of their perception that the retail charges for such calls are high. For example:

- 30% of those aware of 1800 NGNs think that 1800 calls are expensive, even though these calls are free to the caller;[163]
- 18% of all adults avoid dialling 1800 NGNs altogether[164];
- Of those that ever dialled an 1800 NGN, 55% would prefer to use some alternative type of number, including 37% who would rather dial a Geographic Number;[165]
- Around one third of respondents that avoid dialling NGNs do so because they think NGN calls are expensive (32% for 1850, 28% for 1890,and 27% for 0818).[166]; and
- Responses to this consultation further illustrate the difficulty consumers have when engaging with the NGN platform. For example:
  - o "*when people do not know how much an 076 call is going to cost, they are afraid to ring the number*" (CIB)
  - o *"There is widespread suspicion on the part of the public that NGNs are expensive and typically involve a system which quickly uses up their mobile phone credit." (CIB)* and

[163] See Slide 46 – ComReg 17/70b: Non-Geographic Numbers Consumer Study.
[164] See Slide 85 – ComReg 17/70b: Non-Geographic Numbers Consumer Study.
[165] See Slide 82 – ComReg 17/70b: Non-Geographic Numbers Consumer Study.
[166] See Slide 87 – ComReg 17/70b: Non-Geographic Numbers Consumer Study.

- o *There is significant consumer confusion with regard to the numbering systems currently in operation (CAI).*

262 In relation to category (b) above, having received a phone bill, 25% of consumers have been surprised at how expensive NGN calls were and another 10% have queried the cost of NGN calls by contacting their phone company.[167] Given that many consumers may not make a NGN call in any given month, 35% represents a high proportion of consumers that consider NGN calls to be expensive or that have queried the cost of NGN calls, upon receiving their bill.[168]

263 The relatively high retail charges for NGN calls, coupled with the lack of consumer awareness of those retail charges and a tendency to over-estimate or to under-estimate those retail charges, appears to demonstrate a clear potential for consumer harm, either through call suppression (if the anticipated charge is higher than actual) or bill-shock (if the anticipated price is lower than actual).

264 These issues ('known' and 'unknown') create a number of distinct effects that hinder the efficient and effective functioning of the NGN platform, including:

- uncertainty about retail prices, which may infect consumers' beliefs across originators and number types (**Contagion effect**);
- such problems may reduce the volume of calls made over NGNs (**Call reduction**);
- a reduction in the use of NGN services by consumers will eventually reduce the incentives for SPs to continue to provide services over NGNs (**Feedback effect**); and
- there may be additional issues of equity for some services used by vulnerable groups (**Social effect**).

265 ComReg considers these related issues below in assessing consumer harm.

Contagion effect

266 Retail charges which are known to be relatively high, or uncertainty as to whether retail charges are relatively high, may impact consumers' beliefs and consequent actions across operators and/or NGN ranges. DotEcon notes that just a single bad experience on a NGN, with any originator, may lead a consumer to expect that high retail charges are applied by other Originating Operators and/or across other NGNs ranges. Many such consumers may subsequently curb their use of NGNs or cease

[167] See Slide 63 of ComReg Document 17/70b – Non-Geographic Numbers: Consumer Study – published 16 August 2017.

[168] Further, 59% of consumers either don't pay attention to the cost of calls to NGNs or do not remember being charged an additional cost in relation to NGNs. See Slide 63 of ComReg Document 17/70b – Non-Geographic Numbers: Consumer Study – published 16 August 2017.

using NGNs altogether.

267 There are a number of clear examples of contagion within the NGN market. In particular:

- only 33% of those aware of NGNs think that 1800 calls are free from a mobile,[169] while:
    - o 30% of those aware of 1800 think 1800 calls are expensive;[170] and
    - o 37% of those aware of 1800 think the caller pays for the services provided over the 1800 range.[171]
- when asked which (if any) NGNs they avoid, there was a fairly even distribution of avoidance among consumers across all NGN ranges, with the consistent factor affecting behaviour being lack of knowledge about NGN features;
- 30% of those aware of NGNs think that SPs can make money from 1800 and 0818 calls, rising to 41% for 1850 and 1890 calls;[172]
- Consumers think that retail charges for NGN calls (except to 1800) are on average more than €1 per minute (or per call in the case of 1850);[173]
- 23% of consumers think 1850 calls become too expensive due to the duration of the call despite the fact that retail charge for an 1850 call is fixed and independent of call duration; and
- In response to this consultation, the CIB notes that some people report thinking that they were using a Freephone number and experiencing surprise and annoyance when they realise that they were paying a high tariff for the call – indicating that not only do some consumers not recognise 1800 as Freephone but others recognise that such an NGN exists but confuse other NGNs as the Freephone range;

268 ComReg is of the view that the NGN platform suffers from contagion. In particular, the 1800 range has a comparatively poor reputation amongst consumers despite the fact that 1800 NGNs are always free to call for consumers, with the call charges

[169] See Slide 42 of ComReg Document 17/70b – Non-Geographic Numbers: Consumer Study – published 16 August 2017.
[170] See Slide 47 of ComReg Document 17/70b – Non-Geographic Numbers: Consumer Study – published 16 August 2017.
[171] See Slide 78 of ComReg Document 17/70b – Non-Geographic Numbers: Consumer Study – published 16 August 2017.
[172] See Slide 37 of ComReg Document 17/70b – Non-Geographic Numbers: Consumer Study – published 16 August 2017.
[173] See Slides 68, 69 and 70 of ComReg Document 17/70b – Non-Geographic Numbers: Consumer Study – published 16 August 2017.

paid by SPs. This is especially problematic as certain consumers now avoid dialling 1800 NGNs altogether, or dial them less than they otherwise would, and as a consequence SPs are not receiving the full benefits that should result from paying for NGNs which are free for their actual or prospective customers to call.

269 Similarly, a significant proportion of consumers wrongly think that SPs make money from receiving 1800 calls.[174] In this regard, the relatively high NGN retail charges estimated by many consumers indicates that such consumers confuse NGNs with Premium Rate Service numbers. As a result, SPs may experience a degree of reputational damage related to their use of NGNs.

Call reduction effect

270 ComReg considers that relatively high NGN retail charges and/or the prevailing consumer perception that such charges are relatively high reduces the usefulness of the NGN platform to consumers and supresses the volume of NGN calls, leading to a loss of consumer surplus. [175] The DotEcon Report shows that there has been a steady decline in the volume of NGN calls between 2011 and 2015, with 1800 calls seeing the steepest decline.[176] It notes that "*between 2011 and 2015 calls originated to these numbers have fallen from around 300 million calls per annum to around 255 million calls per annum, a reduction of 15%. However, over the same period, the total of all other voice calls has fallen from 16.2 billion minutes in 2011 to 15.7 billion minutes in 2015, a fall of only 3.3%"*[177].

271 This steady, and apparently ongoing decline in the volume of NGN calls is reflected in the individual behaviour of consumers in their reaction to known and unknown NGN retail charges.

272 For example, in relation to known retail charges:

- around 40% of those surveyed avoid calling certain NGNs (except 076)[178] due to the perceived cost of such calls;[179]

- for users who experienced "bill-shock" when they received their bill and discovered the retail charge for a NGN call (i.e. an unknown retail charge became "known") 89% subsequently altered their behaviour, including:

[174] This view arose across all NGNs (Slide 40 of ComReg 17/70b).
[175] ComReg observes that while the incidences of calling has fallen, consumers are spending more time on the phone when they do.
[176] Calls to the 1800 range have fallen by 15% from 190.2 million calls (2012) to 155.4 million (2015).
[177] See Section 3.5 "*volume trends and changes over time*" of ComReg Document 17/70a – Strategic Review of Non Geographic Numbers in Ireland: A Report for ComReg – published 16 August 2017.
[178] The main reason for not dialling 076 was because consumers "*have never heard of this NGN number*".
[179] See Slide 87 of ComReg Document 17/70b – Non-Geographic Numbers: Consumer Study – published 16 August 2017.

- o 25% of mobile users and 22% of fixed-line users stopped calling NGNs altogether; and
- o 54% of mobile users and 55% of fixed-line users only call NGNs when absolutely necessary.[180]

273 In relation to unknown NGN retail charges:

- The main reason given by about 30% of consumers as to why they avoid making 1850, 1890 and 0818 calls, is encapsulated in the following response: -'*I don't know how much it costs per minute/call but I avoid it because I think it's expensive'*;[181] and

- 61% of those who ever made a NGN call did so with reservations, including that 20% minimised the length of the call and 32% first sought an alternative.[182]

274 ComReg is of the view that there is clear evidence that known and unknown NGN retail charges have had, and continue to have, the combined effect of supressing the volume of NGN calls to the detriment of consumers and SPs.

Feedback effect

275 It appears that high NGN retail charges, and the ensuing reluctance of many consumers to properly engage with the NGN platform, acts as a disincentive against SPs offering services over the NGN platform and this, in turn, ultimately leads to a reduced and/or lower quality range of telephony services which callers may access. If the value of NGNs to SPs is reduced then this may affect the quality of service provided over the NGN platform. For example:

- 28% of organisations do not use NGNs because they consider them too expensive for consumers to call[183];

- For organisations that use any NGN, one of the main reasons given as to why they would not consider using the 1850 and 1890 range is that they consider them too expensive for customers to call[184]; and

- 49% of organisations that never used a NGN think it is more cost effective for customers to call a Geographic Number or Mobile number

[180] See Slides 64 and 65 of ComReg Document 17/70b – Non-Geographic Numbers: Consumer Study – published 16 August 2017.
[181] See Slide 87 of ComReg Document 17/70b – Non-Geographic Numbers: Consumer Study – published 16 August 2017.
[182] Slide 84 of ComReg Document 17/70b – Non-Geographic Numbers: Consumer Study – published 16 August 2017.
[183] Slide 87 of ComReg Document 17/70c – Non-Geographic Numbers: Organisation Study – published 16 August 2017.
[184] Slide 32 of ComReg Document 17/70c – Non-Geographic Numbers: Organisation Study – published 16 August 2017.

than a NGN. Only 15%[185] think NGNs are more cost effective than Geographic Number or Mobile numbers for consumers.[186]

276 There may be a feedback effect, in that if fewer services are provided over NGNs then consumers may become less likely to engage with the NGN platform, in terms of understanding what the various NGN ranges mean, and consumers may make fewer NGN calls. This may then result in horizontal and vertical externalities as operators do not consider the above effects. Operators price in such a manner to gain additional revenue as their incentives are not aligned with those of SPs or consumers.

277 This also affects those consumers for whom retail pricing is less of a concern. For example, 6-11% of surveyed consumers stated that they do not care about the cost of NGN calls.[187] For these consumers, the service offered over the NGN is of greater importance than the cost of accessing it. However, because of the various externalities and feedback effects, and because SPs' requirements may switch to non-voice alternatives, services over NGNs may not be offered at all. In this way, such consumers may be denied access to certain voice services altogether. This may mean that many consumers who wish to access SPs' voice-based services, including consumers who are unconcerned about the retail charges for accessing such services through NGNs, may nevertheless be unable to access such voice based services.

Social effects

278 As noted by DotEcon, there may be additional issues with regard to accessing some voice-based telephony services over the NGN platform in that high retail charges for NGN calls could have a particularly negative impact on some more vulnerable consumers for whom NGNs provide important access to essential services (e.g. paying bills) or social services (e.g. healthcare, social security).

279 For certain classes of more vulnerable consumers, including some elderly persons or persons with disabilities, voice-based telephony services may be essential where travelling to a physical location is difficult. For such people, high retail charges for NGN calls could impose significant additional costs. In addition, it is likely that such additional costs would disproportionately impact on lower income households and on those with limited alternative communications options. In addition, and as set out in the 'Impact on Stakeholders' section above, rural consumers are more likely to require access to voice-based telephony services, however they are more likely to

[185] This is likely to be for Freephone numbers.
[186] Slide 34 of ComReg Document 17/70c – Non-Geographic Numbers: Organisation Study – published 16 August 2017.
[187] Slide 46 of ComReg Document 17/70b – Non-Geographic Numbers: Consumer Study – published 16 August 2017.

avoid calls to NGNs[188].

280 To illustrate this point by example, consider a 30-year old person living in an urban area, who is computer literate and has high-speed broadband in his/her house and on his/her smartphone. Such a person may not be greatly impacted if he/she can no longer conduct his/her banking through a NGN because he/she can easily and readily switch to online banking. However, a 65 year-old person living in a rural area, unfamiliar with computers or smartphones and not having any Internet connection, may be greatly impacted if he/she can no longer contact his/her bank through a NGN (or if the retail charge for contacting his/her bank by phone is relatively high). It is for such reasons that the possible impacts of a weakened NGN platform on more vulnerable consumers must be carefully considered.

281 For example, a recent report by the Roscommon Older People's Council has also identified issues with regards to the high of calls to NGNs. The report found that:

> "*Irish consumers are potentially paying up to €5 a time to phone so called "low cost" telephone numbers like those beginning 1890, 1850, 0818 and 0761 - even though an alternative number may also be available. Many organisations and businesses are encouraging their customers to ring their LoCall 1890, or 1850 Callsave, or 0818 National Call telephone numbers.*" [189]

282 ComReg discussed in detail the social effects arising out of high retail and wholesale origination charges in Consultation 18/65. In summary, ComReg noted that the social effects of reduced NGN utilisation resulting from high costs can be significant, particularly, for example, amongst low income or unemployed or vulnerable persons who may be dependent on one or more social services. The need to access such services can, in some instances, be urgent and those who require such access are often those who can least afford the price for calling NGNs. In that regard, ComReg's views are supported by the CIB, the national agency responsible for supporting the provision of clear and comprehensive information, advice and advocacy on social services. In particular CIB noted, in its submission to Consultation 17/70 the following.

- Confusion as to the features and pricing of the different NGN ranges has led to contagion across those ranges. (i.e. 1800 number range).
- A significant number of consumers experience 'bill shock' due to high retail charges for NGN calls.

[188] See Slide 85 of ComReg Document 17/70c – Non-Geographic Numbers: Organisation Study – published 16 August 2017.
[189] A Social Policy Report on Older People's Everyday Experiences of Banking and Telecommunication Providers in County Roscommon – Roscommon Older People's Council, April 2017.

- Consumers have been unable to contact SPs due to the high price of calls and in accessing some services and calls have become disconnected due to insufficient credit.
- Important social services cannot be accessed where certain SPs use NGN ranges that carry high retail charges.
- Many consumers avoid calling NGNs and will attend an SP's premises in person in order to avoid retail charges of NGN calls or because they have insufficient funds to make such calls.

283 The CIB submits that financially vulnerable people, living on very tight budgets, are particularly disadvantaged by the preponderance of NGNs. This group includes, in particular, those whose only income is a social welfare payment or people experiencing over indebtedness. For example, and noted previously in Consultation 18/65, those most at risk of poverty and deprivation are the unemployed (42% at risk of poverty or deprivation), those who do not work due to illness or disability (39% at risk of poverty or deprivation), or single adult families with children (40% at risk of poverty or deprivation).[190] Such persons, some of whom may be especially vulnerable, are most likely to benefit from being able to access a required service using a Freephone NGN while they are also likely to suffer the greatest harm from being charged for an NGN call. For example, if a person in relatively secure financial circumstances with a bill-pay account is charged €10 for a NGN call then that charge may amount to little more than an irritation, whereas if a person living on very modest means is charged the same amount, it could have a significant impact or the call may not be made at all.

284 While 1800 (Freephone) would provide the best opportunity for consumers accessing such services, a geo-linked option would also provide benefits as it would offer many of the same benefits as calling a 1800 NGN because there would be no incremental cost to such consumers (beyond using up some of their total call minutes under their bundles).Therefore, for the reasons set out above, ComReg is of the view that consumers, and in particular certain social groups and more vulnerable user groups, are unlikely to prefer Option 1.

<u>Option 2 (Geo-linked NGN calls)</u>

285 ComReg is of the view that consumers are more likely to prefer Option 2.

286 The main reason consumer price awareness is important is that it allows consumers to make informed decisions and to align their use of a service with their willingness to pay for that service. If consumers generally have poor or insufficient awareness of the retail charge for calls to Geographic and Mobile Numbers, this is mainly because they only need to know that these calls are in-bundle and the fixed subscription rate which they pay (usually per month). Operators then compete for

[190] CSO, Household Budget Survey 2017.

consumers' custom on the basis of their package offerings which specify the various call bundles rather than the price per call minute / price per individual call.

287 Under Option 1, many consumers make NGN calls very occasionally and are relatively uninformed about NGN retail prices, which means there is relatively little competitive pressure on such prices. Under Option 2, NGNs would be required to be Geo-linked and, as a consequence, consumers' approach to NGNs would likely be the same as to Geographic Numbers. If consumers know that NGN calls are treated the same as Geographic Number calls then the extent to which per minute prices for NGN calls are known / unknown should become a far less relevant factor in terms of whether such knowledge, or lack thereof, impedes the effective functioning of the NGN platform.[191] Pre-pay customers who do not avail of in-bundle minutes should be no worse off under Option 2 and would most likely continue to manage their monthly expenditure on a call to call basis, as they do currently. Originating Operators should also be far less likely to increase their retail prices as competition at the call package/bundle level should act as a significant restraint against such increases.

288 More generally, ComReg is of the view that Option 2 should substantially reduce the retail charges to consumers of calling NGNs. Because there would only be one pricing structure based on the proposed Geo-linking of NGNs to Geographic Numbers, there should be less consumer confusion and/or concern about the price of NGN calls. Operators would be required to treat NGNs equivalent to Geographic Numbers and NGN calls would therefore be in-bundle where an operator provide call bundles. For some consumers, NGNs other than 1800 (Freephone) would offer many of the same benefits as calling a 1800 NGN because there would be no incremental cost to such consumers (beyond using up some of their total call minutes under their bundles).[192] As a result, the known high retail charges for many NGN calls should reduce substantially and would only be incurred on NGN calls made out-of-bundle (for example, where a consumer makes a NGN call after using up his/her monthly allowance of call minutes). ComReg's approach to transparency in respect of these calls is set out in Chapter 5 of this Document.

289 Furthermore, consumers should be able to retain more consumer surplus by using up more of their inclusive minutes. As indicated by Table 1, Originating Operators currently accrue about €30m p.a. from NGN calls made at out-of-bundle rates where a caller has a bundle or not. Option 2 should increase the volume of NGN calls and should, therefore, have the effect of increasing the number of minutes used in a consumer's allowance of minutes in a bundle. As a result, under Option 2 a portion of this revenue would be retained as a consumer surplus, due to in-bundle NGN

[191] ComReg sets out its views in relation to measures it will take to increase awareness and transparency of the proposed new pricing regime in Chapter 5.

[192] 1800 numbers would have the additional benefit of not using up a consumer inclusive minutes and could be accessed out of bundle or for tariff packages with no bundle

calls "using up" in-bundle call minutes which would otherwise have gone unused.

290 In addition, consumers would be less likely to suffer from bill shock[193] caused by NGN calls if such calls are priced equivalent to Geographic Number calls. For example, 25% of consumers were surprised at how expensive NGN calls were after receiving a bill or upon reviewing costs of NGN calls.[194] Under Option 2, bill-shocks in the future should be more clearly identified as resulting from 'call minutes' having been used up or charges for Premium Rate Service calls, rather than being due to retail charges for NGN calls.

291 Finally, it can be assumed that what is good for competition, and what promotes the effective functioning of the NGN platform, is generally good for consumers. For example, increased competition between undertakings should benefit their customers in terms of price, choice and quality of services.

292 ComReg, however, also observes that Option 2 could have certain consequences which could harm some consumers. Specifically:

(a) Some consumers may exceed their monthly in-bundle allowance by making more NGN calls than they would have made under Option 1; and

(b) Potential 'waterbed effects', whereby operators may try to compensate for the lost revenues resulting from the proposed Geo-linking of NGN calls by increasing retail charges for their fixed-line and/or mobile services.

293 The above two possibilities are considered below.

In-bundle allowance

294 There is a possibility that including all NGN calls in-bundle may cause some consumers to exceed their monthly call minutes, which would result in additional charges for any Mobile Number, Geographic Number or NGN calls made at out-of-bundle rates. This could reduce consumer welfare as out-of-bundle rates for Geographic Number calls (particularly for mobile) are high relative to the marginal rate (zero) of Geographic Number calls made in-bundle.

295 However, including all NGN calls in-bundle should not cause a significant number of consumers to exceed their monthly call minute allowances because the average minute usage of NGNs is small compared to total voice usage. For example:

[193] Bill shock is the negative reaction a subscriber can experience if their bill has unexpected charges or charges in excess of those expected.
[194] See slide 63 of ComReg Document 17/70b – Non-Geographic Numbers: Consumer Study – published 16 August 2017.

- The average fixed-line residential subscriber usage is 75.1 call minutes per month[195];
- The average mobile subscriber usage is 165.7 call minutes per month[196];
- The average number of NGN call minutes per voice subscriber (excluding 1800[197]) is around 5 minutes per month;[198]
- NGN calls (excluding 1800) account for around 2.2% of total voice calls; and
- Very few customers use NGNs on a regular basis. For example:[199]
    - 8% dial 1800 NGNs regularly;
    - 6% use 1890 and 1850 NGNs regularly;
    - 4% use 0818 NGNs regularly; and
    - 3% use 076 NGNs regularly.

296 Therefore, ComReg is of the view that Option 2 should not have a material negative impact on consumers on the basis that most NGN calls should fall within consumers' monthly surpluses of unused call minutes and even where they exceeded the allowance this would also occur, and to a greater extent under Option 1.

Waterbed effect

297 The 'waterbed effect' discussed here concerns the extent to which Originating Operators' reduced retail revenues from NGN calls, under Option 2, could incentivise them to increase retail prices for their fixed-line and/or mobile services. This is because reduced revenues on NGN calls may increase Originating Operators' incentives to increase prices and reduce their incentives to cut prices for other services in order to win and retain customers.

298 ComReg considers that even if there was a strong waterbed effect, any change to other tariffs is unlikely to be significant as operators' revenues from NGN calls make up a very small portion of their total revenues. For example, DotEcon observes that

[195] Quarterly Key Data Report (QKDR) Q2 2018 (excluding international and advanced minutes which are normally not included in bundles).
[196] Quarterly Key Data Report (QKDR) Q2 2018 (excluding international and advanced minutes which are normally not included in bundles)
[197] Calls to 1800 numbers are already free and have no effect on a subscribers bundle and therefore excluded from this analysis.
[198] This includes fixed and mobile subscriptions.
[199] See Slide 30 of ComReg Document 17/70b – Non-Geographic Numbers: Consumer Study – published 16 August 2017.

operators' NGN call revenues totalled about €30 million in 2015[200], compared to those same operators' total retail revenues of around €2.9 billion for that same year, which is approximately 100 times higher.[201] For illustrative purposes, this would mean that even if there was a complete waterbed effect, a 100% decline in NGN call revenues should require, at most, a 1% price increase for other electronic communication services, in order to have a revenue-neutral effect on operators. Further, as noted in Chapter 2, it would be unlikely that any reduction of margins on originated of NGN calls would be passed through in a profit-neutral manner to higher retail prices, as they might be partially absorbed in reduced expenditure on customer acquisition and retention activities. Though ComReg would again note that it considers that such a waterbed would be unlikely arise in practice, given competition amongst operators for these services generally.

299 Operators' reduced NGNs revenues, as would likely result under from Option 2, may cause operators to reduce their expenditure on acquiring new customers and retaining existing customers. As noted above, however, some of this expenditure does not directly benefit consumers and consumer welfare would, on balance, be better served overall by having Geo-linked pricing.

300 Separately, ComReg considers that competition would likely be more effective under Option 2 and this should limit any price increases across other services as may result from Option 2. Therefore, a 1% price increase is likely to represent the uppermost limit on any price increases as may occur across the industry generally, in response to any significant waterbed effect resulting from Option 2. Finally, even if a 1% price increase was passed through, it is unlikely to result in bill shock to the same extent as consumers currently experience when they use NGNs.

301 ComReg also notes that the out of bundle NGN rate in some instances is less than the corresponding out of bundle Geographic Number rate. Under Option 2 Originating Operators may decide to increase this rate. ComReg assessed such risks in Chapter 2 and, in summary notes the following.

- Such an occurrence would only result in net welfare reductions if that consumer exceeded its monthly allowance regularly and dialled NGNs regularly and such an outcome is likely to be rare. In that regard:
    - o the average mobile subscriber usage is 165.7 mins a month; and
    - o The average number of NGN call minutes per voice subscriber (excluding 1800) is around 5 minutes per month.
- Even where additional costs are incurred in a particular month where voice

[200] The figure €29mn provided in Table 2 is the average call revenue for the period 2011-2015.
[201] ComReg Document 16/17 – Irish Communications Market: Quarterly Key Data Report Q4 2015 – published 10 March 2016.

and NGN usage is high, such costs in that month have to be balanced against the benefits that consumers would make in all other months where usage is more typical and allowances are not exceeded;

- For those SPs that switch to 1800 (Freephone) the scenario outlined would not even arise since 1800 (Freephone) numbers should not be counted against a user's call allowance;
- Any harm arising would result from Eir's decision to raises its prices rather than any requirement arising from the geo-linking provision;
- Isolated instances of potential harm for specific consumers in a given month are not a valid reason for preventing larger net benefits to consumers more generally; and
- Consumers would still be significantly better off overall as a result of Option 2 overall.

302 Accordingly, in light of the above assessment, ComReg is of the view that consumers would prefer Option 2.

'NGN Pricing RIA' - Assessment and the Preferred Option (Step 5)

303 NGNs were introduced primarily to reduce the cost of calls to consumers. This started with the 1800 range to allow businesses and organisations to offer a number that was free to call for its customers. Subsequently, the 1850 and 1890 ranges were introduced to share the cost of calls between the caller and the called party (See section 3.2 of the DotEcon Report (ComReg 17/70a)).

304 It would appear, from DotEcon's analysis, that the evolution of the market (such as the proliferation of call bundles) has overtaken the need for SPs to offer services using shared cost ranges (1850 and 1890), particularly on a per-minute basis. The two Shared Cost NGN ranges were relevant when the per-minute price of calls accounted for a large part of consumers' monthly telephone expenditure. However, the widespread adoption of bundles of call minutes, as operators' core pricing proposition, has meant that the price of an incremental call minute is zero up to the number of call minutes that are in-bundle. ComReg also notes that two EU Member States, the UK and the Netherlands, mandate that NGN calls be included in-bundle ('03' NGNs in the UK[202] and '0800', '084', '085', '087', '088', '0900', '0906', '0909',

[202] Telephone numbers that begin with '03' can be "charged at up to the same rate the customer would pay to call a UK Geographic Number and calls to '03' numbers must be included in "inclusive call minutes if the customer has remaining inclusive minutes to UK Geographic Numbers, and included in any discount structures that apply to UK Geographic Numbers".
https://www.ofcom.org.uk/__data/assets/pdf_file/0023/51944/statement.pdf

'116', '14' and '18' NGNs in the Netherlands[203]).

305 The above assessment and the DotEcon Report demonstrate that there is consumer harm present under Option 1, representing the current situation as regards the NGN platform and NGN pricing. On the other hand, under Option 2, NGNs would, in the main, be treated equivalent to Geographic Numbers and this should allow NGNs users (callers and SPs) to benefit from competition between Originating Operators for subscribers. Option 2 also appears to be an appropriate remedy for the horizontal and vertical externalities that currently arise under Option 1, thereby promoting the more effective functioning of the NGN platform. Therefore, ComReg is of the view that, on balance, Option 2 is the preferred option in terms of its impact on stakeholders, competition and consumers.

[203] "*For calls to numbers from the series 14, 116, 085 and 088, there is no tariff structure that consists of two components. However, it has been found that there are fixed and mobile telephony providers who charge an external rate fee for calls to these numbers, or calls to these numbers do not fall within subscription forms for unlimited calls. This difference in tariff structure is considered a discriminatory tariff structure that is contrary to Article 5, paragraph 2. If a call bundle is used with a fixed number of call minutes, as is often the case with mobile telephony, calls to the aforementioned non-geographical numbers can only be settled outside the call bundle when a caller has actually made his call minutes. If there is a subscription form that allows the caller to call unlimited, whether or not at certain times (e.g. at night and at weekends), as is the case with fixed telephony, calls to these numbers may only be charged separately. If the call occurs on a day or time that does not fall within the scope of the relevant subscription form. The call should therefore be treated equally as a call to a geographical number.*" Source: Third paragraph on Page 22 of https://zoek.officielebekendmakingen.nl/stb-2012-236.html (available in Dutch only).

3.5 NGN Consolidation RIA

306 As described at the beginning of this RIA, Step 1 of the RIA (Policy Issues and Objectives) is common to both the 'NGN Pricing RIA' and the 'NGN Consolidation RIA'. Therefore, it will not be repeated here.

307 ComReg sets out below some high level observations which will feed into its identification of valid regulatory options. There are currently five NGN ranges. In considering the most appropriate number of NGN ranges to provide for the effective functioning of the NGN platform, it is also necessary to consider if it would be more efficient and effective to introduce a new NGN range. Therefore, in addition to the existing five NGN ranges, many potential combinations arise in considering the most appropriate option to ensure the effective functioning of the NGN platform.

308 ComReg's approach to determining options in this RIA will be:

a) to assess which NGN ranges are essential to the effective functioning of the NGN platform and will be included in all options discussed in this RIA (as any option absent these range(s) would, by definition, not ensure the effective functioning of the NGN); and

b) to consider if a new NGN range is necessary to provide for the effective functioning of the NGN platform.

309 In that regard, ComReg sets outs it views in relation to:

- A 'Freephone' NGN range; and
- A hypothetical new "geo-linked" NGN range(s).

3.5.1 'Freephone' NGNs

310 Freephone 'NGNs (1800) were originally introduced by Telecom Éireann (now Eir) to allow businesses and organisations to offer a number that was free to call for their customers. It is currently the only NGN range in which there is no retail charge to the caller.[204]

311 ComReg believes that the 'Freephone' range is essential to ensure the effective functioning of the NGN platform for reasons including the following:

- A Freephone NGN enables a caller to reach a called party at no charge to the caller and consumers would likely prefer the retention of this NGN range across any option. Freephone can be particularly important for

[204] ComReg notes that customer care short codes (19XX) also have no retail charge to the caller. However, these types of numbers are only assigned to network operators (not to SPs or other types of end users) and are not considered in this consultation.

certain services where the cost of the call cannot be borne by the consumer (e.g. helplines for homeless or for children);

- The current Freephone range 1800 is by far the most used NGN range. As set out in Table 3 of the DotEcon Report (Document 17/70a), 1800 accounts for 244 million originated call minutes (41% of all NGN originated call minutes) and 174.5 million originated calls (62% of all NGN originated calls)[205]. This high level of usage is confirmed in the Consumer Study – 74%[206] of consumers dial an 1800 NGN at some point.[207]
- The Organisation Study[208] indicated that there is a commercial requirement for a service that is free to the caller as some organisations offer free calls as a competitive differentiator or for important services of social value, where the value of receiving the NGN calls is worth the additional cost to the business of having to pay to receive such calls;
- SPs have a clear requirement to offer voice-based telephony services free of charge. In particular, 61% of SPs use 1800 NGNs to enable customers to access their services free of charge[209];
- Consumers are most aware of the current Freephone range 1800 compared to all other NGNs, with 86% of consumers aware of 1800.[210] Consumers are also more aware of the pricing structure for calls to 1800 compared to other NGNs[211]; and
- DotEcon's view that there is a need for a specific 'Freephone' NGN class to ensure the effective functioning of the NGN platform.

312 ComReg does not consider any one reason in isolation to be sufficient to warrant inclusion of a specific NGN range. However, ComReg is of the view that there is clear requirement for a Freephone NGN range to ensure the effective functioning of the NGN platform, such that any restructuring of the NGN platform that did not include the retention of the 1800 range would not ensure the effective functioning of the NGN platform. Therefore, retention of a Freephone range has been included in all options considered in this RIA.

[205] These figures correspond to the average of 2011 – 2015.
[206] This is the sum of those who dial regularly (8%), occasionally (23%) and rarely (43%). As a result, 1800 numbers have the lowest level of non-use of all NGNs at 26%. See ComReg Document 17/70b.
[207] See Slide 30 of ComReg Document 17/70b – Non-Geographic Numbers: Consumer Study – published 16 August 2017.
[208] ComReg Document 17/70c – Non-Geographic Numbers: Organisation Study – published 16 August 2017
[209] See Slide 29 of ComReg Document 17/70b – Non-Geographic Numbers: Consumer Study – published 16 August 2017.
[210] See Slide 27 of ComReg Document 17/70b – Non-Geographic Numbers: Consumer Study – published 16 August 2017.
[211] See Slide 37 of ComReg Document 17/70b: Non-Geographic Numbers: Consumer Study – published 16 August 2017.

3.5.2 New NGN range(s)

313 Prior to assessing the regulatory options as set out herein, ComReg also considered whether it might be appropriate to replace one or more of the existing NGN ranges with new NGN ranges, on the basis that the existing ranges may suffer from any or all of the following problems:

- that they may have a poor reputation/perception amongst consumers, for example -
  - the main reason given for avoiding certain NGNs (1800, 1850, 1890 and 0818) was - '*I don't know how much it costs per minute/per call but I avoid it because I think it's expensive*;[212] and
  - the main reason for wanting to use a number other than a NGN was the perception that an alternative number would be cheaper; and
  - NGN calls are considered more expensive than Geographic Number calls (49% think NGN calls are expensive vs 15% for Geographic Number (landline) calls)[213];
- that they may not meet the reasonable needs of consumers and SPs, including as to memorability; geographical anonymity; simplicity; distinctiveness; and international accessibility;
- that they may be mistaken for other types of numbers such as Geographic Numbers, Mobile numbers, or Premium Rate Service Numbers;
- that they may be so poorly understood by consumers that it is difficult for consumers to distinguish between the different retail pricing principles for each NGN range; and / or
- that they may not have suitable NGN characteristics, including as to international accessibility and structural and thematic consistency, as a consequence of the manner in which the NGN ranges have developed historically.[214]

314 ComReg first assesses what new NGN range(s), if any, could be introduced, noting in particular that any new 'Geo-Linked' range would need to begin with "0" in order

[212] Slide 87 of ComReg Document 17/70b – Non-Geographic Numbers: Consumer Study – published 16 August 2017.
[213] Slide 80 of ComReg Document 17/70b – Non-Geographic Numbers: Consumer Study – published 16 August 2017.
[214] Page 111 of ComReg Document 17/70a – Strategic Review of Non Geographic Numbers in Ireland: A Report for ComReg – published 16 August 2017.

to provide international accessibility.[215] In that regard, ComReg noted that two potential new number range options are available under the following headings:

(a) a new Freephone NGN range; and/or

(b) a new Geo-Linked NGN range(s).

New Freephone range

315 The need for a Freephone range has already been established. This section now considers what range, other than the current 1800 range, could be used for Freephone. The most practical alternative to 1800 is '0800', for the following reasons:

- the general convention worldwide is to use '800' in the prefix for Freephone – i.e. in the form '800', 1800, or '0800', depending on each country's numbering plan;
- whilst a move from 1800 to '0800' would still be a number change, it would include the possibility of assigning numbers in the '0800' range to current users of the corresponding numbers in 1800 range;
- '0800' may be more thematically consistent with a corresponding new Geo-Linked NGN range (e.g. '0890' or '0850') which would also be internationally accessible;
- unlike 1800, '0800' NGNs would have the advantage of being internationally accessible; and
- a new Freephone NGN range may offer the opportunity for industry to renegotiate wholesale origination charges and consequently set new SP charges (though it would be a pre-requisite that '0800' calls would be free to the caller from landline and mobile).

316 However, ComReg is of the view that a transition from 1800 to '0800' is not required, for the following reasons:

- The 1800 range is generally effective[216]. For example:

[215] Because the national trunk prefix digit "0" is removed when an Irish geographic or mobile number is dialled from outside the State, any new NGN range would need to begin with "0" to be international accessible.

[216] Confusion in respect of the 1800 range largely arises due to contagion from the 1850 and 1890 ranges as described in the Pricing RIA).

  - more consumers (86%) are aware of 1800 than any other NGN range;[217] and
  - more consumers are aware of the retail pricing structure for 1800 calls than for any other NGN range.[218]

- The UK has a Freephone number range that begins with '0800' and therefore a new Irish '0800' Freephone range could carry the risk of creating additional consumer confusion and misdialling issues (in the absence of detailed number analysis on networks), particularly given the extent of UK TV and print media consumption in Ireland. For example, a UK advertisement for a service with UK Freephone number '0800 123 4567' may have a corresponding Irish Freephone number for an entirely different service[219].

- Running a new '0800' range in parallel with the existing 1800 range - for a necessary transition period of say 2-3 years - would run the risk of confusing consumers (particularly given that their awareness of 1800 is already high);

- Though Irish consumers might assume that calls to Irish '0800' NGNs made from outside the State would be free of charge (as the title "Freephone" would imply) such calls would be international and therefore they most likely would incur retail charges - this could confuse consumers as to whether '0800' is Freephone or not;

- International carriers would have to be notified of the new '0800' range and would have to open access on their networks. It could take several years before such as new NGN range gained full recognition and was open on all international carriers (particularly as problems with recognising the new 0800 range might not be remedied until enough Irish consumers had reported problems with making 0800 calls from abroad);

- The 'Universal International Freephone Number' range ('+800') is available for SPs that require an internationally accessible Freephone number[220]; and

[217] See Slide 28 of ComReg Document 17/70b – Non-Geographic Numbers: Consumer Study – published 16 August 2017.
[218] See Slides 39 and 41 of ComReg Document 17/70b – Non-Geographic Numbers: Consumer Study – published 16 August 2017.
[219] Misdialling of UK numbers was a particular issue recently where Irish callers were trying to access UK '098' Premium Rate Service numbers but instead they calls were being routed to Irish '098' Geographic Numbers. http://www.independent.ie/irish-news/babestation-tv-will-change-xrated-chatline-number-after-complaints-from-westport-residents-35400161.html
[220] http://www.itu.int/en/ITU-T/inr/unum/Pages/uifn.aspx

- The Preferred Options in both RIAs and the transparency measures will alleviate any confusion that currently arises about the pricing structure of 1800 calls (i.e. that they are free to call).

317 Therefore, while replacing the 1800 range with a ‘0800’ range might offer some benefits, ComReg considers that any such benefits would be outweighed by the likely negative impact of such a significant number change. Consequently, ComReg considers it most appropriate to retain the 1800 NGN as this should best meet the reasonable of consumers and SPs.

New Geo-Linked NGN range(s)

318 As already outlined, any new NGN range must be internationally accessible which means that it must begin with ‘0’. This means that there are nine potential starting options (i.e. 01 to 09) for any new NGN prefix.

319 The entire ‘03’ range is currently not in use, however ComReg considers that designating ‘03’ as a new NGN range would unreasonably restrict the possibility of making certain potential major changes to the Numbering Scheme in future - e.g. moving to a closed numbering scheme or catering for some as yet unknown new communications service. ComReg thus considers that the most efficient and effective use of the ‘03’ range - at this point in time and having regard to the reasonable needs of consumers, now and in future – is to leave the range unused.

320 The remainder of the ‘0X’ ranges are all currently in use with ‘08X’ used primarily for mobile numbers and the other ‘0X’ ranges used for Geographic Numbers (e.g. ‘01’ is the area code for Dublin, ‘02X’ is used for the South West region, etc.). In relation to 0X ranges used for Geographic Numbers, new NGN ranges could be created using these ranges (e.g. by using certain ‘0XX’ or 0XXX’ ranges). However, ComReg considers that any such NGN ranges would not be readily distinguishable from similar Geographic Number ranges, such that the two could easily be confused.

321 Further, and as noted below, a characteristic of NGNs, and one which is important for SPs’ requirements, is that they do not to have an association with any particular geographic location. Given that ComReg’s preference is to retain the 1800 range, any second NGN range with a prefix similar to a Geographic Number would not be thematically consistent with the 1800 range, and potentially become confused with a Geographic Number or Premium Rate Service number.

322 Alternatively, an ‘08X’ or ‘08XX’ range would provide some thematic consistency as it would retain the matching ‘8’ digit and theoretically, provide multiple prefix options (i.e. ‘081’ – ‘089’ or ‘081X’ – ‘089X’). However, any ‘08X’ or ‘08XX’ NGN could easily be confused with any of the current mobile numbers that are in widespread use (i.e. ‘083’ and ‘086’ for Three, ‘085’ for Eir/Meteor, ‘087’ for Vodafone, and ‘089’ for 48, Lycamobile, and Tesco). The potential for confusion is higher for the Mobile

Operators, who all have in excess of 1 million subscribers. However, '089', for example, has about 400,000 subscribers[221], far in excess of the number of NGNs currently in use (circa 30,000) and the use of a new '0890' range is likely to be confused with the existing '089' mobile range, particularly since both would also have the same number length. Also, depending on their level of analysis of number lengths, international carriers may mistake, for example, a new '089X' range as a mobile range rather than a NGN range and apply incorrect interconnection charges. Therefore, ComReg is of the view that the use of a new '083X', '085X', '086X', '087X' or '089X' range would not be appropriate as a new Geo-Linked NGN range.

323 ComReg has recently[222] dedicated the 088 range to M2M communications (+ 10-digit subscriber number) to remove pressure on the existing mobile ranges and create a sufficient supply of numbers (10 billion) to cater for projected growth in the M2M market over the long term.

324 A recent analysis, conducted on behalf for ComReg, indicated that if mobile numbers in the five '08X' ranges continue to be assigned at the same average rate as in the period 2011 – 2015 then all such numbers could be exhausted by 2023.[223] These two unused '08X' ranges ('082' and '084') may therefore be vital to meeting the ongoing high demand for new mobile numbers which shows no sign of abating, particularly noting that growth in new Machine to Machine (M2M) subscriptions on mobile networks is forecast to accelerate. Any mixed use of the '082' and '084' ranges – i.e. as mobile number and as NGNs - would also not be ideal for the reasons set out above.

325 Finally, part of the '081X' range is already used for NGNs (i.e. 0818) and this is recognised by Irish and International stakeholders. The balance of the '081X' range is unused because 0818 is used for NGNs, The 0818 range is considered further in the options analysis below.

326 ComReg is therefore of the view that replacing the 1800 and/or the new 'geo-linked' range with two new NGN ranges is neither necessary nor appropriate, for the following reasons:

- All incumbent SPs would have to migrate to new numbers whereas retaining the 1800 and one or more existing ranges would mean that only incumbent SPs in the consolidated ranges would have to migrate to new numbers.

221 Approx. 2.5M numbers have been assigned to operators from the '089' range.
222 ComReg Document 18/46 - Review of Mobile Numbering - Response to Consultation and Decision – published 11 June 2018.
223 ComReg Document 15/60a – Report for ComReg: Conservation measures to meet future demand for mobile numbers – published 11 March 2016

- The number of NGN ranges would increase - for a transition period of say 2–3 years during which, for example, the 1800 range and the replacement '0800' range would have to operate in parallel. This could confuse consumers and it could be difficult to implement any interim price transparency measures.

- Each of the existing NGN ranges carry varying levels of consumer awareness (quite high in the case of 1800) and any new NGN range would run the risk of consumers confusing it with an existing range, to the point where they may not call numbers in the new range or may be hesitant to do so. In this, ComReg would again note that the results of its Consumer Study (ComReg 17/70b) very strongly indicate that many consumers are already uncertain of the differences between NGN ranges and this lack of certainty causes many consumers to avoid NGNs, or to call them only when there is no alternative, all of which is counter to the purpose of having an NGN platform. Increasing the total number of NGN ranges, even for a transition period, is only likely to add to this problem.

- There is no potential new NGN range whose introduction would be likely to be a significant improvement in terms of meeting SPs' needs for NGNs that are memorable, distinct, geographically anonymous, and internationally accessible.

- A new NGN range could impose costs on operators that would otherwise be avoided, in terms of integrating and having to test their networks and billing systems.

- A primary reason for opening any new number range relates to number scarcity – i.e. that demand for numbers in the existing ranges is exceeding supply such that those existing ranges are exhausted or close to being exhausted. It is not considered efficient to open new number ranges when there are enough numbers within the existing ranges to meet demand (while again noting that future demand for numbers must be taken account, in addition to current demand, and a sufficient supply of new numbers must be reserved to meet future demand).

- ComReg also notes that DotEcon is of the view that it may be difficult for ComReg to justify introducing an entirely new NGN range in light of:
    - the potential costs to stakeholders (referred to above);
    - the potential lack of awareness of a new number range; and

  - o difficulty in introducing a new NGN range that does not already 'look like' an existing type of number given that there is no 'clean' '0XX' or '0XXX' range available.

- Consultation 17/70 requested the views of respondents in relation to a new NGN range, or ranges, that would better meet the needs of consumers and SPs. No alternative number ranges were provided that ComReg had not already considered.

3.5.3 Identifying the regulatory options

327 In light of the above, four NGN ranges are considered in assessing the available regulatory options for number consolidation - 1850, 1890, 0818, and 076. Option 1 is to maintain the *status quo* which would include retaining all four of these NGN ranges. In light of the requirement for international accessibility[224] (Article 28 of the Universal Services Directive[225]), any option must also include retention of either the 076 or 0818 ranges. Therefore, each option includes the retention of at least one of these two NGN ranges.

328 Consideration of the four NGN ranges leads to a large number of individual options. Therefore each option below, following Option 1, considers the closure of a particular NGN range and assesses whether the retention of that NGN range is necessary to ensure the effective functioning of the NGN platform across all particular combinations that include that range. In this way, if any particular combination of NGN ranges is required to ensure the effective functioning of the NGN platform, the preferred option will provide for the same.

329 ComReg therefore considers that the five regulatory options available to it are:

(a) **Option 1**: Status quo – Retain 1850, 1890, 076 and 0818 as 'Geo Linked' NGNs.

(b) **Option 2:** Close 1850 – Retain 1890, 076 and 0818 as 'Geo-Linked' NGNs

(c) **Option 3:** Close 1850 and 1890 – Retain 076 and 0818 as 'Geo-Linked' NGNs

(d) **Option 4:** Close 1850 and 1890 and 0818 – Retain 076 as a single 'Geo-Linked' NGN.

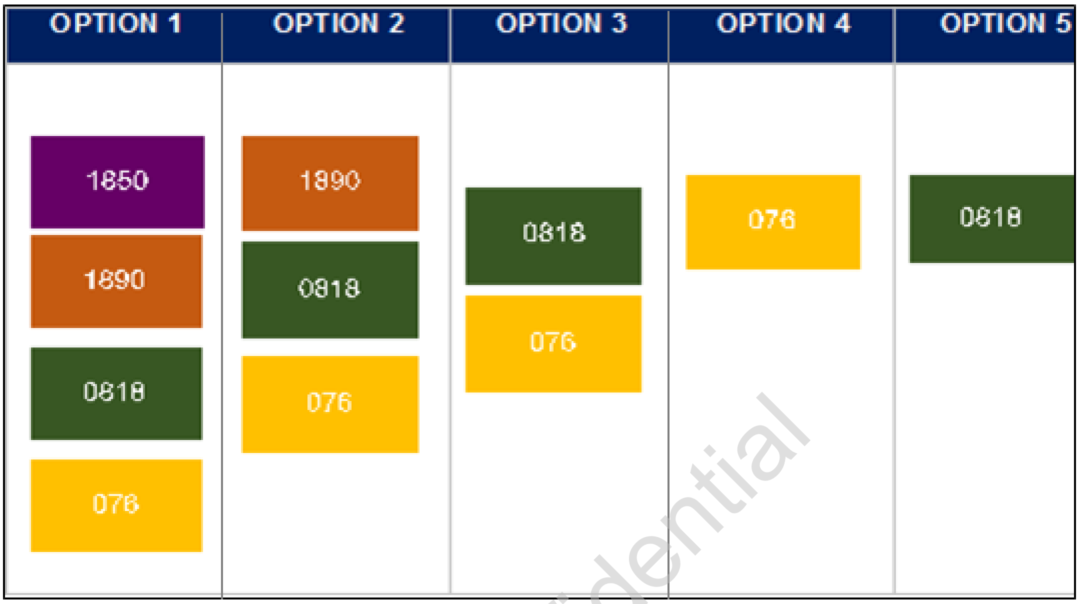
(e) **Option 5:** Close 1850 and 1890 and 076 – Retain 0818 as a single 'Geo-Linked' NGN.

[224] Article 28 of the Universal Services Directive (USD) requires that end-users throughout the EU shall be able to access non-geographic numbers in Member States' national numbering plans, where technically and economically feasible.

[225] Directive 2002/22/EC of the European Parliament and of the Council of 7 March 2002 on universal service and users' rights relating to electronic communications networks and services (Universal Service Directive), as amended.

330 Figure 3 below illustrates the Options assessed in this RIA.

Figure 3: Number Ranges retained for each Option



Determining the impact on stakeholders

331 There are a number of broad stakeholder groups, the impacts upon which are considered in this RIA, being:

- SPs - including those currently providing access to services over NGNs now and potentially in the future;
- Other end-users – being users who do not provide access to consumer services using the 076 range but instead use the range e.g. corporate users/certain consumers;
- Mobile and Fixed Originating Operators;
- Terminating Operators; and
- Transit operators.

332 The impact on consumers is assessed separately below.

3.5.4 Impact on stakeholders

333 DotEcon observes that a NGN range should not be closed if the requirements of its

users cannot be met by the retained range(s). ComReg agrees and the extent to which user requirements are provided for forms a key part of the analysis below.

334 The main stakeholders assessed in this section are:

- SPs;
- Originating Operators;
- Other end-users (e.g. corporate users of 076); and
- Terminating Operators[226].

1. Service Providers

335 SPs are a disparate group of organisations who have different requirements and who use certain number ranges to provide services that suit those different requirements. The Organisational Study[227] gives a detailed insight into various requirements of SPs which cause them to use NGNs, including:

- to allow customers to access the organisation's services free of charge (61% of those currently using 1800 NGNs);
- to reduce the costs to customers of calling the SP (62% of organisations whose main NGN is not 1800);
- to provide memorable contact numbers (59% of organisations whose main NGN is not 1800);
- to offer a single contact number (59% of organisations whose main NGN is not 1800);
- to provide internationally accessible numbers; and
- to avoid showing where the organisation is based or so that the organisation can change address without changing number (11% and 41% of organisations whose main NGN is not 1800 respectively)

336 ComReg considers that the various SP requirements outlined above should be accommodated by the NGN platform where possible. As such, any consolidation of NGN ranges should consider whether all such SP requirements would be facilitated thereafter.

337 SPs are unlikely to favour having to migrate to an alternative NGN range if the costs of migrating to that range are likely to be high. SPs are also likely to be conscious of how NGNs impact on consumers and may favour improvements to the NGN

[226] ComReg notes that the possible impact of the preferred option on terminators in the 'NGN Consolidation RIA' is assessed in "*Option 1 versus Option 2 – Terminating operators" of the NGN 'Pricing RIA*". This impact occurs across both RIAs and is not repeated in the 'NGN Consolidation RIA.

[227] See Slide 85 of ComReg Document 17/70c – Non-Geographic Numbers: Organisation Study – published 16 August 2017.

platform, even where some migration costs are likely to arise as a direct consequence of those improvements.

338 Therefore, ComReg considers that the following factors are relevant in determining the likely impact on SPs and their preferred option:

(a) SP requirements;

(b) Migration costs; and

(c) Consumer Welfare.

SP Requirements

339 Table 3 sets out ComReg's view on the extent to which each NGN range would likely satisfy SP requirements.

Table 3: SP requirements and NGN ranges

NGN Class	International Access	Memorability	Association with location	Single Contact	Free
1800	×	✓	✓	✓	✓
1890	×	✓	✓	✓	×
1850	×	✓	✓	✓	×
0818	✓	✓	✓	✓	×
076	✓	×	×	✓	×

340 In assessing the suitability of each option to provide for SP requirements, ComReg would first note that:

- all classes of NGNs provide a single point of contact for a business or organisation;
- 1800 is the only class of NGN to provide calls at no charge to consumers and as noted above is included across all options; and
- all classes of NGNs other than 1800 will satisfy a SPs requirement in terms of consumer cost (see preferred Option in 'NGN Pricing RIA').

341 Therefore, these three requirements will not be discussed further as they are provided by all options. ComReg discusses the remaining requirements below.

International access

342 International access is likely to be an obvious requirement for certain SPs, particularly those whose customers are likely to travel abroad and who will wish to access Irish-based services from abroad (e.g. airlines, travel agents, hotels, hospitality, banking etc.). In this regard, ComReg notes Article 28 of the Universal Services Directive ("USD") which requires that end-users throughout the EU shall be able to access NGNs in Member States' national numbering plans, where technically and economically feasible. However, the 1800, 1850 and 1890 NGN ranges are not internationally accessible and a SP using these classes of NGNs would not be accessible from abroad.[228]

343 076 and 0818 are the only NGN ranges that are currently internationally accessible. In addition, the retention of the 1850 and 1890 ranges at the expense of the 0818 and 076 ranges would not accord with the requirements of Article 28 of USD. As a result, any consolidation would require at least the retention of either the 0818 or the 076 range.

Memorability

344 Many SPs are of the view that memorability is a desirable feature of NGNs:

- 59% of organisations where the main NGN is not 1800 use NGNs to provide a memorable number;[229]
- More consumers think that NGNs are easier to remember than Geographic Numbers (34% for NGNs versus 17% for landlines)[230]; and
- 1 in 10 who were happy to use the NGN did so because it was easier to remember[231];

345 All NGN ranges except 076 have a prefix in a 'chunk' of four digits (e.g. 1800, 1850, etc.). The 076 range has a prefix in a chunk of three. This is reflective of the fact that the 076 range is more similar to a Geographic Number.[232]

346 Research on number memorability has established a number of relevant

[228] For example, for calls within Ireland to Dublin the caller dials 0 (the trunk prefix) followed by the NDC (National Destination Code) and the subscriber number i.e. (01) 890XXXX. For calls into Ireland to the same number, the caller dials an international prefix (00) followed by the country code (353), the NDC and then subscriber number (i.e. 00353 1 890XXX). Each of the 18XX ranges are not internationally accessible as there is no trunk prefix, and preceding an 18XX NGN with the international prefix would result in geographic call to Dublin (i.e. 00353 1 890 XXX) instead of to the service provider.
[229] See Slide 30 of ComReg Document 17/70c – Non-Geographic Numbers: Organisation Study – published 16 August 2017.
[230] See Slide 80 of ComReg Document 17/70b – Non-Geographic Numbers: Consumer Study – published 16 August 2017.
[231] See Slide 83 of ComReg Document 17/70b – Non-Geographic Numbers: Consumer Study – published 16 August 2017.
[232] '07X' range is historically associated with the North West region i.e. Donegal, Sligo, etc.

considerations, including:

- that immediate memory is generally limited to between four and seven pieces of information;[233] [234]
- that memory is helped more when the first chunk consists of four digits rather than three digits;[235] [236]
- that repeated numbers and the number ‘8’ is easier to remember than other single digit numbers[237] [238]; and
- that every additional number dialled before one gets to the seven digits increases the error rate.[239]

347 ComReg considers the 076 range to be the least memorable of the five existing NGN classes. Therefore, SPs that require number memorability would be unlikely to prefer the 076 range which has a digit structure similar to a Geographic Number with an additional digit after (noting that SPs already have the option of using a Geographic Number instead of a NGN).

348 This view is also supported by evidence from the Organisation Study[240]. For example:

(a) the main reason current NGN users (56%) would not consider using the 076 range is that they are ‘*not familiar/never heard’ of* it followed by “*don’t like it*” (16%);[241] and

(b) only 14% of SPs whose main NGN is in the 076 range chose an 076 NGN because it is more memorable. This compares to 70% for 0818, 66% for 1850, and 58% for 1890[242].

349 It appears that organisations that are most familiar with NGNs do not consider the

[233] Miller GA. The magical number seven, plus or minus two: Some limits on our capacity for processing information. Psychological Review. 1956;63:81–97

[234] Cowan N. The magical number 4 in short-term memory: A reconsideration of mental storage capacity. Behavioural and Brain Sciences. 2001; 24:87–185.

[235] Chicago Tribune ‘Phone Numbers main memory experts’ June 1998, p2

[236] The three digit prefix as used in geographic numbers and the 076 range only arose as it was more efficient for the early switching machines to process the three-digit code.

[237] APS Observer 2001, Code overload: Doing a Number on Memory, American Physiological Society.

[238] Milikowski, M (1995), ‘What makes a number easy to remember?’ British Journal of Psychology, Vol 86 p 537-547

[239] Chicago Tribune ‘Phone Numbers main memory experts’ June 1998, p1.

[240] ComReg Document 17/70c – Non-Geographic Numbers: Organisation Study – published 16 August 2017

[241] See Slide 32 of ComReg Document 17/70c – Non-Geographic Numbers: Organisation Study – published 16 August 2017.

[242] See Slide 86 of ComReg Document 17/70c – Non-Geographic Numbers: Organisation Study – published 16 August 2017.

076 range to be particularly memorable. Conversely, the 0818 range is likely to be the most memorable non-Freephone range as it contains a repeated digit which is also the number '8'. This is supported by the views of SPs in the Organisation Study as identified in (b) above.

<u>Association with location</u>

350 NGNs do not have a geographic location associated them. However, as noted earlier, the 076 range has a digit structure similar to a Geographic Number and is similar to the 07X area codes used in the North West region of Ireland. As a result, SPs are unlikely to use the 076 range where the location of their organisation is likely to be a requirement. While the 076 range is not linked to a geographic region the three-digit structure of the range is not similar to the other four NGN ranges and, as a consequence, consumers may incorrectly infer that the 076 range is linked to a specific geographical area. Therefore, while SPs would be able to retain their number if changing address, consumers may confuse it with a particular geographic location, and certain SPs use NGNs to avoid showing where the organisation is based.

Conclusion on SP requirements

351 In light of the above, ComReg is of the view that Option 4 would not satisfy SPs' requirements. In particular, NGNs in the 076 range:

- are not likely to be memorable relative to other ranges; and
- are likely to be confused with a specific geographic location or as indicating a specific geographic location.

352 Therefore, SPs, except for those SPs who currently use 076 NGNs, are unlikely to prefer Option 4.

353 In relation to the remaining options, ComReg notes the following. Under Option 1, all SP requirements that are currently provided for would continue as all five NGN ranges would continue to be available. However, Options 2, 3 and 5 also provide for these requirements.

354 Option 5 (use 0818 as a single geo-linked number) uses the least amount of individual ranges to satisfy SP requirements. The 0818 range meets each of the requirements as set out in Table 3. In particular, the 0818 range is:

- memorable;
- internationally accessible;
- not linked to a geographic region, and
- can act as a single point of contact.

355 ComReg is of the view that the 0818 range is the only NGN range currently in use

that satisfies all SP requirements. As such, ComReg considers that the 0818 range, in combination with the 1800 range, would likely satisfy all SP requirements (Option 5).

356 Therefore, existing SPs are likely to prefer Options 1 – 3 and Option 5, with a likely preference for the option which would see their current NGN range being retained. This is supported by the responses to consultation whereby SPs supported ComReg's Preferred Options but with the retention of the number range currently being used by the SP.

357 The Organisation Study shows that 40% of organisations would consider using a NGN if customer costs were reduced.[243] Given that the NGN Pricing RIA likely remedies such concerns, any such 'new entrant SPs' would likely be indifferent between Options 1 – 3 and Option 5.

Migration costs

358 Table 4 sets out an estimate of the number of SPs that use particular NGN ranges[244] to provide services.[245] Therefore, this table sets out an estimate of the number of SPs that are likely to be affected if certain NGN ranges were rationalised.

359 Column 3 ('SPs who use NGN range') estimates the numbers of SPs who use NGNs in particular ranges to provide services (noting that any SP may use more than one number range to provide the same service). Column 2 lists the numbers of SPs who use a NGN in a particular range as their main NGN to provide services. The SPs in Column 3 may also have additional NGNs but Column 2 corresponds to the main NGN. Therefore, Column 2 provides an estimate of the number of SPs who are likely to be affected if certain NGN ranges were rationalised, noting that some SPs have more than one NGN range. Further, ComReg notes that these figures are estimates based on the organisational survey and organisations use of same for provision of consumer services. In that regard, these estimates do not include NGNs that are not consumer facing (i.e. 076 use for Tetra).

[243] See Slide 66 of ComReg Document 17/70c – Non-Geographic Numbers: Organisation Study – published 16 August 2017.

[244] Note that this refers to NGN ranges only. A SP may use various different numbers within a NGN class. For example, a service provider may use 1800 but have two NGNs providing services (i.e. 1800 XXX YYY and 1800 YYY ZZZ). The quantity of active numbers is set out separately in Table 2 of the DotEcon report which shows the total number of "unique numbers terminated" across all fixed and mobile operators. It is estimated that SPs have on average 2-3 numbers per NGN range used to provide services.

[245] This has been estimated using the B&A survey to match active enterprises as provided by the Central Statistics Office Business Demography series.

Table 4: Service Providers that use NGNs

NGN Range	Main NGN	SPs who use NGN range
1800	7,352	9,321
1890	8,201	9,886
1850	5,090	6,779
0818	2,828	3,389
076	1,414	1,412
Total	**24,884**	**N/A**

360 A key factor in any number consolidation process is the time period over which it might occur. The extent to which migration to an alternative NGN has an impact on stakeholders is, in part, determined by the time period over which such a migration might occur. DotEcon notes that removing certain number ranges – especially if done rapidly - may impose an unreasonable and costly burden on service providers.

361 In particular, DotEcon notes that it "…*expect[s] costs of transition to be minimised in the context of our recommendations on how to manage the transition, detailed below. Any costs incurred in the short to medium term must be assessed against the benefits associated with the simplification of the NGN regime to meet the needs of SPs and callers of these numbers*."[246] In that regard, ComReg commissioned additional research with B&A to estimate the potential costs arising from the need to migrate to an alternative NGN range[247] ("B&A Materials Cost Study" – ComReg 17/70d).

B&A NGN Material Cost Study.

362 The focus of the Study (Document 17/70d) was to:

a. estimate what migration costs[248] organisations could face, if ComReg proceeded to consolidate ranges in the short-run for the benefit of consumers; and

[246] Page 110 of ComReg Document 17/70a – Strategic Review of Non Geographic Numbers in Ireland: A Report for ComReg – published 16 August 2017.

[247] ComReg notes that Europe Economics conducted research in 2011 that included the cost of migration from a number range. However, ComReg notes that the input data used for this study was based on Ofcom research from 2000. ComReg was of the view that such information was dated and was not specific to the Irish market for NGNs. As a result, B&A provided up to date research on the costs of migration to an alternative NGN.

[248] Number migration costs refers to the costs of updating or making changes to various materials that currently display NGNs.

b. whether an alternative time period could reduce or eliminate the costs faced by organisations while not unduly delaying the benefits of consolidation to consumers.

363 The survey obtained information from SPs in relation to a number of relevant factors including:

- the likely and historical costs arising from having to change a number displayed on:
  - Letterhead material;
  - Promotional material;
  - Vehicles;
  - Shopfront Signage; and
  - Websites;
- the frequency of print or marketing runs; and
- the willingness to improve consumer awareness.

364 In relation to the total cost[249] of updating materials over a short period of time (0-6 months), the survey shows that[250]:

- 18% of all NGN organisations envisage no cost.
- 57% of all NGN organisations envisage costs below €5,000;
- 89% of all NGN organisations envisage costs below €10,000; and
- Among organisations who have previously changed NGN or changed away from their NGN, 100% of all materials cost companies less than €5,000 to update.

365 The costs of migration varies substantially depending on the individual organisations and the material that requires changing. Separately, Table 5 provides an assessment of how organisations may be affected by costs arising from changes to different material. In particular, the % of organisations that would incur a cost of greater or less than €5,000. [251]

[249] The total cost faced by organisations refers to costs associated with changing all materials a NGN is displayed on. For example, an organisation may display their NGNs on multiple materials e.g. headed notepaper, vehicles and websites.

[250] See slide 14 of ComReg Document 17/70d – Non-Geographic Numbers: Materials Cost Study – published 16 August 2017.

[251] This refers to the average cost for all business that have a NGN.

Table 5: Percentage of organisations that would incur a cost of greater or less than €5,000.[252]

Material	<€5,000	>€5,000
Headed Paper/ Compliment slips	94%	4%
Business Cards	96%	4%
Promotional	84%	16%
Shopfront/Signage	100%	0%
Vehicles	82%	18%
Websites	97%	3%

366 ComReg is of the view that the migration costs imposed on organisations/SPs arising from a consolidation of number ranges is likely to be material if implemented over a short run period (0 - 6 months). In particular, such costs even where they are small may impose a burden that could be excessive. Therefore, a plausible, less restrictive alternative measure should be to provide an extended period of time in order to facilitate the migration to a new number range in line with the ongoing replacement cycle of certain materials. The next section considers an appropriate time period for consolidation.

Timing of consolidation

367 An important factor in considering the time period for any migration is the trade-off between (a) achieving consumer benefits[253] sooner through faster implementation of a rationalised geo-linked NGN platform and the (b) migration and adjustment costs[254] that this would cause on the other. That is, whilst faster implementation may achieve benefits earlier, faster implementation is also typically likely to increase the total costs of adjustment by requiring SPs to migrate in the short term. In forming

[252] See slide 14 of ComReg Document 17/70d – Non-Geographic Numbers: Materials Cost Study – published 16 August 2017.
[253] See impact on consumers below.
[254] Given the nature of these adjustments (i.e. billing and communications with customers), ComReg considers that any time period to account for migration costs would be sufficient. These adjustments include:

- SPs will need a sufficient period of time to make decisions about whether to migrate to the geo-linked NGN, a Geographic Number or alternative class of number or non-voiced based service.
- Required changes to back-end operational systems;
- Updates to billing and information systems;
- The need for Terminating Operators to communicate the change to all its SPs.
- The time needed to inform consumers of changes to the numbering scheme

a view on the implementation of any proposed NGN consolidation, ComReg's approach is to find an appropriate balance between the requirement of consumers and the potential costs to SPs.

368 In that regard, the B&A Materials Cost Study (ComReg 17/70d) additionally assessed:

(a) How often SPs incur the costs referred to above (associated with placing a NGN on company material[255] i.e. print runs, website updates etc.); and

(b) When the last time such costs were incurred.

369 The extent to which migration costs arise in practice is dependent on the extent to which migration to a new range is required prior to natural replacement of each expenditure item. For example, if the cost to a SP of replacing an item(s) of expenditure is €5,000 and the lifecycle for the replacement of those costs is incurred every three years, then a transition period of 3 years would be sufficient to ensure that the cost of migration to a new NGN would be neutral. Similarly, if a SP last incurred those costs the previous year then a transition of 2 years would be sufficient to coincide with the SP's normal replacement cycle.

370 DotEcon notes that if the number change is overly prolonged then the consumer benefits will be reduced. Therefore, ComReg's approach is to maximise the extent to which migration costs occur in line with the normal replacement cycle of such materials. While this may not account for every SP's specific requirements, it should result in:

(a) the effective elimination of migration costs where the transitional period coincides with or exceeds the replacement cycle of expenditure items; and/or

(b) minimisation of any migration costs by providing an appropriate implementation period to provide for migration.

371 The replacement cycle for various items of expenditure is shown in Table 6 below.[256]

[255] This can include stationary, promotional, advertising material or vehicle signage.

[256] See slides 12 and 13 of ComReg Document 17/70d – Non-Geographic Numbers: Materials Cost Study – published 16 August 2017.

Table 6: Replacement cycle for expenditure items

Material	Average Cycle (Months)	Last incurred (Months)
Headed Paper/ Compliment slips	21	13
Business Cards	26	25
Promotional	17	10
Shopfront/Signage	36	38
Vehicles	52	7
Websites	8	12

372 Table 6 shows the average replacement cycle[257] for each type of material and on average when changes/print runs were last conducted for same. The average replacement cycle varies from around 1 year for websites to 4.5 years for vehicles. These costs were incurred between 1 and 3 years ago. This suggests that a transition period of around one year (except for vehicles) would be appropriate. However, this could still unduly impose costs on firms with a longer replacement cycle or incurred replacement costs more recently. In that regard, ComReg considers that a more conservative period of 3 years would provide greater scope for a greater number of organisations to avoid costs, while not unduly delaying the benefits to consumers.

373 Therefore, ComReg is of the view that a period of 3 years would be appropriate and proportionate in order to provide sufficient time for SPs to migrate to a new number range, in line with the natural replacement of such items.[258]

374 In relation to any remaining organisations whose replacement cycle is greater than the proposed implementation period, ComReg notes:

- One third of SPs would be willing to switch to improve consumer understanding of the NGN platform (see below);
- SPs would ultimately benefit from consumers' increased use of the NGN platform as a result of the proposed consolidation; and

[257] The replacement cycle refers to the frequency of conducting print runs for paper based materials and making changes/updates to non-paper based materials.

[258] ComReg also notes that old numbers and new numbers will be able to operate in parallel for the period of transition.

- DotEcon's view that any costs incurred in the short to medium term should be assessed against the benefits associated with the simplification of the NGN regime to meet the needs of SPs and callers of these numbers.

375 ComReg recognises that certain SPs may have particular requirements that will have implications for their own migration planning. ComReg will engage with industry and SPs in planning the implementation of the final decision in order to accommodate such needs as far as is practical. ComReg considers transparency measures in Chapter 5 of this document.

Consumer welfare

376 ComReg notes that while SPs would generally prefer an option that avoids NGN migration, a proportion of SPs have indicated that they may be willing to migrate from a class of number where there are clear benefits to consumers. Therefore, certain SPs may favour switching to a 'Geo-linked' NGN notwithstanding the migration costs. For example:

- Approximately 3 in 5 of the SPs using 1850 and 1890 NGNs would consider switching to an alternative Geographic Number or Mobile Numbers if calls to such numbers were included in their customers' bundles of call minutes. 75% of organisations that use 0818 NGNs would consider switching for this reason[259];

- 41% of SPs that use NGNs believe that it is important that consumers are aware of the retail charges for calling NGNs[260]; and

- One-third of SPs[261] would be willing to migrate to another NGN in order to improve consumer awareness and understanding and improve usage of NGNs.[262]

377 ComReg is therefore of the view that while most SPs would likely prefer the option(s) that retain their existing NGNs, some would also support switching to alternative NGN ranges if this would result in the more effective functioning of the NGN platform, to the benefit of their customers. As a result, such SPs are likely to have a preference aligned more with the impact on consumers, which are assessed below.

[259] See Slide 40 of ComReg Document 17/70c – Non-Geographic Numbers: Organisation Study – published 16 August 2017.

[260] See Slide 56 of ComReg Document 17/70c – Non-Geographic Numbers: Organisation Study – published 16 August 2017.

[261] Of those unwilling 46% related to potential costs, ComReg has consider migration costs in section above.

[262] See Slide 17 of ComReg Document 17/70d – Non-Geographic Numbers: Materials Cost Study – published 16 August 2017.

2. Mobile and fixed originators

378 A consolidation of NGN ranges would require mobile and fixed Originating Operators/Terminating Operators to implement a new regime and they would face a number of potential impacts, including:

- changes to billing systems;
- technical and networking changes;
- communications to SPs and consumers;
- communications to internal sales and account managers; and
- updating information (literature, websites, terms and conditions etc.)

379 At the same time, it is noted that, in the long run, Originating Operators should also have a significantly reduced number of price points, thereby reducing billing complexity.

380 Operators have a range of views in relation to the consolidation proposal. For example:

- Vodafone does not agree with the consolidation proposal and that clear pricing information should be sufficient to remedy any concerns.
- Eir does not agree that a 5-2 proposal is necessary but a certain level of consolidation may be of benefit for the purpose of consumer understanding.
- Three cautiously[263] agrees that ComReg's proposal to rationalise the number ranges down to two distinct number types can simplify the NGN numbers and make it easier to convey their purpose and price.
- BT broadly agree with the proposal to reduce the number of NGN ranges but consider that there is value in retaining the 076 range.

381 None of the operators have brought up any substantial costs arising from the consolidation. In light of the fact that such changes would be completed over a period of 3 years, ComReg considers that the costs resulting from any consolidation are unlikely to be substantial. In particular, these would be one-off costs and, further, need to be weighed against the benefits to consumers from such consolidation (as described below).

[263] Three observes that there are some practical considerations that will need to be addressed in implementing this consolidation.

1. Other end users

382 As set out in the DotEcon Report, the utilisation of the 076 NGN range has evolved over time and has moved away from its original intended use as a dedicated NGN range for VoIP services (as most VoIP services are now provided using Geographic Numbers).[264] DotEcon notes that there is evidence of organisations using SIP (Session Initiation Protocol) Voice Services using 076 NGNs instead of Geographic Numbers, where the aim is to maximise the flexibility of network design by removing a geographic link. As a result, the 076 range is also being used by certain consumers and corporates.

Corporate Users

383 ComReg notes that 076 corporate users are different from SPs as they do not use 076 NGNs to directly deliver services to consumers[265] although consumers may often dial these NGNs to get in contact with a relevant person in the organisation. Essentially, they use the 076 range in the same fashion as a Geographic Number except that the 076 range has the advantage of not being associated with a particular geographic location.

384 The use of the 076 range for corporate users is a relatively recent market development, with operators offering 076 to corporate users as an alternative to Geographic Numbers. It is not clear what requirement corporate users have in relation to using the 076 range, as Geographic Numbers and Mobile Numbers provide such users full flexibility for an organisation that intends on using these numbers for inbound and outbound calls (unlike the other NGN ranges which are used primarily for inbound call traffic).

385 The recent use of the 076 range may have arisen out of incentives for Terminating Operators to have calls terminating on the 076 range compared to the same calls terminating on alternative Geographic Numbers. For example, a Terminating Operator that terminates a geographic call receives between 0.5 – 1.8c per minute[266] compared to 3.5 – 5c per minute for a calls terminating on the 076 range.[267] In this way, operators may have financial incentives to offer the 076 range to corporates who wish to cater for inbound and outbound calls.

386 While those corporates have their requirements provided for, the use of Geographic Numbers would have provided for the same. Further, it is not clear whether those corporates would have sanctioned the use of 076 ranges had they been aware that inbound calls would be charged to consumers at out of bundle rates. Geographic

[264] "*Managed VOB FSPs are typically allocated geographic number ranges or 076 number ranges which are in turn provided to their retail customers*." – See paragraph 3.37 of ComReg Document 14/26 – Market Review - Fixed Voice Call Origination (FVCO) and Transit Markets – published 4 April 2014

[265] SPs that use the 076 range to deliver services have already been considered in the impact on service providers above.

[266] Depends on the operator – See Table 104 Eir STRPL (18/01/2018).

[267] See Table 208 Eir STRPL (18/01/2018).

Numbers and Mobile Numbers should satisfy any requirements corporates have given that both are already used to cater for inbound and outbound traffic. In that regard, ComReg is of the view that corporate users have sufficient alternatives that satisfy their user requirements.

387 Given that such corporate users generally do not use the 076 range to provide voice-based services to consumers, the extent to which such corporate users display or advertise their 076 NGNs is likely to be significantly less than if they did use such NGNs to provide consumer services. The NGN class may be displayed on business cards and websites etc. Given that the proposed transitional period of 3 years is significantly longer (1 year) than the life cycle for business cards and websites, ComReg considers that any migration costs to 076 corporate users should be sufficiently minimised or eliminated.

388 ComReg considers that such corporate users are likely to favour Options 1 – 4, as these four options all involve retention of the 076 NGN range, while such corporate users are unlikely to favour Option 5 under which the 076 range would be removed over a 3 year period.

3.5.5 Impact on competition

389 An effect of the proposed ‘Geo-linked’ condition would be to leverage competition for Geographic Number calls into the market for NGN calls. As a result, operators would offer customers the entire range of call types, including NGN calls, as part of their product offerings. This would apply equally to all NGN ranges regardless of any future consolidation of those ranges. Therefore any future consolidation of the five NGN ranges should not create any specific competition concerns.

390 A consolidation of NGN ranges could create competition concerns if it would cause a scarcity in the supply of NGNs. ComReg, however, is of the view that such a scenario is unlikely to arise for the reasons outlined below.

391 Table 7 sets out the volume of individual numbers in each NGN class, the quantity of active numbers[268], and the current occupancy rate for each class. Note these numbers refer to consumer facing services and would not include the use of 076 numbers for Tetra.

[268] See Table 2 of ComReg Document 17/70a – Strategic Review of Non Geographic Numbers in Ireland: A Report for ComReg – published 16 August 2017.

Table 7: Occupancy rate of NGN ranges

NGN Range	Total available numbers	Assigned numbers	Active Numbers	Occupancy rate (%)
1850	1,000,000	786,500	6,711	0.7
1890	1,000,000	800,500	18,216	1.8
0818	1,000,000	197,000	11,217	1.1
076	10,000,000	1,034,000	23,823	0.2

392 The occupancy rate for all NGN ranges is currently very low with the highest rate of occupancy in the 1890 NGN class at less than 2%. Each option that provides for the removal of a NGN range requires migration to an alternative NGN range increasing the occupancy rate for the remaining ranges (assuming that affected SPs would switch to alternative NGNs rather than to a Geographic Number or a Mobile Number). Notwithstanding, ComReg is of the view that there is sufficient capacity in all NGN ranges, regardless of any option as may eventually be chosen. For example, under Option 5, the migration of all active NGNs to the 0818 range would increase its total occupancy rate to 6% - i.e. 94% of all 0818 would still be available. Therefore, there are clearly sufficient numbers available to satisfy current demand.

393 In addition, to the extent that any significant increase in NGN demand may arise in the future, ComReg notes that:

(a) to ensure the continued availability of numbers, conservation measures similar to those proposed for Geographic Numbers[269] could be extended to NGNs; and

(b) there are currently spare sub-ranges in the '081X' NGN class that could be opened to meet future demand, for example, by extending into the '0819' sub-range; and

(c) such a requirement is not likely to be required given the current low occupancy rate of NGNs.

394 In light of the above, ComReg considers that the likely effect on competition across all options is neutral.

[269] ComReg Document 16/20b – Report for ComReg: Conservation measures to meet future demand for geographic numbers – published 11 March 2016

3.5.6 Impact on Consumers

395 ComReg considers that consumers should prefer the regulatory option which has the greatest potential to promote usage of the NGN platform and to increase consumer welfare, thereby maximising the long term benefits to consumers in terms of price and quality in the provision of services.

396 A number of issues arise in respect of how consumers are likely to view each regulatory option. These include:

1. The value of NGNs to consumers;
2. Consumer awareness and confusion in relation to NGNs; and
3. End-users with 076 NGNs.

397 ComReg considers each of the above issues in order before assessing the impact on consumers of each of the regulatory options.

1. Value of NGNs to consumers

398 Research shows that consumers treat Geographic Numbers and NGNs as highly substitutable. For example:

(a) 81% of consumers aware of NGNs either prefer to access services via a Geographic Number (landline) or consider that there is no difference between using a Geographic Number or NGN to access the service[270];

(b) Thinking about the last time consumers[271] dialled a NGN:

- 36% would have preferred to call a Geographic Number;
- 35% had no calling preference;
- 18% would have preferred to call a mobile number; and
- only 10% preferred to call the NGN used.

399 As a result, the main beneficiaries of providing services over a NGN as opposed to Geographic Number or Mobile number appear to be SPs. Consumers are somewhat indifferent about whether the services they access are available over a NGN, a Geographic Number, or a Mobile Number, although there is a clear preference for Geographic Numbers over NGNs. This is likely because consumers generally have a positive experience of Geographic Numbers and many of the issues and externalities discussed in this RIA do not arise for Geographic Numbers (which were discussed in the 'Impact on Consumers' section of the Pricing RIA).

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[270] See Slide 80 of ComReg Document 17/70b – Non-Geographic Numbers: Consumer Study – published 16 August 2017.

[271] See Slide 82 of ComReg Document 17/70b – Non-Geographic Numbers: Consumer Study – published 16 August 2017.

400 In light of the above, consumers are likely to prefer a NGN platform that best replicates their experience in using Geographic Numbers and/or Mobile Numbers. To the extent that a SP wishes to use a NGN, the main requirements from a consumer's perspective, other than pricing[272], are likely to be the following:

(a) that the preferred NGN range(s) are internationally accessible so that services provided by the number range can be accessed outside the State; and

(b) that the preferred NGN range(s) are memorable in order that the prefix provides an appropriate price signal and avoids confusion with Premium Rate Service numbers.

401 In relation to (a), consumers are generally aware that Geographic Numbers and Mobile Numbers are internationally accessible and that calls to such numbers are generally included in their bundles of inclusive minutes. In relation to (b), Geographic Numbers and Mobile Numbers are readily recognised from their 3-4 digit prefixes and Dublin is recognised as the only Geographic Number range with a two-digit prefix (i.e. '01').

402 ComReg is of the view that consumers would prefer the option which best resembles their current experience in using Geographic Numbers and Mobile Numbers. In particular, the preferred classes of NGN should be internationally accessible and provide a reasonable signal to callers about the type of number and likely charging principle for calling that number. For example, if one charging principle is "Geo-linked" it should be associated with a particular NGN range. This price signal would not only ensure that callers can make well informed decisions about whether to call a service hosted on the NGN platform, but would also allow SPs to position their services accordingly on an appropriate range depending on their charging preferences (i.e. SP pays or consumers pays).

2. Consumer awareness and confusion in relation to NGNs

403 Awareness among consumers of NGN ranges varies widely, from 86% being aware of 1800 to just 16% being aware of 076 (ComReg 17/70b). However, as noted by DotEcon, it is clear that consumer awareness of NGN ranges is largely limited to the existence of such ranges and does not extend to the specific features or the pricing of such ranges. When surveyed consumers were asked to match the different NGN ranges to statements about the charging structure for calls to those ranges, very few customers answered correctly.

404 Firstly, consumers are confused about a number of features related to various NGNs. For example:

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[272] The NGN Pricing RIA considers this already.

- 57% and 46% of those aware of NGNs said that no NGNs are free to call from a mobile or landline respectively;[273]
- Only 32% of those aware of NGNs correctly identified 1850 NGNs as being charged on a per call basis;[274] and
- Only about one-third of those consumers who were aware of the different NGN ranges knew who pays for the cost of calls to those ranges - for 1800, 36% knew that the called party pays; for 1850, 32% knew that the caller and the called party both pay; and for 1890, 31% knew that the caller and the called party both pay.[275]

405 Second, consumers appear to confuse NGNs with Premium Rate Service numbers. For example:

- 41% of those aware of NGNs associate 1850 and 1890 NGNs[276] with organisations that make money directly from customers dialing these NGNs;[277]
- 30% of those aware of NGNs associate 1800 NGNs with organisations that make money directly from customers dialing 1800 NGNs (in fact, all 1800 calls are free of charge to the caller and the retail charge is paid by the call receiver); and
- For those consumers who claim to know the cost of calling NGNs, the average estimated costs are all in excess of €1 per minute[278] (per call for 1850) (€1.06 - €1.58 for calls from a mobile)[279] which is similar to the price per minute for Premium Rate Service calls.

406 In light of the above, ComReg considers that consumers are likely to prefer those options which should result in NGNs being used in a manner which is simple, straightforward and easily understood. Similarly, consumers are unlikely to prefer options that involve using additional NGN ranges where consumers' requirements can be accommodated by using fewer ranges. Having too many NGN ranges pollutes the price signal provided by the prefix and creates confusion amongst

[273] See Slides 42 and 43 of ComReg Document 17/70b – Non-Geographic Numbers: Consumer Study – published 16 August 2017.
[274] See Slide 44 of ComReg Document 17/70b – Non-Geographic Numbers: Consumer Study – published 16 August 2017.
[275] See Slide 78 of ComReg Document 17/70b – Non-Geographic Numbers: Consumer Study – published 16 August 2017.
[276] 30% for the 0818 NGN class and at 19% for the 076 NGN class, See Slide 37 of ComReg Document 17/70b – Non-Geographic Numbers: Consumer Study – published 16 August 2017.
[277] Revenue sharing is allowed on Premium Rate Service numbers. See Condition 3.1.4, ComReg Document 15/136R1 – Numbering Conditions of Use and Application Process – published 1 June 2018.
[278] excludes call estimates for 1800 NGNs
[279] See Slides 68 - 70 of ComReg Document 17/70b – Non-Geographic Numbers: Consumer Study – published 16 August 2017.

consumers as to what each range means and the applicable charging structure.

Would the Preferred Option in the 'NGN Pricing RIA' sufficiently address consumer confusion?

407 ComReg is of the view that proposing a new tariff principle alone may not be enough to best ensure the efficient and effective functioning of the NGN platform for both consumers and SPs. The evidence from the B&A surveys and DotEcon's analyses shows there is much confusion amongst consumers and SPs as to the charging structure and the applicable retail charges, for each of the five NGN ranges currently in use. There is also evidence of contagion across the five NGN ranges. Therefore ComReg is of the view that if the proposed tariff principle were to be implemented then there may be a benefit for rationalising those NGN ranges which fulfil similar functions. The NGN Consolidation RIA considers which NGN ranges should be removed from operation and which should be retained.

408 Whilst the preferred option from the 'NGN Pricing RIA' (i.e. 'Geo-linked' condition) would address the main concern of consumers in terms of their usage of NGNs (i.e. costs of calling NGNs), ComReg considers that the pricing element alone may not sufficiently address the other aspects of consumer harm identified with the current state of the NGN platform. In particular, even where the pricing element associated with a particular NGN range under the current platform would be remedied, the presence of other ranges has contaminated the platform over time.

409 For example, despite the designation of calls to 1800 NGNs as free to the caller and their advertisement as such by SPs, 30% of those aware of 1800 NGNs consider them to be expensive to call[280] and only 43% of those aware of NGNs know that calls to 1800 NGNs are free of charge[281].

410 Furthermore, even where certain classes of NGNs have a similar pricing structure, consumers are unable to distinguish between them. For example, 0818 and 076 NGNs currently have the same retail tariff principle (caller pays) and have similar features, yet consumers have varying views on the features of each NGN:

- 40% are aware of 0818 NGNs, while only 16% are aware of 076 NGNs;[282]
- "*Organisations can make money from customers dialling these NGNs*"

[280] See Slide 46 of ComReg Document 17/70b – Non-Geographic Numbers: Consumer Study – published 16 August 2017.
[281] See Slide 37 of ComReg Document 17/70b – Non-Geographic Numbers: Consumer Study – published 16 August 2017.
[282] See Slide 27 of ComReg Document 17/70b – Non-Geographic Numbers: Consumer Study – published 16 August 2017.

- 30% for 0818 NGNs versus 19% for 076 NGNs[283]; and

- "*I think they are expensive*" - 51% for 0818 NGNs versus 31% for 076 NGNs.[280]

411 From the available information, it is clear that there is considerable confusion amongst consumers as to what each NGN range offers in terms of its particular features and pricing. While ComReg considers that its preferred option in the 'Pricing RIA' should, to some extent, mitigate consumer confusion, retention of the existing five NGN ranges has the potential to perpetuate that confusion. As noted by DotEcon, because of contagion across the entire set of NGN ranges, there may be benefit in consolidating those ranges.[284] In particular, having more than one NGN range with the same retail tariffs increases the risk that consumers will confuse such NGN ranges with one another and that they may confuse them with Premium Rate Service numbers.

412 ComReg is therefore of the view that consumers would prefer the option that would minimise the number of NGN ranges.

Which number ranges would consumers prefer to rationalise?

413 For the reasons outlined above, ComReg considers that consumers are unlikely to prefer Option 1 and the retention of four 'Geo-linked' ranges. The consolidation of specific ranges is assessed below.

Option 2 - removal of the 1850 NGN ranges (price per call)

414 Option 2 would result in the withdrawal of the 1850 NGN range. The Numbering Conditions specify that the cost of calling an 1850 NGN to the caller shall not exceed the retail charge for a 5-minute call at the originator's standard rate for calling a Geographic Number. DotEcon considers that the proposed revisions to the pricing structure as set out in the 'Pricing RIA' should make the retention of a fixed rate number such as the 1850 range unnecessary.

415 DotEcon notes that there may be some concern amongst SPs and consumers about call duration, where call queuing can increase the cost exposure. In that regard, the 1850 range was introduced to counter variable retail charges by providing a retail charge that is capped regardless of the length of the call. However, DotEcon observes that the characteristic required by consumers is predictability and if measures were put in place to ensure reasonable retail pricing then the need

[283] See Slide 37 of ComReg Document 17/70b – Non-Geographic Numbers: Consumer Study – published 16 August 2017.

[284] See Slide 46 of ComReg Document 17/70b – Non-Geographic Numbers: Consumer Study – published 16 August 2017.

for the 1850 range should diminish.

416 ComReg agrees with DotEcon's assessment that if ComReg should proceed with the preferred option in the Pricing RIA then the subsequent requirement for a "fixed-price per call" NGN range should be reduced. However, some consumers may be concerned that the removal of a fixed-price per call NGN range could reduce their in-bundle call minutes or cause a larger number of call minutes to be made out-of-bundle (for example, where a call was of particularly long duration).

417 ComReg is of the view that such concerns amongst consumers would not be likely to arise to any great degree, noting in particular DotEcon's analysis, using operator-specific data, which shows that the average duration of 1850 calls are significantly shorter than 1890, 0818 and 076 calls. [285]

Table 8: Frequency of calling and callers affected (1850 range)

Frequency	Times a year	Callers affected
Regularly	10+	6%
Occasionally	3 - 10	20%
Rarely	1 - 3	44%
Never	0	30%

418 Table 8[286] above sets out results from the Consumer Study showing the estimated frequency of use of the 1850 range – i.e. how many 1850 calls surveyed consumers estimated that they make in a year. ComReg observes that:

(a) 30% of those surveyed who were aware of 1850 NGNs stated that they never dial 1850 NGNs;[287]

(b) only 6% of those surveyed who were aware of 1850 NGNs stated that they dial them more than ten times a year (or on average circa once a month);[287] and

(c) the average call to an 1850 NGN is 2.05 minutes in duration.[285]

419 Given the proliferation of telephone service subscription packages, nearly all of

[285] See Table 3 of ComReg Document 17/70a – Strategic Review of Non Geographic Numbers in Ireland: A Report for ComReg – published 16 August 2017.
[286] See Slide 30 of ComReg Document 17/70b – Non-Geographic Numbers: Consumer Study – published 16 August 2017.
[287] See Slide 30 of ComReg Document 17/70b – Non-Geographic Numbers: Consumer Study – published 16 August 2017.

which are based on subscriber's having a fixed number of "in-bundle" call minutes (typically per month), ComReg considers that the effect of not having a "fixed-price per call" NGN range would be small. Even for the most regular users of NGNs, the removal of the 1850 range would use on average only 2.05 minutes from each monthly allowance of in-bundle minutes[288] which accounts for a very small amount of bundled minutes which typically range from 100 to unlimited minutes.

420 For those subscribers who only pay "out-of-bundle" rates for every incremental minute (certain pre-pay callers) the 1850 range may be beneficial to the extent that the charge per 5-minute 1850 call is typically €0.30c. The equivalent cost absent such a fixed-price per call NGN range would be about €1.50.[289] However, ComReg notes that just 6% of consumers call 1850 NGNs on a regular basis[290]. On average, and assuming 12 calls per year, such users, under Option 2 would be required to pay circa €7.40 p.a.[291] compared to €3.60 p.a. if the 1850 range was retained.[292] As such, while a small number of consumers may be required to pay around an additional €4 p.a., there should be a significant overall net benefit to all consumers.

421 In any event, it is not clear that a fixed-price per call range could be facilitated under a 'Geo-linked' regime without additional confusion since there is no Geographic Number equivalent that is charged on a fixed-price per call basis. As such, a fixed-price per call range could be facilitated by operators outside Option 2 where operators would be free to set higher per call retail charges that would not be in-bundle. This would be detrimental to all consumers, including pre-pay customers, and would not ensure the effective functioning of the NGN platform. Alternatively, the price per call range could be charged such that any price per call would 'cost' a subscriber no more than 5 minutes from its bundle. However, such an approach would likely create confusion about how each range is charged reducing the overall effectiveness of the NGN platform.

422 ComReg is therefore of the view that any additional call costs to a small number of consumers as may arise from closure of the 1850 NGN range would be quite small and such costs must be compared to the likely gains to the wider body of consumers that are likely to result from simplifying the NGN platform. Consumers are also likely to prefer the inclusion of a NGN range that is internationally accessible as it would enable them to access services while abroad (not possible under the 1850 range).

423 Accordingly, ComReg considers that while consumers are likely to favour the removal of the 1850 NGN range they are unlikely to prefer Option 2 because it would retain three other NGN ranges (1890, 076 and 0818) all of which would have

[288] Averaging 10+ calls per year
[289] €0.30 X 5.
[290] See Slide 30 of ComReg Document 17/70b – Non-Geographic Numbers: Consumer Study – published 16 August 2017.
[291] 2.05 X 12 X €0.3 (Circa)
[292] 12 X €0.3 (Circa)

the same pricing requirements.

Option 3 removal of the 1890 NGN class

424 Option 3 involves the withdrawal of the 1890 NGN range in addition to the 1850 NGN range.

425 The consumer research shows that the 1890 NGN range suffers from serious reputational damage. For example:

- The NGN range most associated with being expensive is 1890 - 52% of those surveyed who were aware of the '1890; range think that 1890 calls are expensive;[293]
- 41% of those surveyed think that organisations make money from receiving 1850 and 1890 calls;[294]
- 53% of those surveyed who were aware of the 1890 range think that the cost of calls falls on the caller;[295] and
- 31% of those surveyed avoid dialling 1890 NGNs[296].

426 While all NGN ranges suffer from poor reputation to some extent, the 1890 range has a particularly poor reputation aligned with relatively high consumer awareness levels of the ranges. While ComReg considers that the preferred option under the 'NGN Pricing RIA' should, if implemented, address some of the causes of the range's poor reputation, ComReg also notes and agrees with DotEcon's overall assessment that "…*there is sufficient evidence to suggest that the 1890 range may have become 'toxic' and there are good reasons for phasing this number out*".[297] ComReg agrees that the 1890 range has become "toxic" and that many consumers would continue to avoid dialling 1890 NGNs, regardless of any other changes made to the NGN platform.

427 Consumers are also likely to prefer having a NGN range that is internationally accessible and so ComReg considers that they are likely to prefer the removal of the 1890 range (not internationally accessible) over removal of the 0818 and 076 ranges (internationally accessible). Retaining the 1890 range, but not the 0818 or

[293] See Slide 46 of ComReg Document 17/70b – Non-Geographic Numbers: Consumer Study – published 16 August 2017.
[294] See Slide 37 of ComReg Document 17/70b – Non-Geographic Numbers: Consumer Study – published 16 August 2017.
[295] See Slide 78 of ComReg Document 17/70b – Non-Geographic Numbers: Consumer Study – published 16 August 2017.
[296] See Slide 85 of ComReg Document 17/70b – Non-Geographic Numbers: Consumer Study – published 16 August 2017.
[297] Page 109 of ComReg Document 17/70a – Strategic Review of Non Geographic Numbers in Ireland: A Report for ComReg – published 16 August 2017.

076 ranges, would also not be compatible with Article 28 of the USD.

428 ComReg considers that while consumers are likely to favour the removal of 1890 range, they are unlikely to prefer Option 3 because it would retain two other NGN ranges - 076 and 0818 – both of which have the same pricing requirements. ComReg assesses the 0818 and 076 ranges below.

Option 4 (close the 0818 NGN class) v Option 5 (close the 076 NGN class)

429 DotEcon notes that the 076 and 0818 ranges have suffered a lower level of awareness, compared to the 1890 range, and so they could offer a "fresh start" for the NGN platform.

430 ComReg considers that one of consumers' main requirements for a NGN range[298] is that it is internationally accessible and memorable, in order to promote the price signal provided by the prefix. Therefore, ComReg considers that consumers are likely to have a preference for retaining either the 0818 range or the 076 range as the 'Geo-linked' NGN range. ComReg notes that:

- 40% of this those surveyed were aware of the 0818 while awareness of the 076 range was lowest at 16%;[299]
- The 0818 and 076 ranges are the least frequently dialed with 53% and 51% ever dialing[300];
- The main reason given for avoiding dialing 0818 NGNs (27%) was, '*I don't know how much it costs per minute/per call but I avoid it because I think it's expensive*'; the main reason for avoiding dialing 076 NGNs (35%) was '*I have never heard of this NGN*';[301] and
- Surveyed consumers considered 0818 NGNs to be more memorable than 076 NGNs. 42% of those aware of NGNs and who had ever dialed an 0818 NGN think that 0818 NGNs are easier to remember while 34% of those aware of NGNs and who had ever dialed an 076 NGN think that 076 NGNs are easier to remember.[302]

431 Accordingly, it appears that consumers have a higher awareness of the 0818 NGN range and ComReg considers that their main reason for avoiding 0818 calls (i.e. that they perceive them to be too expensive) could be resolved by the preferred option from the 'NGN Pricing RIA'. ComReg also notes that consumers think that

[298] Except for price which has already been assessed in the 'Pricing RIA'.

[299] See Slide 27 of ComReg Document 17/70b – Non-Geographic Numbers: Consumer Study – published 16 August 2017.

[300] See Slide 30 of ComReg Document 17/70b – Non-Geographic Numbers: Consumer Study – published 16 August 2017.

[301] See Slide 87 of ComReg Document 17/70b – Non-Geographic Numbers: Consumer Study – published 16 August 2017.

[302] See Slide 122 of ComReg Document 17/70b – Non-Geographic Numbers: Consumer Study – published 16 August 2017.

NGNs are more memorable than Geographic Numbers and 0818 is viewed as being the most memorable NGN range. On the other hand, the 076 range has particularly low levels of awareness amongst consumers, with over one-third of consumers avoiding dialling 076 NGNs because of this lack of awareness. In addition, many consumers indicate that they are least likely to remember 076 NGNs.

432 A potential drawback to retaining the 0818 NGN range is that the first two digits in the 0818 prefix are the same as the current prefixes for Irish Mobile Numbers (‘083’, ‘085’, ‘086’, ‘087’ and ‘089’) and this could cause some confusion. However, this should be limited because consumers have long experience of using Mobile Numbers and the ‘081’ prefix does not correspond to any mobile operator. The 0818 NGN range has been in operation since 1998 and ComReg considers that Irish consumers are likely to be sufficiently familiar with the three digit prefixes used for Mobile Numbers so as to be able to distinguish Mobile Numbers from 0818 NGNs which use a four digit prefix. In addition, Chapter 5 of this Document sets out ComReg’s approach to transparency which would include measures to increase awareness of the preferred options.

433 Therefore, ComReg is of the view that consumers are likely to prefer the 0818 NGN range be retained and are likely to prefer Option 5 over Option 4 and all other options.

3. Issues for other end users

434 The 076 10-digit range was opened for VoIP in 2004. It was intended to give VoIP SPs greater choice of number ranges and greater flexibility than there is in other number ranges (e.g. calls to Geographic Numbers must originate and terminate in the correct geographic area). [303] ComReg notes that certain consumers currently use the 076 range (VoIP). As noted by DotEcon, the use of the 076 NGN class has evolved from its original intended use as a dedicated VoIP range. A dedicated NGN class is not necessary for VoIP as such services now use Geographic Numbers.

435 However, while VoIP customers were originally offered IP-based numbers customers preferred to use Geographic Numbers where available. Reasons for this, provided by operators[304], included that IP-based numbers (a) do not resemble numbers familiar to consumers, (b) do not provide geographic information, (c) are not necessarily in tariff bundles and (d) are not always accessible from abroad. Further, traditional operators’ platforms became more flexible as the numbering and interconnection regime for Geographic Numbers changed such that the ability to be nomadic is possible for Geographic Numbers. For example, fixed operators such as Virgin and Eir are providing such flexibility by providing apps in order to make and answer calls on your home phone on a mobile device. Vodafone’s One Net Lite

[303] See Annex 1 - Document 04/103 - VoIP Services in Ireland: Numbering and related issues.
[304] Document 13/122 - The Evolution of Geographic Numbering in Ireland - Consultants' report – Section 6.8.

uses a landline number that connects to your mobile.[305] Therefore, ComReg is of the view that any VOIP or nomadic requirements for numbers can be satisfied through use of Geographic Numbers and a dedicated range is no longer required.

436 The impact of a number change on such users would include the time required to notify them of the change. However, ComReg also notes that a 2009 number change[306], involving a much larger number of affected consumers than would be affected by removal of the 076 range, was implemented smoothly. ComReg would implement any removal of the 076 range in a similar fashion, including that ComReg would properly inform all users of the 076 range of the fact that it was being removed and of the timelines for its removal. This would include general communications from ComReg and more specific communications from Fixed-Line Operators and Mobile Operators to their customers. The 2009 number change took place over 2 years and the removal of certain NGN ranges would take place over a 3 year period.

437 Whilst such users of the 076 range may, in isolation, prefer Option 4 (because it would reduce the number of NGN ranges but retain the 076 range), ComReg considers that they may prefer the option that promotes the more effective functioning of the NGN platform overall.

Conclusion on likely consumer preferences

438 While ComReg considers that the proposed 'Geo-linked condition' should address its identified main concerns relating to the relatively high retail charges for NGN calls (and the consequential under-utilisation of the NGN platform), ComReg also considers that the Geo-linked condition alone would not be sufficient to resolve the identified widespread lack of consumer understanding of the five NGN ranges currently in use.

439 In that regard, ComReg is of the view that consumers would likely prefer options that would result in a sufficient number of NGN ranges but without any unnecessary duplication between those ranges and taking account of any consumer requirements from using the range (e.g. internationally accessible). Consumers are thus unlikely to prefer Option 1 because it would not address the widespread additional confusion caused by having too many largely duplicative NGN ranges. For example, under Option 1 (reflecting the current situation) it would be reasonable for consumers to assume that each NGN range is unique in terms of its specific

[305] https://n.vodafone.ie/business/products-and-solutions/mobile-communications/red-business.html

[306] The number changes entailed prefixing the existing 5-digit local numbers with an extra two digits in the following Area Codes:

- Cork County, Bandon Area Code (023)
- Longford Area Code (043)
- Tipperary, Clonmel Area Code (052)
- Kerry Killarney Area Code (064)

features and/or price.

440 In ComReg's view, and on balance, the information which it has gathered, including the results of the Consumer Study (ComReg Document 17/70b), supports the measure of reducing the total number of NGN ranges from five to two, retaining the 1800 Freephone range and one 'Geo-linked' NGN range.

441 In relation to which of the current four NGN ranges other than 1800 should be retained as the 'Geo-linked' range, ComReg considers that its analysis of the available information would on balance support retention of the 0818 range, for the following reasons, in summary:

- the 1850 range established a retail charge that would be capped regardless of the length of the NGN call - a 'Geo-linked' condition would essentially remove the need for such a "fixed-price per call" range;
- the 1890 range has a particularly poor reputation amongst consumers such that it is considered "toxic";
- the 1890 and 1850 ranges are not internationally accessible; and
- the 0818 range is more memorable, is not likely to be confused with a geographic location and has higher awareness levels amongst consumers than the 076 range.

442 Therefore ComReg is of the view that Option 5 and the retention of the 0818 NGN class as the only 'Geo-linked' NGN class would be the overall preferred option of consumers.

Preferred Option for Non-Geographic Numbering Consolidation

443 The above assessment considered the impact of the various options from the perspective of industry stakeholders, as well as the impact on competition and consumers.

444 In summary, ComReg considers that each of the identified regulatory options except Option 4 (retain the 076 range only) would be likely to meet all of the SPs' requirements. However, ComReg is further of the view that some SPs are likely to prefer the option that would allow them to continue to use their current NGNs (although some SPs may be willing to migrate to alternative numbers if they understand that they would do so in order to improve overall efficient and effective utilisation of the NGN platform, to the benefit of SPs and, ultimately, to the benefit of their customers). ComReg thus considers that, on balance, a significant number of SPs are likely to prefer Option 1, under which the current five NGN ranges would be retained. However, based on the analysis above, ComReg considers that while SPs may prefer the Option which retains their SP and originators (except Three) consider that Option 1 is in their best interests (at least insofar as Option 1 would

not result in any short-term disruption to their operations) any such options would not be in the best interests of competition and consumers.

445 In particular, having more than one 'Geo-linked' NGN range would carry the risk that consumers would continue, in the long-term, to be confused about the pricing and structure of the different NGN ranges (including that they may confuse the different NGN ranges with Premium Rate Service numbers). In contrast, ComReg considers that having one Freephone NGN range and one Geo-linked NGN range is the simplest and most straightforward means by which to ensure that consumers are given sufficient choice, but without causing significant confusion as is currently the case, while also satisfying SPs' requirements.

446 In ComReg's view, consolidating the current five NGN ranges from five to two would be a justified, reasonable and proportionate regulatory measure by which to create a more effective NGN platform that should better meet the needs of Irish consumers and SPs.

447 In particular, ComReg is of the view that such consolidation would be justified, reasonable and proportionate, because, amongst other things:

- Simplifying the NGN platform by consolidation should improve consumer awareness of NGN retail pricing whereas retaining the current five NGN ranges could mean that the current widespread lack of consumer awareness of NGN retail pricing would continue;
- ComReg agrees with DotEcon that the 1850 range (fixed-price per call) would be unnecessary under the preferred option in the Pricing RIA while also noting that the 1850 also has the disadvantage of not being internationally accessible;
- The 1890 range has suffered such serious reputational damage that it is likely to remain "toxic" in the long-term, meaning that the functioning of the NGN platform would be negatively affected if 1890 was retained and while also noting that the 1890 also has the disadvantage of not being internationally accessible;
- Retaining the 076 range would be unlikely to satisfy SPs' requirements based on the results of the B&A survey (ComReg Document 17/70c);
- Retaining the NGN range (0818) would allow end-users throughout the EU to access Irish-based telephony services using NGNs, in line with Article 28 of the USD; and
- The costs and disruption of NGN consolidation should be minimised by allowing a 3 year lead in period before such consolidation would occur (while again noting that any costs and disruption must be weighed against

the overall goal of having a more effective NGN platform that should better meet the needs of Irish consumers and SPs).

448 On balance, ComReg's analysis of the large body of information gathered to date indicates that consumers are likely to prefer Option 5 - retention of the 0818 NGN range. ComReg further considers that SPs' requirements are likely to be best satisfied by retention of the 0818 NGN range (though again noting that many SPs' may express a preference for the option which would allow them to retain their current NGN). ComReg considers that 0818 NGNs are likely to be more memorable and visually distinct than 076 NGNs, given that the 076 range is more similar in structure to Geographic Number ranges.

449 While the 0818 range does have certain disadvantages, ComReg is of the overall view that it is the best range to place alongside the 1800 range, thus creating one "Freephone" NGN range and one 'Geo-linked' NGN range, both of which should be clearly distinguishable from one another. Therefore, ComReg's preferred option is Option 5, to establish a single 'Geo-linked' NGN range (0818) and withdraw the 1890, 1850 and 076 NGN ranges over a transitional period of 3 years.

450 ComReg has had regard to DotEcon's assessment in this regard, including the following: *"0818 and 076 have the advantage of having a relatively undamaged reputation and are also internationally accessible, which fulfils additional requirements for some consumers and SPs as well as allowing ComReg to meet its requirements for universal access. 0818 also has that advantage that consumers consider it to be a more memorable number. Therefore, the result of rationalising the number of different 'geo-linked' NGNs should be a consolidation of the number ranges to 0818"*[307].

3.6 Overall Preferred Option for NGN Pricing and Consolidation ('Preferred Option')

451 ComReg's view is that the measures recommended by DotEcon should address the current identified problems with the NGN platform. Therefore, ComReg's Preferred Option is as follows:

1. that a 'Geo-linked' pricing condition should attach to 1890, 1850, 0818 and 076 NGN ranges which would operate alongside the 1800 Freephone range; and

2. that the 1850, 1890, and 076 NGN ranges should be withdrawn following a transitional period of 3 years.

452 The Freephone 1800 range and the 'Geo-linked' 0818 range would thus be the only

[307] Page 110 of ComReg Document 17/70a – Strategic Review of Non Geographic Numbers in Ireland: A Report for ComReg – published 16 August 2017.

two NGN ranges to remain in effect, after the 3 year transitional period had ended.

453 The following section assesses the above Preferred Option against ComReg's other relevant objectives, regulatory principles and duties.

3.6.1 Assessment of overall Preferred Option against ComReg's other relevant objectives, regulatory principles and duties

454 The RIAs herein consider a number of regulatory measures available to ComReg within the context of the analytical framework set out in ComReg's RIA Guidelines (i.e. impact on industry stakeholders, impact on competition and impact on consumers).

455 A RIA requires an analysis of the extent to which any regulatory measure would, if implemented, be likely to achieve one or more of ComReg's statutory objectives in the exercise of its related statutory function or functions.

456 As noted above, ComReg's Preferred Option at this point in time is to withdraw the 1850, 1890 and 076 NGN ranges following a 3 year transition period years and to attach a 'Geo-linked' pricing condition to the retained 0818 NGN range which would then operate alongside the retained 1800 Freephone range.

457 In this section, ComReg assesses its Preferred Option having regard to the statutory provisions relating to its number management function which are set out in some detail in Annex 2 and which may be summarised as follows:

- to promote competition;
- to contribute to the development of the internal market;
- to promote the interest of users within the Community; and
- to ensure the efficient management and effective use of the national numbering resource.

458 In addition, even if ComReg considers that a proposed measure is aimed at achieving a statutory objective, ComReg must also consider whether that measure is objectively justified, transparent, non-discriminatory, and proportionate to its intended purpose.

459 In carrying out this RIA, ComReg has considered the identified regulatory options against its functions to regulate electronic communications and to manage the national numbering resource, its objectives in exercising those functions, the reasonable measures which it is required to take which are aimed at achieving those objectives, and its requirement to apply objective, justified, transparent, non-discriminatory, and proportionate principles in taking any such measures.

3.6.2 General Provisions on Competition

460 As noted above, there is a natural overlap between the aims of the RIAs and an assessment of ComReg's compliance with its statutory remit including, in particular, its core statutory objective under section 12 of the 2002 Act to promote competition by, amongst other things:

- ensuring that users, including disabled users, derive maximum benefit in terms of choice, price and quality;
- ensuring that there is no distortion or restriction of competition in the electronic communications sector; and
- encouraging efficient use and ensuring effective management of numbering resources.

461 In so far as the promotion of competition is concerned, Regulation 16(1)(b) of the Framework Regulations further requires ComReg to ensure that:

- elderly users and users with special social needs derive maximum benefit in terms of choice, price and quality; and
- that, in the transmission of content, there is no distortion or restriction of competition in the electronic communications sector.[308]

462 Certain other provisions also relate to ComReg promoting and protecting competition in the electronic communications sector:

- Regulation 16(2)(c) of the Framework Regulations requires ComReg to safeguard competition to the benefit of consumers and to promote, where appropriate, infrastructure based competition;
- the Ministerial Policy Direction on Competition (No. 1 of 2 April 2004) requires ComReg to focus on the promotion of competition as a key objective, including the promotion of new entry.

463 ComReg's view is that the Preferred Option in the 'Pricing RIA' would best promote and protect competition to the benefit of consumers (including, in particular, disabled users, elderly users, and users with special social needs, some of whom are likely to be more negatively affected by the current inefficient utilisation of the NGN platform).

464 Currently retail competition amongst Originating Operators is almost entirely centred on the various subscription packages which they offer to prospective subscribers and a large proportion of those packages involve a subscriber being given a bundle of call minutes for a specified time period – say, 400 "free" call

[308] The final two statutory obligations were introduced by Regulation 16 of the Framework Regulations.

minutes per month ("free" in the sense that there is no retail charge other than the fixed monthly subscription and up to the number of inclusive minutes in the bundle).

465 Calls to any Geographic Number or Mobile Number are typically included in any bundle of call minutes but Irish Originating Operators currently exclude almost all NGN calls from their various bundles of call minutes.

466 The net effect of NGN calls not being "in-bundle" is that NGN callers do not benefit from the retail competition between Originating Operators which is centred on their various subscription packages of bundled call minutes.

467 ComReg is therefore of the view that if NGN calls were included in bundles of call minutes (and ComReg would again note that there is no costs based reason for their exclusion) then this should cause the NGN platform to benefit from the high level of retail competition between operators which is mainly based on operators' offerings of bundled call minutes, and not on their per call / per call minute retail charges.

468 ComReg is also of the view that the Preferred Option would be objective, transparent and non-discriminatory, noting that the proposed regulatory measures would apply to all Originating Operators equally. Further, although the measures may result in some initial and medium-term costs and some degree of disruption – mainly to Originating Operators and some SPs – such costs and disruption are considered to be proportionate given the end goal.

469 Further, it can be said of practically any service that the greater the level of consumer confidence in the service, the more consumers are likely to avail of it and that increased use of a service typically benefits both those users and the providers of that service. Therefore, despite any initial and medium-term costs or and disruption to SPs, they should also benefit from the more efficient utilisation of the NGN platform over the longer term. If there were just two NGN ranges and if consumers should understand what those two NGN ranges signify and how they are priced, then consumers should be less wary of those ranges than is currently the case and should be more inclined to call them. And if consumers have greater incentive to make NGN calls then SPs, in turn, should have greater incentive to invest in or promote NGNs, which in turn should result in even more NGN calls being made by consumers, to the benefit of those consumers.

470 As described in the RIAs above, ComReg considers that the alternative option – essentially to do nothing and maintain the status quo as regard the NGN platform – would not achieve promotion of competition to the same extent, if at all. In particular, maintaining the status quo would not provide a mechanism for NGNs to benefit from the retail competition amongst Originating Operators which is available to other call components of "in-bundle" packages (e.g. Geographic Number calls, Mobile Number calls, SMS, and data).

471 ComReg considers that the alternative options assessed in both RIAs would result in continued confusion and poor understanding in relation to the current five NGN ranges (causing many consumers to avoid NGNs altogether or to used them only as a last resort) and would cause the current relatively high retail prices for NGN calls to remain in place. These options would therefore not encourage the efficient and effective use of the NGN platform to the same extent as the Preferred Option. In particular, ComReg notes the observations made by DotEcon that the information gathered and analysed to date paints a consistent picture of various market failures arising out of the structural features of the NGN value chain, with scope for significant harm to consumers and service providers.

3.6.3 Promoting the development of consistent regulatory consistent application of EU law

472 In relation to contributing to the development of the internal market, ComReg continues to cooperate with other National Regulatory Authorities ('NRAs') which includes that ComReg closely monitors developments in other Member States to ensure the development of consistent regulatory practice and consistent implementation of the relevant EC harmonisation measures and relevant aspects of the Common Regulatory Framework. For instance, ComReg observes the developments in the Netherlands and the United Kingdom with respect to the imposition of a 'Geo-linked' tariff principle to address similar concerns in those markets.

3.6.4 Promoting the interest of users within the Community

473 In relation to this objective, the following factors are of particular relevance:

(a) to promote the provision of clear information, in particular requiring transparency of tariffs and conditions for using publicly available electronic communications services;

(b) to address the needs of specific social groups, in particular disabled users, elderly users, and users with special social needs, and to promote the ability of end-users to access and distribute information or use applications and services of their choice; and

(c) to consider the extent to which the Preferred Option (i.e. proposed NGN consolidation measures) would impose undue costs on SPs.

474 In relation to the above, ComReg would highlight the following:

- The Preferred Option should promote clearer tariff information given that consumers tend to be more aware of their total allowance of in-bundle call minutes (where applicable) and the retail price (typically in the form of a monthly subscription payment) for same;

- The Preferred Option should be particularly beneficial to end-users who make a higher than average number of NGN calls (for example, elderly persons or persons living in rural areas without Internet access);
- The Preferred Option would be more likely to result in end-users accessing the services of their choice (including users in non-urban areas, and disabled and elderly users accessing the various important social and health services that are available over NGNs); and
- Whilst some SPs may incur some additional costs if they should have to migrate from their current NGN, the Preferred Option would include a three year transition period in order to remove or minimise such costs. In addition, some SPs may be prepared to accept such costs given the countervailing benefits to consumers and to the NGN platform overall.

3.6.5 Efficient Use and Effective Management of the numbering resource

475 ComReg must take all reasonable measures to encourage the efficient use and ensure effective management of numbers from the national numbering scheme and again, as noted above, such measures must be objectively justified, transparent, non-discriminatory, and proportionate to their intended purpose.

476 In relation to the above, ComReg would highlight the following:

- As identified in the RIAs, the proposed 'Geo-linked' condition should result in increased usage of the NGN platform overall, including more efficient use of the 0818 range;
- Retaining the 0818 range coupled with the 'Geo-linked' condition should best meet SPs' requirements;
- Whilst some SPs may incur some additional costs if they should have to migrate from their current NGN to a new number in one of the two ranges that would be retained, the Preferred Option includes a 3 year transition period by which to eliminate or minimise such costs. In addition, some SPs may be prepared to accept such costs given the countervailing benefits to consumers and the NGN platform overall.

3.6.3 Article 28 of the Universal Service Directive

477 Article 28(1) (a) of the USD provides that Member States shall ensure that, where technically and economically feasible (and except where a called subscriber has chosen for commercial reasons to limit access by calling parties located in specific geographical areas), NRAs take all necessary steps to ensure that end-users are able to access and use services using NGNs within the Community.

478 In that regard, ComReg notes that the preferred 0818 NGN range is internationally

accessible.

3.6.7 Relevant Policy Statements

479 Section 12 (4) of the 2002 Act requires ComReg, in carrying out its functions, to have regard to policy statements, published by or on behalf of the Government or a Minister of the Government and notified to it, in relation to the economic and social development of the State. Section 13 of the 2002 Act requires ComReg to comply with any Policy Direction given to ComReg by the Minister for Communications, Energy and Natural Resources ("the Minister") as he or she considers appropriate to be followed by ComReg in exercise of its functions.

480 ComReg considers below those Policy Directions which are most relevant in this regard (and which have not been considered elsewhere).

Policy Direction No.4 of 21 February 2003 on Industry Sustainability

481 This Policy Direction provides that:

"*ComReg shall ensure that in making regulatory decisions in relation to the electronic communications market, it takes account of the state of the industry and in particular the industry's position in the business cycle and the impact of such decisions on the sustainability of the business of undertakings affected*."

482 The purpose of this Policy Direction is to ensure that any regulatory decisions take due account of the potential impact on the sustainability of industry players, in particular in light of the business cycle at the time such decisions are taken.

483 ComReg observes that this Policy Direction concerns the sustainability of the industry as a whole rather than just the position of individual players. Notwithstanding, in its RIAs above, ComReg has considered the impact of its Preferred Option in the context of all industry stakeholders, including different types of industry stakeholders.

484 This Policy Direction is clearly relevant in terms of the costs that industry must bear which are, to some extent, within the control of ComReg, for example, the costs that may be incurred as a result of the proposed consolidation of NGN ranges. ComReg had regard to this Policy Direction in devising its proposals in relation to costs imposed as a result of both the NGN Pricing RIA and NGN Consolidation RIA.

485 For example, ComReg notes that:

- In relation to the Pricing RIA, NGN revenues accruing directly from consumers account for less than 1% of total industry revenues and, further, this revenue arises from high NGN retail prices;

- The impacts on industry need to be considered in light of the countervailing benefits to the NGN platform overall and consumers;
- Whilst SPs would incur some costs with potential migration from the NGN ranges to be withdrawn, the Preferred Option includes a three year transitional period by which to minimise/eliminate such costs and, moreover, ComReg considers that SPs may be prepared to accept such costs given the countervailing benefits to consumers and the NGN platform overall.

Policy Direction No.5 on regulation only where necessary

486 This Policy Direction provides that:

> "*Where ComReg has discretion as to whether to impose regulatory obligations, it shall, before deciding to impose such regulatory obligations on undertakings, examine whether the objectives of such regulatory obligations would be better achieved by forbearance from imposition of such obligations and reliance instead on market forces.*"

487 The purpose of this Policy Direction is to ensure that ComReg does not impose regulatory obligations where market forces would achieve a similar or more beneficial outcome in its own right.

488 As set out in the RIAs and the DotEcon Report, some of the underlying problems in the provision of services over NGNs result from structural issues in the NGN value chain that can create market power, externalities and market failure. There is significant evidence of various market failures arising out of the structural features of the NGN value chain, with the scope for significant harm to consumers and service providers. Critically, the RIAs demonstrate that the Preferred Option is necessary because the benefits arising from same would not be achieved absent same.

4 Assessment of legal points raised

4.1 Introduction

489 In 2015, ComReg replaced the “National Numbering Conventions” with the “Numbering Conditions of Use”. The latter divides all number conditions into two categories: conditions attached to the General Authorisation (“GA Conditions”); and conditions attached to individual rights of use for numbers (“RoU conditions”). This divide reflects the objective of minimising the regulatory burden by attaching as many conditions as possible to the General Authorisation (“GA”) to which all authorised undertakings are subject, rather than through individual rights of use.

490 The Numbering Conditions includes a legal annex which sets out the statutory principles, objectives, duties, and powers which govern number management. ComReg’s core objectives in managing numbers are, in summary, to ensure their efficient and effective use, to promote competition, to contribute to the development of the internal market, and to promote the interests of users. Promoting users’ interests has been particularly relevant to this NGN review because both regulatory measures, as originally proposed and now taken, are intended to address an evident, significant, ongoing consumer harm.

491 ComReg considers that NGNs serve a distinct and valued purpose and that the NGN platform is worth maintaining. ComReg does not agree with views expressed by certain respondents that the platform is in a state of irreversible decline and should be allowed to decline, nor does the large body of robust evidence, mainly gathered in 2016, bear this out. That evidence indicates that the NGN platform is valued but that its current structure is causing significant consumer harm. That evidence is as summarised in Para. 1.5 of Consultation 17/70. In brief, many end-users cannot distinguish between different NGN ranges and do not know, or cannot estimate, the retail charge for calling different NGNs and this lack of understanding coupled with incidents of “bill-shock” has, over time, caused many consumers to become distrustful of all NGNs. As a result many consumers avoid calling NGNs altogether or do so reluctantly, such as when they have no alternative, and this in turn has suppressed the volume of NGN calls, below what it would otherwise be.

492 ComReg identified and is now taking two regulatory measures in an effort to restore the NGN platform to a more efficient state and to remedy or mitigate the observed consumer harm:

- **5-to-2 Consolidation:** reduce the NGN ranges from five to two over a three-year transition period by removing the ranges 1850,1890 and 076.

- **Geo-Linking Condition:** the retail tariff for a call to any of the four ranges 1850, 1890, 0818, and 076 shall not exceed the retail tariff for a call made by the same end-user to a Geographic number. The Geo-Linking Condition will apply immediately to these four NGNs and once the 1850, 1890, and 076 ranges are withdrawn it will apply to the remaining 0818 range (the other remaining range, 1800, being the "Freephone" range).

493 ComReg also noted in Consultation 18/65 that it intends to implement a wholesale price control mechanism on NGN call origination charges, under Regulation 8(3) of the Access Regulation in conjunction with Regulation 6(2) of the Access Regulations and/or Regulation 23(1) of the Universal Service Regulations.[309] The wholesale price control mechanism will be the subject of a separate future decision by ComReg.

494 ComReg considers both measures taken at this time to be lawful, justified, and proportionate to their intended outcome. Against the objective of ensuring the efficient and effective use of numbers for the benefit of consumers, it is evident that NGNs are not being used efficiently or effectively and that this is resulting in observable, significant consumer harm. ComReg is thus required to take appropriate measures to restore efficiency and remove or mitigate that consumer harm; doing nothing is not a valid option. In addition, and for the reasons set out in this chapter, ComReg does not agree with certain respondents' arguments that it lacks the requisite *vires*, particularly as regards the Geo-linking Condition, nor does ComReg accept that there is a lack of evidence to justify either or both measures. ComReg is also satisfied that the measures taken hereunder are consistent with the new European Electronic Communications Code, passed by the European Parliament on 14 November 2018 and to be formally adopted on 3 December 2018 and published thereafter in the EU Official Journal, with Member States having two years complete transposition.

[309] These regulations implement respectively Article 8 (3) of the Access Directive, Article 5 of the Access Directive, and Article 28 of the US Directive.

4.2 NGN review

495 ComReg published its first consultation in July 2017 (Consultation 17/70). ComReg expressed its overall view that NGNs are an important platform for delivering a wide variety of consumer services and its overall concern that the NGN platform is not operating effectively and in the best interests of consumers and Service Providers (SPs).

496 Some respondents to Consultation 17/70 and follow-up Consultation 18/65 submitted views to the effect that the NGN platform is in terminal decline. ComReg does not agree and considers the platform to be worth saving. Evidence gathered through the NGN review also strongly supports the finding that the current NGN platform is not promoting the interests of consumers as well as it might. This evidence is summarised in Para. 1.6 of Consultation 17/70 and we would also note responses by Service Providers (SPs) to Consultation 17/70 as summarised in Pars 2.74 – 2.80 incl. of Consultation 18/65.

497 ComReg's preliminary views as of July 2017 were summarised in Pars 1.5 and 1.6 of Consultation 17/70 and were set out in similar terms in an "Industry Notice" published on 13 July 2018, to roughly coincide with publication of Consultation 18/65 in which ComReg's overall preliminary views, having had regard to all responses to Consultation 17/70, were essentially unchanged.

498 There were twelve responses to Consultation 18/65 and all have been considered in full, including all submissions of a legal nature as addressed in this chapter.

499 ComReg's overall view, now final, is accurately summarised in Para. 1.9 of Consultation 18/65:

> *… in Consultation 17/70 ComReg identified … certain core problems with the NGN platform. There is, firstly, an apparent lack of understanding amongst many consumers as to the different classes of NGN and the various retail tariffs that apply in each class. This lack of understanding, coupled with the relatively high retail tariffs that apply to some NGN calls, appears over time to have had the effect of deterring many consumers from calling NGNs altogether, or else they do so reluctantly and only when necessary. This observed widespread consumer wariness or distrust of NGNs has resulted in reduced utilisation of the NGN platform which, in turn, could affect the future viability of the platform.*

500 Consultation 17/70 concentrated on the proposed Geo-linking Condition at the retail level whereas Consultation 18/65 also highlighted the need for certain measures at the wholesale level. Para. 1.12 of the 18/65 states:

(i). While the regulatory measures proposed in Consultation 17/70[5] are aimed at addressing NGN issues at the retail level, ComReg considers that such measures alone would be unlikely to address any market failure at the wholesale level. Therefore, having considered all responses to Consultation 17/70, ComReg considers that it is also appropriate to provide further information as to how it proposes to address any harm identified at the wholesale level…

4.3 Legal basis

501 The crux of ComReg's reasoning, as to it having the requisite vires and sufficient evidence to support both measures, was set out in Pars 4.6 – 4.13 incl. of Consultation 18/65, repeated below as that reasoning is unchanged:

4.6 Part A of the Annex to the Authorisation Directive sets out nineteen categories of conditions which may be attached to a general authorisation and Part C of the same Annex sets out nine categories of conditions which may be attached to rights of use for numbers. These same provisions are transposed into Irish law by the Authorisation Regulations.

4.7 Of the nine categories of conditions which may be attached to rights of use for numbers, as listed in Part C of the Annex, the first two categories are relevant to the proposed Geo-Link Condition:

1. Designation of service for which the number shall be used, including any requirements linked to the provision of that service and, for the avoidance of doubt, tariff principles and maximum prices that can apply in the specific number range for the purpose of ensuring consumer protection in accordance with section 12(2)(c)(ii) of the Act of 2002.

2. Effective and efficient use of numbers in conformity with the Framework Regulations.

4.8 Condition No. 1 above clearly provides that an NRA may make number conditions which set tariff principles and/or maximum prices in specific number ranges, if the objective in doing so is to protect consumers. Moreover, ComReg considers that Condition No. 1 of Part C does not restrict the interpretation of any number accessibility or consumer protection condition as may be imposed as a condition attaching to the General Authorisation, pursuant to Part A of the same Annex, noting that the proposed "Geo-Linked Condition" would be imposed as General Authorisation Condition, by invoking Condition categories 4 and/or 8 of Part A, the scope of which may and should be determined by reference to Condition 1 of Part C. That is to say, if ComReg may set tariff principles and/or maximum prices for number ranges through a condition attaching to an individual right of use for an number (pursuant to Part C of the Annex) then ComReg may attach the same or similar condition through the General Authorisation (pursuant to Part A of the Annex) noting in particular that in both cases the objective – to protect and promote the interest of consumers – would be the same.

4.9 Further, the objective to protect and promote the interests of consumers in this instance is grounded upon a significant body of robust evidence, as described earlier in this paper and which strongly indicates that the current NGN platform is not protecting or promoting the interests of consumers and which thus supports a Geo-linking condition and consolidation of the NGN ranges. That body of evidence may be summarised as follows:

- *the Consumer and Organisational Studies show that many end-users think NGN calls are too expensive and most end-users cannot clearly and meaningfully distinguish between the different NGN ranges and do not know, or cannot estimate, the retail charges for making different NGN calls; and*

- *information gathered from industry under section 13D of the 2002 Act indicates that operators do not incur any (or any significant) additional costs in handling NGN calls above what they incur in handling Geographic Number calls (i.e. there are no additional network costs associated with NGNs which explain and sufficiently justify the significantly higher retail charges for NGN calls).*

4.10 Amongst other things, there is an established commercial practice whereby Irish operators base most of their subscription offerings on the concept of the monthly bundled package, typically consisting of a specified number of call minutes and texts and a specified data allowance. Further, Geographic Number calls and Mobile Number calls are generally included in the various call minute bundles while most NGN calls are excluded and there is strong evidence that this practice has had, and continues to have, two principal negative impacts on consumer welfare, which may be summarised as follows:

- *Many consumers pay considerably more for NGN calls than they had anticipated because they assumed that such calls would be in "in-bundle" whereas they were "out-of-bundle" and high, or relatively high, retail tariffs applied; and*

- *Over time, many consumers have become wary of NGNs to the extent that they will not make NGN calls or will do so only when necessary (i.e. when there is no alternative) and the overall impact of this consumer wariness or distrust has been to significantly reduce utilisation of the NGN platform – by consumers and SPs - which again ultimately impacts upon consumers in terms of a reduced choice of services and the longer term viability of the NGN platform, as it continues to shrink over time.*

4.11 Furthermore, as against the observed ongoing consumer harm outlined above and elsewhere in this paper, there does not appear to be any countervailing objective justification for the commercial practice which is a direct cause of that harm. That is to say, in the context of operators having subscription offerings of which almost all are based on the concept of bundled call minutes, there appears to be no objective reason, technical or otherwise, for operators to include Geographic Number and Mobile Number calls "in-bundle" but to treat any or all NGN calls as "out-of-bundle". The situation is very different for Premium Rate Service calls, which are very clearly in a category of their own, however ComReg considers that NGN calls are not so distinguishable from Geographic Number calls or Mobile Number calls as to warrant their exclusion from bundles, particularly given the observed consumer harm that is a direct result of their exclusion.

4.12 Evidence collected by ComReg, through its Section 13D information requirements and the Consumer and Organisational Studies, indicates that the interests of consumers are currently not being adequately protected or promoted with regard to NGNs. ComReg thus remains of the preliminary view that a specific measure (a "Geo-Linked Condition") should better protect and promote those interests and that such a measure would appear, in the circumstances and having regard to the level of consumer harm, to be justified and proportionate.

4.13 As noted above, the significantly higher retail charges for NGN calls are almost entirely the result of the general commercial practice amongst operators of not including NGN calls in subscribers' bundles of call minutes. For example, the DotEcon report states:

> *"In the context of increasing prevalence of phone packages with inclusive bundled minutes for 'standard' calls - where the marginal cost of making calls within the bundle is effectively zero – the charges for NGNs appear particularly high."*

and

"Comparing against the typical costs of a geographic call (akin to a "standard rate" call as defined in the 2015 Numbering Conditions) it appears that the rates for calls to NGNs are higher."

4.4 Responses to Consultation 18/65

502 There were twelve responses to Consultation 18/65. In terms of submissions of a legal nature, the main responses to consider are those of Eir and Three. Their key arguments are set out herein together with ComReg's views and final position. It is reasonable to state, in terms of legal argument, that the 5-to-2 Consolidation is by far the less contentious of the two measures. It is therefore addressed first below, followed by consideration of the more expansive arguments made and Eir and Three in respect of the Geo-linking Condition.

5-to-2 Consolidation

503 This is an administrative decision to remove certain existing number ranges. There is no statutory provision which explicitly grants ComReg such power but it is implicit in its overall function to manage numbers and its objectives in doing so. ComReg has discretionary power to create new number ranges and by correlation it has discretionary power to remove them, provided that there are objectively justified reasons for doing so and that any such measure is proportionate to its objective. Neither Eir nor Three contest ComReg's vires to adopt the 5-to-2 Consolidation and Three states that it "*cautiously supports ComReg's proposals to rationalize down to two number ranges which have a distinct purpose*". For completion's sake, ComReg also notes Article 10 (3) of the Framework Directive, which sets out that national numbering plans may be subject to additions and amendments, and Article 14 (1) of the Authorization Directive (implementing recital 33 therein) which provided for amendments to "*the conditions and procedures concerning general authorizations and rights of use or rights to install facilities*" in objectively justified cases and in a proportionate manner.

Geo-linking Condition

504 In their responses to Consultation 18/65, Three and Eir focus their criticisms on what they submit as being the *ultra vires* nature of the Geo-Linking Condition. Their submissions fundamentally pertain to (i) the obligation to apply the same tariffs to NGN as to geographic numbers; (ii) the obligation to include NGNs in any bundle including geographic numbers, and (iii) ComReg's ability to regulate wholesale rates. These various points and arguments are addressed below under two sub-headings – *Vires* and *Evidence*.

Vires

505 Eir, in the opening paragraph of its response to Consultation 18/65, states as follows (edited):

> *"… ComReg is going beyond the scope of its powers … eir fully recognises that ComReg may specify tariffs and tariff principles to be attached to non-geographic numbers (NGNs). However, this authority does not extend to prescribing what operators must include in customer bundles. This is a commercial decision for operators … ComReg's authority in this regard purely relates to the capping of tariffs and specifying how tariffs are to be calculated … [Of] the nine categories of conditions that may be attached to rights of use for numbers under Part C of the Annex … none of them allow ComReg to go so far as to direct operators to include specific types of numbers in the inclusive allowances of commercial offerings to customers."*

506 Three makes essentially the same argument though in different terms in its response, for example in the first four paragraphs of its Introduction (edited):

> *ComReg has proposed an intrusive intervention … The changes would alter the structure of the NGN Platform itself, and also the manner in which both retail and wholesale prices operate for NGN calls … some aspects of the proposal and their implications have not been fully considered by ComReg.*
>
> *ComReg's research shows that the NGN Platform is of reducing importance to consumers, with a proliferation of different number ranges, features, and tariffs. Consumers no longer understand the purpose that the NGN Platform serves, and there is even a lack of understanding that 1800 is free to call. This is the primary issue that ComReg should be seeking to resolve in its intervention, and Three cautiously supports ComReg's proposals to rationalise down to two number ranges which have a distinct purpose. We are cautious because we believe there is additional work to be completed in order to understand how such rationalisation will be achieved, and the implications of the rationalisation.*
>
> *Three disagrees fundamentally with … retail pricing intervention. ComReg's proposal intervenes in the retail market for call origination to restrict operators' ability to freely offer their services and set their tariffs in a competitive market. ComReg requires an express and precise legal power to require and impose such intervention. As outlined further in Section 3, ComReg has no legal power to dictate the structure of products and any proposal to do so would involve it acting ultra vires. A requirement to include Non Geographic Number ("NGN") calls in all bundles would be a serious incursion on contractual freedom / privity of contract.*

ComReg has not justified this intervention, and Three believes ComReg is acting ultra vires beyond its statutory objectives and powers as set out in the relevant legislation in making this proposal.

507 Eir, in the above quoted paragraph, acknowledges that ComReg has power to specify tariffs and tariff principles for NGNs but contends that this power does not extend to prescribing what operators must include in their customer bundles. Three, in the second paragraph of the above quoted passage, quite accurately summarises and also seems to accept certain facts which underpin ComReg's overall view that the NGN platform, as currently structured, does not best meet the needs of consumers ("*Consumers no longer understand the purpose that the NGN Platform serves, and there is even a lack of understanding that 1800 is free to call. This is the primary issue that ComReg should be seeking to resolve in its intervention, and Three cautiously supports ComReg's proposals to rationalise down to two number ranges which have a distinct purpose*.") However Three, like Eir, argues that ComReg requires an express and precise legal power to intervene in the retail market in the manner proposed and that it lacks same.

508 In response, ComReg notes that the Geo-linking Condition only mandates that NGN tariffs not exceed Geographic Number tariffs. Such a condition falls squarely within ComReg's powers having particular regard to Condition No.1 of the Annex C to the Authorisation Directive. ComReg again refers to its detailed reasoning as set out in Pars 4.6 – 4.13 incl. of Consultation 18/65, quoted above. ComReg must also note that Eir, in its response, accepts that ComReg does have power to specify tariffs and tariff principles for NGNs.

509 Much of the objection by Eir and Three hinges on the supposed requirement to "bundle" NGN calls. However no such requirement is being imposed. Instead, and as ComReg has repeatedly and consistently observed, where the prevailing commercial practice is to offer telephone subscriptions based on bundled call minutes, it inevitably follows that if Geographic Number tariffs are set by bundling Geographic Number calls then NGN calls, if they are not to exceed Geographic Number calls, must likewise be bundled. ComReg acknowledged this as an unavoidable effect of the Geo-linking Condition in Consultation 18/65, including in the text of the draft Decision.

510 Acknowledging an effect of a condition does not mean that ComReg is mandating that NGN calls be bundled. ComReg only requires that NGN tariffs not exceed Geographic Number tariffs. If complying with that condition necessitates that NGN calls be bundled, due to the prevailing commercial practice of bundling Geographic Number calls, then so be it. NGN bundling could be an *effect* of the Geo-linking Condition but it is not the object. To emphasise this, imagine an Irish operator who decides to no longer offer subscriptions based on bundled call minutes. That operator would be entirely free to do so, and it would still have to apply NGN tariffs that did not exceed Geographic Number tariffs, but it would be under no requirement to bundle NGN calls.

511 Eir also submits that *"ComReg's authority … purely relates to the capping of tariffs and specifying how tariffs are to be calculated."* ComReg generally agrees with this description of the scope of its authority though noting that the Geo-linking Condition falls squarely within such authority as it is, in essence, a capping of NGN tariffs, in the sense of specifying that they may not be higher than Geographic Number tariffs, while also specifying how those NGN tariffs are to be calculated (i.e. by reference to Geographic Number tariffs).

512 Para. 2 of Eir's response states as follows (edited):

> *"ComReg seeks to justify its approach on the basis that this has been done in the Netherlands and the UK. However, ComReg's basis is flawed and … ComReg appears to be misunderstanding the position in those jurisdictions … the provisions of Dutch law quoted by ComReg do not specify that such calls must be included "in-bundle". The provisions simply specify that tariffs for calls to NGNs must be comparable to the tariffs for calls to geographic numbers. eir would not have any issue with this proposition and agrees that ComReg has the power to cap the tariffs and to specify that the tariffs should be comparable to those for geographic numbers as is the current case in the Numbering Conditions of Use."*

513 ComReg must first note that Eir, in the final sentence of the above passage, again states that it *"agrees that ComReg has the power to cap the tariffs and to specify that the tariffs should be comparable to those for geographic numbers."* Eir thus accepts that ComReg has the vires to attach a Geo-linking Condition to the General Authorisation (GA) specifying that NGN tariffs shall not exceed Geographic Number tariffs.

514 As regard the other points in the above quoted passage, ComReg would again note that it does not require that NGN calls be included "in-bundle" but merely requires that tariffs for NGN calls not exceed tariffs for Geographic Number calls. Having to include NGN calls in bundles is a likely effect of the measure, for the reasons set out above, but it is not the object of the measure.

515 In the UK, Ofcom made clear that its 03 NGN range, introduced in 2007 and designated as “non-geographic numbers charged at a geographic rate”, is the result of retail regulation and not wholesale regulation. Ofcom amended its General Conditions so as to establish a condition that all originating operators must adhere to the service and tariff descriptions set out for 03 NGNs. Ofcom thus followed essentially the same approach as ComReg. The new GA in place in the UK since 2017 has removed the detailed tariffs conditions for 03 NGNs and now provides for general statements to respect requirements in the numbering plan:

B1.19. When providing an Electronic Communications Service by means of an Unbundled Tariff Number, the Communications Provider must comply with the tariff principles set out in Conditions B1.21 – B1.27 and any applicable maximum price specified in the National Telephone Numbering Plan.”

516 The best proof of the validity of ComReg’s actions is that it has, for many years and without objection or challenge, set various tariff principles and maximum prices for other specific number ranges. The most obvious example is the condition that 1800 NGNs be “Freephone” – the most extreme possible form of retail price regulation is to prohibit any retail charge. ComReg has also for many years set maximum retail tariffs in the Premium Rate Service ranges.

517 Precedents in other Member States also show a distinction between SMP obligations and conditions attached to the GA or to rights of use for spectrum or numbers.

- In the UK, in the addition to the “03” range mentioned above, a 2010 review of NGNs saw a change in tariffs for calls to 080 and 116 numbers (for services of social value) by making them free of charged to callers. This was done “*to protect consumers from confusion over 080 and 116 prices and to improve price awareness*” on the basis of Annex Part C of the Authorization Directive. Ofcom then regulated wholesale conditions on the basis of Article 5 of the Access Directive (any-to-any symmetric regulation) and only this latter wholesale regulation was subject to notification to the Commission under the Article 7 procedure.

- Again in the UK, BT introduced a new charging method for wholesale termination charges in the “08X” range (so–called ladder pricing) which led to an interconnection dispute that ended with a Supreme Court ruling, on 9 July 2014. The Supreme Court supported the Competition Appeal Tribunal and allowed BT to introduce the scheme. However the Supreme Court also stated, *obiter dicta*, that it was not “convinced” by BT’s argument that an SMP finding was necessary to regulate prices in interconnection disputes:

> *<u>"There is an important difference between (i) exercising a regulatory power to impose price control in order to correct market failure or control the abuse of a dominant economic position, and (ii) deciding whether a particular proposed tariff change advances consumer welfare for the purpose of determining whether there is a right to introduce it."</u>*

- In France, the regulator followed an approach similar to the UK's for value-added services (including maximum pricing of such numbers). ARCEP based its 2005 decision on the Authorization Directive. Unfortunately, there is no indication as to whether ARCEP based its decision on conditions attached to its GA (Annex A) or on conditions attached to rights of use for numbers (Annex C). Nevertheless, the decision once again established that NGN conditions, including pricing, can be imposed on the basis of Article 6 of the Authorization Directive.

- In Austria, Article 24 of the Electronic Communication Act gives the national regulatory authority (RTR) power to set tariffs that may be charged for the provision of telecommunications services in number ranges with regulated fee limit. On such basis, the RTR adopted an Ordinance listing maximum prices for such numbers.

518 The conditions outlined above show that it is not uncommon for NRAs to specify NGN tariff principles and/or maximum prices that originating operators must adhere. Also, none of these conditions were imposed under Article 28 of the US Directive, which would have required a notification to the European Commission under Article 7 of the Framework Directive.

519 Para. 3 of Eir's response contains two points, separated out below:

- *eir strongly rejects any proposal to prescribe what operators must include in their commercial offerings. It is also important to highlight that the Dutch provisions also state that operators are permitted to impose different tariffs for NGNs in circumstances where the costs are different. So, for example, if wholesale costs for calls to NGNs are higher, then retail charges for calls to NGNs can be higher. ComReg appears to have ignored this.*

- *In respect of the UK market, eir also notes that only one number is geo-linked – the 03 number. 03 numbers were introduced in 2007 and were specifically designed from the outset as a geo-linked number range with a corresponding requirement to include calls to these numbers in inclusive allowances. eir notes that the requirement was not applied in a retrospective manner and is therefore not comparable to what ComReg is proposing for the Irish market. This UK example from 2007 … is therefore not a genuine comparison and certainly does not justify ComReg overreaching in terms of its statutory powers.*

520 With regard to Eir's first point above, ComReg would refer to Para. 1.12 of Consultation 18/65 (edited):

> *"… a substantial body of evidence exists which strongly indicates that the current NGN platform is not protecting or promoting the interests of consumers as well as it might and that its proposed measures (Geo-linking, consolidation of the NGN ranges, and improved price transparency) should result in a simpler, more transparent, and better functioning NGN platform. Such measures still appear, having regard to all circumstances including the observed consumer harm, to be justified and proportionate.*
>
> *… nothing in the responses received to date have caused [ComReg] to significantly alter its current preliminary views … In particular, no respondent has yet provided any countervailing facts or arguments as would convince ComReg not to take any or all of the identified measures. This is not to state that ComReg has yet formed any final views (it has not done so and this review of NGNs is still entirely at consultation stage) but is merely to indicate that ComReg's preliminary views are essentially unchanged and are unlikely to change in the absence of any new information. ComReg would thus emphasise to all interested parties – and especially those who do not agree with any or all of its proposals – that any further submissions, opposing any proposed measure, should be supported by very robust evidence and reasoning as to why any such measure ought not to be taken.*

521 The above text emphasised to respondents that if they had any information, as could or would convince ComReg to abandon or amend any of its then preliminary views, then it ought to be provided. Eir and Three, in their responses to Consultation 18/65, both reserve their right to provide further comments and information at any future point in time. If wholesale costs for NGN calls were significantly higher this certainly might justify higher retail tariffs for NGN calls. However respondents have not provided any data to support such a contention. If information existed as might dissuade ComReg from taking measures that were clearly contemplated then the appropriate time to provide such information was during the consultation process, before any final decision was taken. The fact that this was not done strongly supports the conclusion that such information does not exist, again noting that all available data indicates that wholesale costs for NGN calls are not higher, or are not significantly higher.

522 As to the UK 03 NGN range, Eir acknowledges the existence of this long-standing NGN range that is geo-linked but submits that the geo-linking requirement was not applied in a retrospective manner to the 03 range that it is therefore not comparable to what ComReg has proposed for the Irish market where the Geo-linking Condition would, Eir contends, be applied in a "retrospective manner".

523 ComReg, in response, agrees that laws and rules cannot be applied retrospectively. However the Geo-linking Condition will not have any retrospective effect but will be entirely forward-looking; indeed it will not take effect until 12 months after the decision making it. The only difference between the UK 03 range and Irish NGN ranges is that geo-linking was attached to the former from the outset whereas geo-linking is being attached to the latter at a point in time.

524 Eir makes the following argument in Pars 4 - 6 of its response (edited):

4. … ComReg is attempting to circumvent the EU legal framework with these proposals … the Court of Justice of the European Union (CJEU) held in 2015 that a measure which is designed to ensure access to NGNs in accordance with Article 28 of the Universal Service Directive must be made subject to the Article 7(3) procedure if that measure may affect trade between Member States. In the same case, the CJEU also found that measures relating to access to NGNs by their very nature have a cross border effect, in particular in light of roaming obligations.

5. The measure being proposed by ComReg must be said to have an effect on trade between Member States in circumstances where such numbers can be accessed internationally and will also be accessed by citizens when roaming. ComReg is therefore obliged to follow the Article 7 procedure …

6. In light of the above, eir believes that ComReg does not have any legal basis for its proposals and is in breach of its obligations under EU law and the determination of the CJEU. eir has therefore commenced engagement with the European Commission in relation to this matter.

525 Three makes a similar argument in section 3 of its submission:

3. Retail Price Intervention

"Geo-link" … is an aggressive intervention that purports to directly limit retail service providers' ability to determine the price, price-structure and configuration of consumer bundles they charge for different call types. ComReg is required to definitively evidence that there is market failure to intervene in such a manner, and having done so, ComReg is required to make the least restrictive intervention needed to remedy any established market failure falling within its statutory powers. The proposed intervention is not appropriate as it does not properly address the main issue identified with NGNs in ComReg's own research – lack of purpose and lack of transparency. As such, it is an unjustified intervention in the retail market for call origination, which is not supported by ComReg's powers and functions.

It should be noted that ComReg has never before attempted to intervene in a competitive retail market to mandate which elements an originating service provider may/must include within their retail price bundles. The unprecedented level of intervention, in particular where no clear consumer detriment has been established, is of serious concern. In fact there is no requirement for an originating service provider to include free calls to any Geographic service or to any particular Geographic destination within its retail tariff structure.

ComReg is proposing to take onto itself part of the decision as to what type of service the originating operators can offer inclusive calls to as part of their retail proposition. This would impose a restriction that is deeper than any other existing condition or remedy under ComReg's remit. It is not even a requirement at present that originating service providers treat all Geographic numbers uniformly in their retail price plans. ComReg's proposal would have the effect to reduce the incidence of bundles that include free call minutes, thus creating consumer harm in direct breach of its statutory duties and objectives.

526 Eir argues that ComReg would circumvent the EU legal framework if it did not adhere to the procedure prescribed by Article 7(3) of the Framework Directive, while Three argues that ComReg must possess definitive evidence that there is market failure to intervene in such a manner.

527 In response, ComReg would note that the two measures taken at this time are not measures to which the SMP procedure applies. Eir and Three have conflated two separate and distinct sets of statutory provisions which provide for separate and distinct powers and processes. The procedure under Article 7(3) of the Framework Directive applies to market reviews which may result in the imposition of access and/or interconnection obligations on undertakings found to have SMP in defined markets. On the other hand, 5-to-2 Consolidation is an administrative change to the number scheme whilst the Geo-linking Condition attaches to the GA. Neither measure constitutes the imposition of an access and/or interconnection "obligation" relating to SMP. An NRA's statutory function to authorise undertakings and to grant rights of use for radio frequencies and/or numbers, and its power to attach conditions to such authorisations and/or rights of use, is entirely distinct from its function and power to impose obligations upon undertakings having SMP in defined markets that are not effectively competitive.

528 As to other assertions made by Three in the above quoted passage, these are addressed below:

- ***ComReg is required to definitively evidence that there is market failure to intervene in such a manner … unprecedented level of intervention, in particular where no clear consumer detriment has been established -***

529 A significant body of evidence does exist and has been clearly set out. Moreover, Three acknowledges that such evidence exists in making such statements as in section 2 of its submission: "*Three cautiously agrees that ComReg's proposal to rationalise the number ranges down to two distinct number types (one free and one charged to caller) can simplify the NGN numbers and make it easier to convey their purpose and price*." Three's approval of 5-to-2 Consolidation, even "cautiously", carries an implicit acknowledgment that there is an evidential basis for such a measure. Three cannot subsequently argue that there is no evidence to justify the Geo-linking Condition, as it is the essentially the same evidence as for the 5-to-2 Consolidation decision.

- ***ComReg is required to make the least restrictive intervention needed to remedy any established market failure -***

530 ComReg generally agrees though noting that it is first and foremost attempting to remedy a significant ongoing "consumer harm". by attaching a new Geo-linking Condition to the GA, and is not attempting to correct a "market failure" in the sense that that term is synonymous with market reviews and imposition of "obligations" on undertakings with SMP. The Geo-linking Condition requires evidence but it is not dependent upon an express finding of market failure and identifying one or more undertakings with SMP. As to taking the "least restrictive intervention", the Regulatory Impact Assessment (RIA) identified and assessed all potential options.

- ***The proposed intervention is not appropriate as it does not properly address the main issue identified with NGNs in ComReg's own research – lack of purpose and lack of transparency –***

531 The Geo-linking Condition is intended to directly address the consumer harm identified in ComReg's research. ComReg would again note that Three acknowledges the following – "There is confusion and widespread misunderstanding of the price to call NGNs, both among consumers and service providers". The Geo-linking Condition is to address that very confusion and widespread misunderstanding, and to bring greater certainty to consumers and service providers.

- ***It is an unjustified intervention in the retail market for call origination, which is not supported by ComReg's powers and functions -***

532 For reasons already set out, ComReg considers that the Geo-linking Condition is both justified and within its legal powers.

- ***ComReg is proposing to take onto itself part of the decision as to what type of service the originating operators can offer inclusive calls to as part of their retail proposition***

533 This argument is addressed above. Again, the object is to mandate that NGN call tariffs should not exceed Geographic Number call tariffs and not to mandate that NGN calls be included in-bundle, though it is acknowledged that this will be an effect due to the prevailing commercial practice of offering subscriptions based on bundled calls.

534 Three also submits that the Geolinking Condition would constitute a misuse by ComReg of its powers as ComReg would utilise numbering / authorisation conditions to achieve an outcome that those conditions were not intended to produce – intensive regulation of product structures and pricing across the entire market. Three submits that Annex A of the Authorisation Directive empowers ComReg to determine the content of retail price plans for service providers in a competitive market and that Annexes A and C of the Authorisation Directive must be narrowly construed as they set the 'maximum' level of regulation. This includes that ComReg cannot "read across" types of permissible conditions from Parts A to C, in particular as (i) there are different lists and different permissible conditions in each for a reason, and (ii) Part C conditions can only apply to the individual operator that was granted such a right of use and not to the industry as a whole.

535 ComReg, in response, considers that Conditions A.4 and A.8, read in conjunction with Condition C.1, do empower it to determine the content of retail price plans, in the following sense. ComReg is expressly empowered to designate the service for which a number shall be used "*including any requirements linked to the provision of that service and, for the avoidance of doubt, tariff principles and maximum prices that can apply in the specific number range for the purpose of ensuring consumer protection*." (Condition C.1). The three sets of conditions in Annexes A, B, and C of the Authorisation Directive also form part of one maximum framework, such that what may be done under Annex C may be done under Annex A, noting in particular that there is an emphasis on using Annex A and only Annex A conditions can be universal in their effect (because an Annex C condition can only apply to the individual undertaking which was granted the right of use for the number in question).

536 Three contends that "*ComReg itself acknowledges that the General Authorisation conditions (Part A) and the Rights of Use conditions (Part C) are two categories of condition existing under "distinct statutory provisions" in ComReg document 15/136R1 … ComReg has previously stated (and Three agrees) that ComReg cannot impose tariff principles 'across the industry' (rather than to individual undertakings) under Schedule C*." These quoted passages from the Numbering Conditions do not, as Three contends, state or indicate that tariff principles cannot be imposed 'across the industry'. The quoted passages merely explain why any condition intended to have universal effect (i.e. such as a tariff principle imposed 'across the industry') must be a GA Condition.

Evidence

537 In Pars 13 – 16 incl. of its submission, Eir makes several arguments which may be summarised as follows:

- That ComReg "*does not appear to have any robust evidence to support its position in the Consultation and its complete refusal to consider and acknowledge the views of any operator, SP or interested party where they are in disagreement with ComReg is entirely unreasonable*" and the evidence upon which ComReg does seek to rely is dated.

- That ComReg has simply dismissed the reasoned arguments presented to it and is failing to follow its own consultation procedures which state that it "*will at all times seek to ensure that all of its consultations are as open, transparent, fair and complete as possible, and ComReg will take proper consideration of all submissions that are received*".

- That ComReg has displayed bias in the alleged manner in which it has favoured certain SPs' "*bare expressions of support*" for the Geo-Linked proposal operators while it has not been so disposed towards operators' "*detailed and evidence-based objections based on their in-depth understanding of the market and the relevant market dynamics, and the lawful operation of the European regulatory framework*."

538 Three contends that a tariff principle may only be applied to ensure a "*high level of protection for consumers in their dealings with suppliers, in particular by ensuring the availability of simple and inexpensive dispute resolution procedures carried out by a body that is independent of the parties involved*" and that ComReg has not demonstrated that this high level of protection is mandated or required in relation to the NGN market.

539 ComReg, in response, would first note that it is true that at the commencement of the NGN review there was a strong indication that all was not right but there was also a lack of hard evidence. ComReg therefore went and gathered such evidence by conducting extensive, statistically reliable consumer and industry surveys and by submitting detailed written information requirements to 38 authorised undertakings under s.13D of the 2002 Act. In addition, ComReg engaged external experts, DotEcon, to analyse the gathered information and produce a report in respect of same. Therefore, contrary to the assertions by Eir and Three, ComReg has compiled and is relying upon has a very extensive body of robust evidence of extensive ongoing consumer harm, mainly consisting of the following:

- Document 17/70a: Report from DotEcon on Non-geographic Numbers in Ireland;

- Document 17/70b NGNs: Consumer Study (B&A and The Research Perspective);
- Document 17/70c: NGNs: Organisation Study (B&A and The Research Perspective); and
- Document 17/70d: Cost Study (B&A and The Research Perspective).

540 ComReg also does not consider the evidence upon which it relies to be out of date. ComReg notes, in particular, that interested parties were expressly invited to submit any more recent data that they may possess but none did so. Eir and Three, in their responses to Consultation 18/65, both state that they reserve their right to provide further comments and information at any future point in time, which in the context is taken to mean beyond the date of any final decision. However if any interested party has information that would or could affect ComReg's consideration of an issue, including dissuading ComReg from taking a regulatory measure as clearly contemplated, then the appropriate time to provide such information is during the live consultation process, before any final decision is taken. It should have been quite possible to provide any such countervailing information as existed. The fact that no such information has been provided leads ComReg to the reasonable conclusion that such information does not in fact exist.

541 As to the evidence at hand, it is true that the DotEcon report (ComReg Document 17/70a) covers the period 2011-2015 while the B&A surveys were conducted between May and July 2016. However, the key determinant is not the year from which information dates but whether the information is out of date, in the sense that the relevant facts have changed significantly in the period since the information was gathered. In the case of the NGN platform, there is nothing to show or indicate that the relevant facts have changed significantly since mid-2016, again noting that if they had changed then several interested parties have the ability and have had every opportunity to present those changes to ComReg, but none have done so. The fact that interested parties did not submit any countervailing evidence, on foot of ComReg's explicit invitation to do so, creates a reasonable presumption that the current body of evidence remains current and sufficiently compelling.

542 Indeed, more recent facts as have emerged tend to corroborate the original evidence. For example, Revenue states as follows in the cover letter to its response to Consultation 18/65:

> *"…Revenue provides an extensive 1890 based service to our customers. It is essential that customer compliance costs are minimised while providing a fair and accessible public service. It is unfortunate as note in the response that 91890' has suffered such serious reputation damage that it is likely to remain "toxic" in the long-term.*

Telephone based services are still the most popular contact channel for revenue customers based on analysis of our contact channels. Therefore, is it extremely important to Revenue that the proposals are implemented and that the improved transparency of retail tariffs are provided for consumers within the planned timeframes."

543 ComReg also notes that for the purpose of attaching conditions to general authorisations, there is no particular legislative requirement as to the timeliness of the evidence used. Article 6 of the Authorisation Directive requires GA Conditions to be non-discriminatory, proportionate, transparent, specific to the sector, and to not duplicate conditions which are applicable to undertakings by virtue of other national legislation, but it is silent as to the timeliness of underlying evidence.

544 The European Commission has criticized use of old data in the context of an SMP market analyses. In several cases, it has criticized regulators for using old cost models and/or data that were more than 2-4 years old. BEREC, however, has also emphasised that "*that reliance on old data is not in itself a problem if there is evidence that there have been no significant changes since the data was collected*". The SMP Guidelines also confirm that the existence or risk of appreciable changes is key for relying on old data.

545 As to the assertions that ComReg dismissed reasoned arguments presented to it, failed to follow its consultation procedures, and displayed bias towards what is described as certain SPs' "*bare expressions of support*" for the Geo-Linked Condition over operators' "*detailed and evidence-based*" objections to same, ComReg considers that Consultations 17/70 and 18/65 and this Response to Consultation and final Decision D15/18, together with all related material, together constitute a clear record of ComReg having fully considered all reasoned arguments presented to it, as having followed its consultation procedures, and as having acted in an unbiased and non-discriminatory manner in assessing all submissions. ComReg would also again note that a significant body of robust evidence supports its final decision.

5 Transparency

5.1 ComReg's position in Consultation 18/65

546 The NGN review research (B&A surveys and DotEcon analysis) highlights widespread confusion among consumers, organisations and Service Providers (SPs) about retail tariffs for calling different NGNs. In Consultation 18/65, ComReg indicated that clear NGN tariff information should be readily available to consumers and SPs, on an ongoing basis.

547 Improved transparency – as to what NGNs are, what they cost to call, and how they are treated in subscriber telephone packages - will promote greater consumer understanding of NGNs. As well benefitting consumers, improved transparency should also benefit SPs, as informed customers are more likely to engage positively with the NGN platform.

548 ComReg also noted, in Consultation 18/65, that improved transparency supports its second strategic intention to enable consumers to choose and use electronic communications services with confidence.[310] If consumers can readily find accurate and up-to-date information on retail tariffs and service offerings, they should be better enabled to make informed choices on services and products. 'Bill shock' is also less likely to arise if consumers have access to clear retail tariff information and understand how NGN calls are charged under the various telephone subscription packages offered by Fixed and Mobile operators.

549 ComReg proposed the following measures to improve NGN retail tariff transparency:

i. For ComReg to develop its website to include:

- sufficient retail tariff information on NGNs to enable any consumer to know or to reasonably estimate the retail tariff for any NGN call in advance; and

- direct links to the pages of operators' websites containing detailed and clear information on NGN retail tariffs so as to enable any consumer to know or to reasonably estimate the retail tariff for any NGN call in advance.

[310] ComReg 17/31: Electronic Communications Strategy Statement: 2017 - 2019

ii. ComReg to conduct a consumer information campaign on NGN retail tariffs and retail tariff information, as well as on the proposed Geo-Linked Condition, the 5-to-2 NGN consolidation and the implications arising from same. ComReg would also provide regular updates on NGNs and NGN retail tariffs, by social media and other means, in an effort to ensure optimum pricing transparency.

550 Mindful of the need for co-operation from Fixed and Mobile operators in enhancing NGN retail tariff transparency for consumers, ComReg also proposed, in Consultation 18/65, the following transparency measures to be undertaken by operators:

i. That operators would make NGN retail tariff lists readily available and easy to understand for all consumers. Regulation 15 of the Universal Service Regulations requires operators to ensure that retail tariff information is made available.[311] ComReg noted that tariff lists should include clear information on NGN tariffs and should set out, clearly and unambiguously, how different NGN calls are charged under different subscription packages. Retail tariff lists should also be in formats that are readily accessible to all consumers - i.e. online and hard copy. ComReg further proposed to monitor operators' retail tariff lists and to take appropriate action if it should deem any list to be insufficient, as to its accessibility, format, clarity, and/or content.

ii. That operators would make direct notifications to customers of NGN retail tariffs by, for example, SMS messages to mobile customers, billing inserts, messages on bills, emails to customers (where appropriate) and online campaigns or ads. ComReg also proposed to further engage with operators on how they should achieve this.

iii. That ComReg and operators would develop guidance for SPs on how to communicate retail tariffs for customers. Operators would then be expected to share this guidance with SPs so that they too will clearly communicate retail tariff information to their customers. Such guidance could include standardised text on how NGN tariffs should be displayed, recommendations on unified branding and NGN presentation format. ComReg envisaged developing this guidance with operators in the next phase of this NGN review.

551 ComReg also stated that it would not, at this time, require operators to play recorded voice announcements prior to connecting NGN calls. ComReg was of the view that the above transparency measures, if implemented correctly, should be sufficient. However ComReg also indicated that it would keep the situation under review and this option may be revisited, if necessary.

[311] European Communities (Electronic Communications Networks and Services) (Universal Service and Users' Rights) Regulations 2011 (SI 337/2011).

552 ComReg asked the following question in Consultation 18/65:

Q. 4 Do you have any views on ComReg's proposals for improving transparency of retail tariffs for consumers? Please explain the basis of your response in full and provide any supporting information.

5.2 Views of Respondents

553 Eight respondents provided views. Respondents broadly agree with the measures that ComReg itself would undertake. With regard to the proposed measures to be undertaken by operators, some respondents submit that further discussion and detail will be required.

Service Providers

554 ESBN strongly agrees that retail tariff transparency is important for consumers and is of the view that tariff transparency will also benefit SPs, as consumers will be more favourably engaged with NGNs when they can trust and understand the associated retail charges.

555 Revenue also fully agrees with improved retail tariff NGN transparency for consumers and considers it very important that more transparent tariffs are provided for consumers within ComReg's planned timeframe. The main complaint it receives in relation to 1890, from mobile phone users, is about the cost of calls. Many consumers are confused by the 'lo-call' reference given to NGNs and their inability to call a NGN from their call bundle. Revenue submits that the lack of transparency provided by Originating Operators on retail charges for calling NGNs is a major source of annoyance for its customers.

Fixed and Mobile Operators

556 BT agrees that customers should be aware of retail tariffs for NGN calls so they can manage spend and consider alterative options to making such calls. BT also agrees that there is scope for improving consumer information around NGN calling.

557 BT agrees with the proposed improved transparency measures and, in particular, considers that an information campaign would be a good way of increasing public awareness of the NGN pricing. However, BT considers that the wholesale issues with the 1800 NGN range should be addressed before that range is encompassed by any such campaigns.

558 As BT is not active in the consumer volume market it did not comment on the proposed operator measures. However, BT welcomes ComReg's position not to progress the specific proposal for 'in-call announcements' prior to the connect signal, as it considers that this could lead to some significant technical hurdles.

559 Colt submits that careful consideration is needed before ComReg moves forward on improved retail tariff transparency, so that any measures are proportionate and would address specific identified harm. Regarding ComReg’s proposal to monitor retail tariff lists and to take appropriate action if any list is deemed insufficient, Colt points out that as ComReg already has powers under the Universal Service Regulations it is unclear why these provisions are set out and how they would affect business-only providers such as Colt. Colt also asks about ComReg’s plans for integrating SPs who, it states, are an integral part of the value chain due to their relationship with end-users.

560 Eir supports measures to encourage improved transparency on NGN retail tariffs but submits that some of the proposal measures are moot as, in its view, retail tariff lists are already readily available and easy for consumers to find and to understand. While it supports ComReg updating its website and carrying out a consumer information campaign (including using social media) on NGN retail tariffs and where to find tariff information, Eir submits that ComReg’s resources could be better directed to conducting market reviews.

561 Eir submits that the full suite of measures appears entirely disproportionate and is wasteful of resources, in particular for the three NGN ranges that ComReg proposed removing (and has now decided to remove) from the market. Eir submits that the costs to operators and businesses of some of the direct notification proposals would be entirely disproportionate. Eir asks if ComReg is proposing that operators would market NGNs to their customers and, if so, Eir submits that it is unclear what the benefit to those customers would be, or whether data protection rules would permit such direct marketing to customers.

562 Eir notes ComReg’s plans to consult on “bill shock” measures in 2018 and stated that it has received a requirement to provide certain information in respect of that future consultation, made under s.13D of the Communications Regulation Act 2002. Eir states that the information requirement does not seek any information on calls to NGNs and submits that this reinforces its position that NGNs are not really important to consumers and that there is no “bill shock” problem in relation to NGNs.

563 Eir submits that the Draft Decision Instrument does not contain any retail transparency measures. Eir therefore assumes that any transparency measures are purely for discussion at this stage and that no mandatory provisions will be included in the ultimate decision. Eir seeks ComReg’s clarification on this point.

564 Three considers the proposed transparency measures to be the least developed strand of ComReg's initiative to improve the NGN platform, but still generally supports ComReg's position and proposals. Three consider that lack of transparency on NGN prices and purpose is a major issue and believes that ComReg should focus its attention on improvements here.

565 Three notes that most customers would rather use a Geographic or Mobile number to call organisations than an NGN and suggests that ComReg, as part of its transparency measures, should encourage SPs to make a Geographic number available in addition to, or instead of, an NGN. Three suggests that a workshop or discussion would be helpful in deciding on the detail of such an action.

566 Verizon agrees that ComReg should play a crucial role in informing the public about the proposed changes on NGN retail pricing and consolidation, and considers that a dedicated section of the ComReg website would provide a consistent and central place for consumers to find information. Verizon suggests that ComReg seek the advice from Ofcom and other regulators on consumer facing transparency measures (e.g. UK Calling).

567 Verizon agrees that transparency is needed on NGN retail pricing, to ensure that the market functions correctly and so that consumers and businesses can have confidence in the numbers they use. However in relation to the retail price transparency measures proposed for operators, Verizon makes the following submissions:

- The NGN retail price transparency proposals do not clearly distinguish between the various parties involved in the provision of NGNs - i.e. originating voice providers, SPs and NGN platform providers.
- SPs should also provide clear retail price information when providing services and some of the proposals may also be applicable to SPs.
- Operators, including those that simply provide voice origination, should not be unnecessarily burdened into developing guidance for SPs. Rather, a workshop between SPs and ComReg is suggested and ComReg is urged to reconsider this proposal.
- Decisions on communication and publication measures should be made by individual operators as they can determine the best way to contact and inform their customers. Prescribed, specified formats of communication would be an unnecessary over-extension of regulation that could impose costs and burden without guarantee that the measures would be fit-for-purpose for all types of customers.
- ComReg should simply continue to require communications providers to "*publish transparent, comparable, adequate and up-to-date information on applicable prices and tariffs"* in accordance with the Universal Service Regulations, with no additional regulation required.

- Greater SP transparency over retail tariffs may be warranted but ComReg should describe the harm it is trying to resolve. SPs' responsibilities and customers' needs should be the focus.

568 Vodafone contends that some smaller SPs will choose to cease using NGNs rather than communicate a price change followed by a number change. Vodafone also considers that two years for 5-to-2 Consolidation would be most efficient.

5.3 ComReg's position

569 ComReg remains of the firm view that improved retail tariff transparency for NGNs is needed, and should benefit consumers and SPs, and ComReg notes that several respondents agree. It is in the interests of all parties involved in the NGN chain (consumers, SPs and operators) that clear, easily understandable information on NGN tariffs be readily available to consumers. Consumers are entitled to know the retail charge for calling any NGN, including whether NGN calls are in or out of bundle under the terms of their subscriptions. Informed consumers are also more likely to positively engage with the NGN platform.

570 Some respondents suggest involving SPs in NGN price transparency, on the basis that they are integral to the NGN process. While ComReg agrees that SPs are integral and have a role to play in communicating to consumers, it is operators, and not ComReg, that have direct links with SPs. In addition, consumers have contracts with operators and operators set NGN retail tariffs. As ComReg assigns NGNs to operators, its first port of call for discussion on these issues must necessarily be with operators. Operators will then be expected to relay any price transparency recommendations or requirements to SPs.

571 It is in SPs' best interests that NGNs be clearly communicated to consumers. If a SP's customers know the NGN to call and if they know how much, if anything, they will be charged for the call, then this should encourage more of the SP's customers to use that NGN number. A simplified and clear NGN brand / pricing message (e.g. 'Freephone' for 1800) should therefore benefit SPs.

572 With regard to transparency measures for operators, views were expressed on proportionality and avoiding unnecessary burden on operators. Caution was also expressed regarding the over-prescription of requirements - e.g. specific formats of communication, and that specific measures may not be suitable for all customers. Nevertheless, ComReg is acutely aware of, and concerned about, the perpetuating and extensive consumer confusion around NGNs. It is imperative that this situation be addressed soonest, to benefit consumers and SPs. ComReg will therefore arrange meetings with operators in 2019 to discuss and agree, *inter alia*, the appropriate transparency measures to take forward.

573 ComReg agrees with Three that SPs should be encouraged to make a Geographic number available in addition to or instead of a NGN, at least in the interim period while the NGN changes are being implemented.

574 On Eir's submission that there is no "bill shock" problem in relation to NGNs, ComReg's consumer research explored how consumers felt after receiving a bill or on reviewing call costs with additional NGN costs. The results indicate that 25% of consumers who ever made an NGN call were surprised at how expensive the calls were.[312] A recent press report also highlights consumer frustration at the unexpected high cost of calling a NGN.[313] ComReg remains of the view that scenarios such as this cannot be allowed to continue.

575 In response to Eir's request for clarification on transparency measures in the draft Decision, no mandatory requirements are being imposed at this time and for that reason such measures were not included in the draft Decision, nor are they in the final Decision in Annex 1. However, ComReg reserves the right to revisit the need for mandatory transparency measures, in future and if needed. In addition, ComReg reminds operators that effective communication around NGNs is in their own interests, given the benefits for their customers (consumers and SPs).

576 BT suggests that 1800 not be included in any information campaigns until the wholesale issues with 1800 are resolved. ComReg is aware that this is a challenge and notes from the Organisation Study that some SPs would not consider using 1800 NGNs because they think they are too expensive[314] (because of the associated wholesale costs). ComReg will consult on wholesale costs for 1800 before the Geo-Linked Condition comes into effect.

577 Responding to Colt, ComReg is aware of its powers under the Universal Service Regulations. ComReg's proposals to monitor retail tariff lists simply highlights the proactive stance that ComReg will take to ensure that future NGN tariffs are fully, properly and clearly communicated.

[312] Slide 63 of ComReg 17/70b Non-Geographic Numbers: Consumer Study

[313] https://www.irishmirror.ie/news/irish-news/health-news/hse-ireland-care-homes-13297967

[314] Slide 32 of ComReg 17/70c Non-Geographic Numbers: Organisation Study (small base)

578 ComReg does not agree with Eir that retail tariff lists for NGNs are always easy to find and to understand. As set out in Consultation 17/70, and based on the Consumer Study, 34% of those looking up cost of calls to NGNs reported this as difficult in comparison to Mobile Numbers (12%) and Geographic Numbers (15%).[315] DotEcon's research also supports the conclusion that finding the exact cost of NGN calls is often quite difficult - e.g. when trying to find such information from the operator's website in some cases this required delving into detailed terms and conditions, rather than an easy to find tariff page.[316]

579 Concerning Eir's concern about the proposed application of transparency measures to NGNs to be withdrawn (1850, 1890 and 076), ComReg is firmly of the view that all NGN retail tariffs should be clearly communicated to consumers so that they know what NGN calls cost and how they are treated under various subscriptions. The 3-year transition period for 5-to-2 NGN consolidation is considerable and operators must therefore ensure that clear retail tariff information for all five NGNs, i.e. including those to be withdrawn, is made available during that period.

580 Eir asks if operators would be required to market the use of NGNs to customers. ComReg does not envisage this. Rather, operators will be required to ensure that information on NGN retail tariff costs and on how NGNs will be treated in subscription packages is made available to customers.

581 Having considered all submissions, ComReg will proceed with a number of the transparency measures in respect of NGNs, specifically those to be undertaken by ComReg itself. In 2019, ComReg will develop its website to include retail tariff information on NGNs and links to operators' retail tariffs lists, so as to enable consumers to know or to reasonably estimate the retail tariff for NGN calls in advance.

582 ComReg will also conduct a consumer information campaign on NGN retail tariffs, indicating where retail tariff information may be found, as well as on the Geo-Linked Condition and 5-to-2 NGN consolidation and the implications arising from same for consumers, SPs and operators. As part of this campaign ComReg will provide regular updates on NGNs and NGN retail tariffs via social media and any other appropriate channels. In meeting both of these goals (website update and information campaign), ComReg will seek and expect industry cooperation in terms of collating the necessary data.

[315] Slide 74 of ComReg 17/70b Non-Geographic Numbers: Consumer Study

[316] ComReg 17/70a: Report from DotEcon on Non-Geographic Numbers in Ireland

6 Implementation and Next Steps

6.1 ComReg's position in Consultation 18/65

583 In Consultation 18/65 ComReg presented its preferred timelines for the implementation of the Preferred Options as follows:

- 12 months for the Geo-Linked measure; and
- 3 years for the Consolidation measure.

584 For the Geo-Linked measure, ComReg proposed that:

- Operators would implement the proposed Geo-Linked measure for the 1850, 1890, 0818 and 076 NGNs within 12 months of the Decision publication date.
- ComReg and operators would inform consumers and SPs of the new Geo-Linked measure and how it applies to individual users' telephone subscription packages. ComReg indicated that it would highlight NGN retail tariffs and tariff information as part of an information campaign. As part of the information campaign, ComReg and industry would also communicate that the 1800 NGNs will remain free to call from landlines and mobiles.

585 For the Consolidation measure, ComReg proposed that:

- The number of NGN types be reduced from five to two by withdrawing the 1850, 1890 and 076 NGNs within three years. Users of these three NGN ranges would need to migrate to an alternative type of number of their choosing during the transition period. Three years should allow SPs sufficient time to migrate to an alternative number and to update materials that display NGNs (e.g. signs, stationary) as much as possible in line with the normal replacement cycles for those materials. The transition period would also take into account the time for 1850, 1890 and 076 NGN users to notify their customers of new alternative number(s).
- ComReg would develop an implementation plan, to outline how consolidation is to be implemented.
- ComReg would cease assigning 1850, 1890 and 076 numbers to operators after the publication of any final Decision document.

586 ComReg further identified, in Consultation 18/65, a non-exhaustive list of tasks to manage the migration of affected SPs and end-users, including:

- Conducting an audit of the five NGN ranges to establish the exact quantity of NGNs in active use and the exact numbers of SPs and end-users that will need to migrate.

- Designing and developing a new number management system to allow for the assignment of individual 1800 and 0818 NGNs to telecoms operators to facilitate the migration of affected SPs and end-users to a new 1800 or 0818 NGN. The system would provide SPs and end-users with access to a wide range of individual 1800 and 0818 NGNs that are not in use. To facilitate this, ComReg would recover 1800 and 0818 NGNs that are not in use but are currently assigned to operators.

- Engaging with industry on the implementation tasks and processes, including how parallel running (of old and new numbers) would work, on implementing the new number management system which would require the establishment of new procedures and possible changes to operators' internal number management processes.

- Engaging with SPs that use NGNs and fully informing them of the decision to withdraw the 1850, 1890 and 076 NGNs, the timelines for consolidation, and the tasks needed to ensure a seamless transition for affected SPs and end-users. ComReg would issue general communications to assist migrating SPs and operators would issue specific communications to their customers (end-users and SPs).

- Ensuring the availability of appropriate Geographic Numbers for end-users migrating from 076 NGNs. ComReg considers that end-users of 076 NGNs may be more likely to migrate to Geographic Numbers rather than to 1800 or 0818 NGNs, as the latter NGNs are number translation codes typically used for the provision of inbound calling services rather than inbound/outbound call services.

587 ComReg recognised, in Consultation 18/65, the complexity of the proposed NGN Consolidation but was strongly of the view that it is sensible and reasonable in order to create a NGN platform that better meets the needs of consumers and SPs.

588 In addition ComReg noted that cooperation with industry will be crucial to ensuring the successful implementation of Consolidation and a clear and straightforward transition for affected SPs and end-users. In this regard, ComReg flagged that it would schedule workshops with operators to discuss the implementation of Consolidation and the related tasks and timelines.

589 ComReg invited views on the tasks needed for the implementation of the proposed Geo-Linked and Consolidation measures and posed the following question in Consultation 18/65:

Q. 5 Please provide your views on the tasks required for the implementation of the proposed Geo-Linked and Consolidation measures? Please explain the basis for your response in full and provide any supporting information.

6.2 Respondents' views

590 Six Service Providers and five telecom operators provided comments on the implementation of the proposed Geo-Linked and/or Consolidation measures.

Service Providers

Views on implementation of proposed Geo-Linked measure

591 Revenue is of the view that ComReg's proposals should be implemented within the planned timeframes. On the Geo-Linked proposal and the 12 month timeline for implementation, Revenue believes that mobile operators should advertise the relevant cost reductions and bundle changes to their customers clearly and with definite start dates. For its part, Revenue will add notifications and supporting material to its call services and website to coincide with the start dates.

Views on implementation of proposed Consolidation measure

592 The OGCIO submits that the migration of the existing number ranges assigned to the Irish Government would be a complex and costly project with a high level of risk to what it considers to be critical operations. [✂ [redacted]]

593 ESBN contends that it will suffer significant costs in marketing a new number for the safety of the electrical network. ESBN notes that the costs include changing signage on many of the poles in its network and that the costs borne by ESBN in marketing a new number and changing signage on poles would ultimately be borne by every electricity customer.

594 ESBN is pleased however to participate in industry workshops to assist with implementation changes as proposed by ComReg and considers ComReg's high level plan and timeline appropriate at this point in time.

595 ESBN also strongly urges ComReg to recover currently unused 1800 and 0818 numbers from operators so that those migrating from other NGNs have access to these numbers.

596 Gas Networks Ireland (GNI) and Irish Water (IW), both part of Ervia group, consider that any decision by ComReg to abolish 1850 numbers would, in its view, have serious safety and cost implications.

597 GNI raises a number of implementation queries such as the possibility of number redirection and/or messaging. GNI is eager to ensure that callers would not be put off making a second call so that potential gas escapes do not go unreported.

598 GNI and IW request that ComReg considers an alternative technological solution to allow 1850 numbers to be retained, at a minimum in circumstances where they currently facilitate the safe provision and operation of essential national strategic infrastructure including the gas network and the water network.

599 The Commission for Regulation of Utilities (CRU) submits that the 1850 prefix is used for four important safety phone numbers (‘Gas escapes’, ‘Carbon Monoxide’, ‘Dial before you Dig’ and ‘Meter tampering’), all of which are well established. CRU notes that the proposed withdrawal of the 1850 numbers would not come into effect until 2021 and would include an information campaign ahead of the change.

600 The CRU has some concerns regarding the practicalities of the proposed withdrawal of 1850 NGNs, particularly for the ‘gas escapes’ line that is used in a wide range of promotional materials by gas suppliers, applicant installers etc. The CRU notes the current proliferation of this number and considers that its replacement would be significant and costly and will require sufficient timelines.

601 Similarly to GNI, the CRU raises whether ‘auto-diverting’ could be put in place in respect of some critical numbers as this could allow both the old 1850 and new 0818 numbers to be used in tandem and mitigate risks of withdrawal such as confusion about which number to dial.

Fixed and Mobile Operators

Views on implementation of proposed Geo-Linked measure

602 BT considers that the information campaign is a good way to heighten public awareness of the pricing. However, BT considers that the wholesale issues with the 1800 NGNs should be fixed before 1800 NGNs should be included in any such campaigns.

603 For the Geo-Linked proposal, Colt requests that ComReg allows a 12 month implementation window and in the event of any slippage in ComReg’s decisions and earlier deliverables, that the overall programme of works changes to reflect a 12 month lead time for implementation.

604 Colt suggests that ComReg convene an industry workshop in advance of issuing any Information Notice, so as to initiate an industry wide work programme and set out a clear timetable and set of deliverables as well as transparent and constructive dialogue across the industry.

605 Eir submits that, by its initial assessment, the implementation of the Geo-Linked and Consolidation proposals would require configuration changes and testing across active and legacy plans on each of Eir's billing systems. This would require a formal IT assessment, including testing of the proposed changes. Eir considers that a 12 month implementation window is achievable from a technical perspective.

606 On Geo-Linking, Three considers that ComReg's proposal would directly impose implementation costs on originating SPs and that this would be a large scale project requiring modification to rating, pricing and billing systems as well as multiple other support systems. Three estimates that it would take 5,000 man-days of effort to make the changes to its systems in order to "Geo-Link" the price of NGN calls. Three considers that it could not be implemented in less than six months and would require its priority in order to be in place for the end of 2019.

607 On the timing for the inclusion of NGN calls in-bundle, Vodafone submits that this should be extended to two years. This should allow many contracts between operators and SPs to cease without intervention and allow for the orderly negotiation of new contracts. Vodafone is of the view that a number of SPs may choose to cease their service in this time scale and that it may be more efficient for small SPs to complete this process in a single step rather than in a double step of communicating price changes and later communicating a number change.

608 For Geo-linking, Vodafone contends that there will need to be contract discussion with wholesale providers, changes to internal number management and billing systems and changes to charging information presented on-line and on other customer documentation.

Views on implementation of proposed Consolidation measure

609 BT submits that there is significant value in keeping 076 for nomadic voice considering the industry effort that went into resolving 076 portability issues. BT considers that without 076 there is a strong risk that operators will use geographic numbers for VoIP based services without correctly observing the geographic minimum numbering areas (MNAs) for their usage.

610 Should ComReg decide to go ahead with the 076 withdrawal, BT suggests that a decision to withdraw 1890, 1850 and 076 be deferred until after a five year 'care and maintain' period during which service to existing customers is maintained but operators are prohibited from assigning new or reassigning existing codes. BT considers that this would avoid large scale cost and disruption in the service provider market who have invested significantly. BT submits that the harm would be greatly alleviated by prohibiting new supply while maintaining service.

611 Regarding the proposed cessation of allocation of new 1850, 1890 and 076 NGNs from the publication of the Decision, BT considers that, in order to remove competition concerns around any operators that have a significant stock of numbers, ComReg should stop operators from providing new numbers that are allocated and not used from within one month of the Decision. BT is of the view that this would put all new supply onto 0818 and would reduce pressure on working to the closure date.

612 In the event that ComReg moves forward with the draft decision to reduce the available NGNs, Colt seeks a sufficient lead time to implement the changes.

613 Three believes that there is additional work to be completed to understand how such rationalisation will be achieved and its implications. There will need to be a plan for implementation which will be similar to any number change but also will need rules to determine how to map the five existing NGNs to two, how to resolve conflicting claims for numbers, different number length etc.

614 For number consolidation, Vodafone submits that there will need to be discussions with SPs on new numbers to use/preparation of new contracts with end users, as well as implementation of new number ranges for each customer in network switches and customer care systems. Vodafone highlights, from its experience working with multiple customers, that implementation of new number ranges can be a long and complex process.

615 Vodafone also notes that there may be SPs who could not make the change in a two year timescale e.g. those who have numbers presented on external signage or vehicles and those who have to make changes to internal IT and customer care systems. For these operators, Vodafone considers that a three-year timescale to cease number ranges would be more appropriate.

6.3 ComReg's position

616 Having carefully considered the view of respondents, ComReg intends to implement the following timelines for the Preferred Options:

- The Geo-Linked retail tariff condition for 1850, 1890, 0818 and 076 NGNs will be brought into force within 12 months;
- The Consolidation measure will be implemented over a period of three years. During the transition period the 1850, 1890 and 076 NGN ranges will be withdrawn. Only the 1800 and 0818 NGN ranges will remain at the end of the transition period.

Implementation of the Geo-Linked measure

617 The Geo-Linked retail tariff condition will be brought into force within 12 months. This measure will not be implemented in advance of any future wholesale NGN Decision. ComReg now sets down 1 December 2019 as the implementation date for Geo-Linking. Further information on ComReg's wholesale NGN work is in Chapter 2.

618 ComReg considers that 12 months is sufficient lead time for implementation of the Geo-Linked measure and to allow operators sufficient time to update their billing systems and inform customers.

619 ComReg will develop an implementation strategy and detailed implementation and communications plan. In early 2019 ComReg will engage with operators on the steps needed for the implementation of the Geo-Linked measure (e.g. billing changes and application to individual telephone subscription packages). ComReg will also discuss with operators how the Geo-Linked measure should be communicated to SPs and consumers and will, in conjunction with industry, develop guidance for SPs to communicate the new tariffs to their customers.

620 Upon implementation of the Geo-Linked measure on 1 December 2019, ComReg will run an information campaign to highlight NGN retail tariffs and tariff information, including that 1800 is free to call. ComReg will update its website to include details of NGN tariffs and run a press and online campaign to announce the implementation.

621 ComReg plans to issue an Information Notice shortly and this will outline in further detail the tasks and timelines for implementing the Geo-Linked measure.

Implementation of the Consolidation measure

622 The purpose of the Consolidation measure is to remove confusion around NGNs and to simplify the NGN platform for consumers. Consumers will more likely engage with a simpler and more consumer friendly NGN platform and this expected increased usage of NGNs should be to the ultimate benefit of SPs providing services over them.

623 ComReg notes that on 26 September 2018, Revenue announced that it had replaced its 1890 numbers 'Revenue replaces 1890 LoCall system to reduce costs for customers.' [317] ComReg is also aware of a recent media report regarding 076 NGNs.[318]

[317] See https://www.revenue.ie/en/corporate/press-office/press-releases/2018/pr-260918-revenue-replaces-1890-locall-system-to-reduce-costs-for-customers.aspx

[318] https://www.irishmirror.ie/news/irish-news/health-news/hse-ireland-care-homes-13297967

624 Notwithstanding the views expressed by the OGCIO, ComReg points out that in its submission to Consultation 17/70 the Citizens Information Board, a user of 076 NGNs, whilst acknowledging cost implications of transitioning from 076 numbers, supports NGN Consolidation as 'the range of NGN types contributes to a sense of confusion amongst consumers'.

625 While some respondents to Consultation 18/65 and Consultation 17/70 support ComReg's consolidation proposal, ComReg heeds the concerns raised by some operators and Service Providers in relation to Consolidation.

626 ComReg recognises that certain SPs may have particular requirements that will have implications for their own migration planning. ComReg will engage with industry and SPs in planning the implementation of the final decision in order to accommodate such needs as far as is practical.

627 Mindful of the complexities, practicalities and cost implications of withdrawing three NGN ranges (1850, 1890 and 076), ComReg considers that three years is a considerable period and would be an appropriate transition period. It should provide SPs using NGNs to be withdrawn sufficient time to migrate and to notify customers of new numbers.

628 During the three year transition period, users of 1850, 1890 and 076 NGNs will need to migrate to an alternative number of their choice. To ensure customer contact is maintained during the transition period, ComReg intends that parallel running of old and new numbers will be facilitated. Following the parallel running period, there will be a generic announcement e.g. for six months, to indicate that the NGN is being withdrawn. After that time if a customer dials the withdrawn NGN, callers will hear a 'not in service' tone. ComReg will, in 2019, engage with industry to discuss this and implementation more generally.

629 ComReg acknowledges that some NGNs to be withdrawn provide access to utilities or critical infrastructure. In this regard ComReg welcomes the relevant information submitted to the NGN consultations, will take cognisance of it in implementation planning and will aim to accommodate such needs as far as is practical. In some instances an announcement of a new number may be arranged or an auto-divert facility set up. For special circumstances customised announcements may be agreed between an SP and their serving operator. This would need to be discussed and agreed with industry. ComReg would also provide guidance and assistance to affected SPs as needed on a case-by-case basis.

630 ComReg reminds operators that, in relation to 0818 NGNs, these are only intended to be service numbers and not for Direct Dial Inwards (DDI) purposes.

631 On corporate usage of the 076 range, ComReg is of the view that geographic numbers will cater for any such Direct Dial Inwards (DDI) and end-user usage going forward. ComReg will ensure that sufficient geographic numbers are available for end-users migrating from 076. End-users are reminded that the existing rules for the use of geographic numbers will still apply i.e. mis-use of geographic numbers will not be permitted.

632 Regarding TETRA, ComReg considers that, as this is not a public-facing service it may be treated as a closed user group. ComReg plans to engage further with OGCIO on the TETRA usage of 076.

633 ComReg will cease assigning 1850, 1890 and 076 NGNs on 1 December 2018. From that date operators should also cease assigning new 1850, 1890 and 076 NGNs from any existing assignments in those ranges.

634 In terms of next steps, ComReg will shortly commence an audit of the 1800, 1850, 1890, 0818 and 076 NGNs to establish the exact quantity of NGNs in active use and the number of SPs and end-users that will need to migrate. As part of this audit process ComReg will recover all 1800 and 0818 NGNs that are not in use but are currently assigned to operators. Going forward, these will be available for assignment on an individual number basis, and subject to valid requests from individual SPs.

635 To facilitate the migration by SPs to new NGNs, ComReg will develop an individual number assignment (INA) system to allow for the individual assignment of 1800 and 0818 NGNs. The system will give access to a wide range of 1800 and 0818 NGNs that are not in use. ComReg will, in cooperation with industry, develop the appropriate business processes for use of the INA system in 2019.

636 ComReg plans to engage with operators in early 2019 to discuss and agree a plan for the implementation of NGN Consolidation including the tasks and processes for consolidation, and how parallel running and the INA system will work. Operators will be expected to engage with ComReg and SPs on preparing for the implementation of NGN Consolidation, in terms of the implications, tasks and timelines and options available to SPs that need to migrate.

637 ComReg will, with the cooperation of operators with whom SPs have direct links, engage with SPs to inform them of the decision to withdraw the 1850, 1890 and 076 NGNs, the timelines for consolidation, and the tasks needed to ensure a seamless transition for affected SPs and end-users. ComReg plans to issue general communications to assist migrating SPs and will discuss with operators the need for specific communications to their customers (end-users and SPs).

6.4 Next Steps

638 A detailed implementation and communications plan will be drafted in early 2019, in conjunction with industry, to explain how Geo-Linking and Consolidation will be implemented and communicated to both SPs and to consumers. The implementation and communications plan will be published as part of an Information Notice in Q2 2019. In the meantime Figure 4 shows an indicative timeline and planned actions for implementation of the Geo-Linking and NGN Consolidation measures.

Figure 4: Indicative timeline and planned actions for implementation of Geo-Linking and NGN Consolidation measures

	'18	2019				2020				2021				2022	
Planned Action / Indicative Timeline	**Q4**	**Q1**	**Q2**	**Q3**	**Q4**	**Q1**	**Q2**	**Q3**	**Q4**	**Q1**	**Q2**	**Q3**	**Q4**	**Q1**	**Q2**
Publish final Decision Instrument on Geo-linking and NGN Consolidation measures	■														
Publish Information Notice with an overview of the planning and implementation process and form Industry working group (WG)	■														
ComReg conducts audit to quantify precise NGNs in use and to establish the availability of 1800 and 0818 NGNs for migrating SPs	■	■													
Designing, developing and implementing a new Individual Number Assignment (INA) management system	■	■	■												
ComReg and Industry workshops: - Agree a detailed plan for implementing and communicating the Geo-Linking and NGN Consolidation measures, including use of the INA. - ComReg to publish Information Notice on implementation and communications plan.		■	■												
Planned publication of Wholesale NGN Decision			◆												
Operators implement the Geo-Linked measure for 1850, 1890, 0818 and 076 NGNs (to align with implementation of future Wholesale NGN Decision)					◆										
Information campaign to communicate the Geo-Linked measure					■	■									
Information campaign to communicate the NGN Consolidation measure and the need for some SPs to change numbers				■	■	■	■	■	■	■	■	■	■		
Migration of 1850, 1890 and 076 users to alternative numbers and implementation of transition measures.				■	■	■	■	■	■	■	■	■	■		
Cessation of use of 1850, 1890 and 076 NGNs													◆		
Recorded announcements for 1850, 1890 and 076 NGNs														■	■

Annex 1: Decision Instrument

Decision in respect of Non-Geographic Numbers ("NGNs")

PART I – DEFINITIONS

Terms used in this Decision have the same meanings as set out in any of the following, as applicable: European Communities (Electronic Communications Networks and Services) (Framework) Regulations 2011 (S.I. No. 333 of 2011) ("Framework Regulations"); European Communities (Electronic Communications Networks and Services) (Authorisation) Regulations 2011 (S.I. No. 335 of 2011) ("Authorisation Regulations"); Communications Regulation Act 2002 to 2017 (No. 20 of 2002) ("2002 Act"); the second edition of the "Numbering Conditions of Use and Application Process" (Commission Document No. 15/136R1); and Commission Document No. 18/106of which this Decision forms part.

PART II – STATUTORY REMIT

The statutory functions, objectives, duties, and powers of the Commission for Communications Regulation ("the Commission") in relation to its management of the national numbering resource are set out and in the Common Regulatory Framework (including Framework Directive 2002/21/EC as amended and Authorisation Directive 2002/20/EC as amended and as respectively transposed into Irish law by the corresponding Framework Regulations and Authorisation Regulations). These functions, objectives, duties, and powers of the Commission are set out in greater detail in Annex 8 of Commission Document No. 15/136R1.

PART III - THE DECISION

The Commission:

- pursuant to its function under section 10(1)(b) of the 2002 Act to manage the national numbering resource and its objectives in the exercise of that function as set out in section 12 of the 2002 Act and in regulation 16(1) of the Framework Regulations (as described in greater detail in Annex 10 of Commission Document No. 15/136R1, as amended);

- having regard to its duty under regulation 16(2) of the Framework Regulations to apply objective, transparent, non-discriminatory and proportionate regulatory principles in pursuit of its statutory objectives;

- having considered all relevant material before it including the "Consumer Study" and "Organisation Study" conducted by Behaviour & Attitudes Ltd, the market research, data gathering, modelling and analyses carried out by DotEcon Ltd, and data collected from the "Voluntary Information Requests" and the "Section

13D Information Requirements" (within the meanings of those various terms as set out in Commission Documents No. 17/70 and 18/65);

- having conducted two public consultations (Commission Documents No. 17/70 and 18/65) and having considered all responses received on foot of both consultations;
- for the reasons set out in its written response to Commission Document No. 18/106 to which this Decision is attached; and
- in exercise of its powers under regulations 8(1), 13(2), 14(1), and 15(1) of the Authorisation Regulations and Parts A and C of the Schedule thereto

hereby makes the following decisions:

(i). The "Numbering Conditions of Use and Application Process" (currently Commission Document No. 15/136R1) shall be amended as and from 1 December 2019 by the inclusion of the following text therein which shall constitute a condition attaching to the General Authorisation:

> *"Geo-linking Non-Geographic Numbers with Geographic Numbers -*
>
> *The retail tariff charged to any end-user for a call to a Non-Geographic Number in any of the four ranges 1850, 1890, 0818, or 076 shall not exceed the retail tariff that would be charged to the same end-user for a national call made to a Geographic Number, at the same time.*
>
> *For example, and for the avoidance of doubt, the above condition shall include the following scenarios:*
>
> *If an end-user's contract for the receipt of fixed or mobile service provides that all calls to Geographic Numbers shall be included in a "bundle" of call minutes, of a specified amount and covering a specified time period, then all calls made by that same end-user to a Non-Geographic Number in any of the four ranges 1850, 1890, 0818, or 076 shall also be included within the same "bundle" of call minutes, up to the same specified amount and covering the same specified time period.*
>
> *Where an end-user exceeds his or her allocation of "in-bundle" call minutes, the retail tariff charged to that end-user for any "out-of-bundle" call made to a Non-Geographic Number in any of the four ranges 1850, 1890, 0818, or 076 shall not exceed the retail tariff that would be charged to that same end-user for any "out-of-bundle" national call made to any Geographic Number at the same time."*

(ii). With the exception of 076 numbers used to provide emergency services, and save for any exceptional circumstances as ComReg shall determine, all rights of use for

Non-Geographic Numbers in the ranges 1850, 1890, and 076 shall be withdrawn from all undertakings to whom such rights of use were granted at midnight on 31 December 2021 and from the date of this decision no new rights of use for Non-Geographic Numbers in the ranges 1850, 1890, and 076 shall be granted to any undertaking. All rights of use for Non-Geographic Numbers in the ranges 1800 and 0818 shall remain in effect and new rights of use for numbers in those ranges may be granted to any authorised undertaking which applies for same.

PART IV. EFFECTIVE DATE

A revised version of the "Numbering Conditions of Use and Application Process" (currently Commission Document No. 15/136R1) reflecting Decisions (i) and (ii) above shall come into effect on 1 December 2019.

Signed:

Jeremy Godfrey

Commissioner

The Commission for Communications Regulation

Dated this 30th day of November 2018

Annex 2: Legal Framework and Statutory Objectives

A 2.1 ComReg's functions, objectives, duties and powers in relation to management of the national numbering resource are set out in the Communications Regulation Acts 2002-2011 ("2002 Act") and in the Common Regulatory Framework (including the Framework Directive 2002/21/EC and the Authorisation Directive 2002/20/EC, as amended and transposed into Irish law by the corresponding Framework Regulations and Authorisation Regulations).

A 2.2 This section is intended as a general guide to ComReg's role in the area of number management and not as a definitive or exhaustive legal exposition of that role. Further, this section restricts itself to consideration of those powers, functions, duties and objectives of ComReg that appear most relevant to the creation and imposition of numbering conditions and it generally excludes those that are not considered relevant to this issue.

A 2.3 ComReg's overarching function to manage the national numbering resource must be exercised having regard to ComReg's objectives as set out in Section 12 of the 2002 Act and Regulation 16 of the Framework Regulations, and in accordance with any applicable ministerial Policy Directions issued under Section 13 of the 2002 Act.

A 2.4 ComReg's primary objectives in carrying out its statutory functions in the context of electronic communications are to:

- promote competition;
- contribute to the development of the internal market;
- promote the interests of users within the Community;
- ensure the efficient management and use of the radio frequency spectrum and national numbering resource in accordance with any ministerial directions issued under Section 13 of the 2002 Act; and
- unless otherwise provided for in Regulation 17 of the Framework Regulations, take the utmost account of the desirability of technological neutrality in complying with the requirements of the Specific Regulations in particular those designed to ensure effective competition

Promotion of competition

A 2.5 Section 12(2)(a) of the 2002 Act requires ComReg to take all reasonable measures which are aimed at the promotion of competition, including:

- ensuring that users, including disabled users, derive maximum benefit in terms of choice, price and quality;

- ensuring that there is no distortion or restriction of competition in the electronic communications sector; and

- encouraging efficient use and ensuring the effective management of radio frequencies and numbering resources.

A 2.6 In so far as the promotion of competition is concerned, Regulation 16(1)(b) of the Framework Regulations also requires ComReg to:

- ensure that elderly users and users with special social needs derive maximum benefit in terms of choice, price and quality; and

- ensure that, in the transmission of content, there is no distortion or restriction of competition in the electronic communications sector.

Tariff Transparency

A 2.7 Section 12(2)(c)(iv) of the 2002 Act requires ComReg to promote the provision of clear information, in particular requiring transparency of tariffs and conditions for using publicly available electronic communications services.

Contributing to the Development of the Internal Market

A 2.8 Section 12(2)(b) of the 2002 Act requires ComReg to take all reasonable measures which are aimed at contributing to the development of the internal market, including:

- removing remaining obstacles to the provision of electronic communications networks, electronic communications services and associated facilities at Community level;

- encouraging the establishment and development of trans-European networks and the interoperability of transnational services and end to-end connectivity; and

- co-operating with electronic communications national regulatory authorities in other Member States of the Community and with the Commission of the Community in a transparent manner to ensure the development of consistent regulatory practice and the consistent application of Community law in this field.

Promotion of Interests of Users

A 2.9 Section 12(2)(c) of the 2002 Act requires ComReg, when exercising its functions in relation to the provision of electronic communications networks and services, to take all reasonable measures which are aimed at the promotion of the interests of users within the Community, including:

- ensuring that all users have access to a universal service;
- ensuring a high level of protection for consumers in their dealings with suppliers, in particular by ensuring the availability of simple and inexpensive dispute resolution procedures carried out by a body that is independent of the parties involved;
- contributing to ensuring a high level of protection of personal data and privacy;
- promoting the provision of clear information, in particular requiring transparency of tariffs and conditions for using publicly available electronic communications services;
- encouraging access to the internet at reasonable cost to users;
- addressing the needs of specific social groups, in particular disabled users; and
- ensuring that the integrity and security of public communications networks are maintained.

A 2.10 In so far as promotion of the interests of users within the EU is concerned, Regulation 16(1)(d) of the Framework Regulations also requires ComReg to:

- address the needs of specific social groups, in particular, elderly users and users with special social needs, and
- promote the ability of end-users to access and distribute information or use applications and services of their choice.

Regulatory Principles

A 2.11 In pursuit of its objectives under Regulation 16(1) of the Framework Regulations and Section 12 of the 2002 Act, ComReg must apply objective, transparent, non-discriminatory and proportionate regulatory principles by, amongst other things:

- promoting regulatory predictability by ensuring a consistent regulatory approach over appropriate review periods;

- ensuring that, in similar circumstances, there is no discrimination in the treatment of undertakings providing electronic communications networks and services;

- safeguarding competition to the benefit of consumers and promoting, where appropriate, infrastructure-based competition;

- 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 and by permitting various cooperative arrangements between investors and parties seeking access to diversify the risk of investment, while ensuring that competition in the market and the principle of non-discrimination are preserved;

- taking due account of the variety of conditions relating to competition and consumers that exist in the various geographic areas within the State; and

- 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.

BEREC

A 2.12 Under Regulation 16(1)(3) of the Framework Regulations, ComReg must:

- having regard to its objectives under Section 12 of the 2002 Act and its functions under the Specific Regulations, actively support the goals of BEREC of promoting greater regulatory co-ordination and coherence; and

- take the utmost account of opinions and common positions adopted by BEREC when adopting decisions for the national market.

Other Obligations under the 2002 Act

A 2.13 In carrying out its functions, ComReg is required amongst other things to:

- seek to ensure that any measures taken by it are proportionate having regard to the objectives set out in Section 12 of the 2002 Act;

- have regard to international developments with regard to electronic communications networks and electronic communications services, associated facilities, postal services, the radio frequency spectrum and numbering; and

- take the utmost account of the desirability that the exercise of its functions aimed at achieving its radio frequency management objectives does not result in discrimination in favour of or against particular classes of technology for the provision of ECS.

Policy Directions

A 2.14 Section 12(4) of the 2002 Act provides that, in carrying out its functions, ComReg must have appropriate regard to policy statements, published by or on behalf of the Government or a Minister of the Government and notified to the Commission, in relation to the economic and social development of the State. Section 13(1) of the 2002 Act requires ComReg to comply with any Policy Direction given to ComReg by the Minister for Communications, Energy and Natural Resources ("the Minister") as he or she considers appropriate, in the interests of the proper and effective regulation of the electronic communications market and the formulation of policy applicable to such proper and effective regulation and management, to be followed by ComReg in the exercise of its functions. Section 10(1) (b) of the 2002 Act also requires ComReg, in managing the national numbering resource, to do so in accordance with a direction of the Minister under Section 13 of the 2002 Act, while Section 12(1)(b) requires ComReg to ensure the efficient management and use of the national numbering resource in accordance with a direction under Section 13.

A 2.15 The Policy Directions which are most relevant in regard to this consultation include the following:

- *Policy Direction No.4* - ComReg shall ensure that in making regulatory decisions in relation to the electronic communications market, it takes account of the state of the industry and in particular the industry's position in the business cycle and the impact of such decisions on the sustainability of the business of undertakings affected.

- *Policy Direction No.5* - Where ComReg has discretion as to whether to impose regulatory obligations, it shall, before deciding to impose such regulatory obligations on undertakings, examine whether the objectives of such regulatory obligations would be better achieved by forbearance from imposition of such obligations and reliance instead on market forces.

- *Policy Direction No.6* - ComReg, before deciding to impose regulatory obligations on undertakings in the market for electronic communications, shall conduct a Regulatory Impact Assessment in accordance with European and International best practice and otherwise in accordance with measures that may be adopted under the Government's Better Regulation programme.

- *Policy Direction No.7* - ComReg shall ensure that, where market circumstances are equivalent, the regulatory obligations imposed on undertakings in the electronic communications market in Ireland should be equivalent to those imposed on undertakings in equivalent positions in other Member States of the European Community.

- *General Policy Direction No.1 on Competition* - ComReg shall focus on the promotion of competition as a key objective. Where necessary, ComReg shall implement remedies which counteract or remove barriers to market entry and shall support entry by new players to the market and entry into new sectors by existing players. ComReg shall have a particular focus on:

    - market share of new entrants;
    - ensuring that the applicable margin attributable to a product at the wholesale level is sufficient to promote and sustain competition;
    - price level to the end user;
    - competition in the fixed-line and mobile markets;
    - the potential of alternative technology delivery platforms to support competition.

The Common Regulatory Framework

A 2.16 There is a distinction between (a) statutory obligations relating to numbers which exist under primary or secondary legislation and (b) conditions attached to numbers which are imposed by ComReg pursuant to regulation 8 or 14 of the Authorisation Regulations.

A 2.17 The numbering conditions set out in sections 4 and 5 of the *Numbering Conditions of Use and Application Process* Document[319] fall into two broad categories in that they are either “General Authorisation Conditions” or “Rights of Use Conditions”.

1 General Authorisation Conditions

[319] ComReg Document 15/136R1 – Numbering Conditions of Use and Application Process – published 1 June 2018

A 2.18 Most of the numbering conditions are attached to the General Authorisation. These conditions are created and imposed pursuant to Regulation 8 and Part A of the Schedule to the Authorisation Regulations. This category of condition has universal effect in that applies equally to all authorised undertakings or to such categories of authorised undertaking as may be specified. An authorised undertaking which uses a number, to which one more conditions under the General Authorisation have been attached, is required to comply with those conditions.

2 *Rights of Use Conditions*

A 2.19 Some of the numbering conditions are attached to "rights of use for numbers" which ComReg has granted to individual undertakings. These conditions are created and imposed pursuant to Regulations 13 & 14 and Part C of the Schedule to the Authorisation Regulations. This category of condition does not have universal effect in that it applies only to the individual authorised undertaking which applied for and was granted the right of use to which the condition is attached. Only the individual authorised undertaking which applied for and was granted the right of use for a number is required to comply with the conditions attached to that right of use.

A 2.20 The key statutory provisions relevant to the above two categories of conditions are outlined in more detail below:

Regulation 20 of the Framework Regulations

A 2.21 Regulation 20 of the Framework Regulations provides that ComReg:

- shall grant rights of use for numbers for all publicly available ECS in a manner that gives fair and equitable treatment to all undertakings and by application of procedures which are open, objective, transparent, non-discriminatory and proportionate;

- may attach conditions to rights of use for numbers, to ensure their efficient and effective management and use and to ensure that undertakings do not discriminate against one another as regards the number sequences used to give access to their respective services; and

- shall, from time to time, publish details of the "National Numbering Scheme" and that ComReg shall publish details of any significant additions or amendments to the scheme and, in so far as is practicable, support the harmonisation of specific numbers or numbering ranges within the European Union.

A 2.22 Regulation 20(4) of the Framework Regulations states that an "undertaking commits an offence if the undertaking assigns to locations, terminals, persons or functions on public communications networks numbers from the National Numbering Scheme that the regulator has not specifically allocated to the undertaking in connection with the provision of publicly available electronic communications services".

General Authorisation Conditions - regulations 4 and 8 of the Authorisation Regulations

A 2.23 Regulation 4 of the Authorisation Regulations requires that any undertaking that intends to provide an electronic communications network or service shall notify ComReg, before doing so. The notification shall be in such form as ComReg may determine and shall contain the information specified in regulation 4. Upon receipt by ComReg of such a notification, the undertaking concerned is deemed to be authorised to provide an electronic communications network or service or, as appropriate, both, subject to such conditions as may be specified by ComReg under Regulation 8.

A 2.24 Regulation 8 of the Authorisation Regulations mandates ComReg "*shall … specify conditions to be attached to a general authorisation only as are listed in Part A of the Schedule*." Such conditions must be non-discriminatory, proportionate and transparent.

Rights of Use Conditions - regulations 13, 14 and 15 of the Authorisation Regulations

A 2.25 Regulations 13(1) and (2) of the Authorisation Regulations together provide that ComReg may, on receipt of an application in such form as it may from time to time determine, grant a right of use for any class or description of number to any undertaking as ComReg considers appropriate and that ComReg shall establish open, objective, transparent, non-discriminatory and proportionate procedures for granting rights of use for numbers and make such procedures publicly available.

A 2.26 Regulations 13(3) and (4) of the Authorisation Regulations together provide that ComReg shall make any decision on the grant of a right to use a class or description of number as soon as possible after it has received a complete application and in the case of a number that has been allocated for a specific purpose within the National Numbering Scheme, within 3 weeks after such receipt. ComReg shall communicate its decision to the applicant as soon as is reasonably practicable and, subject to any restrictions which ComReg considers appropriate in order to protect the confidentiality of any information, ComReg shall make such a decision public as soon as is reasonably practicable, after it has informed the applicant.

A 2.27 Regulation 13(6) of the Authorisation Regulations provides that ComReg shall specify whether rights of use for numbers may be transferred by the holder and under what conditions such a transfer may take place.

A 2.28 Only "undertakings" as defined may be granted rights of use for numbers, meaning any undertaking that has made a valid notification to ComReg pursuant to regulation 4(1) of the Authorisation Regulations and is thereby deemed to be authorised to provide the electronic communications network(s) (ECN) and/or service(s) (ECS) described in the notification, subject to compliance with the General Authorisation (ComReg Doc 03/81R6).

A 2.29 Regulations 14(1)-(3) of the Authorisation Regulations together provide that ComReg shall specify conditions to be attached to rights of use for numbers though only as are listed in Part C of the Schedule to the Authorisation Regulations. Such conditions must also be non-discriminatory, proportionate and transparent while ComReg may decide that certain conditions shall not apply to certain classes or classes of undertakings. In addition, a condition attaching to a right of use for a number may not also be a condition of the General Authorisation, or vice versa.

A 2.30 Regulations 14(4) and (5) of the Authorisation Regulations provide that an undertaking commits an offence if it fails to comply with a condition of its right of use for numbers. In proceedings for such an offence it is a defence to establish that (a) reasonable steps were taken to comply with the relevant condition, or (b) it was not possible to comply with the relevant condition. The specific provisions relating to prosecutions of offences, including procedures and penalties, are set out in Regulations (23) – (25) incl. of the Authorisation Regulations.

A 2.31 Conditions attaching to rights of use for numbers fall into two categories - the general conditions in Section 3 apply to all classes of numbers and the specific conditions in Section 4 apply to particular classes of numbers.

A 2.32 Regulation 15 of the Authorisation Regulations provides that ComReg may amend the rights, conditions and procedures concerning rights of use for numbers, in an objectively justified and proportionate manner. Except where such an amendment is minor in nature and agreed to, ComReg shall give notice of its intention to make any amendment and shall invite interested parties to make representation.

3 Enforcement – compliance with General Authorisation Conditions and Rights of Use Conditions

A 2.33 The statutory provisions for enforcing the General Authorisation Conditions and the Rights of Use Conditions are the same.

A 2.34 Regulation 16(1) of the Authorisation Regulations provides that ComReg shall monitor and supervise compliance with conditions of the General Authorisation and of rights of use for numbers, in accordance with Regulation 18. Regulation 16(2) provides that ComReg may require an undertaking covered by the General Authorisation or enjoying rights of use for numbers to provide all information that ComReg considers necessary to verify compliance with those conditions.

A 2.35 Regulation 16(3) provides that where ComReg finds that an undertaking has not complied with a condition of the General Authorisation or of a right of use for numbers, ComReg shall notify the undertaking of its findings and give the undertaking an opportunity to state its views or, if the non-compliance can be remedied, to remedy the non-compliance within a reasonable time limit as specified by ComReg. Regulation 16(4) provides that where at the end of such a specified period ComReg is of the opinion that the undertaking has not complied with one or more condition, ComReg may apply to the High Court for such order as it considers appropriate. Such orders may include — (i) a declaration of non-compliance, (ii) an order directing compliance, (iii) an order directing the remedy of any non-compliance, or (iv) an order to pay a financial penalty pursuant to Regulation 16(10).

A 2.36 Regulation 17 of the Authorisation Regulations provides that where ComReg considers that there is or has been serious or repeated breaches by an undertaking of the conditions attached to its general authorisation, or its rights of use for numbers, ComReg shall first notify the undertaking and allow the undertaking 28 days to make representations. ComReg, having considered such representations, may decide that the undertaking is no longer authorised under Regulation 4 and ComReg may suspend or withdraw any rights of use for numbers granted to the undertaking. In making any such decision, ComReg may also apply to the High Court for an order to pay a financial penalty to ComReg, in such amount as ComReg proposes as appropriate.

A 2.37 Regulation 18 of the Authorisation Regulations provides that ComReg may require an undertaking to provide information to it in respect of the General Authorisation or of a right of use for numbers, where such a requirement is proportionate and objectively justified and only for the specific purposes set out therein.[320]

A 2.38 Regulation 19 of the Authorisation Regulations provides that ComReg may impose fees for rights of use for numbers which reflect the need to ensure the optimal use of the National Numbering Scheme. No such fees are imposed at present though ComReg reserves the right to review and amend this policy as it sees fit.

The Universal Service Regulations

A 2.39 Regulation 15 of the Universal Service Regulations allows ComReg to require undertakings to publish information on services in a transparent manner.

A 2.40 Regulation 20 of the Universal Service Regulations requires that an undertaking providing end-users with an electronic communications service for originating national calls to a number or numbers in the National Numbering Scheme (including public pay telephones) shall ensure that such end-users are able to call the emergency services free of charge and without having to use any means of payment by using the single European emergency call number "112" and any national emergency call number that may be specified by ComReg (i.e. the "999" number).

A 2.41 Regulation 21(3) of the Universal Service Regulations requires that an undertaking providing publicly available telephone services (PATS) allowing International calls shall handle all calls to and from the European Telephony Numbering Space[321] at rates similar to those applied for calls to and from other Member States.

[320] Information provided to ComReg may be published, normally in summary form and after it has been aggregated with similar and/or related information from other sources. Undertakings may identify any confidential or commercially sensitive information and ComReg shall treat all such information in accordance with its published *Guidelines on treatment of confidential information* (Doc 05/24).

[321] ComReg notes that ETNS is suspended and the ITU has withdrawn the shared code for Europe that was due to be used.

A 2.42 Regulation 23(1) of the Universal Service Regulation provides that ComReg may, where technically and economically feasible and except where a called subscriber has chosen for commercial reasons to limit access by callers located in specific geographical areas, specify requirements for compliance by an undertaking operating a public telephone network or providing publicly available telephone services for the purpose of ensuring that end-users are able to:

(a) access and use services using NGNs within the European Union; and

(b) access all numbers provided in the European Union, regardless of the technology and devices used by the operator, including those in the national numbering plans of Member States, those from the European Telephony Numbering Space (ETNS) and Universal International Freephone Numbers (UFIN).

A 2.43 Regulation 23(2) of the Universal Service Regulation provides that ComReg may require undertakings providing public communications networks or publicly available networks or publicly available electronic communications services to block, on a case by case basis, access to numbers or services where this is justified by reason of fraud or misuse and to require undertakings to withhold relevant interconnection or other service revenues.

A 2.44 Regulation 25 of the Universal Service Regulations requires that undertakings shall ensure that a subscriber with a number from the National Numbering Scheme can, upon request, retain his or her number independently of the undertaking providing the service— (a) in the case of Geographic Numbers, at a specific location, and (b) in the case of Non-Geographic Numbers, at any location.

A 2.45 Consumer protection rules specific to the electronic communications sector including conditions in conformity with the Universal Service Regulations and conditions on accessibility for users with disabilities in accordance with Regulation 6 of those Regulations.