Review of Non-Geographic Numbers

Response to Consultation and Draft Decision

Response to Consultation and Draft Decision

Reference: ComReg 18/65

Date: 11/07/2018

An Coimisiún um Rialáil Cumarsáide
Commission for Communications Regulation
1 Lárcheantar na nDugaí, Sráid na nGildeanna, BÁC 1, Éire, D01 E4X0.
One Dockland Central, Guild Street, Dublin 1, Ireland, D01 E4X0.
Teil | Tel +353 1 804 9600 Suíomh | Web www.comreg.ie

Additional Information

Consultation:	ComReg Document 17/70
DotEcon Report:	ComReg Document 17/70a
B&A Consumer Study:	ComReg Document 17/70b
B&A Organisation Study:	ComReg Document 17/70c
B&A Materials Cost Study:	ComReg Document 17/70d
Submissions to Consultation:	ComReg Document 18/65s
DotEcon Response to Consultation 17/70:	ComReg Document 18/65a

Legal Disclaimer

This Response to Consultation is not a binding legal document and also does not contain legal, commercial, financial, technical or other advice. The Commission for Communications Regulation is not bound by it, nor does it necessarily set out the Commission's final or definitive position on particular matters. To the extent that there might be any inconsistency between the contents of this document and the due exercise by it of its functions and powers, and the carrying out by it of its duties and the achievement of relevant objectives under law, such contents are without prejudice to the legal position of the Commission for Communications Regulation. Inappropriate reliance ought not therefore to be placed on the contents of this document.

Content

Annex

Tables and Figures

Section **Page**

1 Introduction

1.1 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 in a manner that protects consumers and promotes competition[2].

1.2 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 of Non-Geographic Numbers ("NGNs") as listed in Table 1.[4]

Table 1: The five classes of NGNs under review

NGN class	Designation
'1800'	Freephone
'1850'	Shared cost (fixed charge)
'1890'	Shared cost (per minute charge)
'0818'	Universal Access
'076'	Nomadic

1.3 In August 2017, ComReg commenced a public consultation on its review of NGNs ("Consultation 17/70[5]). ComReg noted 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 appear to have

[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] Any reference to a NGN or NGNs in this consultation is a reference to one or more of the five classes of NGNs listed in Table 1.
[5] ComReg Document 17/70 – Review of Non-Geographic Numbers – published 16 August 2017.

contributed to the creation of a relatively complex NGN platform, consisting of several different classes of NGN and multiple retail tariffs. ComReg, in Consultation 17/70, also described its main preliminary concerns with the NGN platform, in the following terms:

- 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.

1.4 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.

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

1.6 ComReg also engaged DotEcon Ltd ("DotEcon") to develop models to inform ComReg's understanding of the NGN platform.[9] 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;[10]

(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.

1.7 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.

1.8 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 does not consider it necessary, at this time, to conduct additional market research or to gather any additional data.

1.9 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, an apparent lack of understanding amongst many consumers as to the

[6] ComReg Document 17/70b – Non-Geographic Numbers: Consumer Study – published 16 August 2017.
[7] ComReg Document 17/70c – Non-Geographic Numbers: Organisation Study – published 16 August 2017.
[8] ComReg Document 17/70d – Non-Geographic Numbers: Materials Cost Study – published 16 August 2017.
[9] ComReg Document 17/70a – Strategic Review of Non Geographic Numbers in Ireland: A Report for ComReg – published 16 August 2017.
[10] 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.

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.

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

(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 two to 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.

1.11 There were 19 respondents to Consultation 17/70 (non-confidential versions of their responses are published alongside this Response to Consultation[11]):

- BT Communications Ireland Limited (“BT”)
- Citizens Information Board (“CIB”)
- Colt Technology Services Limited (“Colt”)
- Competition and Consumer Protection Commission (“CCPC”)
- Consumer (by email)
- Consumers’ Association of Ireland (“CAI”)
- Mr. Dave McCabe

[11] ComReg Document 18/65s – Review of Non-Geographic Numbers: Submissions to Consultation 17/70 – published 11 July 2018.

- Eir Group ("eir")
- Electricity Supply Board Group ("ESB Group")
- Food Safety Authority of Ireland ("FSAI")
- Irish Tax Institute ("ITI")
- Mr. Mark Hely Hutchinson
- Office of the Government Chief Information Officer ("OGCIO")
- Office Of The Revenue Commissioners ("Revenue")
- Sky Ireland Limited ("Sky")
- Three Ireland (Hutchison) Limited ("Three")
- Verizon Ireland Limited ("Verizon")
- Virgin Media Ireland Limited ("Virgin")
- Vodafone Ireland Limited ("Vodafone")

1.12 This Response to Consultation ("RtC") describes the responses to Consultation 17/70[5], and sets out ComReg's assessment of same, its current position, and how ComReg intends to advance its review of NGNs. Two points in particular are worth highlighting in this Introduction:

(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[5], 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 (see Chapter 3 herein and ComReg Information Notice 17/53R[12]).

(ii). For the avoidance of doubt, ComReg notes that it remains of the overall preliminary view that 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.

[12] ComReg Document 17/53r - Information Notice - Wholesale Charges for Non-Geographic Numbers – published 14 June 2017 - https://www.comreg.ie/publication/information-notice-wholesale-charges-non-geographic-numbers/

1.13 Further to the above, ComReg would also note that nothing in the responses received to date have caused it to significantly alter its current preliminary views, as set out in Consultation Document 17/70[5] and herein. 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.

1.14 Throughout this RtC, 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 Consultation 17/70[5]. While ComReg has formed its own views in arriving at its positions and Draft Decision as set out in this RtC, ComReg continues to carefully consider the expert advice provided by DotEcon. ComReg is publishing, alongside this RtC, a report by DotEcon setting out its analysis of the responses to Consultation 17/70[13].

Q. 1 ComReg invites and welcomes the views of all interested parties on the proposals contained herein and will consider all responses to this consultation. Do you have any new information relevant to the proposals contained herein? Please explain the basis of your response in full and provide any supporting information.

1.15 Chapter 8 sets out how to respond to this consultation which will run until 5pm on 22 August 2018.

1.16 This RtC is laid out as follows:

- **Chapter 2** – assessment of the respondents' submissions on the draft Regulatory Impact Assessments ("RIAs") and ComReg's position.
- **Chapter 3** – assessment of how ComReg would propose to address any harm identified for NGNs at the wholesale level.
- **Chapter 4** – assessment of other issues submitted by the respondents and ComReg's position on same.
- **Chapter 5** – assessment of the respondents' submissions on the proposed transparency measures and ComReg's position on same.

[13] ComReg Document 18/65a – DotEcon: Response to Document 17/70 – published 11 July 2018.

- **Chapter 6** – assessment of the respondents' submissions on the proposed implementation and ComReg's position on same.
- **Chapter 7** – Draft Decision Instrument.
- **Chapter 8** – details how to submit comments and next steps.
- **Annex 1** – Revised draft Regulatory Impact Assessment
- **Annex 2** – Legal Framework and Statutory Objectives
- **Annex 3** – Questions for interested parties**.**

2 Response to draft RIA

2.1 Introduction

2.1 Chapter 4 of Consultation 17/70[5] identified and described various issues arising out of observed structural features of the NGN platform which appear to prevent its efficient functioning. These issues were identified following analysis of several sources of information[14], including:

- detailed call revenue and volume data (2011 – 2015 period) provided by fixed-line and mobile operators in Ireland;
- a revenue allocation model estimating revenue flows through the NGN value chains (Document 17/70a[9]);
- a BEREC questionnaire to European national regulatory authorities (NRAs) about their experiences with NGNs (Document 17/70a[9]);
- two research surveys assessing the consumer and business experience of the NGN platform in Ireland:
  - o Consumer Study (Document 17/70b[6]); and
  - o Organisation Study (Document 17/70c[7]);
- a research survey assessing the costs to SPs of any NGN consolidation which would require migration from their existing NGNs (Document 17/70d[8]); and
- one-to-one interviews with eight large SPs (public and private) which use NGNs to provide services (Document 17/70a[9]).

2.2 Having identified and described the various issues arising out of the observed structural features of the NGN platform, and having reviewed the relevant evidence, ComReg expressed its preliminary concerns regarding the NGN platform which may be summarised as follows:

- 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,

[14] Voluntary Information Requests and the Section 13D Information Requirements, a BEREC questionnaire, interviews with a number of SPs, and Consumer and Organisation Surveys – See section 1.4 of ComReg Document 17/70a.

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 charges 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.

2.3 In order to address the identified concerns as outlined above, ComReg conducted two draft Regulatory Impact Assessments (RIAs):

  – the draft “**NGN Pricing RIA**” assessed how best to ensure that NGN retail charges 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.

2.4 ComReg, on foot of its two draft RIAs, expressed a preliminary preference for two regulatory measures (“Preferred Options”):

  – 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; and

  – that the ‘1890’, ‘1850’, and ‘076’ NGN ranges should be withdrawn following a transitional period of 2-3 years.

2.5 The following sections of this chapter assess the responses to each draft RIA.

2.2 Response to draft "NGN Pricing RIA"

2.2.1 ComReg's position in Consultation 17/70

2.6 As noted above, ComReg, in Consultation 17/70[5], expressed its preliminary view (which is unchanged) that NGN retail tariffs are not sufficiently transparent and, as a consequence, that many consumers do not know how NGN calls are charged under their various subscription packages and/or do not know the different designation of each class of NGN. This lack of retail price transparency, coupled with the observable fact that NGN call charges are high compared to charges for calls to Geographic or Mobile numbers, appears to deter many consumers from calling NGNs where they might otherwise be expected to do so. Such reduced 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.

2.7 ComReg, having noted its concerns and having considered all relevant information before it, identified two forms of possible regulatory intervention:

- **Option 1**: No new regulatory measure – current NGN pricing regime to continue as is with no intervention by ComReg; and
- **Option 2**: Impose a new "Geo-Linked" tariff condition to the effect that calls to '1850', '1890', '0818' and '076' NGNs shall be no more expensive than Geographic Number calls and shall be treated the same as national[15] Geographic Number calls at the point in time and use.

2.8 ComReg assessed the impact of the above regulatory options on each of the following:

- Industry stakeholders (existing operators and potential new entrants);
- SPs;
- Competition; and
- Consumers.

[15] 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.

2.9 ComReg came to the preliminary view that Option 2 (a new 'Geo-linked' tariff condition for '1850', '1890', '0818' and '076' NGNs) was the preferred option. ComReg sought the views of interested parties by asking the following question:

> *Q. 1 Do you agree with ComReg's proposal for a new 'Geo-linked' NGN measure which would replace the current retail tariff General Authorisation conditions for '1850', '1890', '0818' and '076' NGNs with a new 'Geo-linked' retail tariff General Authorisation condition of use? Please explain the basis for your response in full and provide any supporting information.*

2.10 16 of the 19 respondents to Consultation 17/70 submitted views on Option 2. ComReg has divided the 16 respondents into three categories, as below, and has set out a summary of their views followed by its assessment of same:

- Fixed and Mobile Operators;
- SPs; and
- Consumers and Representative Bodies.

2.2.2 Fixed and Mobile Operators' Responses

2.11 One operator (BT) agrees with ComReg's proposal while six operators (eir, Colt, Sky, Three, Virgin, and Vodafone) disagree.

2.12 BT submits that:

- the proposed 'Geo-linked' condition should be introduced as part of a package of retail and wholesale remedies to address what BT considers to be customer harm and wholesale market failures in the NGN market; and
- that wholesale and retail remedies should be introduced simultaneously as otherwise there could be a danger of wholesale mobile origination charges increasing in order to recoup losses in end-user revenue, resulting in fixed-line operators passing on high wholesale origination charges to SPs.

2.13 Colt submits that ComReg's proposals (including a new Geo-linked condition) would not address competition issues in the NGN market. In particular, Colt submits that ComReg has purposely segregated the wholesale market from the retail market and that doing so will deliver an inadequate solution and the use of NGNs will continue to decline.

2.14 Eir disagrees with ComReg's proposals (including a new Geo-linked condition) for reasons which may be summarised as follows:

- that the observed decline in NGN usage is likely part of a natural migration to Geographic Numbers and consequently ComReg should let the market evolve;

- that the Preferred Options would not protect vulnerable users because they fail to address the issues associated with willingness to use ‘1800’ NGNs; and

- that retail and wholesale issues should be addressed in parallel.

2.15 Eir submits that other more suitable and proportionate measures could be imposed to address any perceived consumer harm, such as imposing further obligations on operators in respect of the transparency of NGN tariffs. Eir also submits that NGN remedies imposed by Ofcom (UK Regulator) have not had a significant effect on the volume of fixed and mobile calls to NGNs, in the UK.

2.16 Vodafone disagrees with the Geo-Linked option for reasons which may be summarised as follows:

- it would involve implementing a price control in the retail market without wholesale remedies;

- it would not be proportionate for ComReg to implement a retail price control to solve a transparency problem;

- DotEcon significantly underestimated the cost and timescales for SPs to make the changes necessary to support Geo-Linking;

- Originating Operators and SPs would incur additional costs which may lead to increased costs for consumers;

- The proposals would be unfair on consumers who do not regularly call NGNs (i.e. waterbed effects[16]).

- Geo-linking would remove an element of competition between operators in that some operators include NGNs in bundles and there are differences in the retail prices charged by some operators and differences in the inclusion of different NGN calls in bundles.

2.17 Three disagrees with the Geo-Linked option for reasons which may be summarised as follows:

- ComReg’s research does not support the thesis that there is an existing or on-going consumer harm arising from actual retail prices for NGNs calls;

- Retail price control would not remedy any identified consumer detriment. In particular:

[16] The waterbed effect is where originating operators 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 as Geographic Number calls).

  - o no evidence has emerged that consumers make less contact with organisations for reasons of cost associated with NGNs;
  - o the consumer research conducted by ComReg has not identified that NGN retail prices in any way act as a disincentive to consumers using NGNs; and
  - o No actual detriment has been shown from the research or analysis provided.

- Geo-linked pricing would restrict operators' freedom to determine their retail price structures in a competitive market;

- ComReg has not considered that NGN calls are substitutes for Geographic Number calls and it is not the case that the amount of contact between callers and SPs is being suppressed or reduced because of current retail prices for NGN calls;

- Any adjustment to Originating Operators' existing call bundles (i.e. due to implementation of the Geo-link condition) would likely result in an adjustment to revenues earned by Originating Operators, who would, as a consequence, have to re-adjust their retail tariffs;

- The draft RIA is inadequate in that ComReg seems to have considered only one solution to the identified issue of NGN retail price transparency - i.e. to impose a retail price restriction or not to impose such a restriction; and

- DotEcon has not carried out a cost benefit analysis and there has been no quantification of the likely impact of the proposed Geo-link condition.

2.18 Virgin submits that ComReg should refrain from Geo-Linking NGN tariffs until wholesale origination charges have been brought into line.

2.19 Sky expressed the following views:

- ComReg's proposal would be positive in terms of the interests of consumers and would drive usage of NGNs;
- However, NGN calls should be no more expensive than 'out of bundle' calls to Geographic Numbers, as opposed to 'in-bundle' calls as proposed by ComReg;
- ComReg's proposal is not supported by the evidence set out in the draft RIA and is based on a misapprehension that NGN calls are expensive; and
- the economic viability of unlimited bundles offered by undertakings would be threatened if ComReg's proposal was implemented.

2.2.3 ComReg Assessment of Fixed and Mobile Operators' Responses

2.20 ComReg has assessed the views of respondents under eight headings.

- Consumer Detriment;
- Alternative Solutions;
- Relevance of NGNs to Consumers;
- Relevance of Alternative Contact Options;
- Waterbed Effects;
- Impact on SPs;
- Declining NGN Market; and
- Ofcom (UK Regulator) Proposals.

2.21 ComReg also received a number of responses in relation to wholesale implications and these are addressed in Chapter 3 below.

Consumer Detriment

2.22 DotEcon does not agree that there has been no consumer harm or that price transparency measures alone would be sufficient (as submitted by Three and Sky). DotEcon, in this regard, identified a number of problems with the current NGN platform that are observed to be resulting in consumer harm[8]:

- Retail charges for NGNs calls are relatively high, particularly from mobile and especially when viewed in the context of the large number of phone tariffs which include 'free' calls within a bundle allocation;

- There is a widespread lack of consumer understanding of NGNs to the extent that retail tariffs for NGN calls are not sufficiently clear as to enable customers to know, or to calculate or reasonably estimate, the retail charges for many NGN calls;

- There is a lack of transparency in that many customers do not understand how NGN calls are charged under their various subscription packages and many do not understand the different designation of each of the five classes of NGN; and

- NGN retail and wholesale call origination charges are relatively high and appear to be affecting utilisation of NGNs, which is likely to result in consumer harm through lost consumer surplus.

2.23 Each of the above observations, of current problems with the NGN platform that appear to be causing consumer harm, are supported by evidence from:

- the desk research on actual retail charges for calls to these numbers[17],
- findings from the consumer study[18]; and
- findings from the operator information request[5].

2.24 ComReg does not consider that the observed consumer harm arises because of a lack of price transparency, as submitted by Sky which submits that "*the evidence suggests that a lack of transparency is leading to a perception that costs for calls to NGNs are expensive but this is not evidence in itself that those costs are in fact high*."

2.25 ComReg is not saying that the fact that many consumers perceive NGN retail charges as being high means, of itself, that such charges are in fact high. While many consumers do not know the exact retail charges of some or all NGN calls (or cannot calculate or reasonably estimate such retail charges) and though they often may overestimate the actual charge (as submitted by Sky) this widespread perception amongst consumers that NGN calls are expensive arises from the fact that many NGN calls are expensive, especially when compared to Geographic Number calls. NGN retail charges (particularly from mobile) are significantly higher than equivalent Geographic Number calls and, moreover, this is not justified by any significant differences in call origination costs. For example:

- NGN calls are charged at the out-of-bundle geographic rate, with a marginal cost of up to 40c per minute for NGN calls,[19] whereas Geographic Number calls generally have a marginal cost of zero (up to the number of inclusive minutes); and
- Retail charges for NGN calls from mobile are typically 3 – 5 times higher than the same NGN calls from landline. Mobile users are also more likely to dial NGNs than landline users (60% of consumers use a mobile to dial an NGN)[20] and 77%[21] of all calls originate on mobile networks.

2.26 ComReg remains of the view that price transparency measures alone (which Sky submits would be sufficient) would most likely result in more consumers becoming aware that NGN calls are in fact relatively expensive (as opposed to the many consumers who, at present, merely perceive NGN calls as being

[17] Annex E, Document 17/70a - Review of Non-Geographic Numbers Consultation Document
[18] ComReg Document 17/70b – Non-Geographic Numbers: Consumer Study – published 16 August 2017.
[19] See Table 3 in Section 5.4 (Draft NGN Pricing RIA) of ComReg Document 17/70.
[20] Slide 34 of ComReg Document 17/70b – Non-Geographic Numbers: Consumer Study – published 16 August 2017.
[21] ComReg Document 18/20 – Irish Communications Market: Quarterly Key Data Report (Data as of Q4 2017) – published 15 March 2018.

relatively expensive). Therefore, the net effect of such increased price transparency would likely be that the current decline in NGN usage would continue at its current rate, or indeed that the rate of decline could increase. It is generally reasonable to assume that when consumers learn that prices, which they suspected as being high, are in fact high, then their typical reaction is not to purchase more of the goods or services in question.

2.27 The results of the surveys and questionnaires, which have informed ComReg's consideration of this issue, provide detailed evidence of the impact that high retail charges, whether perceived or actual, have had on the NGN platform. This evidence, as described in the draft RIA (Section 5.4.5 of Consultation 17/70[5]), strongly indicates that high retail charges (or the perception of high retail charges) 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 charges (known and unknown)[22] which have had the effect of supressing the volume of NGN calls, to the detriment of consumers and SPs.

2.28 ComReg accepts that certain consumers perceive NGN retail charges as being high, as submitted by Sky. Paragraphs 5.100 - 5.105 of Consultation 17/70[5] set out the sources of unknown retail charges (perception of high costs) and paragraphs 5.106 – 5.122 therein describe the four distinct effects (Contagion, Call Reduction, Feedback and Social) likely to arise from known and unknown retail charges. Indeed, Sky refers to one of these four effects, 'Contagion', in noting that up to a third of consumers believe that '1800' (Freephone) calls are expensive when in fact consumers incur no retail charge in calling '1800' NGNs. The widespread consumer perception of high NGN retail charges, and the reaction of consumers who become aware of actual NGN retail charges, both indicate that the volume of NGN calls is currently being supressed – i.e. more NGN calls would likely be made if retail charges for such calls were lower and if consumers knew what those retail charges were.

2.29 To only take into account known NGN retail charges, as suggested by Sky, would be inappropriate because it would involve an assumption that those who are unaware of the various NGN retail charges are indifferent as to those charges. To equate unawareness of retail charges with indifference as to those charges would be incorrect. A person may not know the menu prices of a restaurant but that does not mean the person is unconcerned as to whether the restaurant is expensive. The survey evidence referred to above strongly indicate that increased price transparency alone would be unlikely to address the observed problem and the responses to Consultation 17/70[5], particularly from consumers and SPs, provides further evidence that current retail charges for NGN calls are suppressing the volumes of NGN calls.

[22] Paragraphs 5.110 – 5.114 of ComReg Document 17/70 - Review of Non-Geographic Numbers.

2.30 For example, of those surveyed consumers who had, at some point in time, become aware of what they were charged for an NGN call or calls, and who considered the charge or charges to be high, many subsequently adjusted their behaviour by making fewer (or in some cases zero) NGN calls (i.e. 83% changed landline call behaviour and 89% changed mobile call behaviour).[23] This consumer behaviour is consistent with the observed trend of decline in the volume of NGN calls (i.e. the total volume of NGN calls across all ranges has fallen by 15% in the period 2011 – 2015, compared to a volume decline of 3.3% for calls in other non-NGN ranges). ComReg thus remains of the view that many consumers are very much concerned about retail charges for NGN calls, contrary to what has been submitted by Three and Sky.

2.31 On a purely functional basis (absent any cost considerations), consumers appear largely indifferent as to whether a voice service is provided using a Geographic Number or NGN. However, the decision to provide a voice service using a NGN is made by the SP, and not by the consumer, though the consumer will have to pay any retail charge for the NGN call regardless of its preference for a Geographic Number. For example, 66% of those surveyed who call NGNs indicated that they had no option but to do so.[24] As noted by DotEcon, this suggests that substitutes are not always readily available and, even when they are, consumers may still prefer to use the NGN. Further, any consumer preference for Geographic Numbers likely arises from the lower retail charge (i.e. 49% view NGNs as expensive to call compared to 15% for Geographic Numbers).[25]

2.32 Sky submits that there is no evidence that operators have used NGNs as a soft revenue source. Sky submits that, to the extent that such behaviour exists, any concerns in relation to competition can be achieved by capping prices at Geographic Number 'out of bundle' call rates.

2.33 Paragraph 5.29 of the draft RIAs[26] reminded respondents that the Numbering Conventions, when revised in 2011, introduced a 'standard rate' against which an NGN retail charge could be pegged. That standard rate is intended to apply equally to calls originating from a fixed or a mobile Originating Operator. As such, calls are already capped at 'out of bundle' rates and all operators, including Sky, should be aware of their obligations in that regard.

2.34 ComReg also noted that capping in this manner has not been effective as NGN calls are primarily charged at the out-of-bundle geographic rate whereas

[23] Slides 64 and 65, ComReg Document 17/70b - Non-Geographic Numbers: Consumer Study (B&A and The Research Perspective).
[24] Slide 81, ComReg Document 17/70b - Non-Geographic Numbers: Consumer Study (B&A and The Research Perspective).
[25] Slide 80, ComReg Document 17/70b - Non-Geographic Numbers: Consumer Study (B&A and The Research Perspective).
[26] Section 5.4 (Draft NGN Pricing RIA) of ComReg Document 17/70 – Review of Non-Geographic Numbers.

Geographic Number calls generally benefit from being in-bundle (up to the number of inclusive minutes). Therefore, there is different treatment of Geographic Numbers, and NGN calls, on average, have a higher marginal price that is not justified on grounds of origination costs.

Alternative solutions

2.35 The draft RIA does not propose Geo-Linking as one solution to price transparency (as submitted by Three). Instead, the draft RIA proposes Geo-Linking as one part of an overall approach to alleviate the consumer harm identified in the NGN platform. In particular, ComReg proposes:

- to rationalise the NGN classes from five to two over time so as to match the two categories of NGN retail tariffs (i.e. ‘1800’ Freephone and ‘0818’ Geo-Linked);
- possible future measures to improve price transparency for NGNs calls, in order to better inform consumers of the cost/charging structure of NGNs and to raise consumer awareness (See Chapter 5); and
- to introduce concurrent measures on the wholesale side of the NGN platform (See Chapter 3).

2.36 In relation to Vodafone’s submission that ComReg’s proposals are not proportionate, on the basis that a retail charge control would be used to address a transparency problem, such concerns were addressed in the draft RIA:

- 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 (paragraph 5.9 of Consultation 17/70[5]); and
- both Preferred Options (Number Consolidation and Geo-linking) in their own right would mitigate some of the problems created by poor retail price transparency (paragraph 6.8 of Document 17/70[5]).

2.37 ComReg agrees with DotEcon[27] that “*measures to tackle high retail prices and improve the transparency/awareness of the specific pricing structure for these NGNs could have a significant impact on the way customers perceive and use these numbers*”. Therefore, ComReg remains of the view that the Preferred Options, including the specific price transparency measures described in Chapter 6 of Consultation 17/70[5] are also necessary to minimise the observed consumer harm associated with the NGN platform at present. ComReg considers that implementing the Preferred Options without the price transparency measures, or vice versa, would not be sufficient to address the observed consumer harm.

[27] Section 2.2 (Consumer perception of cost) of ComReg Document 18/65a – DotEcon: Response to Consultation 17/70 – published 11 July 2018.

Relevance of NGNs to consumers

2.38 Three, Eir and Sky submit that the Preferred Option is not necessary as the vast majority of consumers do not consider the inclusion of NGN calls in their call bundles to be important (85% do not consider the inclusion of NGN minutes in different call packages when choosing their provider/package[28].) Three submits that it is not clear what specific problem the proposed remedy is attempting to solve.

2.39 ComReg considers that Three, Eir, and Sky misapprehend the relevance of the finding that most consumers do not consider whether NGN calls are in-bundle when choosing their service providers/packages. This finding does not mean or indicate that consumers are indifferent as to the retail charges that they will incur for NGN calls. On the contrary, there is material evidence that many consumers are concerned about such retail charges and will react in such manner as to avoid incurring them. This was set out in Section 5.4.5 of the draft RIA and is reiterated in Section A 1.4.4 of the revised draft RIA (*Impact on Consumers*).

2.40 The Geo-Linking proposal is designed to solve the consumer harm resulting from current NGN retail charges, which are perceived as being relatively high. Therefore, the "*specific problem*" that ComReg seeks to address, through the Geo-Linking proposal, is relatively high retail charges for NGN calls. ComReg seeks to reduce those retail charges by leveraging competition amongst operators for call packages that include NGN calls.

2.41 Section 5.4.4 of the draft RIA (*Impact on Competition)* sets out why this finding is important. This analysis is not repeated here and is set out below in the revised draft RIA (Section A 1.4.3). However, in summary, it illustrates that under Option 1 (status quo), competition cannot be expected to constrain NGN retail charges because consumers are more likely to choose an operator based on monthly access charges and on the number of in-bundle call minutes and data allowances.

2.42 Under Option 2, retail charges for NGN calls would be the same as those for Geographic Number calls, in that Originating Operators would be required to treat NGN calls and Geographic Number calls the same for the purposes of applying retail charges. This should extend current competition for Geographic Number calls, largely based on subscriptions for bundles of call minutes, to include NGN calls. If a Geo-linking condition was in effect then Originating Operators would likely offer their customers calls to numbers in all ranges in-bundle, including NGNs. While an Originating Operator would be free to exclude NGNs from call packages, in doing so the Originating Operator would also have to exclude Geographic Numbers. However, the inclusion of call minutes more generally (i.e. Geographic Numbers & Mobile Numbers) in a monthly package

[28] Slides 56 and 60 of ComReg Document 17/70b – Non-Geographic Numbers: Consumer Study – published 16 August 2017.

would be a very important competitive differentiator and competition between operators is likely to ensure that call minutes (including NGNs) remain part of packages offered to consumers.

2.43 These findings are also relevant to Vodafone's concerns that Option 2 would remove an element of competition between operators. ComReg notes that competition does not occur between operators in relation to NGNs (either for the price per call or on their inclusion in bundles). If competition was effective at this level then the specific concerns highlighted by DotEcon would likely not arise. The survey evidence supports this finding because consumers do not consider the inclusion of NGNs when choosing their service provider/package, as noted in the draft RIA.[29]

Relevance of alternative contact options

2.44 Three and Vodafone submit that Originating Operators do not hold significant bottleneck control because there are alternative ways of contacting SPs other than via NGNs:

- Three states: *"No service provider holds significant market power or equivalent in the call origination market. Substitutes and alternatives are available to callers who can chose to use alternative access services or service providers (fixed/mobile), and they can also choose NGNs or geographic numbers to contact service providers using voice calls*."
- Similarly, Vodafone states that "*customers can now use multiple ways to communicate with service providers of which NGN is only one method – and that no bottleneck exists*".

2.45 DotEcon notes that bottleneck control refers to the fact that each Originating Operator has control over access to its customers. Therefore, if the Originating Operator raises its prices then there is little that SPs can do in response. While there may be alternative ways for the caller to contact the SP, such as calling a Geographic Number or Mobile Number or using a landline instead of a mobile, these alternatives are not always good substitutes or even available when a consumer wants to make a call. There will be a significant number of callers who have no choice but to call a SP through an NGN and who will not have the option of calling from another phone or through a Geographic Number. Therefore, DotEcon considers that Originating Operators have retail market power in respect of NGNs (especially for Mobile Operators).

2.46 ComReg agrees with the views of DotEcon. Chapter 3 below sets out ComReg's preliminary views on the exercise of this control at the wholesale level. At the retail level, alternative options include calling from a landline or Geographic

[29] Slide 56 and 60 of ComReg Document 17/70b – Non-Geographic Numbers: Consumer Study – published 16 August 2017.

Number. However, the results of the Consumer Study show that such options are not always available to, or used by, many consumers. For example:

- Of those surveyed who had ever called an organisation by NGN, 66% indicated that they had no option but to call the NGN and 14% indicated that they had the option of calling an alternative non-NGN.[30]

- Only 7% of those surveyed make an NGN call from somewhere else (e.g. work or someone else's phone)[31]

- Only 6% of those surveyed delay making the call from the mobile in order to make it from a landline[32]; and

- 41% of those surveyed do not have a landline and so have no option to make a call from that source[33]; and

- The main reason surveyed consumers gave for having never looked up pricing information to find out the price of a call was that they had no alternative but to call the specific number, and so cost was irrelevant.[34]

2.47 In this way, Mobile Operators are often able to extract an 'immediacy premium' associated with some services provided over NGNs that callers cannot delay calling (e.g. helplines, conference service access numbers, fraud reporting etc.). In the absence of voice alternatives, Originating Operators can profitably increase prices and extract surplus.

2.48 In support of its claim, Three makes a number of submissions as to what it considers to be the substitutability of Geographic Numbers and NGNs and, based on this, Three submits that Originating Operators do not hold market power. Three states:

- "*It seems that consumers would rather be provided with a geographic or mobile number to call organisations*."

- "*In fact, geographic numbers emerge as a viable alternative to NGNs, regardless of cost considerations*."

- "*ComReg has not taken into consideration that NGN calls are in fact substitutes for geographic calls. It is not the case that the amount of contact*

[30] Slide 81 of ComReg Document 17/70b – Non-Geographic Numbers: Consumer Study – published 16 August 2017.
[31] Slide 84 of ComReg Document 17/70b – Non-Geographic Numbers: Consumer Study – published 16 August 2017.
[32] Ibid
[33] Slide 20 of ComReg Document 17/70b – Non-Geographic Numbers: Consumer Study – published 16 August 2017.
[34] Slide 77 of ComReg Document 17/70b – Non-Geographic Numbers: Consumer Study – published 16 August 2017.

between callers and service providers is suppressed or reduced because of the current retail price for NGN calls, and no evidence of this has emerged from either the consumer or service provider research."

- "*This theory ignores the fact that NGN calls are substitutes for other calls. It also seems to have missed the fact that most consumers prefer to use geographic numbers and that they would not prefer to use NGNs even if the price was reduced*".

2.49 ComReg has not ignored the substitutability of Geographic Numbers and NGNs (as submitted by Three). The draft RIA at paragraphs 5.231 – 5.235 of Consultation 17/70[5] (Paragraphs A 1.231 – A 1.235 of the revised draft RIA) specifically addresses the relationship between NGNs and Geographic Numbers and concludes that the "*research shows that consumers treat Geographic Numbers and NGNs as highly substitutable*."[35] However, while consumers find NGNs and Geographic Numbers substitutable, certain SPs (particularly larger organisations) favour NGNs as their main contact number. Section 5.5.4 of the draft RIA in Consultation 17/70[5] (Section A 1.5.4 of the revised draft RIA) describes in detail the various requirements which cause SPs to favour NGNs over Geographic Numbers. In summary, NGNs have certain advantages that cannot be matched by Geographic Numbers, including[36]:

- to allow customers to access the organisation's services free of charge;
- to reduce the costs to customers of calling the SP;
- to provide memorable contact numbers;
- to offer single contact numbers;
- to avoid showing where the organisation is based; and
- so that the organisation can change address without changing number.

2.50 The above SP requirements and preferences cannot all be met by Geographic Numbers. This finding is supported by the Organisation Study and the manner in which operators offer NGN services to SPs. In their various promotional materials, Eir, BT and Vodafone all differentiate between NGNs and Geographic Numbers based on SPs' requirements. For example:

[35] Document 17/70 - Review of Non-Geographic Numbers Consultation Document - p86.
[36] Slides 29 and 30 of ComReg Document 17/70c – Non-Geographic Numbers: Organisation Study – published 16 August 2017.

- Eir refer to NGNs as Telemarketing numbers ('1800', '1890', '1850' and International Freephone)[37] and lists the benefits "*as a nationwide presence, Customer experience, efficient, and cost-effective*".[38]
- BT refers to NGNs as Telenumbers that allow organisations to "*choose a number plan and call charges that meet your business needs.*[39] *Call types include '1800', '1850', '1890' and '0818'.*"
- Vodafone refer to NGNs as "inbound voice" and states that "*customers can call you whenever they need, either for free, or at reduced rates. It's an efficient, cost-effective way to grow your business, enhance your marketing and improve your customer service.*"[40]

2.51 As a result, certain SPs' primary voice contact is through NGNs. However, high retail charges for NGN calls means that the requirement for NGNs on one side (by SPs) of the platform is negatively affecting consumers on the other side of the platform.

2.52 The fact that NGNs and Geographic Numbers are somewhat substitutable does not benefit consumers since the voice services at issue are primarily offered over NGNs. For example, 82% of organisations provide an alternative Geographic or Mobile Number, in order to access the same voice service as provided over their NGNs.[41] However, 66% of surveyed consumers indicated that they had no option but to call the NGN provided and only 14% indicated that they could call an alternative non-NGN.[42] For these customers, in order to access the voice service they have little choice but to pay the associated retail charge.

2.53 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.

Waterbed effects

2.54 Various respondents submit that ComReg has not considered the consequence of operators re-adjusting their retail charges in response to a regulatory intervention of the type proposed (Three) and that operators, in such

[37] https://business.eir.ie/product/national-telemarketing-services/#tab-3
[38] https://business.eir.ie/product/national-telemarketing-services/#tab-3
[39] https://www.btireland.com/products-and-services/contact-centre/performance
[40] https://n.vodafone.ie/business/products-and-solutions/fixed-communications/inbound-voice.html
[41] Slide 44 of ComReg Document 17/70c – Non-Geographic Numbers: Organisation Study – published 16 August 2017.
[42] Slide 81 of ComReg Document 17/70b – Non-Geographic Numbers: Consumer Study – published 16 August 2017.

circumstances and in the absence of wholesale regulation, may decide to recover any loss in retail revenues which they incur[43] at the wholesale level (Eir)[44]. Sky also submits that the various subscription packages offered to consumers by undertakings, such as unlimited call bundles[45], would be threatened if the Geo-linking condition was implemented.

2.55 ComReg considers that any Originating Operator's decision to adjust its retail tariffs and/or bundle offerings would be a commercial decision made in light of all factors likely to affect it, including that each Originating Operator must compete with other Originating Operators for the same customers. The draft RIA considered the potential for Originating Operators to adjust retail tariffs, at Paragraphs 5.135-5.139 of Consultation 17/70[5] ("*waterbed effects*")[46]. For illustration, ComReg observed therein that even if there was a complete waterbed effect, a 100% decline in NGN call revenues would require at most a 1% price increase for other electronic communication services, in order to have a revenue-neutral effect on operators. However, ComReg would again note that it is of the view that such an effect would be unlikely to arise in practice given competition for electronic communication services generally. Furthermore, it is not clear whether Originating Operators would reduce their expenditure on acquiring new customers and/or increase prices across other services. Respondents have not considered ComReg's assessment in its draft RIA in their responses to Consultation 17/70.

2.56 In relation to Vodafone's submission that Geo-linking would be unfair on customers who do not regularly call NGNs, ComReg considers that Geo-linking would not entail a transfer of cost from one group of consumers (those who use NGNs) to another group (those who do not use NGNs). Geo-linking should instead provide for a functioning NGN platform, with likely increased usage extending to those who do, and to those who currently do not, use NGNs.

2.57 As noted above, ComReg does not consider it likely that prices for other services will increase. In any event, a relatively small increase (1% at most) in overall retail charges across all services would be unlikely to cause "bill shock". High charges for NGN calls, on the other hand, has caused and does cause bill shock[47] for end-users, thereby damaging and potentially eroding the NGN platform over time through a continuous decline in the volume of NGN calls.

[43] ComReg also considered the potential revenue impact at Paragraphs 5.53-5.56 and Table 2 of the draft RIA - Review of Non-Geographic Numbers Consultation Document 17/70.

[44] Eir's point is addressed in Chapter 3 of this document.

[45] E.g. Sky's T&Cs for Sky Talk Anytime (*unlimited Geographic Number bundle*): *Anytime calls of up to an hour to the Republic of Ireland and Northern Ireland local and national landline numbers only (excludes calls to Directory Enquiries, indirect access, dial-up Internet numbers and 0700 numbers) and then charged at 6.90c per minute (daytime & evening) and 1.40c per minute (weekend).*

[46] See Paragraphs A 1.138 – A 1.142 of RIA (Annex 1 of this Document)

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

Impact on Service Providers (SPs)

2.58 Eir and Three make a number of claims in relation to SPs in support of their submission that ComReg's proposed NGN measures are not required. In particular, they argue:

a) NGNs are not important for most organisations and most organisations would prefer not to use a NGN (Three);

b) The price/cost of NGNs is not a significant issue for organisations (Three);

c) The majority of organisations would not consider using NGNs in the future if the costs were reduced (Three);

d) No tangible evidence has been provided in support of the view that the proposed remedies will result in more SPs and increase calls to same (Three & Eir).

2.59 Section 5.4.2 of the draft RIA in Consultation 17/70[5] (Paragraphs A 1.73 – A 1.81 of the revised draft RIA) considered the likely impact on SPs and addressed each of the points raised above. Three and Eir do not appear to have had regard to the assessment in the draft RIA. Notwithstanding, ComReg has assessed points (a) – (d) above, in turn.

2.60 In relation to (a), ComReg considers that while most organisations do not have a requirement for NGNs, certain organisations have specific voice service requirements that cannot be provided by Geographic Numbers. In particular, while organisations of various types and sizes (small, medium, or large) use NGNs, NGNs are more typically used by larger organisations (insurance/banking/sales/utilities) which seek to provide a voice service to a large customer base. From the organisational study:

- 70% of organisations that do not currently use NGNs indicated that they are not big enough/have sufficient turnover to warrant a NGN.[48]
- One third of organisations with 40 – 100 employees use NGNs[49]; and
- Nearly 60% of organisations with 100 + employees use NGNs[50]

2.61 Nearly 770,000 NGN calls are made in the State every day[51]. Therefore, while most organisations do not use NGNs, those that do use them cover large

[48] Slide 33 of ComReg Document 17/70c – Non-Geographic Numbers: Organisation Study – published 16 August 2017.
[49] Slide 81 of ComReg Document 17/70c – Non-Geographic Numbers: Organisation Study – published 16 August 2017.
[50] Slide 81 of ComReg Document 17/70c – Non-Geographic Numbers: Organisation Study – published 16 August 2017.
[51] See Table 3 DotEcon Report (Document 17/70a) – 280 million calls are originated every year.

sections of society (geographically and demographically) and multiple sectors[52] of the economy. For example:

- Awareness of any NGN is above 80% for all age groups, social classes and regions;[53] and
- Over 60% of all age groups (except 18-24), social classes (except F) and regions ever dialled any NGN.[54]

2.62 For SPs that do provide voice service using NGNs, it is apparent that they place a value on doing so and that most consider that their voice service requirements cannot be met by a Geographic Number. Paragraph 5.172 of the draft RIA (Consultation 17/70[5]) detailed these requirements which in summary are:

- 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 single contact numbers (59% of organisations whose main NGN is not '1800'); 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).

2.63 In addition, ComReg notes that:

- Paragraphs 5.110 – 5.114 ("Call reduction effect") of the draft RIA (Consultation 17/70[5]) sets out why there is a continuing decline in the volume of NGN calls.
- Paragraphs 5.57 – 5.60 of the draft RIA (Consultation 17/70[5]) sets out why ComReg considers that the Preferred Option (Geo-linking) would likely increase the volume of NGN calls.

[52] Slide 81 of ComReg Document 17/70c – Non-Geographic Numbers: Organisation Study – published 16 August 2017.
[53] Slide 103 of ComReg Document 17/70b – Non-Geographic Numbers: Consumer Study – published 16 August 2017.
[54]Slide 29 (For age range 18-24 it is 47%, for social class F it is 57%) of ComReg Document 17/70b – Non-Geographic Numbers: Consumer Study – published 16 August 2017.

2.64 In relation to (b), ComReg refers to the wholesale issues in Chapter 3 which clearly show that the charges associated with NGNs are a significant factor for organisations.

2.65 In relation to (c) and (d), ComReg notes that:

- 40% of organisations who do not use NGNs because they think they are too expensive for customers to call would consider using NGNs in the future if customer call costs reduced[55]; and

- 44% of organisations who do not use NGNs because they think they are too expensive for the organisation to use would consider using NGNs in future if the organisation's costs of using NGNs were reduced[56];

2.66 A majority of organisations considering the use of NGNs is not a requirement for determining whether NGN usage will increase. Increased usage of NGNs is dependent on consumers making calls. A significant minority of organisations account for most NGN calls (770,000 NGN calls are made in Ireland every day, and to 10% of all organisations). Larger organisations and/or certain sectoral organisations are likely to generate more NGN calls than smaller organisations:

- two thirds of organisations with 10 - 100 employees indicated a willingness to consider using NGNs; and

- 60% of financial and insurance service organisations indicated a willingness to consider using NGNs.[57]

2.67 Regardless of the specific number of organisations, ComReg considers that the Organisation Study (Doc 17/70c[7]) strongly supports the view that more organisations would use NGNs if the cost of doing do were reduced and this, in turn, should lead to an increase in the overall volume of NGN calls made by consumers.

2.68 Finally, ComReg notes that all SPs (six) who responded to Consultation 17/70[5] agree with the Geo-Linking option.

Declining market

2.69 DotEcon considers that the available evidence indicates that there is still a demand for a well-functioning NGN platform. As indicated by the survey results, the ongoing decline in the volume of NGN calls is likely to be exacerbated by relatively high NGN retail charges coupled with widespread consumer lack of understanding and/or distrust of NGNs. In particular, DotEcon considers that if more organisations used NGNs, and if more consumers were willing to call NGNs

[55] Slide 66 of ComReg Document 17/70c – Non-Geographic Numbers: Organisation Study – published 16 August 2017.
[56] Ibid
[57] The breakdown of organisations according to size was not provided in Document 17/70d but is provided here for completeness.

(at lower retail charges) then the proposed remedies around lower retail charges and improved education, transparency and simplicity of the overall regime will encourage use of NGNs reinvigorating the platform, contrary to the views of Eir.

2.70 ComReg agrees with DotEcon. There has been a steady decline in the volume of NGN calls over the past five years and, contrary to the views of Eir, ComReg considers that the decline is mainly due to excessive retail and wholesale call origination charges, particularly when compared to equivalent charges for calls to Geographic Numbers. Further, such high charges are not justified by any difference in origination costs for Geographic Number calls and NGN calls.[58] As noted above, the Organisation Study (Doc 17/70c[7]) shows that SPs have specific requirements that cannot be provided by Geographic Numbers. Therefore, any migration by organisations from NGNs to Geographic Numbers is likely to be due to the excessive retail and wholesale NG call origination charges.

2.71 The draft RIA described the extent of this decline in Paragraphs 5.110 – 5.114 "*Call Reduction Effect*" in Consultation 17/70[5] (Paragraphs A1.112 – A1.116 of the revised draft RIA). As noted therein, declining use of NGNs is reflected in the individual behaviour of consumers, in their reactions to known and unknown NGN retail charges. While consumers view Geographic Numbers and NGNs as highly substitutable certain organisations do not, as a result, use NGNs as their main contact number.

2.72 Eir's suggestion that ComReg should allow the NGN platform to decline naturally is not considered appropriate, for the following reasons:

- Certain SPs have expressed a clear preference for NGNs over Geographic Numbers. These SPs have voice service requirements that cannot be satisfied by Geographic Numbers;
- Consumers would continue to be exposed to high retail charges for calling NGNs. Originating Operators could continue to capture some or all of the consumer surplus associated with the voice-based service provided by SPs[59]; and
- ComReg would not be acting in accordance with its statutory remit if it considered that consumers were being harmed in the use of NGNs yet failed to intervene, in a lawful and proportionate manner.

Ofcom (UK Regulator) proposals

2.73 Eir submits that remedies imposed by Ofcom have not had a significant effect on the volume of fixed and mobile calls to NGNs, in the UK. ComReg notes that these remedies are substantially different from those proposed by ComReg in Consultation 17/70[5] while their effectiveness, or otherwise, is a matter for Ofcom.

[58]As described in 5.35-5.47 of the draft RIA - Review of Non-Geographic Numbers Consultation Document.
[59] Organisations would also be exposed to high wholesale costs, and this is discussed in Chapter 3.

Further, Eir's submission that SPs would not migrate to NGNs is not supported by the Organisational Survey which shows that 40% of organisations, who currently think that NGNs are too expensive for their customers to call, would consider using NGNs in future if the retail call charges to their customers were reduced.

2.2.4 SPs' Responses

2.74 Six SPs (CCPC[60], CIB[61], ESB[62], FSAI[63], OGCIO[64] and Revenue[65]) agree with ComReg's proposal to introduce a new 'Geo-linked' retail tariff condition.

2.75 CIB[66] strongly concurs with ComReg's analysis and notes, in particular, the challenges that NGNs pose for vulnerable groups. CIB's difficulties in delivering its services over NGNs reflect ComReg's research findings. CIB supports Geo-Linking as necessary to provide callers with a more reasonable and fairly priced system that will benefit those people who are most likely to be socially and financially vulnerable.

2.76 The CCPC agrees with the consultation's findings that if consumers do not know the designation of each class of NGN then the potential for consumer harm is much greater, and that reduced consumer utilisation of the NGN platform would be to the detriment of consumers and SPs.

2.77 OGCIO supports Geo-Linking as its experience shows that "out of bundle" calls cause considerable confusion and expense for consumers. The OGCIO also notes that Government organisations have received regular complaints about high retail charges from customers who were surprised that their calls were not in bundle.

2.78 ESB Networks supports Geo-Linking and notes that it provides a Geographic Number alongside its '1850' NGN in order to lower call costs for consumers and enable them to use their bundled minutes.

2.79 The Food Safety Authority of Ireland (FSAI) supports Geo-Linking but notes that there would be resulting financial costs for current holders of '1850', '1890', '0818' and '076' NGNs to consider and potentially absorb.

2.80 Revenue supports Geo-Linking noting that it has received complaints from customers over retail charges which they incurred when calling Revenue through its '1890' NGN.

---

[60] Competition and Consumer Protection Commission.
[61] Citizens Information Bureau.
[62] Electricity Supply Board.
[63] Food Safety Authority of Ireland.
[64] Office of the Government Chief Information Officer.
[65] The Office of the Revenue Commissioners.
[66] CIB is the national agency responsible for supporting the provision of clear and comprehensive information, advice and advocacy on social services, and for the provision of the Money Advice and Budgeting Service.

2.2.5 ComReg Assessment of SPs' Responses

2.81 ComReg notes that all six SPs who responded support the introduction of the proposed Geo-Link tariff principle.

2.82 The respondent SPs' experience of the NGN platform is consistent with the evidence presented in Consultation 17/70[5] and the DotEcon Report[67], particularly as to the following:

- There is widespread confusion about the specific features and pricing of different NGN ranges and this confusion is reducing consumer utilisation of NGNs. (CIB, OGCIO)
- Confusion as to the features and pricing of the different NGN ranges has led to contagion across those ranges (CIB). (i.e. '1800' number range).
- A significant number of consumers experience 'bill shock' due to high retail charges for NGN calls.(CIB)
- 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. (CIB)
- Important social services cannot be accessed where certain SPs use NGN ranges that carry high retail charges. (CIB)
- 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. (CIB)
- SPs require NGNs to minimise costs for consumers and provide access to important public services. (Revenue)
- High retail charges have resulted in many complaints and dissatisfaction to SPs. (Revenue)

2.83 Revenue also recently expressed, in response to various parliamentary questions, its dissatisfaction at the rates charged for '1890' calls and stated that it supports the "*proposal that the retail charge applicable to a caller using any of the NGN services should not exceed the retail charge that would apply had the caller used a Geographic Number*".[68]

2.84 The supplementary evidence of consumer harm provided by respondent SPs is taken into account in the revised draft RIA, below.

2.2.6 Consumers' and Representative Bodies' Responses

[67] ComReg Document 17/70a – Strategic Review of Non Geographic Numbers in Ireland: A Report for ComReg – published 16 August 2017.
[68] https://www.oireachtas.ie/en/debates/question/2018-03-27/104/?highlight%5B0%5D=1890

2.85 One individual end-user (Mr. Mark Hely Hutchinson) and two representative bodies (Consumer Association of Ireland ("CAI") and the Irish Tax Institute ("ITI")) support the introduction of a 'Geo-linked' retail tariff condition.

2.86 Mr. Mark Hely Hutchinson submits that there are too many classes of NGN and that consumers may not understand the call costs for each class and including NGN calls "in bundle" is in the interest of consumers.

2.87 The CAI submits that there is significant consumer confusion with regard to the current NGN platform and that ComReg's proposal makes sense in the context that consumers generally understand their subscription 'packages' and what they offer to them.

2.88 The ITI submits that consumers need to be able to contact SPs at a reasonable cost and '1890' NGNs do not deliver on this requirement due to the high costs of calling same.

2.89 The CCPC agrees with ComReg's preliminary view that if consumers 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 that reduced consumer utilisation of the NGN platform would be to the detriment of consumers and SPs.

2.90 The CIB notes that certain persons who have accessed its voice services by a '076' NGN have experienced difficulties that are likely broadly illustrative of the public perceptions and experience of NGNs. The CIB further submits that those consumer perceptions and experiences may have a negative influence on consumer behaviours, and may thus inhibit usage of voice services provided over '076' NGNs.

2.2.7 ComReg Assessment of Consumers' and Representative Bodies' Responses

2.91 ComReg notes that end-user and representative body respondents support the introduction of a Geo-Linked tariff condition.

2.92 ComReg further observes that their experience of the NGN platform is consistent with the evidence presented in Consultation 17/70[5], particularly as to the following:

- consumers are confused about pricing and structure of the different NGN ranges and the number of NGN ranges adds to this confusion (CAI and Mr. Mark Hely Hutchinson, CCPC):
- experience of one NGN range creates a perception and experience of all NGNs (i.e. contagion effects) (CIB);
- reduced consumer utilisation of the NGN platform would be to the detriment of consumers and SPs (CCPC); and

- consumers must be able to access services provided by SPs at a reasonable cost. (ITI)

2.93 The supplementary evidence of consumer harm provided by respondent end-users and representative bodies is taken into account in the revised draft RIA, below.

2.2.8 ComReg's updated position

2.94 ComReg has not been provided with any additional information that would cause it to adjust its current Preferred Option, as set out in Consultation 17/70. Accordingly, ComReg remains of the preliminary view that it will introduce a new 'Geo-Linked' General Authorisation retail tariff condition of use, replacing the current General Authorisation retail tariff conditions for '1850', '1890', '0818' and '076' NGNs. The draft text of the proposed condition has been amended – see the draft Decision in Chapter 7.

2.95 Accordingly, ComReg's revised draft NGN Pricing RIA, set out below, is substantially the same as that set out in Consultation 17/70[5].

2.3 Response to draft "Number Consolidation RIA"

2.3.1 ComReg's position in Consultation 17/70

2.96 ComReg, in Consultation 17/70, set out its preliminary view that there is a clear requirement for a Freephone NGN range and that no new NGN ranges are required to ensure the effective functioning of the NGN platform.

2.97 ComReg considered that five regulatory options were available to it:

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

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

c) **Option 3:** Close '1850' and '1890' and retain '076' and '0818' as Geo Linked NGNs

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

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

2.98 ComReg formed the preliminary view that Option 5 was preferable - to establish a single Geo-Linked NGN range (0818) and withdraw the 1890, '1850' and '076' NGN ranges over 2-3 years. The Freephone '1800' range and the Geo-linked '0818' range would be the only two NGN ranges to remain in effect after the 2-3 year transition period ends. ComReg sought the views of interested parties by asking the following question:

Q. 2 Do you agree with ComReg's proposal to withdraw the '1850', '1890' and '076' NGNs following a 2 – 3 year transitional period? Please explain the basis for your response in full and provide any supporting information.

2.3.2 Views of respondents

2.99 14 of the 19 respondents submitted views on the number consolidation proposal. ComReg has divided the 14 respondents into three categories:

- Fixed and Mobile operators
- End-Users and Representative bodies; and
- Service Providers.

2.100 The views of each category of respondent are set out below followed by ComReg's assessment and its current position.

Fixed and mobile operators

2.101 BT submits that only one '*shared cost*' number is needed and that '0818' meets the requirements. It also features an orthodox and uncomplicated wholesale treatment for transit and termination. However, BT also submits that ComReg should retain the '076' range, for the following reasons:

- Corporate customers tend to use a lot of numbers, mainly within large blocks and given the increasing scarcity of Geographic Numbers and recent efforts by ComReg to return geographic blocks, '076' could help to relieve this pressure and avoid expensive number changes.
- Retention of '076' would promote Geographic Number conservation and avoid expensive number changes
- BT has used its international presence to help ensure '076' NGNs are accessible from other countries.
- The nomadic nature of '076' is helpful to businesses who are rapidly moving to Voice over Internet Protocol ("VoIP") type solutions.

2.102 BT agrees that a 2-3 year period to phase out the '1850' and '1890' NGN ranges is appropriate.

2.103 Eir does not agree with the proposal to reduce the classes of NGNs from five to two. Eir submits that while a certain level of consolidation may be of benefit, in terms of simplicity and increased consumer understanding, there are a number of issues to consider, including:

- There is no guarantee that SPs will choose to migrate to '1800' or '0818' absent a review of wholesale pricing arrangements.

- Certain SPs who have migrated their voice services in the past would have to migrate again. Such a further migration would have no real value from a functional perspective and would only serve as a costly inconvenience to SPs.

- The '076' class of NGN is the least well known and could be withdrawn.

- A 2-3 year transition period would be disruptive and costly for SPs

  - costs to SPs would include stationary, replacement of advertising, promotional material, replacement costs and other administrative costs.
  - Ofcom, the UK Regulator, previously estimated such costs, on average, as approximately €1,350 - €2,700 per SP.
  - due to what is claimed as being a lack of analysis by ComReg as to potential costs, Eir submits that ComReg should engage in further stakeholder management, to ensure that the costs of NGN consolidation would not outweigh its benefits.

2.104 Sky submits that the five classes of NGN continue to be used but if any classes are to be closed then 2-3 years would seem an appropriate time period in which to allow for transition.

2.105 Three agrees that there is a lack of transparency and that two NGN ranges may be appropriate. Three suggests introducing two entirely new classes of NGN - Freephone '0800' and '0810' or '0828' (caller pays). Three also submits that the minimum period for any consolidation of NGN classes should be three years.

2.106 Virgin does not agree with ComReg's proposal but submits that if consolidation is required then consolidating '1850' and '1890' would be sufficient to improve the functioning of the NGN platform.

2.107 Vodafone does not agree with ComReg's proposed consolidation over 2-3 years and submits that:

- a minimum cycle of 5-7 years would be more appropriate;

- customers are unlikely to be familiar with the fact that '0818' is an NGN as it is similar to current mobile ranges; and

- enforced number changes will lead to further confusion.

Consumers’ and Representative Bodies

2.108 The CAI considers that the proposed 5-to-2 NGN consolidation should bring immediate transparency, simplicity, and clarity for all users.

2.109 Mr. Mark Hely Hutchison also agrees with the proposal.

Service Providers

2.110 The CCPC considers that the proposed consolidation over 2-3 years is a sensible approach which should improve consumers’ ability to identify and avail of NGNs that meet their requirements.

2.111 The CIB considers that the different classes of NGN confuse consumers and supports the proposed consolidation following a 2-3 year transitional period as being positive for citizens and consumers. The CIB also contends that transitioning out of ‘076’ NGNs will have significant cost implications.

2.112 The OGCIO urges ComReg to maintain the ‘076’ range as it allows SPs to maintain a “neutral” geographic stance as well as maintain the ability to receive international calls. The OGCIO notes that the intention of the ‘076’ range was to cater for the same requirements served by Geographic Numbers.

2.113 ESB does not agree with the proposal to withdraw ‘1850’ NGNs for the following reasons:

- The ‘1850’ range has been far more customer friendly than ‘1890’ or ‘0818’ ranges and has traditionally cost the owner of the NGN more in terms of telco costs.
- There would be a disproportionate cost to ESB in moving from ‘1850’ to another NGN. For example:
    - Its ‘1850’ NGN is published on a significant number of assets (poles, vehicles, substations etc.) and there are approximately over two million poles carrying overhead electricity transmission lines.
    - From a safety perspective, a transition to a new number would pose challenges in terms of the public becoming familiar.
    - The impact on customers, of not being able to ring ESB Networks to report network outages, could impact the stability and health of the electricity network.

2.114 The FSAI supports ComReg’s proposal to retain two classes of NGN (‘1800’ and ‘0818’) for simplification and transparency purposes for the customer. The FSAI also considers that there would be migration costs for SPs in moving to a new number range.

2.115 Revenue considers that a phased transition to a new number is achievable but submits that such a transition would generate confusion, unnecessary contacts, and marketing/cost challenges. Revenue further submits that once the consumer cost of calling NGNs has been resolved then there is no major benefit for customers or SPs to undertake such a migration. Revenue additionally notes the following in relation to 1890:

- 1890 supports a call centre operation which is not feasible with a normal dedicated number.
- Inbound calls can be routed from any exchange to either a Revenue data centre or to customer agents.
- 1890 provides a single point of contact for customers and is the de facto standard for call centres/customer service operations reducing technical complexity, confusion and advertising issues.
- 1890 helps reduce Revenue's operation costs as Revenue receives volume discounts and facilitates centralised billing.
- 1890 enables measurement of response times and service levels.

2.116 In response to claims from Councillor Paul McAuliffe that it should stop using '1890' numbers, Revenue also observed that it is currently "*awaiting the outcome of the consultation process*".[69]

2.3.3 ComReg Assessment of Responses

2.117 ComReg assesses 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

Wholesale concerns

2.118 ComReg assesses concerns about the wholesale regime in Chapter 3 and does not repeat that assessment here.

[69] http://www.thejournal.ie/calls-revenue-1890-out-of-bundle-4021384-May2018/

Migration costs (Eir, ESB)

2.119 Eir submits that there is "*lack of analysis by ComReg as to the potential costs*". ComReg disagrees and considers that Eir has not had proper regard to the material in the draft RIA on migration costs including, in particular, the B&A NGN Materials Cost Study (Document 17/70d[8]) that ComReg commissioned in order to assess the potential impact of its proposed measure on SPs. Having conducted such recent research that is specific to Ireland, ComReg does not agree with Eir that ComReg should use Ofcom (UK) data and indeed ComReg previously ruled out using Ofcom data because it was more than 15 years old[70].

2.120 ComReg agrees that NGN consolidation would mean that certain SPs would be required to migrate to alternative number ranges. This consequence is specifically noted in the draft RIA in which ComReg sets out, in detail, the likely impact that number migration could have on SPs. The draft RIA Section titled 'Migration costs' (page 77 of Consultation 17/70[5]) and the revised draft RIA herein both contain detailed information on how best to minimise the costs of migrating from an NGN range. This assessment is further described in the revised draft RIA and is not repeated here. However, in summary, ComReg provided the following:

- Estimates of the numbers of SPs who use NGNs in particular ranges (noting that any SP may use more than one number range to provide the same voice service) (Table 5 – draft RIA) [5];
- The B&A NGN Materials Cost Study (Document 17/70d[8]) which provides details on:
    - what migration costs organisations could face if ComReg proceeded to consolidate ranges in the short-run for the benefit of consumers; and
    - whether an alternative time period could reduce or eliminate the costs faced by organisations while not unduly delaying the benefits of consolidation to consumers.
- The extent to which certain SPs may favour switching to a 'Geo-linked' NGN notwithstanding the migration costs.

2.121 The Materials Cost Study[8] includes consideration of costs associated with replacing stationary, advertising, promotional material and signage, as suggested by Eir. Eir has not provided any views on the Materials Cost Study or the analysis contained therein.

[70] For example, 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*".

2.122 ComReg recognises that certain SPs may have particular requirements that will have implications for their own migration planning. ComReg would welcome more information about such requirements in responses to this consultation, and as we engage with SPs in planning the implementation of any final decision we can accommodate such needs as far as is practical.

Removal of '076' (BT, OGCIO, Vodafone)

2.123 Given the requirement for international accessibility (Article 28 of the Universal Services Directive), any option must also include retention of either the '076' or '0818' ranges. ComReg considers that consumers and SPs are unlikely to prefer options that involve additional NGN ranges where their requirements can be accommodated with fewer NGN ranges. Having too many NGN ranges pollutes the price signal provided by the prefix and creates confusion amongst consumers as to what each range means and the applicable retail tariff structure.[71] Having more than one NGN range with the same retail tariffs increases the risk that consumers will confuse the various NGN ranges with one another and may also confuse them with Premium Rate Service numbers. For this reason, ComReg considers that a revised NGN platform requires the '0818' or '076' range, but not both.[72]

2.124 ComReg agrees with BT that the '076' range is open for international access. However, and as noted in the draft RIA, the '0818' range is also recognised by Irish and International stakeholders. Therefore, for SPs who require international access, '076' does not have any advantage over '0818' – both ranges are internationally accessible. That being the case, retaining '076' would be unlikely to satisfy certain other requirements of SPs, as compared to '0818', having regard to the Organisation Study (Document 17/70c[7]) the results of which include the following:

- '076' is the least memorable[73] of the five NGN ranges and SPs that require or value number memorability would be unlikely to prefer '076'; and
- SPs are unlikely to use '076' where the location of their organisation is likely to be a requirement because '076' has similar features to a Geographic Number (consumers may confuse it with the North-West of Ireland or elsewhere).

---

[71] The revised draft RIA below observes that a clear instance of this is pollution of the '1800' range.
[72] Including more than one Geo-Linked number range (i.e. 076) should only be required where an existing range or proposed range is at risk of exhaustion. Section 5.5.5 of the draft RIA, contained in Document 17/70, assessed the potential for scarcity in the supply of NGNs where 0818 was the sole geo-linked range and concluded that such a scenario is unlikely to arise for the reasons outlined therein (i.e. the migration of all active NGNs to the '0818' range would increase its total occupancy rate to 6% - i.e. 94% or 940,000 individual '0818' numbers would still be available.).
[73] This view is also supported by evidence from the Organisation Survey (Document 17/70c, Slide 20)

2.125 The Number Consolidation RIA sets out reasons for removing the '076' range. ComReg notes therein that requirements for the '076' range considered three types of users.

- VOIP Users;
- Corporate Users; and
- OGCIO.

VOIP Users

2.126 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). [74]

2.127 However, while VoIP customers were originally offered IP-based numbers customers preferred to use Geographic Numbers where available. Reasons for this, provided by operators[75], 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 uses a landline number that connects to your mobile.[76]

2.128 As noted in the draft RIA, ComReg already has number conservation measures in place in relation to Geographic Numbers[77] and ComReg remains of the view that additional measures such as the retention of the '076' range are not necessary. Further, to the extent that number conservation may be required to ensure the continued availability of '0818' and '1800' numbers in the future, conservation measures similar to those proposed for Geographic Numbers could be extended to NGNs. Therefore, the retention of the '076' range as a Geographic Number conservation measure is not necessary. Finally, demand for new Geographic Numbers for such services is low as OTT voice services can already be provided using a consumer's existing Geographic Number.

[74] See Annex 1 - Document 04/103 - VoIP Services in Ireland: Numbering and related issues.
[75] Document 13/122 - The Evolution of Geographic Numbering in Ireland - Consultants' report – Section 6.8.
[76] https://n.vodafone.ie/business/products-and-solutions/mobile-communications/red-business.html
[77] ComReg Document 16/20b – Report for ComReg: Conservation measures to meet future demand for geographic numbers – published 11 March 2016

2.129 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.

Corporate Users

2.130 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).

2.131 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[78] compared to 3.5 – 5c per minute for a calls terminating on the ‘076’ range.[79] In this way, operators may have financial incentives to offer the ‘076’ range to corporates who wish to cater for inbound and outbound calls.

2.132 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 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.

2.133 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 consumers services. The NGN class may be displayed on business cards and websites etc. Given that the proposed transitional period of 3 years (See ‘Transition Period’ below) 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.

OGCIO

2.134 ComReg notes BT’s concerns in relation to the use of ‘076’ for OGCIO. Recently, there has been a tendency by Government to use the 076(1) range for various government services. The DotEcon Report sets out that this has primarily

[78] Depends on the operator – See Table 104 Eir STRPL (18/01/2018).
[79] See Table 208 Eir STRPL (18/01/2018).

been driven by Government seeking to create a distinct category of number, which could be included in customer bundles so that Government could require specific tariffs from operators. In particular, use of the 076(1) range by government services has been adopted to address pricing problems for consumers, particularly with 1890, and not because a separate distinctive class was required.

2.135 However, as set out in the DotEcon Report, while this has had some success, all '076' calls are not necessarily included in-bundle. The intention behind Government Services use of the '076' range was primarily to reduce the cost of accessing government services. However, Geo-linking will ensure that all calls to NGNs will be treated the same as a Geographic Number meaning the cost of accessing public services over NGNs will be substantially reduced. Further, as described in Chapter 3, wholesale intervention could increase the potential for SPs to utilise '1800' Freephone in the provision of services to consumers.

2.136 ComReg notes that the main user of the '076' range for government services (i.e. CIB) notes that the use of 076(1) has not been effective and supports ComReg's preferred options. While CIB notes that the removal of '076' will have cost implications, ComReg is of the view that such considerations have been provided for through the provision of a 3 year transitional period. However, as stated above in paragraph 2.122, if OGCIO, CIB or any other SP using 076 numbers considers they have particular requirements that should be taken account of in implementation planning, then they are invited to provide details so that their needs can be accommodated as far as is practical.

Removal of '1890' (Revenue)

2.137 Revenue provides a list of requirements which it claims the '1890' range uniquely accommodates. However, ComReg is of the view that the '1800' range and the '0818' range could also satisfy those requirements. Both ranges can (a) act as a single point of contact, (b) be routed to data centres and (c) service levels can also be monitored across both number ranges.

2.138 Further, the volume discounts Revenue currently claims it receives are likely to be negated by any reduction in wholesale origination charges (See Chapter 3). This would likely reduce the charges paid by the Service Provider to the Terminating Operator for hosting the NGN. SPs currently face high charges for receiving NGN calls, as consequence of wholesale origination charges set by the originating operator and passed through by Terminating Operators. This will also provide alternative options for Revenue, particularly in light of its requirement for "*minimising customer compliance costs and in providing a fair and accessible public service*". As noted in Paragraph 3.37 below, SPs currently paying for '1890' would likely be able to migrate to Freephone services (as part of consolidation) and be no worse off (possibly better off) in terms of cost of providing services over NGNs.

2.139 Revenue has recently noted, in response to various parliamentary questions, it dissatisfaction at the rates charged for ‘1890’ calls and supports the “*proposal that the retail charge applicable to a caller using any of the NGN services should not exceed the retail charge that would apply had the caller used a Geographic Number*”.

2.140 ComReg remains of the view that the ‘1890’ range would be unnecessary under the preferred option in the revised draft Pricing RIA. ‘1890’ has suffered such serious reputational damage and is likely to remain “toxic” in the long-term, meaning that the functioning of the NGN platform would be negatively affected if the ‘1890’ was retained. The ‘1890’ NGN also has the notable disadvantage of not being internationally accessible.

2.141 As stated above in paragraph 2.122, if Revenue or any other SP using 1890 numbers considers they have particular requirements that should be taken account of in implementation planning, then they are invited to provide details so that their needs can be accommodated as far as is practical.

Removal of ‘1850’ (ESB)

2.142 ComReg remains of the view that the 1850 range (fixed-price per call) would be unnecessary under the preferred option in the revised draft Pricing RIA while also noting that the 1850 NGN also has the notable disadvantage of not being internationally accessible. However, Geo-linking will ensure that all calls to NGNs will be treated the same as a Geographic Number, meaning the cost of accessing public services over NGNs will be substantially reduced.

2.143 1850 may be preferable to 1890 and 0818 from a consumer perspective under the NGN platform as currently structured (as submitted by ESB). However, ComReg considers that this would not be the case if the Preferred Options were implemented, as such calls as are currently made to 1850 should then either be in bundle, where relevant, or be made to 1800 (Freephone). As noted in Consultation 17/70, the characteristic that seems to be most valued by consumers is pricing predictability. Therefore, if measures were put in place to ensure reasonable retail pricing then the need for the 1850 range should diminish. In such circumstances, 0818 would be the Geo-Linked NGN range and would be treated the same as a Geographic Number. Consumers are likely to prefer Freephone (1800) services or a Geo-Linked number over the existing 1850 range and its associate retail charges.

2.144 ESB notes the importance of consumers being able to contact ESB networks when required. In that regard, ComReg notes that a number of options would appear to be available to ESB depending on its requirements. For example, switching to a Freephone (1800) NGN would eliminate any retail charge in calling ESB, which may be helpful given that the retail charge incurred in calling an NGN is, for many consumers, a disincentive against doing so. As noted below

(Paragraph 3.38), SPs that currently pay for 18XX should be able to migrate to 1800 (Freephone) NGNs (including as part of any 5-to-2 consolidation of the NGN ranges as proposed) and, at the very least, they should be no worse off (and may be far better off) in terms of their incurred costs in providing services over NGNs.

2.145 Alternatively, ESB could migrate to the Geo-Linked (0818) NGN range whereby consumers who have bundled minutes have no marginal cost up to the number of minutes but, along with pre-pay customers, would have a cost associated when dialling out of bundle. Therefore, depending on its particular requirements, ESB should have a range of possible options to choose from in order to make accessing ESB services more effective for consumers (a stated requirement for ESB). ESB would also have three years over which to inform consumers of any new number range. However, as stated above in paragraph 2.122, if ESB or any other SP using 1850 numbers considers they have particular requirements that should be taken account of in implementation planning, then they are invited to provide details so that their needs can be accommodated as far as is practical.

Retention of ‘0818’ (Vodafone)

2.146 Vodafone’s concerns in relation to the claimed similarities between ‘0818’ and the mobile ranges are addressed in paragraph 5.265 of the draft RIA in Consultation 17/70[5] (Paragraph A 1.265 of the revised draft RIA) In summary:

- 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 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; and
- ComReg’s approach to transparency would include measures to increase awareness of the preferred options and ‘0818’ as a geo-linked number.

2.147 Vodafone has not engaged with the assessment provided by in the draft RIA. ComReg remains of the view that ‘0818’ should be retained as the geo-linked range.

New Number ranges (Three)

2.148 Three’s suggestion that two new number ranges (Freephone 0800 and 0810 or 0828) paid by the caller should be introduced was addressed in Paragraphs 5.152 – 5.163 of Consultation 17/70[5] (Paragraphs A 1.155 – A 1.165 of the revised draft RIA)). ComReg was of the view that any benefits of 0800 would be outweighed by the likely negative impact of such a significant number change. In summary:

- 1800 range is generally effective;
- The UK has a Freephone number range that beings with ‘0800’ and therefore a new Irish ‘0800’ Freephone range could carry the risk of creating additional consumer confusion and misdialling issues;
- Irish consumers might assume that calls to Irish ‘0800’ NGNs that are made from outside the State would be free of charge; and
- International carriers would have to be notified of the new ‘0800’ range and would have to open access on their networks.

2.149 Three has not engaged with the assessment provided by in the draft RIA. ComReg remains of the view that ‘0818’ should be retained as the Geo-Linked range and new NGN ranges are not necessary.

Transition period

2.150 Ten respondents submitted observations on ComReg’s proposal to withdraw the ‘1850’, ‘1890’ and ‘076’ NGNs following a 2–3 year transitional period. Nine respondents agreed that a 2–3 year period was appropriate.[80] Vodafone submitted that a minimum cycle of 5-7 years would be more appropriate to allow SPs and customers to adjust to the change.

2.151 Vodafone has not provided any rationale for its suggestion that a 5-7 year period would be more appropriate. ComReg set out in detail its rationale for a 2-3 year period in Section ‘Migration Costs’ of the draft RIA. This was informed by the B&A NGN Materials Cost Study (Document 17/70d[8]) and concluded that a period of 2-3 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.

2.152 Notwithstanding, ComReg is aware that NGNs appear on a variety of different formats and the Materials Cost Study[8] possibly captured only a subset of those formats (e.g. ESB power lines etc.). Therefore, in order to provide greater scope for a greater number of organisations to avoid costs, while not unduly delaying the benefits to consumers, ComReg is of the current view that an implementation period of three years would be appropriate and proportionate in order to provide sufficient time for SPs with ‘1850’, ‘1890’ and ‘076’ ranges to migrate to a new number range.

2.3.4 ComReg’s updated position

2.153 ComReg has not been provided with any additional information that would warrant an amendment to its preferred option. ComReg’s current position therefore is to withdraw the ‘1890’, ‘1850’ and ‘076’ NGN ranges over a three

[80] Three submitted that the implementation period should be a minimum of 3 years.

year transitional period to give SPs sufficient time to migrate to an alternative number range. Accordingly, ComReg's revised draft 'Number Consolidation' RIA, set out in Annex 1 below, will be updated to provide for same, and is substantially the same as that set out in Consultation 17/70[5]. See Chapter 7 for the draft Decision. The Freephone '1800' range and the 'Geo-linked' '0818' range would thus be the only two NGN ranges to remain in effect after the transitional period ends.

3 Wholesale Issues

3.1 Introduction

3.1 The harm to the NGN platform arises because of observable problems at both retail and wholesale levels of the NGN platform. In particular, insufficiently transparent and relatively high wholesale and retail charges for NGN calls create a consumer harm. Total volumes of NGN calls are lower than they otherwise would be (many consumers are deterred from making NGNs calls) and/or fewer services are provided over NGNs than would otherwise be the case (SPs are deterred from using NGNs).

3.2 There is a general downward spiral effect. Unclear and relatively high retail prices deter many consumers from calling NGNs. The more consumers who are reluctant or unwilling to call NGNs, the fewer the SPs with any incentive to provide services over NGNs, who also have to contend with high wholesale origination charges. The fewer the SPs who provide services over NGNs, the fewer the consumers who will call NGNs, and so on. Eventually the NGN ranges, which were and still are intended for widespread use to the benefit of consumers generally, are used less and less while still being the source of considerable confusion and distrust amongst a significant proportion of consumers.

3.3 The current structure of the NGN platform gives Originating Operators power to impose relatively high NGN charges, at the wholesale and retail level. There is thus a transfer of surplus from consumers and SPs (higher retail and wholesale origination charges) to Originating Operators (increased revenues). This results in welfare losses which necessitates intervention at both the retail and wholesale level, to protect consumers including SPs. ComReg recognised the need for concurrent wholesale measures and the remainder of this chapter sets out more detailed views on same.

Terminology

3.4 The value chain for NGN calls can be quite complex and revenues are transferred between the various parties across the entire value chain and in either direction. Furthermore, these flows can be dependent on the specific NGN range. In that regard, DotEcon describes the terminology that is often used when referring to particular wholesale rates for NGNs. These are the settlement rate and the retention rate. The settlement rate can be either positive or negative (i.e. the settlement rate is negative for ‘1800’ in which case the payment flow is from the Terminating Operator to the Originating Operator).

3.5 For the remainder of this Document, ComReg refers to an increase or decrease in '**Wholesale Origination Charges**' to describe a situation where the Originating Operator changes the settlement rate and/or the retention rate in order to extract greater or lesser revenue from every minute of an NGN call. ComReg only refers to the settlement rate and/or the retention rate where the context specifically requires it and notes that such terms may be more appropriate in future consultations.

3.2 Wholesale Intervention

3.6 ComReg remains of the overall preliminary view that its two Preferred Options (Geo-linked condition and the 5-to-2 consolidation of the NGN ranges) would likely remedy the identified issues on the retail side and thus ensure the effective functioning of the NGN platform, though not if taken in isolation. In that regard, ComReg proposed its retail remedies noting that any identified issues at the wholesale level would be addressed in line with the approach outlined by ComReg in Information Notice 17/53R[81] and having regard to the Preferred Options.

3.7 ComReg, having considered all responses to Consultation 17/70[5], considers it appropriate to provide further information as to how it would propose to address harm identified at the wholesale level. This section, which identifies and considers potential measures by which to address such wholesale concerns, is divided into three parts:

1. Rationale for harm arising from existing wholesale interconnect regime.
2. Evidence of harm arising from the existing wholesale interconnect regime.
3. Wholesale intervention and potential approaches.

1. Rationale for harm arising from existing wholesale interconnect regime.

3.8 At present, each Originating Operator exerts a significant degree of bottleneck control over access to its customers for the purposes of making NGN calls in that each Originating Operator can set retail (for all numbers other than 1800) and wholesale origination charges that are relatively high and there is little within the NGN sphere that SPs or Terminating Operators can do in terms of taking any countervailing action. In effect, Originating Operators can exploit their position, to a significant degree and to the detriment of consumers, because SPs are unable to take countervailing action by which to deter or prevent such behaviour (other than deciding not to use an NGN at all, a quite extreme action which may be more detrimental to some SPs than using an NGN under a less than optimal pricing structure).

[81] https://www.comreg.ie/publication/information-notice-wholesale-charges-non-geographic-numbers/

3.9 DotEcon's report[82] identifies and describes three main reasons[83] why Originating Operators have been able to set wholesale origination charges in this manner:

1. SPs require end-to-end connectivity in order to be accessible by all callers – i.e. each Originating Operator's subscribers must be able to access all NGNs. This is reflected in the regulatory principle that regulatory authorities shall encourage end-to-end connectivity.[84]
2. The procedure for charging SPs is not transparent making incentives for Terminating Operators and SPs to force down Originating Operators charges weak.[85]; and
3. Terminating Operators have reduced incentives to change the existing wholesale regime as some of the excess returns are passed through as a more generous termination rate. [86]

3.10 ComReg assesses each of the above three reasons in turn, under the headings below.

(i) End-to-end connectivity & access to numbers and services

3.11 End-to-end connectivity is the mechanism through which all consumers can access services provided by all SPs, regardless of operator[87]. For this to happen, all operators must be able to interconnect with one another, in order to provide a full service to their customers.

3.12 An SP providing a service using an NGN generally relies on that service being accessible to all potential callers, across every Originating Operator. For example, if an SP was to reject all NGN calls coming from a particular Originating Operator with a 40% market share, then the SP would effectively be cutting itself off from 40% of all potential customers. From an SP's perspective, Originating Operators are complements rather than substitutes. An SP therefore has few, if any, options if an Originating Operator should increase its wholesale origination charges because the SP cannot, by way of response to the increased charges, threaten to reject NGN calls originating from that Originating Operator. The least worst option, given that accessibility to all potential customers is likely to be of utmost importance, is to live with the increased charges. Alternatively, in response to an increase in a wholesale origination charge, an SP could switch

[82] ComReg Document 18/65a – DotEcon: Response to Consultation 17/70 – Published 11 July 2018.
[83] Section 6.3 – ComReg Document 18/65a – DotEcon: Response to Consultation 17/70 – Published 11 July 2018.
[84] Page 35 – ComReg Document 18/65a – DotEcon: Response to Consultation 17/70 – Published 11 July 2018.
[85] Page 35 – ComReg Document 18/65a – DotEcon: Response to Consultation 17/70 – Published 11 July 2018.
[86] Page 35 – ComReg Document 18/65a – DotEcon: Response to Consultation 17/70 – Published 11 July 2018.
[87] "Operator" means an undertaking providing or authorised to provide a public communications network or associated facility.

to using an NGN which results in consumers bearing the full cost of the call (i.e. 0818/076).

3.13 The regulatory principle to provide end-to-end connectivity is set out in Article 8(3) (b) of the Framework Directive[88] and Article 5(1) of the Access Directive[89] while Article 28(1) of the Universal Services Directive[90] mandates that end-users be able to access and use services using NGNs within the EU.

(ii) Terminating Operator procedure for charging SPs

3.14 Under the current wholesale interconnect regime, most SPs[91] are not charged a separate, individual call origination charge for each individual NGN call received. Instead, an SP is charged based on a weighted average of the wholesale origination charge of different originators, according to their relative traffic.[92] Under this regime, if one Originating Operator should raise its wholesale origination charge then Terminating Operators would typically pass on a blended charge to the SP; this would reflect a weighted average of the wholesale origination charges of different Originating Operators according to their relative traffic. This pricing structure makes it difficult for SPs to identify those Originating Operators that raise or have high existing wholesale origination charge[93] as the impact of any single originator may be greatly diluted in the traffic mix. If SPs were aware of the sometimes substantial difference in wholesale origination charges across different Originating Operators, SPs may pressure Terminating Operators to account for those differences and reduce the charge to the SP.

3.15 Under the current interconnect regime, wholesale origination charges for certain NGNs (‘1800’, ‘1890’ and ‘1850’) are high[94] and the regime has, historically, facilitated Originating Operators in increasing the wholesale origination charge as the impact of any single Originating Operator raising its wholesale origination charge is greatly diluted in the traffic mix. Further, any negative impact resulting from a wholesale origination charge increase (i.e. a reduction in call volumes across any or all NGN ranges) would be spread across all Originating Operators.

[88] Directive 2002/21/EC of the European Parliament and of the Council of 7 March 2002 on a common regulatory framework for electronic communications networks and services (Framework Directive)
[89] Directive 2002/19/EC of the European Parliament and of the Council of 7 March 2002 on access to, and interconnection of, electronic communications networks and associated facilities (Access Directive)
[90] 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)
[91] For example, an operator providing fixed and mobile services can act as both an Originating Operator and a Terminating Operator for the same call which allows it to attract SPs with a reduced Originating Operator for calls originated on its network.
[92] An SP will face a blended average of origination charges set by Originating Operators according to the mix of traffic received.
[93] ComReg notes that high wholesale origination charges are primarily mobile.
[94] Calls to ‘0818’ and ‘076’ NGNs, and fixed-line calls to ‘1850’ and ‘1890’ NGNs don’t have wholesale origination charges.

3.16 Under this current arrangement, in which wholesale origination charges are not separate and individual but are averaged and weighted, a price increase by any individual Originating Operator will benefit (i.e. increased revenue) that Originating Operator while any downside resulting from such a price increase (i.e. fewer NGN calls) will likewise be spread amongst all Originating Operators. Therefore, provided that relatively high call origination charges result in a net benefit to that Originating Operator (i.e. increased revenues due to high charges outweighing any loss of revenue resulting from fewer calls) then individual Originating Operators will have an incentive to keep such charges at a relatively high level. This arrangement may benefit Originating Operators (though perhaps not so much over the longer term) but it does not benefit consumers, including SPs, to whom those high charges will ultimately flow (i.e. '1800').

3.17 Similarly, for reasons stated above, there would be little benefit in an individual Mobile Operator reducing its wholesale origination charge because the potential for resulting call volume increases is extremely limited because the overall weighted average charged to all SPs would remain high. For wholesale origination charge reductions to be effective, all Originating Operators would have to reduce individual rates which is unlikely to occur given the revenues currently earned by Originating Operators (see Table 3 of the revised draft RIA).

3.18 For illustration purposes only: suppose a three operator market, Operator A, Operator B and Operator C. Each operator has an equal volume of originated calls and a wholesale origination charge of €0.50 per minute. Each operator also has a Price elasticity of demand ("Ped") of -1 (i.e. a 10% reduction in price, leads to a 10% increase in volume)[95]. The Terminating Operator charges each SP a blended rate of €0.50 per minute.

3.19 If Operator A reduces its wholesale origination charge by 10% to €0.45 the blended rate charged by SPs will reduce to €0.48 a 3.3% reduction. Operator A increase its volumes by 3.3% instead of 10% in line with its Ped. Operator B and C, who did not decrease their wholesale origination charge, also receive the benefit of an increase in call volumes. The only way for Operator A to increase volumes by 10% is for the remaining two operators to also reduce wholesale origination charge. Absent this Operator A is unlikely to reduce wholesale origination charge because it will not receive the full benefit and the lost benefit will be shared among competing operators.

(iii) Terminating Operator incentives

3.20 As identified by DotEcon, if Originating Operators pass some of their excess retail NGN revenues ('0818', '076', '1850' fixed and '1890' fixed) on to Terminating Operators, through a more generous termination payment, this might provide an incentive to preserve current arrangements. For example, for

[95] A reduction in wholesale origination charges would encourage more SPs to use NGNs increasing call volumes.

terminating a Geographic Number call, a Terminating Operator receives a termination fee of between 0.5 – 1.8c per minute[96] but the same Terminating Operator, for terminating a call to an ‘076’ NGN, will receive a termination fee of between 3.5 – 5c per minute.[97] Taking the figures in this example, the termination fee for an ‘076’ NGN call could be up to ten times higher than the termination fee for a call to a Geographic Number, for example, an “01” Dublin number.

3.21 Further, just 0.1% of all calls are terminated by Terminating Operators who provide termination services only.[98] Almost all calls are terminated by Terminating Operators who are also Originating Operators. An operator may thus be the Terminating Operator for some calls but the Originating Operator for other calls. Therefore, given the revenues generated on the call origination end[99], there is little incentive for most Terminating Operators to promote any reduction in wholesale origination charges that would result in reduced call origination fees (as they are earned by such Terminating Operators in their capacity as Originating Operators). There thus appears to be a clear incentive for most Terminating Operators who are also Originating Operators to preserve the existing wholesale interconnect regime.

2. Evidence of harm caused by wholesale interconnect regime.

3.22 Access to services, provided by SPs using NGNs, and the provision of end-to-end connectivity can be restricted through retail and wholesale origination charges:

a) if an Originating Operator increases its retail charges to such extent as to effectively foreclose its customers from accessing an SP’s services, the SP will not receive calls which the Originating Operator’s customers would otherwise have made.

b) if an Originating Operator charges high wholesale NGN call origination charges, it may discourage SPs from providing services on NGNs that cost less or are free of charge for consumers. This could also effectively foreclose certain SPs’ services to consumers.

3.23 In relation to bullet (a) above, ComReg Consultation 17/70[5] the revised draft RIA below identifies and describes the consumer harm identified as resulting from high NGN retail charges and the manner in which access to services provided

[96] See Table 104 Eir STRPL (18/01/2018).
[97] See Table 208 Eir STRPL (18/01/2018).
[98] Source DotEcon Revenue Allocation Model - Strategic Review of Non-Geographic Numbers in Ireland: A Report for ComReg (DotEcon) The majority of fixed operators provide both call origination and call termination services with the exception of two operators 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.
[99] The DotEcon Revenue allocation model (See Document 17/70a) shows that only one operators generates more termination revenue than origination revenue.

over NGNs appears to be restricted, due to the current wholesale interconnect regime.

3.24 In relation to bullet (b) above, ComReg's assessment of how high wholesale origination charge reduces access to services provided over NGNs is divided into two sources of harm:

i. Existing wholesale harm; and

ii. Potential wholesale harm arising from retail remedies absent concurrent wholesale remedies.

Prior to assessing both, ComReg notes that its primary rationale for introducing wholesale remedies relates to (i) 'existing wholesale harm'. As identified below, this refers to the harm that is currently damaging the NGN platform to the detriment of consumers and SPs. In relation to (ii), this refers to the harm that may occur on the introduction of retail remedies depending on how individual operators react to the retail remedies. Regardless of whether (ii) arises in practice, wholesale remedies are required in order to remedy the harm associated with (i).

(i) Existing wholesale harm

3.25 ComReg remains of the view that current, relatively high wholesale origination charges (particularly mobile wholesale origination charges) restrict end-users' access to services provided over NGNs. This is because the relatively high wholesale origination charges appear to have resulted in a significant number of organisations not providing their services over NGNs or reducing their service provision over NGNs. Relevant results from the B&A Organisation Study indicate as follows:

- 30% of organisations that do not provide access to their services using NGNs do not do so because they consider NGNs too expensive for the organisation to use;[100]
- 47% of organisations that do not use NGNs to provide access to their services, but do use landline or mobile numbers for this purpose, considered that it was more cost effective to use a landline or mobile number than a NGN;[101]
- 44% of surveyed organisations that do not use NGNs because they considered them too expensive for the organisation to use, stated that

[100] Slide 33 of ComReg Document 17/70c – Non-Geographic Numbers: Organisation Study – published 16 August 2017.
[101] Slide 34 of ComReg Document 17/70c – Non-Geographic Numbers: Organisation Study – published 16 August 2017.

they would consider using NGNs in future if the organisation's cost of using these numbers reduced;[102]

- 46% of surveyed organisations that use an NGN other than '1800' (Freephone) do so in order to reduce the cost of calls to their organisation;[103] and
- 73% of surveyed organisations that use an NGN would not consider using an '1800' NGN (Freephone) because they think it would be too expensive for the organisation. [104] [105]

3.26 DotEcon and ComReg also conducted more in-depth stakeholder interviews with eight private companies and public sector bodies that use NGNs (especially those providing social or public services). The results of those interviews generally align with the results of the B&A research, in that they indicate the following:

- Some SPs are moving from '1800' (Freephone) to other NGNs in response to high wholesale origination charges.
- Some public body SPs that provide important social services have no option but to provide those services over '1800' (Freephone), as many end-users who access those services may not be able to do so if a number in a range other than an '1800' Freephone was to be used.
- SPs are looking at different contact channels (e.g. online chat services), but they also noted that a significant proportion of customers still preferred to contact SPs by phone.[106]

3.27 The results of the B&A Organisation Study[107], and of the in-depth interviews with a number of private and public sector bodies, together indicate that a relatively high wholesale origination charges appears to have resulted in fewer SPs providing services over the NGN platform than would otherwise be the case. This reduced utilisation of NGNs is of particular concern in the case of '1800' (Freephone) NGNs because services provided over the Freephone range are more likely to attract callers because the retail charge for the call is zero. The main reason organisations use Freephone NGNs is to enable (or perhaps to encourage) actual or potential customers to access their services free of

[102] Slide 66 of ComReg Document 17/70c – Non-Geographic Numbers: Organisation Study – published 16 August 2017.
[103] Slide 30 of ComReg Document 17/70c – Non-Geographic Numbers: Organisation Study – published 16 August 2017.
[104] Slide 32 of ComReg Document 17/70c – Non-Geographic Numbers: Organisation Study – published 16 August 2017.
[105] Small base.
[106] In that regard, ComReg notes the findings from the Consumer Survey which shows that 67% of consumers prefer to contact businesses or organisations by phone (Document 17/70b, Slide 23).
[107] ComReg Document 17/70c – Non-Geographic Numbers: Organisation Study – published 16 August 2017.

charge.[108] However, 73% of surveyed organisations which currently use a NGN stated that they do not use a ‘1800’ NGN because it is too expensive for the organisation i.e. wholesale origination charges are too high. [109]

3.28 Because of the expensive wholesale origination charges, many SPs have switched or are switching from Freephone NGNs to alternatives. Such alternatives include NGNs where the consumer pays the full cost of the call (076 & 0818) or shared cost NGNs where the SP and caller both contribute to the cost of the call (1890 & 1850) or non-voice alternatives (e.g. online websites).[110] However, the results of the B&A Consumer Study indicate that 67% of consumers still prefer to contact organisations by voice (telephone) rather than by any non-voice alternative. Non-voice means of contact are not viewed as substitutable by many consumers while certain demographics (for example, some elderly persons or persons living in rural areas without Internet access) may be wholly reliant upon certain voice-based services, provided over an NGN, and would otherwise be denied any access to those services.[111]

3.29 Certain categories of consumers will not access services provided over NGNs other than Freephone, where a retail charge applies and where that retail charge is (or is perceived to be) relatively high. DotEcon notes: “*Distorted wholesale pricing could lead to SPs not using NGNs, or distorting choice of NGN type. For example, if Freephone remains particularly costly to SPs they might decide to choose an option which means the caller will have to incur a charge*.”[112]

3.30 Reduced access to a service provided over a NGN (due to a relatively high wholesale origination charges) may be particularly harmful if the benefit of the service is significantly diluted as a result of the retail charge incurred in accessing that service. For example, say that a consumer has been overcharged €10 for a product purchased from a SP and so the caller calls the SP’s (non-Freephone) customer services line. The customer is reimbursed the full €10, however the retail charge for the NGN call was €5[113], half the amount refunded. Such an outcome satisfies neither the SP’s customer nor the SP itself, with the only satisfied parties being those operators amongst whom the €5 call charge will be distributed.

---

[108] Slide 29 of ComReg Document 17/70c – Non-Geographic Numbers: Organisation Study – published 16 August 2017.

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

[110] Indeed Eir noted back in 2014 that “*wholesale settlement system between operators which has acted to drive Service Providers away from this market with the consequence of reducing the availability of 1800 services to Callers… eircom believe that the current pricing in place for mobile origination to these services has resulted in many Businesses moving away from these services*.” Eir response to Document 14/130.

[111] Slide 22 of ComReg Document 17/70b – Non-Geographic Numbers: Consumer Study – published 16 August 2017.

[112] Page 24 of ComReg Document 18/65a – DotEcon: Response to Consultation 17/70 – Published 11 July 2018.

[113] A ten minute call to an ‘1890’ number could cost up to €5.

3.31 The social effects of reduced NGN utilisation resulting from relatively high wholesale origination charges can also 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.

3.32 For example, 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).[114] 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 billpay account is charged €10 for an NGN call then that charge may amount to little more than an irritation, whereas if a person living on very modest means and is charged the same amount, it could have a significant impact or the call may not be made at all.

3.33 ComReg takes particular note of the views submitted by the Citizens Information Board (CIB). 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. ComReg is of the view that these social groups are the most likely to require access to certain social services while also having the lowest ability to pay for same. To the extent that any service is not being provided over a Freephone NGN, due to a relatively high wholesale origination charge deterring the SP in question from utilising an NGN, there can be a high social cost in that certain essential services may not be accessible, or may be less accessible, to those most in need of them.

3.34 In its response to Consultation 17/70[5], the CIB has outlined the difficulties in providing social services over NGNs where the caller pays for the charge[115] and the CIB submits that issues would not arise if those services were provided over Freephone NGNs. ComReg, having considered all relevant information before it, remains of the preliminary view that it appears likely that certain SPs, including some which provide essential social services, would have an incentive to provide such services using '1800' Freephone NGNs, if the wholesale origination charge was reduced.

3.35 ComReg has evidence of specific SPs which provide essential social services using NGNs and where the costs of doing so is significant and threatens the continued provision of those services:

[114] CSO, Household Budget Survey 2017.
[115] For example, credit running mid call, bill shock after a call, and not making calls in the first instance to access services.

- [✂[redacted]] spends €30,000 - €60,000 per month on its Freephone '1800' NGN, with 90% of this on its [✂[redacted]]. Spend is often €1,000 per day, in the time period between 16.30 and 17.00. To put this in perspective, [✂[redacted]] other Freephone '1800' helplines cost it just a "few hundred" euros per month. Also for perspective, [✂[redacted]] outbound voice traffic is around €1,000 per month.
- One Respondent [✂[redacted]] stated that while certain operators cover the cost of certain charities including [✂[redacted]]; [✂[redacted]], and [✂[redacted]], most charities using Freephone have to cover their own costs.

3.36 It would appear that the relatively high costs incurred by SPs under the current wholesale interconnect regime has resulted in many SPs using the 'shared cost' (1850 & 1890) or 'caller pays' (0818 & 076) NGN ranges instead of the Freephone (1800) NGN range or, in some cases, in SPs not providing any voice-based service. The following survey results are particularly noteworthy:

- 73% of current NGN users stated that they do not use a '1800' NGN because it is too expensive for the organisation[116] (i.e. organisations that currently provide services over NGNs other than '1800' Freephone do so because of the reduced cost, in that the caller pays some or all of the call charge);
- 30% of organisations that have never used NGNs to offer their services stated that they do not do so because of the costs which they would incur;[117] and
- 44% of organisations that stated that they do not use NGNs because they are too expensive for the organisation to use, further stated that they would consider using NGNs if those costs were reduced[118].

3.37 For calls to an '1850' (variable shared cost) NGN from a mobile number, SPs are likely to be charged from €0.03 - €0.17 cents per minute.[119] For calls to an '1890' (fixed shared cost) NGN from a mobile number, SPs are likely to be charged up to €0.04 per minute.[120] However, ComReg's proposed wholesale intervention is likely to make '1800' (Freephone) a viable option for such users.

[116] Slide 32 (small base) of ComReg Document 17/70c – Non-Geographic Numbers: Organisation Study – published 16 August 2017.
[117] Slide 33 of ComReg Document 17/70c – Non-Geographic Numbers: Organisation Study – published 16 August 2017.
[118] Slide 66 of ComReg Document 17/70c – Non-Geographic Numbers: Organisation Study – published 16 August 2017.
[119] Eir STRPL – Table 306
[120] Eir STRPL – Table 308.

3.38 For example, DotEcon suggests[121] that a useful proxy, for demonstration purposes only, to estimate an upper bound for incremental wholesale origination charges, would be to use regulated mobile termination rates, which at the time of writing were €0.026 per minute (i.e. any wholesale origination charge for '1800' NGN would be unlikely to be higher). Therefore, SPs that currently pay rates of such magnitude or more for '1850' or '1890' numbers should be able to migrate to '1800' (Freephone) NGNs (including as part of any 5-to-2 consolidation of the NGN ranges as is still proposed) and, at the very least, be no worse off (and be possibly far better off) in terms of the cost of providing services over NGNs. This should increase utilisation of '1800' (Freephone) NGNs and thus increase the number of voice-based services which consumers can access free-of-charge, including certain services having important societal benefit.

3.39 Finally SPs who do not wish to incur a cost in providing services over '1800' (Freephone) would be able to use a geo-linked '0818' number and do so knowing that such calls are included in a customer's bundle of inclusive call minutes.

(ii) Potential wholesale harm arising from introducing retail remedies absent concurrent wholesale measures.

3.40 ComReg is of the preliminary view that the two-sided nature of the NGN platform is such that if ComReg was to implement its proposed remedies at the retail level, absent corresponding appropriate remedies at the wholesale level, then this could exacerbate current harm at the wholesale level to such an extent that utilisation of NGNs by SPs could be reduced. DotEcon states: "*It is also possible that retail remedies without corresponding wholesale remedies could even worsen the situation for SPs if originators seek to recover lost retail margins through higher wholesale origination charges*."[122]

3.41 However, currently the extent to which Originating Operators fully exercise their bottleneck control over access to customers, through increased wholesale origination charges, is not clear and likely varies between number ranges. Under the NGN platform as currently structured, operators may:

a) have already exploited their bottleneck control to the fullest or close to the fullest extent possible; or
b) have not exploited their bottleneck control to the fullest extent possible.

3.42 In relation to (a), Originating Operators may have little or no ability to increase their wholesale origination charges in response to Geo-linking being introduced (because prior to its introduction they were already exploiting their bottleneck control to the full, or as close to full as possible). In such circumstances, the introduction of Geo-Linking should not create an opportunity for Originating

[121] ComReg Document 17/70a – Strategic Review of Non Geographic Numbers in Ireland: A Report for ComReg – published 16 August 2017.
[122] Page 9 of ComReg Document 17/70a – Strategic Review of Non Geographic Numbers in Ireland: A Report for ComReg – published 16 August 2017.

Operators to change their wholesale origination changes to any material extent, or perhaps not at all.

3.43 In relation to (b), if geo-linking was introduced then Originating Operators may have greater incentive to further exploit bottleneck control at the wholesale level. This would likely result in increased wholesale origination charges and harm to the wholesale side of the NGN platform. For example, all Originating Operators are currently setting the same settlement rate as Eir for the 0818 range and the introduction of geo-linking could result in Originating Operators changing the settlement rate which could result in the Terminating Operator passing on any resulting costs to SPs.

3.44 This potential increase in harm in relation to NGNs could arise because any change to the wholesale regime that increases the cost to SPs (as a direct reaction by Originating Operators to recovering lost retail margins) would be likely to further reduce incentives for SPs to provide their services using NGNs. The use of '1800' Freephone by SPs could be reduced if wholesale origination charges increased further, noting that current charges already act as a deterrent for many SPs as indicated by the survey results outlined above (i.e. Originating Operators may increase the wholesale origination charges on 1800 to compensate for the reduced retail revenue on other NGNs arising from geo-linking).

3.45 For example:

- Some SPs that currently utilise Freephone (1800) NGNs may, following Geo-linking and a 5-to-2 consolidation as proposed, migrate to a Geo-linked '0818' NGN or to an Geographic Number or Mobile Number[123];
- Some SPs seeking to offer services over NGNs for the first time, and who would ideally prefer to do so using a Freephone (1800) NGN, may instead use a Geo-linked '0818' NGN or an Geographic Number or Mobile Number, where some or all of the call charge applies to the caller; and/or
- Some SPs may cease providing voice-based services altogether, especially where their requirements are not satisfied by a Geo-linked '0818' NGN, or a Geographic Number or Mobile Number.

3.46 The extent to which any individual Originating Operator, depending on circumstances and its commercial strategy, might decide to increase its wholesale origination charges in response to Geo-linking and/or NGN consolidation, is not clear at this time. Therefore, ComReg is of the preliminary view that it would generally be preferable for any wholesale measure to come into effect concurrent with the Geo-Linking measure, if the latter is implemented. However, while such an overall approach may be generally preferable, it would likely be necessary to proceed with Geo-Linking alone in the absence of

[123] ComReg notes that this would not be the preference of SPs

concurrent wholesale remedies to ensure the benefits of Geo-Linking to consumers. Proceeding in such a manner would likely represent a significant improvement to the functioning of the NGN platform, compared to the its current functioning, while any risks of lost retail margins being recovered through higher wholesale origination charges would be mitigated by implementing a decision on appropriate wholesale measures shortly after the commencement of Geo-Linking.

3. Wholesale intervention and potential approaches

3.47 In light of the identified consumer harm described above, ComReg is of the preliminary view that wholesale intervention in relation to NGNs to protect consumers would be a justified and proportionate measure, specifically as it should improve consumers' ability to access voice-based services provided over NGNs, including by increasing the range of NGN services and/or by reducing or removing any retail charges for accessing such services. ComReg is of the preliminary view that intervention is justified, proportionate and necessary to ensure end-to-end connectivity, interconnection and interoperability in relation to Non-Geographic Numbers and services.

3.48 Amongst other things, ComReg remains of the preliminary view that:

- existing wholesale origination charge are excessive, especially for mobile originated calls, and have likely reduced consumers' access to services provided over NGNs;
- wholesale intervention is required to complement the proposed retail remedies (Geo-linking and 5-to-2 consolidation);
- in the absence of any corresponding wholesale interventions, Originating Operators may seek to recover lost retail margins (resulting from Geo-linking) through higher wholesale origination charges, thereby further reducing services provided over NGNs;
- wholesale intervention would likely increase the extent to which SPs provide access to services over NGNs and in particular increase access to Freephone services; and
- DotEcon advises that wholesale intervention is justified given that each Originating Operator in effect has market power, and is not avoidable by a SP who needs to be accessible to all callers regardless of which network they might subscribe to.[124]

3.49 ComReg is cognisant that the effective functioning of the NGN platform requires a wholesale approach in conjunction with the proposed retail remedies (and in particular geo-linking) in order to prevent unintended consequences and ensure

[124] Page 9 of ComReg Document 17/70a – Strategic Review of Non Geographic Numbers in Ireland: A Report for ComReg – published 16 August 2017.

the effective functioning of the NGN platform for all users. In that regard, a wholesale approach should satisfy two main criteria in order to complement the proposed retail remedies and jointly ensure the effective functioning of the NGN platform.

3.50 Therefore, subject to ComReg's consideration of whether a proposed measure is objectively justified, transparent, non-discriminatory, and proportionate, any wholesale approach should be **(a) timely,** preferably coming into effect on or before the implementation date of the geo-linking option and **(b) effective** as to its intended purpose. This approach is consistent with the approach outlined in ComReg's Electronic Communications Strategy Statement[125] where ComReg considered that it was critical that any intervention or regulatory response should be **timely** and **effective** in order to maximise societal welfare.[126] If a particular wholesale approach does not satisfy these requirements, ComReg is of the view that the objective of an effective functioning NGN platform would not be met. ComReg assesses each of these criteria in turn below.

(a) Timing

3.51 Five respondents (BT, Eir, Vodafone, Verizon and Virgin) submit that the wholesale review should precede any proposed changes to the NGN platform at the retail level. ComReg, for the reasons stated above, agrees that it would be preferable that the proposed geo-linked measure should not be introduced prior to appropriate wholesale remedies being identified and put into effect. ComReg thus proposes that if it should ultimately decide to implement the Geo-Linking measure then the measure should come into effect one year after the publication date of such a decision. ComReg notes that new and amended tariff conditions for '1850', '1890', '0818' and '076' NGNs (Decision No. 2, 3 and 6)[127] 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 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*".[128]

3.52 ComReg proposes that the Geo-Linking comes into effect one year from the date of the final decision. A one year time period from the date of the final decision is the maximum period allowable for geo-linking to come into effect as any longer period would unnecessarily delay the benefits to consumers (See Impact on Consumers in Section A 1.4.4 and the DotEcon Report) from the geo-linking

[125] ComReg Document 7/31 - Electronic Communications Strategy Statement 2017-2019 – published 13 April 2017.
[126] Pages 9, 86 and 95 of ComReg Document 7/31 - Electronic Communications Strategy Statement 2017-2019 – published 13 April 2017.
[127] ComReg Document 11/16 and Decision Document 01/11 – National Numbering Conventions Update to V.7: Response to Consultation – published 9 March 2011
[128] Open Eir Switched Transit Routing and Price List, p 71, 73 and 75.

option and the deterioration in the use of the NGN platform would continue. Therefore, it would be preferable for any wholesale intervention to come into effect on or before the implementation date of the geo-linking option noting that while geo-linking may be introduced prior to wholesale measures, such a scenario would only arise where wholesale measures were delayed beyond a year but would be implemented shortly thereafter.

(b) Effectiveness

3.53 The type of wholesale approach should be effective to address the objective of reducing existing high wholesale origination charges. In that regard, each wholesale approach will have a greater or lesser, longer or shorter impact on the extent to which such an objective can be achieved. An appropriate wholesale approach should limit wholesale origination charges to those required to cover at least the costs of origination. The overall effectiveness of a particular wholesale approach in constraining or incentivising Originating Operators to price wholesale origination charge appropriately is important because the ability of operators to deviate and set prices unilaterally could cause any such wholesale approach to unravel.

3.54 Any wholesale approach that does not constrain the ability of Originating Operators to set excessive wholesale origination charges would not be appropriate in ensuring the effective functioning of the NGN platform. SPs should only be paying to cover the costs of the call that are not covered by the retail charge to the caller (i.e. cover the origination costs of ‘1800’ (Freephone) and no charge for receiving a ‘0818’ geo-linked call). An effective wholesale framework should provide the correct incentives for SPs to choose a NGN range that suits their requirements rather than because the wholesale origination charge are such that it leads to trade-offs between SP requirements and costs.

Possible Wholesale approaches

3.55 DotEcon advises that the key problem to be addressed at the wholesale level is Originating Operators market power as evidenced above by excessive wholesale origination charges. As discussed, each Originating Operator has the potential to raise prices above cost given the end-to-end connectivity requirements and SPs need to be accessible to all callers regardless of which network they might subscribe to.

3.56 DotEcon outlines six potential wholesale interventions. It is not proposed to fully repeat DotEcon’s discussion and analysis of these approaches. Stakeholders are invited to review the mechanics of each approach set out in the DotEcon Report which accompanies this consultation.[129] ComReg, below provides a

[129] ComReg Document 18/65a – DotEcon: Response to Document 17/70 – published 11 July 2018.

summary of each and, in light of the requirement for a wholesale intervention, provides a preliminary assessment of each of the potential approaches.

1. Dispute Resolution.
2. Abuse of dominance.
3. Negotiated Settlement.
4. Structural change.
5. Guidance.
6. Price Control.

3.57 ComReg addresses each in turn below.

Approach 1 - Dispute resolution

3.58 A dispute resolution requires that a dispute is raised by an interconnected party (i.e. Originating Operator or Terminating Operator). ComReg has no control over whether it receives a valid dispute or not and so could not guarantee intervention in this way. Further, as noted by DotEcon there is no guarantee that the underlying causes of the issues identified would be resolved across the market since a dispute only addresses the specific issues raised as part of the dispute; and the resolution only applies to the parties to the dispute and would not affect other parties which may be subject to similar harm.

3.59 Therefore, ComReg is of the view that this approach would not be effective in addressing high wholesale origination charges faced by SPs for receiving NGN calls or timely to ensure effective implementation in line with the proposed introduction of geo-linking. Further, this approach has always been available as a potential intervention and, thus far, has not resulted in preventing Originating Operators setting wholesale origination charges for which there is no competition.

Approach 2 – Abuse of dominance

3.60 Under an ex-post investigation under Section 5 of the Competition Act 2002 (Abuse of dominance), with a Court having final decision in the matter, the burden of proof lies with ComReg to establish that an abuse by one or more undertakings of a dominant position in trade for electronic communications services in the State or in any part of the State had occurred. Competition cases tend to be lengthy, and can take in the region of at least two years to reach the full trial of the action.[130] In the meantime, the harm to consumers would continue since retail measures would not likely be introduced absent appropriate wholesale interventions.

[130] European Commission, Ireland Report, John Meade, p17
http://ec.europa.eu/competition/antitrust/actionsdamages/national_reports/ireland_en.pdf

3.61 Therefore, ComReg is of the view that this approach would not be effective in addressing high wholesale origination charges faced by SPs for receiving NGN calls or timely to ensure effective implementation in line with the proposed introduction of geo-linking. Further, this approach has always been available as a potential intervention and, thus far, has not resulted in preventing Originating Operators setting wholesale origination charges for which there is no competition.

Approach 3 - Negotiated Agreement

3.62 DotEcon identifies a negotiated settlement as a possible solution to the identified harm. ComReg recognises that operators may voluntarily address the harm identified in this review of NGNs[131]. ComReg notes that any such approach by operators would have to comply with their competition law obligations. However, ComReg agrees with the views of DotEcon that this approach is unlikely to be effective in ensuring the effective functioning of the NGN platform. The stability of such a settlement relies on a voluntary commitment from operators and, absent any restraint, the incentive to deviate at a later point will be high. There is no reason to suggest that all Terminating Operators and Originating Operators would agree independently to consolidate around a set of wholesale origination charges particularly given the unravelling of the ‘deemed to be’ regime and mobile operator’s reluctance to participate in the first instance.

3.63 Therefore, ComReg is of the view that a negotiated settlement is not appropriate because such an approach would not be effective in addressing high wholesale or timely to ensure effective implementation in line with the proposed introduction of geo-linking.

Approach 4 - Structural change

3.64 A structural change would involve moving rate setting responsibilities away from Originating Operators to Terminating Operators. In effect, the Terminating Operator would set both the wholesale origination charge and the termination charge which removes the ability of Originating Operators to exploit their position. Terminating Operators compete with other Terminating Operators to provide services to SPs and if Terminating Operators had rate setting responsibilities there are incentives for Terminating Operators to take into account SPs interests when considering appropriate wholesale origination charges. This would be in contrast to the current framework where Originating Operators might not consider, or might not have sufficient incentives to consider the impact on SPs from increasing its wholesale origination charges. A change in approach could be effective in addressing high wholesale origination charge faced by SPs because competition between Terminating Operators would likely see a reduction in wholesale origination charges.

[131] See paragraph 18 of ComReg Document 17/53R - Information Notice - Wholesale Charges for Non-Geographic Numbers – published 14 June 2017.

3.65 However, as noted by DotEcon, this approach is not appropriate for the following reasons:

- It would impose a significant burden on all operators as operators would need to substantially change their payment and billing systems;
- Its implementation is likely to be costly and time consuming; and
- It is disproportionate given other available options.

3.66 ComReg agrees with the views of DotEcon. While such an approach could be effective, in theory, its implementation is subject to a large degree of uncertainty and, in any event, it is not clear that it would ensure the effective functioning of the NGN platform. In particular, ComReg observes that such rate setting responsibilities are currently the practice in the UK which also has problems with excessive pricing. This approach would not provide ComReg with sufficient certainty that such an intervention would work in conjunction with geo-linking. This approach could be implemented in conjunction with a price control (Approach 6), however, a price control would likely be as effective under the current rate setting framework without imposing costs of a structural change on interested parties. Therefore, this approach in isolation or in conjunction with a price control would be disproportionate given the availability of other more effective and less restrictive, alternative measures, as set out in this chapter.

3.67 Therefore, ComReg is of the view that changing rate setting responsibilities is not appropriate because such an approach would not likely be effective in addressing high wholesale origination charge faced by SPs or timely to ensure effective implementation in line with the proposed introduction of geo-linking.

Approach 5 –Guidance

3.68 Approach 5 would involve ComReg issuing guidance on its view of acceptable behaviour particularly in terms of wholesale origination charges. Guidance could include:

- conditions under which ComReg would launch an investigation, either using its competition powers, or using its powers as set out in the Access Regulations and/or the Universal Service Regulations;
- conditions under which a dispute would be considered, and indicating the factors that ComReg would take into account in any dispute that was submitted; and/or
- specifying a reference price level beyond which any wholesale price would prima facie be considered excessive – a rebuttable presumption of abuse.

3.69 DotEcon notes that guidance would be relatively easy to implement and would provide a statement of intent on how ComReg would proceed with any further action to be taken in the wholesale market, however, it may not be sufficient in directly addressing the issues identified.

3.70 ComReg agrees with the views of DotEcon. While guidance may provide the appropriate incentives for Originating Operators to reduce wholesale origination charges in order to avoid possible investigation, this approach does not provide sufficient certainty that wholesale origination charges would be reduced to levels necessary to promote the efficient functioning of the NGN platform. Further, while Originating Operators may be encouraged to reduce wholesale origination charges, the wholesale origination charge is unlikely to be reduced to a level consistent with a called party covering the costs of origination. It is also not clear whether any reductions would be timely to ensure effective implementation in line with the proposed introduction of geo-linking.

3.71 Finally, guidance is not legally binding and operators may continue to set wholesale origination charges at their current level and given that a Court would have the final decision in the matter, such a process would be time consuming, allowing Originating Operators to continue earning substantial rents.

3.72 Therefore, ComReg is of the view that guidance would not be effective because it is unlikely to achieve the objective of addressing the existing high wholesale origination charges faced by SPs and would not be timely to ensure the effective implementation in line with the proposed introduction of geo-linking.

Approach 6 –Price Control

3.73 Approach 6 would involve directly addressing excessive wholesale origination charges by applying a price control. DotEcon notes that the imposition of a price control applied to all originators in the market would directly address excessive wholesale origination charges. 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 cover their costs on an incremental basis, so they are no worse off from providing NGN services. On balance, DotEcon recommends that ComReg directly address excessive wholesale origination charges[132] by means of a price control.

3.74 ComReg is of the preliminary view that a price control would be justified, reasonable and proportionate, because, amongst other things:

- The NGN platform is not working effectively which is to the detriment of consumers and SPs, and action is required at wholesale level to address problems along the entire NGN supply chain.

[132] As noted at the outset of this Chapter, wholesale charges refer to settlement rates and/or retention rates. For 1800 (Freephone), the retention rate and the settlement rate are the same thing. However, for non-Freephone numbers such as such as 0818, there is a distinction between the retention rate and settlement rate and there are different implications for setting a control on one or the other. This will be considered separately in a future consultation.

- Originating Operators are exploiting their position to the detriment of consumers because SPs are unable to take countervailing action by which to deter or prevent excessive wholesale origination charges.
- ComReg's justification for a wholesale price control is supported by a cross section of supporting evidence, namely;
    - The B&A Organisation Study (Document 17/70c[7]);
    - The B&A Consumer Study (Document 17/70b[6]);
    - In-depth stakeholder interviews with a number of private companies and public sector bodies that use NGNs (especially those providing social or public services.);
    - The DotEcon revenue allocation model (Document 17/70a[9]);
    - Response from consumers and SPs to Consultation 17/70[5]; and
    - Responses from six operators (BT, Colt, Eir, Verizon, Virgin and Vodafone) seeking a review of current wholesale arrangements.[133]
- A price control would ensure that Originating Operators and Terminating Operators would be able cover their costs on an incremental basis, so they are no worse off from providing NGN services;
- Regulatory-induced distortions that might affect the choice between different NGN ranges and between NGNs and Geographic Numbers would be avoided;
- Any wholesale origination charge arising from the price control would work in conjunction with retail remedies promoting the effective functioning of the NGN platform;
- Given that ComReg has already collected a large amount of evidence and analysis, as supported by DotEcon, a price control can be implemented in a timelier manner to ensure the effective implementation in line with the proposed introduction of geo-linking.
- Less intrusive ex ante regulation, such as transparency or non-discrimination obligations, would not be sufficient to address the issues identified as some of the underlying problems appear to be caused by structural issues in the NGN value chain. (See Document 17/70a); and
- ComReg's preferred approach was chosen after an assessment of potential alternative wholesale approaches having regard to ensuring the effective functioning of the NGN platform over a timely period.

[133] ComReg Document 18/65s – Submissions to Consultation 17/70 – published 11 July 2018

3.75 Therefore, ComReg is of the view that a price control would be effective and is likely to achieve the objective of addressing the existing high wholesale origination charges (particularly for ‘1800’). Further, appropriate regulatory mechanisms are available that would allow the intervention to come into effect in a timely manner to ensure the effective implementation in line with the proposed introduction of geo-linking.

Form of price control

3.76 DotEcon outlines two regulatory methods of implementing a price control. These are methods and the timescales required to implement a price control would depend on the regulatory mechanism.

- A market based analysis and assessment of SMP under Regulation 27 of the Framework Regulations; or
- The imposition of SMP-type obligations on non-SMP operators under Regulation 8(3) of the Access Regulations in conjunction with Regulation 6(2) of the Access Regulation and/or Regulation 23(1) of the Universal Service Regulations.

3.77 ComReg notes that the evidence above clearly shows that end-users, and in particular, certain consumers are unable to access and use services using NGNs. In that regard, ComReg considers that it is necessary to take steps to ensure that end-users are free to access services using NGNs because excessively high wholesale origination charges are currently preventing SPs from providing access to services over the NGN platform. Furthermore the evidence demonstrates that there is a problem with end-to-end connectivity in relation to NGNs.

3.78 In light of the above, ComReg is of the preliminary view that an assessment of SMP under Regulation 27 of the Framework Regulations is not necessary or appropriate at this point for the following reasons:

- Call-origination to Non-Geographic Numbers is not a recommended market under the Commission Recommendation of 9 October 2014 on relevant product and service markets within the electronic communications sector susceptible to ex ante regulation;[134]
- On 14 June 2017, ComReg initiated an investigation into inter-operator charges for Non-Geographic Numbers.[135] As a result of this investigation, the evidence presented above was identified and considered. Having reviewed this evidence, ComReg is of the preliminary view that it may

[134] 2014/710/EU: Commission Recommendation of 9 October 2014 on relevant product and service markets within the electronic communications sector susceptible to ex ante regulation in accordance with Directive 2002/21/EC of the European Parliament and of the Council on a common regulatory framework for electronic communications networks and services.

[135] ComReg Document 17/53r – Information Notice: Wholesale Charges for Non-Geographic Numbers – published 14 June 2017.

address the identified harm in conjunction with Regulation 6(2) of the Access Regulations and/or 23(1) of the Universal Service Regulations. These provisions allow ComReg to impose obligations to address the identified harm;

- Initiating a SMP assessment when ComReg has a more efficient mechanism for addressing the identified harm is not proportionate as an alternative option that would likely achieve the same ends is available (i.e. is there a plausible, less restrictive, alternative measure); and
- An SMP assessment would not likely be completed in timely manner to ensure the effective implementation in line with the proposed introduction of geo-linking.In that regard, while such an approach may be effective, it would not be timely and the retail measures would be significantly delayed, harming consumers for longer than necessary, particularly given the availability of more timely and equally effective regulatory measures.
- The general aim of regulation is to ensure effective competition in the market for the benefit of consumers and compliance with Regulation 23(1) of the Universal Service Regulations and measures to provide for end-to-end connectivity would likely provide this objective.

3.79 Therefore, ComReg is of the view that an assessment of SMP is not necessary as such an approach would not be (a) timely to ensure effective implementation in line with retail remedies or (b) proportionate with regard to other available options. ComReg will therefore proceed with a consultation to consider implementing a wholesale price control in line with Regulation 8(3) of the Access Regulations in conjunction with Regulation 6(2) of the Access Regulation and/or Regulation 23(1) of the Universal Service Regulations as such a control constitutes a necessary step to ensure end-to-end connectivity and/or to ensure that end-users are able to access numbers and services using NGNs.

Q. 2 Do you agree with ComReg's assessment of the issues arising at the wholesale level, in particular ComReg's preliminary view that there is a problem with interoperability, interconnection and end-to-end connectivity and access to Non-Geographic Numbers and services, as outlined above? Please explain the basis for your response in full and provide supporting information.

Q. 3 Do you agree with ComReg's proposal that a price control would achieve the objective of addressing high wholesale origination charges and, that ComReg should consult on the form and implementation of such a price control? Please explain the basis for your response in full and provide supporting information.

4 Legal points raised by respondents

4.1 Respondents to Consultation 17/70[5] raised certain additional points in relation to the Preferred Options, as described below together with ComReg's views and position in relation to same.

4.1 Obligations on SPs

4.2 One respondent to Consultation 17/70[5] who is also an end-user (Mr Dave McCabe) submits that SPs should be mandated to provide a Geographic Number alongside any advertised NGN.

ComReg's Assessment

4.3 ComReg does not have any power in law to mandate SPs to provide a Geographic Number alongside any advertised NGN. As stated in Chapter 5 of this document, ComReg does propose to work with operators to develop guidance for SPs on how to effectively inform consumers of the various retail charges for NGN calls.

4.2 ComReg's powers

4.4 Eir submits that ComReg does not have power to mandate that NGN calls be included in the various packages of in-bundle calls that Eir (and other operators) offers to its customers through its various subscriptions. Eir submits that a decision to include, or to not include, calls to certain numbers in-bundle is a commercial decision for each individual operator to make and that ComReg cannot prescribe the calls that an operator chooses to include in its various packages of in-bundle calls.

ComReg's Assessment

4.5 ComReg does not agree with Eir's assertion as to ComReg not having power to make a Geo-linking Condition. ComReg also remains of the preliminary view that there is objective justification for such a condition, supported by a substantial body of evidence, and that such a condition would appear to be proportionate having regard to its intended purpose (i.e. the observed consumer harm which it would seek to eliminate or substantially reduce). ComReg's reasons in this regard are set out below.

4.6 Part A of the Annex to the Authorisation Directive[136] 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:

[136] Directive 2002/20/EC of the European Parliament And Of The Council of 7 March 2002 on the authorisation of electronic communications networks and services (Authorisation Directive), as amended by Directive 2009/140/EC of the European Parliament and of the Council of 25 November 2009.

- 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.*"

4.14 A number of provisions in Article 8 of the Framework Directive[137] ("Policy objectives and regulatory principles") are also relevant to the issue of ComReg's statutory powers and discretion in this matter:

[137] Directive 2002/21/EC of the European Parliament and of the Council of 7 March 2002 on a common regulatory framework for electronic communications networks and services (Framework Directive), as amended by Directive 2009/140/EC of the European Parliament and of the Council of 25 November 2009.

1. Member States shall ensure that … [NRAs] take all reasonable measures which are aimed at achieving the objectives set out in paragraphs 2, 3 and 4. Such measures shall be proportionate to those objectives.

2. [NRAs] shall promote competition in the provision of electronic communications … by inter alia:

(a) ensuring that users … derive maximum benefit in terms of choice, price, and quality;

…

(d) encouraging efficient use and ensuring the effective management of radio frequencies and numbering resources.

4. [NRAs] shall promote the interests of the citizens of the European Union by inter alia:

(b) ensuring a high level of protection for consumers in their dealings with suppliers

…

(d) promoting the provision of clear information, in particular requiring transparency of tariffs and conditions for using publicly available electronic communications services;

(e) addressing the needs of specific social groups, in particular disabled users, elderly users and users with special social needs;

…

(g) promoting the ability of end-users to access and distribute information or run applications and services of their choice;

4.15 ComReg also notes Article 8(5) of the Framework Directive which states that an NRA shall:

"*in pursuit of the policy objectives referred to in paragraphs 2, 3 and 4, apply objective, transparent, non-discriminatory and proportionate regulatory principles by, inter alia:*

(a) promoting regulatory predictability by ensuring a consistent regulatory approach over appropriate review periods;

(b) ensuring that, in similar circumstances, there is no discrimination in the treatment of undertakings providing electronic communications networks and services;

(c) safeguarding competition to the benefit of consumers and promoting, where appropriate, infrastructure-based competition;

(d) 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, whilst ensuring that competition in the market and the principle of non-discrimination are preserved;

(e) taking due account of the variety of conditions relating to competition and consumers that exist in the various geographic areas within a Member State;

(f) 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."

4.16 Finally, in further support of its above arguments, ComReg notes that both the Netherlands and the UK have applied forms of "Geo-Linked conditions" to NGN calls, to varying degrees.

4.17 In the Netherlands, Dutch operators are required to include NGN calls numbers in any bundles that they offer, limited and unlimited, under Article 5 of "Besluit interoperabiliteit" (based on Article 28 of the Universal Service Directive) which translated into English provides as follows:

(i). Providers of public telephone services or associated providers of public electronic communications networks which also control access to end-users shall guarantee that end-users are able to use services using non-geographic numbers within the European Union.

(ii). The obligation referred to in paragraph 1 in any case means that, in respect of calls to numbers from the sequences 0800, 084, 085, 087, 088, 0900, 0906, 0909, 116, 14 or 18, the providers of public telephone services and of public electronic communications networks referred to in paragraph 1 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 non-geographic numbers. It may be provided, by ministerial decree, that obligation is to apply to other categories of providers or to other categories of nongeographic numbers.

4.18 Article 5 of "Besluit interoperabiliteit" was challenged by the Dutch provider, KPN, when the Authority for Consumers and Markets sought to impose sanctions on KPN for non-compliance. The case centred on the wholesale rate for call transit to premium rate numbers provided by KPN, rather than on retail tariffs. The ECJ ruled in favour of the principle of the Dutch legislation, noting that it was based on Article 28 of the Universal Service Directive, and leaving it to the Dutch national court to judge its application in specific cases (http://curia.europa.eu/juris/liste.jsf?num=C-85/14).

4.19 ComReg also notes that in the UK Ofcom, though it has not mandated that all calls to NGNs be Geo-Linked to Geographic Number calls, has imposed such a rule for one NGN range:

"*Ofcom introduced 03 numbers in 2007 as an alternative number range, which consumers could trust because they would not pay more than the price of a call to a geographic number. The retail price charged for calls to 03 numbers must not exceed that of calls to standard geographic numbers (i.e. those that begin 01 or 02) – the 03 range is the only NGN in the UK that is linked to geographic call prices. Calls to 03 numbers must be included in any call allowances or discounts offered to customers in the same way as geographic calls (i.e. if geographic calls are included in the bundle then 03 numbers must also be included). Communications providers are not allowed to share revenues they receive for 03 calls with end-users.*" [Emphasis added]

4.3 Regulation 14(4) of the Universal Service Regulations

4.20 Eir submits that the regulatory measures proposed by ComReg would result in numerous modifications to Eir's terms and conditions, with resulting implications under Regulation 14(4) of the Universal Service Regulations, and that this would result in additional costs and questions the viability of the proposed timeframe for implementation.

4.21 Sky submits that operators are precluded from changing the bundle allowances they provide to customers due to restrictions under Regulation 14 of S.I. No. 337/2011.

4.22 Three requests that ComReg clarify the application of Regulation 14 of the Universal Service Regulations, in the event that a change of retail contract is required as a consequence of any implementation of ComReg's proposed Geo-Linked measure.

4.23 Vodafone submits that contracts in place with SPs for NGNs typically run for periods of two years and ComReg's proposals do not take into account the contractual complexities that would need to be addressed. Vodafone also submits that interconnect and transit contracts would need to be re-negotiated to take account of any implementation of ComReg's proposals.

ComReg's Assessment

4.24 Regulation 14(4) of the Universal Services Regulations states that:

"*An undertaking referred to in paragraph (1) shall, not less than one month prior to the date of implementation of any modification to the contractual conditions proposed by the undertaking, notify its subscribers to that service of—*

(a) the proposed modification in the conditions of the contract for that service, and

(b) their right to withdraw without penalty from such contract if they do not accept the modification."

4.25 A "subscriber" is defined in regulation 2 of the Framework Regulations as "*any natural person or legal entity who or which is party to a contract with a provider of publicly available electronic communications services for the supply of such services."*

4.26 ComReg considers that a new Geo-linked condition such as that proposed, requiring that NGNs be treated as equivalent to Geographic Numbers for the purposes of pricing, would be a non-optional regulatory condition imposed on operators by the NRA on operators, rather than an optional contractual condition imposed by operators on their subscribers. Therefore, while such a General Authorisation Condition may require operators to modify their contractual conditions, so as to give effect to the condition, operators would have no discretion but to do so and, therefore, Regulation 14(4) of the USR would not apply.

4.27 Recital 27 of the Universal Service Directive is clear that a subscriber only has a right to withdraw from its contract without penalty where modifications to the conditions of that contract are *imposed by the service provider*. However in this case, any modifications to contract conditions would be a direct consequence of a regulatory condition imposed on all operators *by the NRA*.

4.28 ComReg thus considers that Regulation 14(4) of the Universal Service Regulations only applies where the contractual change at issue originates at operator level and the operator has an actual choice as to whether to impose that change. This is not the case with the proposed Geo-link Condition which would originate as a result of a decision taken by the NRA. Because operators would have no choice but to comply with the Geo-link Condition, any modifications to their service contracts, as may be necessary in order to comply with the Geo-link Condition, would not be discretionary modifications that would fall within the scope of Regulation 14(4) of the Universal Service Regulations. The net effect is that the concerns expressed by some respondents, as regards the proposed measures and Regulation 14(4) of the Universal Service Regulations, would not arise.

4.4 Conducting a Market Review

4.29 Eir submits that ComReg is seeking to regulate, by proxy, a subset of the retail markets for fixed and mobile call origination by imposing a retail pricing remedy without having first conducting a market review of NGNs.

ComReg's Assessment

4.30 As set out earlier in this chapter, the EU-wide harmonised framework for the regulation of electronic communications clearly distinguishes between (i) conditions attached to a General Authorisation or to individual rights of use for numbers or radio frequencies, and (ii) obligations imposed on any undertaking deemed to have SMP in a defined market. Though General Authorisation / Rights of Use conditions and SMP obligations are both *ex ante*, the imposition of a condition, though it must be justified and proportionate and supported by evidence, is not conditional upon a determination as to there being no effective and sustainable competition in a defined market, and the identification of at least one undertaking in the market as having SMP.

4.31 In this instance, ComReg is concerned with a proposal to attach a Geo-linked Condition to the General Authorisation which would, by its very nature and purpose, be universal in its effect and would be not equivalent to any *ex ante* obligation as may only be imposed on such specific undertakings as have been deemed to have SMP in defined markets.

5 Transparency

5.1 ComReg's position in Consultation 17/70

5.1 In Section 6.3 of Consultation 17/70[5], ComReg expressed its preliminary view (still unchanged) that the DotEcon Report and B&A surveys show that inadequate retail price transparency is hindering the effective functioning of the NGN platform. ComReg also set out in section 4 therein its preliminary concerns, having assessed consumer understanding and usage of NGNs at the retail level and with particular regard to the transparency of NGN retail tariffs.

5.2 ComReg also noted that providing clear and unambiguous information on NGN retail tariffs should benefit end-users and SPs, as well as contribute to the better functioning of the NGN platform, and that this should include information as to what different NGNs mean, how much NGN calls cost, and how different NGN calls are charged under various subscriptions. ComReg expressed its view that the following appeared necessary:

(a) to ensure that consumers and SPs know the costs of calling NGNs where calls are made out of bundle - operators should clearly communicate potential NGN call costs to allow consumers to calculate the cost of such calls upfront ("**Transparency and publication of information**"); and

(b) to ensure that consumers and SPs are made aware of each of the elements of the Preferred Option (i.e. pricing and number consolidation) and how those options affect their usage of NGNs ("**Information Campaign**").

5.3 ComReg also identified the following possible measures by which to improve tariff transparency and/or inform consumers of the Preferred Option:

In paragraph 6.10 of Consultation 17/70 -

- that operators would publish transparent, comparable, adequate and up-to-date information on applicable tariffs in a clear, comprehensive and accessible form;

- that operators would provide applicable tariff information to subscribers regarding any number or service subject to particular pricing conditions (for individual categories of services, ComReg may require such information to be provided immediately prior to connecting the call);

In paragraph 6.11 of Consultation 17/70 -

- that operators would update and simplify customer contracts and bills, website/social media updates and advertisement updates, to make it easier for consumers to find and calculate the cost of a NGN call;
- that there may be uniform branding and presentation of NGNs (e.g. “Freephone”, “Geo-Linked”) possibly with colour coding;
- that recorded voice announcements would inform callers to the costs of calling NGNs prior to call connection;
- that mobile phone pop-up messages or regular text messages would alert callers of the costs of NGN calls; and

5.4 In paragraph 6.14 of Consultation 17/70 -

- that an Information Campaign would inform consumers and SPs of any changes to be implemented to the NGN platform and the timelines for same, including:
  - providing guidance on the different classes of NGNs and how consumers will be charged when making a call to NGNs;
  - providing advice on how ComReg plans to implement NGN changes in a straightforward manner i.e. co-ordination of a unified message and similar to previous number changes in Ireland;
  - an interactive tariff guide (https://www.comreg.ie/compare/) is already in place providing consumers with accurate and up-to-date information on call costs for individual price plans. ComReg may consider putting in place additional functionality for NGN call cost calculation for the individual’s current operator (including maximum and minimum NGN call costs);
  - co-operating with operators on promotional options which could include standardised text to inform customers of any upcoming NGN changes and of new NGN call costs (e.g. for billing inserts, messages on bills);
  - encouraging SPs to update contact and advertising materials to ensure typical call costs are clearly displayed wherever the NGN is advertised or promoted. SPs could also be encouraged to take part in any information campaign to deliver any agreed coordinated messaging/text; and

- o in addition to providing an interactive tariff guide, ComReg may consider further standardised industry principles for how NGN call tariffs should be presented to provide greater transparency for consumers about how NGN calls are charged, and what costs apply.

5.5 ComReg sought views on its proposals to improve tariff transparency and/or inform consumers of the Preferred Option by asking the following question:

Q.3 Do you agree with ComReg's proposed NGN transparency measures? Please explain the basis for your response in full and provide any supporting information.

5.2 Views of Respondents

5.6 15 respondents provided views on ComReg's proposed NGN transparency measures. They broadly agree with the proposed measures though some consider that some further detail is needed.

End-Users and Representative Bodies

5.7 One end-user (Mr. Mark Hely Hutchinson) and one representative body (CAI) agree with the proposed NGN transparency measures. Mr. Hely Hutchinson considers that the proposed arrangement would be much more user-friendly. The CAI considers that the comparison tool on ComReg's website would support consumer choice and inform consumers of the options and limitations for the use of all numbers available.

Service Providers

5.8 Six SPs (CCPC, CIB, ESB Group, FSAI, OGCIO and Revenue) agree with ComReg's proposed NGN transparency measures.

5.9 The CCPC considers that an effective and broad ranging communications campaign would be important for addressing gaps in consumer understanding and that although it is important that ComReg would take a lead on this, operators and SPs should also be required to communicate changes as clearly and consistently as possible.

5.10 The CIB considers that:

- a lack of pricing transparency discourages use of NGNs and consumers have a right to clear and transparent information regarding such prices and other conditions attaching to services they use;
- it is crucial that operators publish transparent, comparable, adequate and up-to-date information on their tariffs, in a clear, comprehensive and accessible form, and that they provide tariff information to subscribers on any number or service that is subject to particular pricing conditions; and

- that there should be a requirement, built into the regulatory framework, that such information be provided immediately before connecting a call and that all telecommunications providers should provide specific details as to what is, and is not, included in their packages (the CIB submits that ComReg could assist by publishing those details on its website).

5.11 Revenue supports much greater retail price transparency for NGNs and views the proposed transparency measures as an essential output from the review of NGNs.

Fixed and Mobile Operators

5.12 Five respondent operators (BT, Colt, Sky, Three and Vodafone) agree with ComReg's proposed measures to improve NGN tariff transparency.

5.13 BT supports the principle that customers should be aware of the costs of calling NGNs so that they can manage spend and consider alternative options for making calls. BT also agrees that how messaging on NGN tariffs is conveyed is important so that the public has a high recognition of pricing.

5.14 Colt considers that ComReg should take a proportionate approach to deliver the best outcome for consumers, businesses, service providers and operators. It recommends that ComReg engage further with operators and consumer bodies to establish appropriate transparency mechanisms.

5.15 Sky submits that it requires further detail of ComReg's transparency proposals in order to be able to respond fully and it welcomes further consultation on the implementation of any proposed changes. In addition, whilst Sky considers that a national information campaign would be an effective way of raising awareness of any changes to the charging and structure of NGNs, it also considers that existing regulatory requirements already provide a framework under which pricing information is provided for NGNs, where necessary. Sky also submits that mandated recorded voice announcements, informing callers of the costs of calling NGNs prior to call connection, may be unnecessarily prescriptive.

5.16 Three agrees that some transparency measures are needed and generally supports ComReg's proposed transparency measures to address the main issue identified in ComReg's market research - i.e. confusion and loss of identity of NGNs. Three also submits that SPs should be encouraged to mention, in their promotional material, that '1800' NGNs are free to call, and to always provide a Geographic Number in addition to an NGN where possible.

5.17 Vodafone agrees with giving more clarity to customers on retail tariffs and suggests that the initial focus should be on enhancement of transparency.

5.18 Eir submits that ComReg did not provide sufficient evidence relating to transparency issues or sufficient detail on the timelines and transparency measures that would apply.

5.19 Virgin submits that the provision of clear and unambiguous information on call costs is beneficial to operators, SPs and customers. While Virgin considers that tariff information is already available to customers and additional obligations may not be appropriate, it is nevertheless open to discussing any specific proposals that ComReg may have.

5.3 ComReg's updated position

5.20 Having considered the views of respondents, ComReg remains of the view that clear tariff information for NGNs should be readily available to consumers and SPs, now and on an ongoing basis. The B&A survey results and DotEcon analysis clearly show that there is widespread confusion amongst many consumers and SPs as to the various retail tariffs for calling different NGNs. DotEcon, in its desk research, found it quite difficult to ascertain the exact retail tariffs of some NGN calls and noted that, in some cases, acquiring such information required delving into detailed terms and conditions on an operator's website (as opposed to being able to turn to an easily found webpage setting out such tariff information).

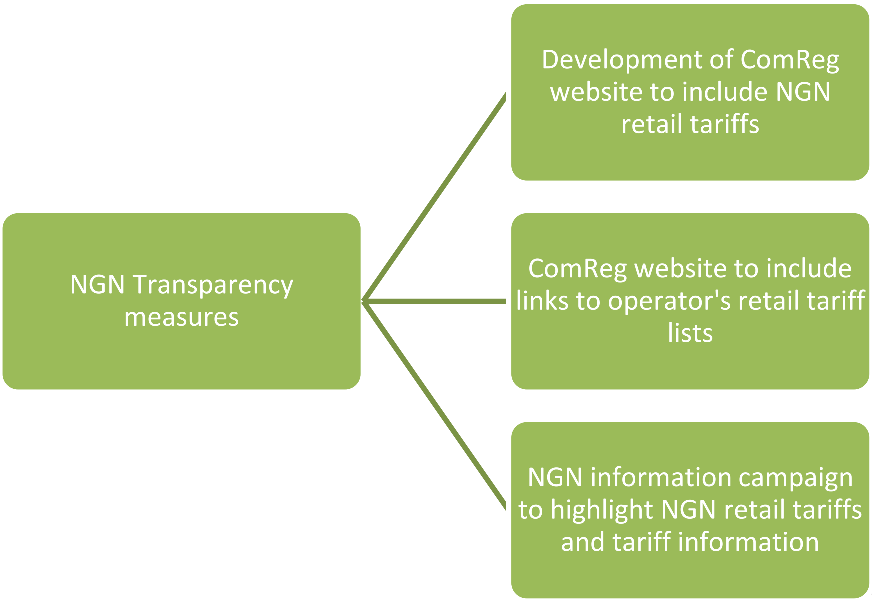
5.21 Transparency measures are in line with ComReg's second strategic intention to enable consumers to choose and use communications services with confidence.[138] It is fundamental to consumer protection that consumers are able to easily find and understand retail tariffs for calling NGNs. Transparency measures assist consumers in finding appropriate and adequate information to help them to understand retail tariffs and to choose electronic communications services. When consumers have clear retail tariff information they are better informed to make decisions and are less likely to experience 'bill shock'.

5.22 ComReg considers that improved transparency of NGN retail tariffs would also be of benefit to SPs, as their customers will be better informed on the costs of calling NGNs and understand how NGN calls are charged within their telephone subscriptions. Better informed customers are more likely to engage positively with the NGN platform.

5.23 Certain respondents to Consultation 17/70[5] consider that ComReg's proposed NGN transparency measures were described at a relatively high-level and submitted that ComReg should provide additional information on its proposed measures and identify those which it plans to implement. ComReg acknowledges respondents' submissions in this regard and has, accordingly, set out in this Response to Consultation more details on its proposed measures for improving NGN tariff transparency and preventing "bill shock" (noting that ComReg remains of the view that such measures should be implemented). See Figure 1 below.

[138] ComReg 17/31 – Electronic Communications Strategy Statement: 2017–2019 – Published 13 April 2017

Figure 1: ComReg's proposed NGN Transparency measures

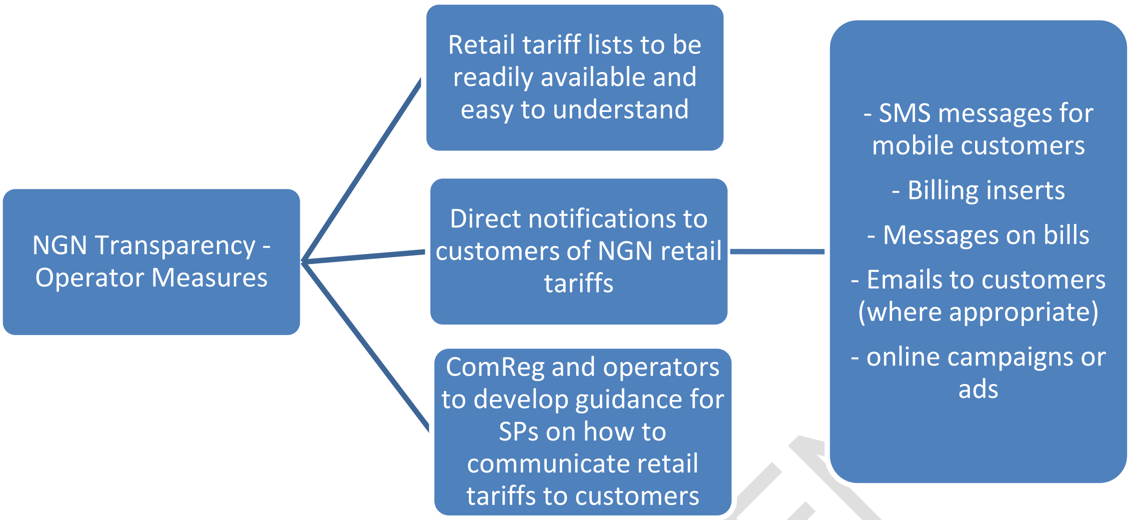


5.24 ComReg's proposed measures, by which to improve NGN retail tariff transparency and prevent consumer "bill shock", include the following:

- That ComReg would develop its consumer website to include:
    - enough retail tariff information on NGNs as 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 sufficiently detailed and clear information on NGN retail tariffs, again as to enable any consumer to know or to reasonably estimate the retail tariff for any NGN call in advance.
- To conduct a consumer **information campaign** on NGN retail tariffs and where to find retail tariff information and (if implemented) on the new Geo-Condition and 5-to-2 consolidation of the NGN ranges and the implications for consumers, SPs and operators. ComReg also plans to provide regular updates on NGNs and NGN retail tariffs, by social media and other means, in an effort to ensure optimum pricing transparency going forward.

5.25 Enhancing NGN retail tariff transparency, for the benefit of consumers and through such measures as described above, will require the assistance and cooperation of Fixed and Mobile operators. ComReg has therefore also identified and considered a range of possible measures that Fixed and Mobile operators could implement - see Figure 2 below.

Figure 2: NGN Transparency – Proposed operator measures



5.26 The proposed operator measures include:

- **Retail tariff lists to be made readily available, easy to find and understand for all consumers.** Operators are already required to ensure that retail tariff information is made available, under Regulation 15 of the Universal Service Regulations.[139] 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 be in formats that are readily accessible to all consumers - i.e. online and hard copy – and are easily comprehensible by consumers. ComReg also proposes that it would monitor operators' retail tariff lists and take appropriate action if it should deem any list to be insufficient, as to its accessibility, format, clarity, and/or content.
- **Direct notifications of NGN retail tariffs to consumers.** ComReg proposes that operators be required to directly notify their customers of retail tariffs for NGN calls. A range of notification means are envisaged including SMS messages, billing inserts, messages on bills, emails and online campaigns or ads (e.g. using social media to point customers to the ComReg website). ComReg proposes to further engage with operators on how they should achieve this.

[139] European Communities (Electronic Communications Networks and Services) (Universal Service and Users' Rights) Regulations 2011 (SI 337/2011).

- **To develop guidance for SPs**, in collaboration with ComReg, on how to communicate NGN retail tariffs in a clear and comprehensible manner. Operators would 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 (e.g. Freephone, 'Geo-linked') and recommendations on NGN presentation format (e.g. '1800 XXX XXX', '0818 XXX XXX'). ComReg envisages that it would develop this guidance by engaging with operators in the next phase of this review of NGNs.

5.27 In relation to recorded voice announcements, while ComReg considers that such a measure should provide any prospective NGN callers with clear and immediate information as to the retail tariff for making that call, at this point ComReg considers that the proposed transparency measures described above should be sufficient, provided that they are implemented correctly. ComReg intends to monitor the implementation of current and future transparency measures and if needed ComReg may revisit the option of requiring operators to play recorded voice announcements prior to connecting NGN calls.

5.28 ComReg may also separately consult, later in 2018, on particular issues encountered in the market e.g. "bill shock". ComReg will communicate any plans in this regard in due course.

5.29 ComReg welcomes views on the proposed measures and on improving NGN transparency in general. ComReg will consider all views as part of the next phase of this review of NGNs.

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.

6 Implementation

6.1 ComReg's position in Consultation 17/70

6.1 In Consultation 17/70[5], ComReg stated that for the implementation of the Preferred Options to be effective it is important that users[140] are fully aware of any changes and the extent to which they would improve their interaction with NGNs. In particular, ComReg envisaged informing consumers, SPs and operators of the implementation of any changes to NGNs and the timelines for same, and this would include:

(a) Providing guidance on the different classes of NGNs and how consumers would be charged when making calls to NGNs;

(b) Providing advice and information on how ComReg plans to consolidate NGNs, i.e. co-ordination of a unified message similar to previous number changes in Ireland;

(c) Co-operating with operators on promotional material which could include standardised text[141] to inform customers of any upcoming changes (e.g. for billing inserts, messages on bills, etc.); and

(d) Encouraging SPs to update contact and advertising materials to ensure typical call costs are clearly displayed wherever the NGN is advertised or promoted. SPs would also be encouraged to take part in any information campaign to deliver any agreed coordinated messaging/text.

6.2 This section carefully considers Respondents' views on the implementation of the proposed Preferred Options, and further sets out ComReg's views regarding the parallel implementation of the Geo-Linked and Consolidation measures within the preferred timelines following the publication of any final decision.

6.2 Respondents' views

Service Providers

6.3 The CIB is of the view that implementation of the Preferred Options will need to be proactively promoted by ComReg with clear and comprehensive information.

[140] A legal entity or natural person using or requesting a publicly available electronic communications service.

[141] Similar to how the code of practice for premium rate services has standardised text for Premium Rate Service messages: ComReg Document 14/45 – Code of Practice: Premium Rate Services – published 15 May 2014.

6.4 The FSAI supports the steps proposed to communicate awareness of the implementation of the Preferred Options. The FSAI is of the view that ComReg should deliver a high level advertising campaign in advance of any changes to ensure amendments and awareness are communicated to the general public.

Fixed and Mobile Operators

6.5 Eir is of the view that ComReg should engage with stakeholders if it proceeds with the implementation of the Preferred Options.

6.6 Sky is of the view that further detail on ComReg's proposals is needed and welcomes further consultation on the implementation of any proposed changes.

6.7 Three submits that the process and timing of each stage of the implementation needs to be laid out in detail, including how parallel running will work, for how long, and what happens after parallel running ends.

6.3 ComReg's updated position

6.8 Having carefully considered the views of the respondents, ComReg's preferred timelines for the implementation of its Preferred Options are:

- 12 months for the Geo-Linked measure; and
- 3 years for the Consolidation measure.

6.9 ComReg's proposals for implementing the Preferred Options are set out below and Figure 3 shows at a high level the possible stages and indicative timelines for the implementation.

Implementation of the Geo-Linked measure

6.10 Operators will be required to implement the proposed Geo-linked measure for the '1850', '1890', '0818' and '076' NGNs within 12 months of the Decision publication date.

6.11 To ensure clear communication of the Geo-linked measure, ComReg and operators will need to inform consumers and SPs of the new measure and how it applies to individual users' telephone subscription packages. ComReg plans to highlight NGN retail tariffs and tariff information as part of an information campaign to ensure that consumers are informed of the changes specific to this review of NGNs (See Chapter 5 above on Transparency).

6.12 As part of the information campaign, ComReg and industry will also communicate that the '1800' NGNs will remain free to call from landlines and mobiles.

Implementation of the Consolidation measure

6.13 ComReg proposes to consolidate the number of NGN types 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.

6.14 In ComReg Consultation 17/70[5], ComReg stated its approach to consolidation is to provide users of NGNs sufficient time to migrate to an alternative number and to maximise the extent to which migration costs occur in line with SPs’ normal replacement cycles for materials (e.g. signs, stationary) that display their NGNs. ComReg observed that 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 for migration.

6.15 ComReg also noted that consolidation would have to take into account the time for ‘1850’, ‘1890’ and ‘076’ NGN users to notify their contacts of their new alternative number(s).

6.16 In terms of the practicalities of withdrawing the ‘1850’, ‘1890’ and ‘076’ NGNs and migrating users to alternative numbers, ComReg would develop an implementation plan outlining how the consolidation will be implemented. ComReg would also cease assigning ‘1850’, ‘1890’ and ‘076’ numbers to operators after the publication of any final Decision document.

6.17 As ‘1800’ and ‘0818’ NGNs are number translation codes generally used for the provision of inbound call services rather than inbound/outbound call services, ComReg considers it is likely to be more appropriate for end-users of ‘076’ NGNs to migrate to Geographic Numbers as opposed to ‘1800’ or ‘0818’ NGNs. All of these issues will be considered in detail by ComReg, and planned actions to facilitate migration will be communicated in due course.

6.18 ComReg foresees a number of tasks to effectively manage the migration of affected SPs and end-users, this will include (but is not limited to):

- Conducting an audit of the five NGN ranges to establish the exact quantity of NGNs in use (active), 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 operators so that affected SPs may seamlessly migrate to a new ‘1800’ or ‘0818’ NGN. The new number management system will provide SPs with access to a wide range of free (not in use) individual ‘1800’ and/or ‘0818’ NGNs. To facilitate this process, ComReg plans to recover ‘1800’ and ‘0818’ NGNs that are not in use but are currently assigned to operators.
- Engaging with industry on implementation tasks and processes including on how parallel running will work, on implementing the new number management system which will require the establishment of new procedures and possible changes to operators’ internal number management processes.
- Engaging with Service Providers that use NGNs and fully informing them of the Decision to withdraw the ‘1850’, ‘1890’ and ‘076’ NGNs, the timelines for completion of the consolidation, and the tasks required to ensure a seamless transition for all affected SPs and end-users. This would include general communications from ComReg which will help SPs with their migration to a new number and more specific communications from operators to their customers (end-users and SPs).
- Ensuring the availability of appropriate Geographic Numbers for end-users migrating from ‘076’ NGNs.

6.19 ComReg recognises the complexity of the proposed NGN Consolidation but is strongly of the view that it is reasonable in order to create a NGN platform that better meets the needs of consumers and SPs.

6.20 Cooperation between ComReg and industry will be crucial. Industry input and engagement will be required and expected to ensure successful implementation and a clear and straightforward transition for affected SPs and end-users.

6.21 Upon publication of any final Decision ComReg would schedule workshops with operators to discuss the implementation of the Consolidation measures, and the related tasks and timelines for their implementation.

6.22 ComReg now invites interested parties to provide views on the tasks required for the implementation of the proposed Geo-Linked and Consolidation measures. This will assist ComReg’s planning for the next stage of this review of NGNs and to ensure the NGN platform functions well and effectively to the benefit of consumers and SPs going forward.

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.

Figure 3: Indicative timeline and planned actions for implementation of Geo-Linked and Consolidation NGN measures

	2018		2019				2020				2021				2022	
Planned Action / Indicative Timeline	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2
Publish final Decision Instruments for Geo-linked and 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 to establish the availability of '1800' and '0818' NGNs for migrating SPs																
Designing and developing a new individual number assignment management system																
ComReg and Industry WG workshops: - Agree a detailed plan for implementing and communicating pricing and consolidation measures. - ComReg to publish Information Notice on implementation and communications plan.																
Operators implement the Geo-Linked measure for '1850', '1890', '0818' and '076' NGNs						◆										
Information campaign to communicate the Geo-Linked measure																
Information campaign to communicate the Consolidation measure and the need for some SPs to change numbers																
Migration of '1850', '1890' and '076' users to new alternative numbers and parallel running.																
Cessation of use of '1850', '1890' and '076' NGNs														◆		
Recorded announcements																

7 Draft Decision Instrument

The draft Decision Instrument ("D.I.") below reflects ComReg's preliminary views as of the date of publication of this Response to Consultation and Draft Decision (Document 18/65). For ease of reading, the draft D.I. reads as if it was finalised. However, it is a draft document throughout that is subject to further consultation and no final decisions have yet been made by ComReg as to the content and effect of any final D.I. as may be put into effect for the purposes of managing any or all Non-Geographic Number ranges. Further, if this draft D.I. should become a final D.I., whether in whole or in part, ComReg may make such amendments to the text of any final D.I as it considers necessary and without further consultation, where such amendments are editorial and do not affect the substance of the final D.I. as to its meaning, purpose, or effect.

Decision to amend the General Authorisation and the "Numbering Conditions of Use and Application Process" in respect of Non-Geographic Numbers ("NGNs")

PART I – DEFINITIONS

Unless otherwise indicated or the context so implies, terms herein have the same meanings as set out in regulation 2 of the Framework Regulations, regulation 2 of the Authorisation Regulations[13], the current second edition of the "Numbering Conditions of Use and Application Process" (Commission Document No. 15/136R1, as amended) as applicable, or the Response to Consultation of which this Decision forms part (Commission Document No. 18/XX).

PART II – STATUTORY REMIT

The 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 in the Communications Regulation Acts 2002 – 2017, as amended ("2002 Act") and in the Common Regulatory Framework (including the Framework Directive and the Authorisation Directive as respectively transposed into Irish law by the corresponding Framework Regulations and the 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 those consultations;

- for the reasons set out in its written response to Commission Document No. 18/XX 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 current second edition of the "Numbering Conditions of Use and Application Process" (Commission Document No. 15/136R1) is hereby amended so as to implement the following General Authorisation Condition by including the following text therein:

> *"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 provision of fixed or mobile service includes Geographic Numbers as part of a "bundle" of call minutes, then all calls made by that same end-user to Non-Geographic Numbers, in any of the four ranges '1850', '1890', '0818', or '076' and in that same time period, shall also be*

included within the "bundle" of call minutes up to the same specified quantity of call minutes.

Where an end-user exceeds its allocated number of call minutes under its bundle, for any given time period, the retail tariff for any of the four ranges '1850', '1890', '0818', or '076', shall not exceed the retail tariff for any "out-of-bundle" national calls to Geographic Numbers made by that same end-user."

(ii). All rights of use for Non-Geographic Numbers in the ranges '1850', '1890', and '076' shall be deemed to be withdrawn from the undertakings to whom such rights of use were granted as and from midnight on 31 December 2021 and no voice telephony services shall be provided using any number in any of those three ranges as and from that same date and no new rights of use for Non-Geographic Numbers in the ranges '1850', '1890', and '076' shall be granted to any undertaking after that same date. (For the avoidance of doubt, 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 undertaking which applies for same).

PART IV. EFFECTIVE DATE

A revised version of the "Numbering Conditions of Use and Application Process" (Commission Document No. 15/136R2) reflecting the above decisions shall both come into effect at midnight on XX XX 2019 replacing the current version (Commission Document No. 15/136R1) save that the latter shall remain in full effect insofar as it may apply to any relevant matters as occurs prior to its replacement.

Signed:

Gerry Fahy

Chairperson,

The Commission for Communications Regulation

Dated this XX day of XXX 2018

8 Next Steps and submitting comments

8.1 ComReg invites and welcomes the views of all interested parties and will consider all information submitted to it on foot of this consultation.

Submitting comments

8.2 The period for submitting responses to this consultation will run until 5pm on 22 August 2018.

8.3 ComReg requests that all responses reference the relevant question numbers and/or paragraph numbers from this document. ComReg also requests that respondents set out the rationale for their submitted views, to include any supporting information.

8.4 When submitting a response to this consultation that contains confidential information, respondents must submit both a non-confidential version and a confidential version of the response. The confidential version must have all confidential information clearly marked and highlighted in accordance with the instruction set out below. The separate non-confidential version must have actually redacted all items that were marked and highlighted in the confidential version.

8.5 ComReg will publish all responses to this consultation in due course in accordance with its policy. In this respect, please see ComReg's Consultation Procedures (ComReg 11/34) and Guidelines on the Treatment of Confidential Information (ComReg 05/24). Similarly, any associated correspondence received by ComReg from Service Providers in the course of the consultation process may also be published.

8.6 ComReg requests that electronic responses to this consultation be submitted in an unprotected format in order that they can be appended into ComReg's submissions document for electronic publication.

8.7 All responses to this consultation should be clearly marked:- "Reference: Response to Consultation 18/65 - Review of Non-Geographic Numbering", and sent by post, facsimile or e-mail to arrive on or before 5pm, on 22 August 2018, to:

Mr. Albert Redmond
Freepost
Commission for Communications Regulation
1 Dockland Central, Guild St, Dublin 1, D01 E4X0
Ph: +353-1-804 9605
Fax: +353-1-804 9680
Email: marketframeworkconsult@comreg.ie

Annex: 1 Revised Draft Regulatory Impact Assessments ("RIAs")

A.1.1 Introduction and background

A 1.1 NGNs provide a platform that covers a wide variety of services provided by organisations which can be accessed by 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 tariffs.

A 1.2 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.

A 1.3 ComReg's review of the NGN platform has involved gathering a large amount of information. That information is outlined in Chapters 4 and 5 of Consultation 17/70 and is covered in greater detail in Document 17/70a[9] which sets out the economic framework, DotEcon's analysis of the information, and DotEcon's overall recommendation that certain issues are having a negative impact on the NGN platform and require regulatory intervention. ComReg has also had regard to, the views received in response to the draft RIAs set out in Consultation 17/70[5] and DotEcon's response to same.

A 1.4 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.

A 1.2 Economic framework and issues arising on the NGN platform

A 1.5 A SP providing a 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 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 that all Originating Operators enable their customers to access the SPs' services, at an affordable price or free of charge.

A 1.6 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[142] 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 be suitable if it does 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;
- Switching to an alternative NGN may not satisfactorily resolve the SP's problem if:
  - the Originating Operator also increases its retail prices for that alternative NGN; and/or
  - the associated wholesale origination charges are too high for the SP; and

[142] 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.

- If a SP should switch from a NGN-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-based service.[143]

A 1.7 Furthermore, in deciding to increase its retail charge an Originating Operator might not consider, or might not have sufficient incentives to consider, any consequential 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 an extent that the number of calls to certain NGN ranges are reduced; and

(b) **Horizontal externalities** – Originating Operators are 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).

A 1.8 Chapter 4 of Document 17/70a[9] sets out the evidence which strongly indicates that several issues in the Irish NGN platform require regulatory intervention, including:

- Excessive retail charges for NGN calls;
- Poor consumer / SP understanding of the different NGN ranges and their characteristics;
- Poor consumer awareness of the retail charges for calling NGNs 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 these NGNs by consumers.

[143] The B&A study confirmed than consumers still value voice based services. 67% prefer to contact organisations by telephone over alternative forms of communication.

A 1.9 A key issue is the transparency of retail charges for NGN calls and consumer awareness and understanding of those charges. Chapter 6 of Consultation 17/70[5] set out possible regulatory measures for improving the transparency of NGN retail charges. ComReg notes the responses received and ComReg's position to same is provided in Chapter 5 of this Document. These possible price transparency measures apply to all regulatory options and are not discussed further in this revised draft 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.

A 1.10 In line with ComReg's statutory remit, and having regard to the issues outlined above, this Annex sets out the following RIAs:

(a) "**NGN Pricing RIA**" - how best to ensure that retail charges for NGN calls do not unduly limit access to 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.

A 1.11 This section concludes with ComReg's assessment of its preferred option arising from the above two RIAs (the "Preferred Option") against relevant statutory objectives, regulatory principles and duties.

A 1.12 Chapter 3, among other things, provides ComReg's preliminary views in relation to wholesale concerns raised by respondents. In summary, ComReg is of the preliminary view that wholesale intervention is necessary, and the form of that intervention would be a wholesale price control. Therefore, this RIA, on potential retail measures, has been prepared having regard to the fact that it would be preferable for any wholesale intervention to take place no later than the implementation date for the retail measures and that such a price control would be implemented having regard to the preferred options set out in this RIA.

A 1.3 RIA Framework

A 1.13 A RIA analyses the likely effects of a proposed regulatory measure to determine if it would be appropriate, effective, proportionate and justified, having regard to its intended purpose, and to assess if 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

A 1.14 ComReg's RIA Guidelines[144] 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.

A 1.15 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 with Steps 2-5 incl. of the RIA process.

Identification of stakeholders

A 1.16 Step 3 assesses the likely impact of the proposed regulatory measures 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[145]. (The impact on consumers is assessed separately in "Impact on Consumers" – Section A 1.4.4);

   (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 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).

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

[145] ComReg notes that consumers includes anyone who calls a NGN.

A 1.17 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[9]) and responded to this consultation

A 1.18 Step 4 assesses the impact of the proposed measures on competition having regard to ComReg's statutory objective to promote competition (see Annex 2).

A 1.19 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 objectives include:

- to ensure the efficient use of numbers;
- to promote competition;
- to contribute to the development of the internal market; and
- to promote the interest of users within the Community.

A 1.20 The RIAs adopt the following sequence for completing Steps 3 and 4 – the impact on stakeholders is assessed first, then the impact on competition, then the impact on consumers. The order of the assessment should not be inferred as indicating the relative importance of these three impacts but rather it 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

A 1.21 In light of the analysis of, and issues identified by DotEcon, and ComReg's proposed wholesale intervention[146], ComReg considers that there are two main policy questions to consider in the context of ensuring the efficient and effective functioning (i.e. management and use) of the NGN platform:

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

[146] See Section 3.2 of Chapter 3 of this Document.

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

A 1.22 The above two policy questions are related but sequential and so they can be considered separately. Both are reflected in the options set out below.

Objectives

A 1.23 ComReg is carrying out these RIAs having regard to its statutory objectives (summarised in Annex: 1) which include to encourage the efficient use and ensure the effective management of the national numbering resource, contribute to the development of the internal market, to promote the interests of users[147], and to promote competition in the electronic communications sector[148]. These RIAs shall 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.

A 1.24 ComReg notes that "users" for the purposes of NGNs include consumers (callers) and SPs[149]. 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 use of numbers. Further, SPs are likely to benefit from a wholesale price control that will reduce the costs to organisations of providing services over NGNs.

[147] 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 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.

[148] 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.

[149] "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

A 1.25 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 preferred options on each RIA

A 1.26 The RIAs herein are not in any particular order. If an option in one RIA has or may have implications for any option in the other RIA, then this is considered.

A 1.4 NGN Pricing RIA

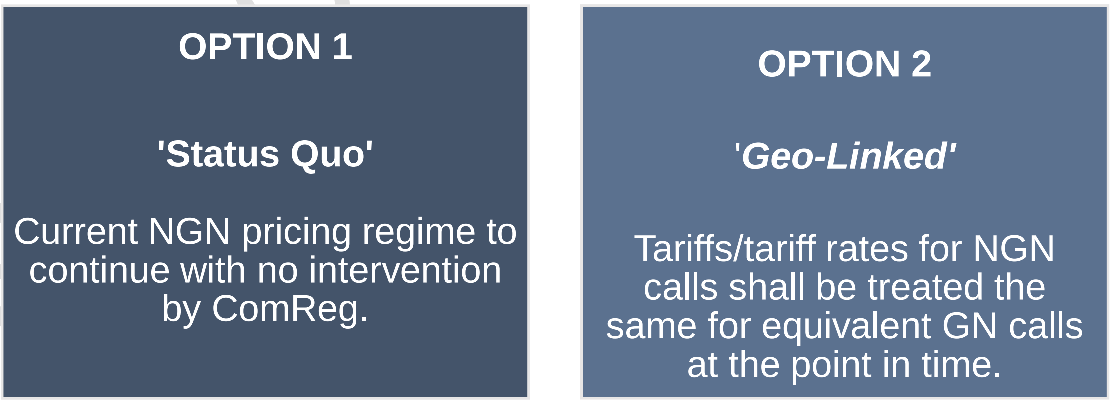
Regulatory Options (Step 2):

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

Option 2 – Impose a new “Geo-Linked” condition to the effect that NGN calls shall be no more expensive than Geographic Number calls and shall be treated the same as national[150] Geographic Number calls at the point in time.

A 1.27 These Options are illustrated below in Figure 4.

Figure 4: Pricing RIA Options



[150] 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.

A 1.28 ComReg notes that it previously mandated a form of "Geo-Linked" pricing. The Numbering Conventions, 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 a mobile Originating Operator. However, currently NGN calls are charged at the out-of-bundle geographic rate, whereas Geographic Number calls generally benefit from remaining in-bundle (up to the number of inclusive minutes). Therefore, currently under Option 1 there is different treatment of Geographic Number and NGN calls – NGN calls, on average, have a higher marginal price because they are not in-bundle.

A 1.29 Under Option 2, in terms of retail pricing it would be a requirement that NGN calls be treated the same as Geographic Number calls – i.e. that NGN calls must be no more expensive than Geographic Number calls at the 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 tariff package does not include in-bundle minutes or if a caller has exhausted his/her in-bundle 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 rate for an equivalent Geographic Number call, made by that same caller at that time.

Impact on Stakeholders and Competition (Steps 3 and 4)

A 1.30 This section sets out a comparative analysis of Options 1 and 2 in terms of their likely impact on:

(i) Industry stakeholders (Section A 1.4.1);

(ii) Impact of Option 2 on wholesale origination charges (Section A 1.4.2);

(iii) Impact on Competition (Section A 1.4.3); and

(iv) Impact on Consumers (Section A 1.4.4).

A 1.4.1 Impact on Industry Stakeholders

A 1.31 As noted above, Originating Operators, Terminating Operators, and transit providers form one of the main two groups likely to be affected by the proposed regulatory measures. This section considers the likely effects of Option 2 only on each of these three classes of industry stakeholder.

A 1.32 ComReg's approach to wholesale implications are considered in Chapter 3 of this Document and Section A. 1.3.2 below.

Option 1 versus Option 2 – Fixed and Mobile Originating Operators

A 1.33 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-bundles (where customers face a zero marginal retail charge at the point in time up to the number of minutes included in-bundle);
3. Originating Operators' revenue from NGNs calls which (i) are purposely not included in-bundles, 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

A 1.34 Geographic Number calls and NGN calls are both delivered in very similar ways and 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 of originating Geographic Number calls do not differ from the network costs in originating NGN calls, as calls to both number types have the same features and network elements. [151]

A 1.35 This view is informed by:

- Wholesale market reviews;
- Information provided by Fixed-Line Operators and Mobile Operators as to any costs differences in originating NGN calls, as opposed to Geographic Number calls;

[151] ComReg notes that originating NGN calls may include higher retention rates than Geographic Number calls. The retention rate includes the administrative costs associated with the provision of Number Translation Codes and comprises of billing, credit control, cash collection and management of bad debt.

- The DotEcon Report; and
- Operators’ responses to Consultation 17/70.

Wholesale market reviews

A 1.36 As explained by ComReg in its Wholesale Fixed Voice Call Origination and Transit Markets Review[152], 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.

A 1.37 In relation to transit services, Geographic Numbers, NGNs, and Mobile Numbers are likely to require the use of 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[153]. 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[154].

Response of operators to ComReg’s Information Requirement

A 1.38 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.

A 1.39 Eight respondents[155] submit that there are some cost differences between Geographic Number calls and NGN calls, including:

[152] ComReg Document 14/26 – Market Review: Wholesale Fixed Voice Call Origination and Transit Markets – published 4 April 2014.
[153]It should be borne in mind that Eircom’s pricing has been subject to SMP based price regulation.
[154] 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/.
[155] 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.

(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).

A 1.40 Ten respondents[156] submit that there are no network cost differences, or no observable network cost differences, between originating NGN calls and Geographic Number calls.

A 1.41 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 would, indicate 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.

A 1.42 ComReg also notes the following:

[156] 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[157];
- DotEcon's view that maintaining these IN services is a 'normal cost' of operating in electronic communications markets;
- The views of Eir/Meteor[158] 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."*[159]
  - *…"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]; and
  - *"…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 following views of In2Tel -
  - *"a call to a free '1800' number (for example) takes the same amount of physical resource as dialling a normal 01 number*."[160];
  - *"NGN and Geographic Number calls both use the same switching resources and in theory could terminate across the same points of interconnect";* and
  - *"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*

[157] Paragraph 7.169 of ComReg Document 14/26 – Market Review: Wholesale Fixed Voice Call Origination and Transit Markets – published 4 April 2014.
[158] Meteor response noted that "*answer to be provided in Eir fixed response*".
[159] 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.
[160] ComReg Document 14/130 – Update on treatment of non-geographic numbers – published 5 December 2014.

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

A 1.43 Hence, the views of respondents largely confirm that there are no observable network cost differences between originating NGN 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

A 1.44 From a technical perspective, DotEcon notes that Geographic Number calls and NGN 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 Geographic Number and NGN calls should be minimal and so it is unlikely that there is any cost-based justification for pricing NGN calls differently to calls to Geographic Numbers.

A 1.45 Further, having assessed the views of operators as described above, DotEcon considers *"that there are no unilateral and significant differences in the costs of processing geo and non-geo calls*".

A 1.46 ComReg position is that it agrees with DotEcon's assessment and conclusion, as summarised above.

Response of operators to Consultation 17/70

A 1.47 ComReg did not receive any material from respondents challenging ComReg's contention that the network costs of originating Geographic Number calls do differ from the network costs in originating NGN calls.

A 1.48 ComReg therefore retains 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

A 1.49 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. [161] [162] [163] [164]

A 1.50 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[9] 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:

(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:

- o All Originating Operators apply per-call retail tariffs for calls to '1850' NGNs; and
- o 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:

- o Sky offers calls to its own '0818' customer care number in-bundle[165];
- o Vodafone's mobile bill pay customers have '0818' NGNs included "in bundle"[166];

[161] 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.
[162] 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.
[163] 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.
[164] 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.
[165] However, Sky does not attribute any retail revenues earned from these in-bundle 0818 calls.
[166] 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,

(d) Several Originating Operators offer ‘076’ NGN calls[167] in-bundle, particularly calls to the ‘076 1XX XXX’ portion of the subscriber number range[168]. Those operators include Eir, Lycamobile, Meteor[169], Pure Telecom, Ripplecom, and Tesco Mobile.

A 1.51 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 3 below.

A 1.52 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.

A 1.53 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 ComReg previously suggested[170] 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[5] shows that, over the past 7 years, Originating Operators do not appear to have considered including NGN calls in bundles and the Consumer Study confirm this.[171] 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.[172]

[167] 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.
[168] Government Networks has been assigned the 076 100 0000 – 076 119 9999 range.
[169] 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.
[170] ComReg Document 10/60 – Consultation Paper: Sixth Review of the National Numbering Conventions – published 4 August 2010.
[171] See Slide 52 onwards of ComReg Document 17/70b – Non-Geographic Numbers: Consumer Study – published 16 August 2017.
[172] 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.

3. Revenue earned from consumers[173]

A 1.54 The DotEcon report[9] describes how revenue from NGN calls is allocated across various parts of the NGN platform, between Originating Operators, transit operators, Terminating Operators, and SPs.

A 1.55 The DotEcon revenue allocation model shows that operators, over the period 2011 to 2015, earned an average of about €29m[174] 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 2 below:

Table 2: Average per annum retail revenue earned from customers calling NGNs 2011-2015

NGN Range	Total Call Revenue, €m	Fixed Retail Revenue, €m	Mobile Retail Revenue, €m
1850	3.6	1.7	1.9
1890	17.9	6.2	11.7
0818	6.4	2.5	3.9
076	0.9	0.44	0.46
Total	**28.8**	**10.9**	**17.9**

A 1.56 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 earned under Option 2. Therefore, a proportion of revenues earned as set out in Table 2 will continue to be earned as normal. However, Option 2 would effectively eliminate a proportion of the Originating Operators' current additional NGN revenues which result from most NGN calls being out-of-bundle (where a

[173] 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.
[174] 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.

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).

A 1.57 The "Impact on Consumers" section in Section A 1.4.4 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 the largest 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

A 1.58 ComReg's proposed wholesale intervention (Chapter 3) will likely increase the extent to which SPs provide services over the NGN platform. However, in 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 Studys by B&A which include the following:

- 49% of consumers aware of NGNs consider NGN calls to be more expensive than landline calls[175];
- Consumers' main reasons for not making NGN calls (except '076' calls)[176] are their concerns that such calls:
    - may be expensive;

[175] 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.

[176] 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.

  - o are expensive; or
  - o that a previous telephone bill included an unexpectedly large charge for a NGN call. [177]

- 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;[178]
- 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;[179]
- 28% of organisations do not consider using NGNs because they think NGN calls are too expensive for consumers [180]; 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.[181]

A 1.59 Finally, the preferred option (reduce NGN ranges from five to two) in the 'NGN Consolidation RIA' would improve transparency and increase usage of NGNs.

A 1.60 ComReg considers that two effects on stakeholders could result from an increase 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 A 1.4.4 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).

[177] 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.
[178] See Slide 65 of ComReg Document 17/70b – Non-Geographic Numbers: Consumer Study – published 16 August 2017.
[179] See Slide 64 of ComReg Document 17/70b – Non-Geographic Numbers: Consumer Study – published 16 August 2017.
[180] See Slide 33 of ComReg Document 17/70c – Non-Geographic Numbers: Organisation Study – published 16 August 2017.
[181] See Slide 66 of ComReg Document 17/70c – Non-Geographic Numbers: Organisation Study – published 16 August 2017.

A 1.61 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 losses in retail revenues. Therefore, ComReg considers that Originating Operators would likely prefer Option 1.

5. Billing and technical changes

A 1.62 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. However, a Geo-linked condition, under which NGN calls must be treated the same as Geographic Number calls for the purposes of retail pricing, should reduce the complexity of current tariff elements. Therefore, while industry stakeholders may prefer Option 1, ComReg is of the view that Option 2 should result in less complex billing and the costs of same in the medium to long term. ComReg notes that new and amended tariff conditions for '1850', '1890', '0818' and '076' NGNs (Decision No. 2, 3 and 6)[182] 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 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*".[183]

Option 1 versus Option 2 – Terminating Operators

A 1.63 Most NGN calls terminate on a fixed network and therefore Mobile Operators which 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.

A 1.64 For the purposes of this section, Terminating Operators are divided into two groups:

(a) Terminating Operators that also originate calls[184] ('Terminators A'); and

[182] ComReg Document 11/16 and Decision Document 01/11 – National Numbering Conventions Update to V.7: Response to Consultation – published 9 March 2011

[183] open eir Switched Transit Routing and Price List, p 71, 73 and 75.

[184] 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) Terminating Operators that do not originate calls (‘Terminators B’).

A 1.65 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.

A 1.66 In relation to Terminators B, ComReg notes that:

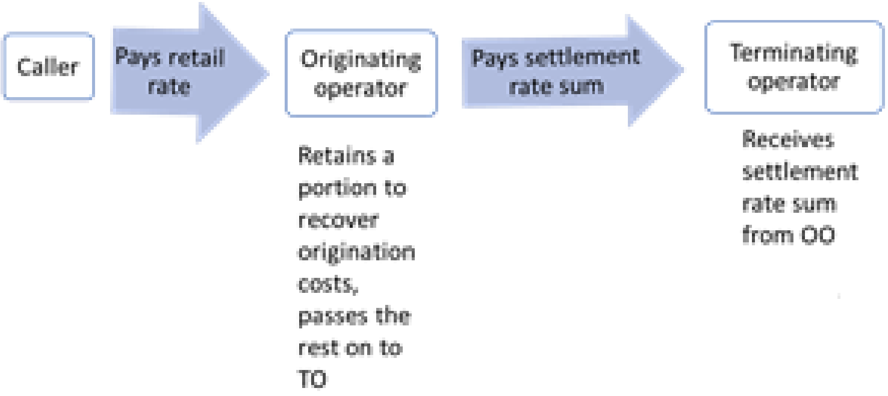
(a) for mobile calls to ‘1850’ and ‘1890’ NGNs, Terminating Operators recover their costs from SPs; and

(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.

A 1.67 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.

A 1.68 As stated above, 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 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 5 below.

Figure 5: Current revenue arrangements for calls to ‘0818’ NGNs



A 1.69 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.

A 1.70 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.

Option 1 versus Option 2 – Transit Operators

A 1.71 Some off-net[185] 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.

[185] This occurs where a call originated on one network terminates on a different network.

A 1.72 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 declined 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)

A 1.73 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. 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.

Option 1

A 1.74 As described in A 1.4.4 ("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:

- Over a quarter of consumers avoid dialling '1850' and '076' NGNs and almost a third avoid dialling '1890' and '0818' NGNs[186]**.** More specifically:
    - pre-pay consumers avoid dialling NGNs more than bill-pay customers;
    - 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
    - Regions outside Dublin have the highest avoidance rates – for example, about 50% of consumers in Connacht and Ulster avoid dialling '0818' and '1890' NGNs[187].
- Consumers change their behaviour when they become aware of the relatively high retail charges for NGN calls. For example, 83% of fixed-line consumers[179] and 89% of mobile consumers[178] changed their behaviour by making fewer, shorter, or no calls to NGNs.

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

- 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 stated that none of the five NGN classes can be used by SPs to make money from consumers dialling those NGNs.[188]

A 1.75 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 which 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 found that:
    - o 63% of organisations currently using NGNs think it is important that customers are aware of the cost of calling NGNs[189]; and
    - o While 77% of organisations[190] 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.[191]

[188] See Slide 37 of ComReg Document 17/70b – Non-Geographic Numbers: Consumer Study – published 16 August 2017.
[189] Slide 56 of ComReg Document 17/70c – Non-Geographic Numbers: Organisation Study – published 16 August 2017.
[190] Slide 58 of ComReg Document 17/70c – Non-Geographic Numbers: Organisation Study – published 16 August 2017.
[191] Slide 57of ComReg Document 17/70c – Non-Geographic Numbers: Organisation Study – published 16 August 2017.

- 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 this consultation that "*These costs have resulted in many complaints and dissatisfaction amongst our customers*."

A 1.76 Therefore, ComReg is of the view that SPs would be unlikely to favour Option 1.

Option 2

A 1.77 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.

A 1.78 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-bundle).

A 1.79 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.[192]

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

A 1.80 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 this consultation supported Option 2.

A 1.81 Therefore, ComReg is of the view that SPs would prefer Option 2 as this option would likely increase the volume of NGN calls.

A 1.4.2 Impact of Option 2 on wholesale origination charges

A 1.82 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[193]. 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). 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 3, 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.

A 1.4.3 Impact on Competition

A 1.83 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”).

A 1.84 It is important to ensure that competition is effective at the different levels of the NGN supply chain.

[193] 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.

1. Retail competition

A 1.85 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[194] and the charges for each service.

A 1.86 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.

A 1.87 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:

- 85% of consumers (fixed-line and mobile) do not consider the inclusion of NGN minutes in different call packages when choosing their provider/package;[195]
- 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;[196]

[194] This includes bundles, data allowance and the price of calls and texts.
[195] See Slide 56 of ComReg Document 17/70b – Non-Geographic Numbers: Consumer Study – published 16 August 2017.
[196] See Slide 37 of ComReg Document 17/70b – Non-Geographic Numbers: Consumer Study – published 16 August 2017.

- 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);[197]

- 86% of adults surveyed did not know the per minute charge or the per call charge for NGN calls;[198]

- 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[199]; 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.

A 1.88 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; and/or

(b) while consumers may benefit from certain consumer retention/acquisition expenditures, such as price promotions and upgrades[200], other retention/acquisition expenditures include more marketing and advertising which do not provide any direct benefit or gain to consumers.

[197] See Slide 41 of ComReg Document 17/70b – Non-Geographic Numbers: Consumer Study – published 16 August 2017.
[198] See Slide 66 of ComReg Document 17/70b – Non-Geographic Numbers: Consumer Study – published 16 August 2017.
[199] See Slides 68, 69 and 70 of ComReg Document 17/70b – Non-Geographic Numbers: Consumer Study – published 16 August 2017.
[200] ComReg also notes that subsidising handsets can often be inefficient as consumers could often retain their current handset absent the subsidy.

A 1.89 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.

A 1.90 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.

A 1.91 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.

A 1.92 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[201]; 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 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.

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

2. Terminating Markets

A 1.93 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[202]); and

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

A 1.94 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.

A 1.95 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.

A 1.96 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.

A 1.97 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.

A 1.4.4 Impact on Consumers

Option 1 (*status quo*)

A 1.98 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 this consultation contains cogent and convincing evidence that Option 1 is detrimental to consumers.

A 1.99 In setting out a framework for assessing consumer harm, the DotEcon Report notes the following:

[202] 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

A 1.100 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 3 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[203].

A 1.101 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 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. 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.[204]

Table 3: Typical charges to NGNs from fixed and mobile[205]

NGN	Fixed NGN Calls (price)[206]	Mobile NGN Calls (price)
1850 (per call)	7 – 16	30 – 35

[203] See slide 24 of ComReg Document 17/70b – Non-Geographic Numbers: Consumer Study – published 16 August 2017.
[204] See slide 87 of ComReg Document 17/70b – Non-Geographic Numbers: Consumer Study – published 16 August 2017.
[205] Charges as per DotEcon Report (ComReg Document 17/70a), p38. Certain operators may charge a connection fee for calls to certain NGNs. This can be up to 29c.
[206] Cent per minute

1890 (per minute)	4 - 7	15 – 45
0818 (per minute)	4 - 13	15 – 45
076 (per minute)	4 – 9	30 - 45

2. Unknown retail prices

A 1.102 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).

A 1.103 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;[207]
- 18% of all adults avoid dialling '1800' NGNs altogether[208];
- 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;[209]
- 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').[210]; and
- Responses to this consultation further illustrate the difficulty consumers have when engaging with the NGN platform. For example, CIB note that:
    - o "*when people do not know how much an '076' call is going to cost, they are afraid to ring the number*" (CIB)

[207] See Slide 46 – B&A Consumer Study.
[208] See Slide 85 – B&A Consumer Study.
[209] See Slide 82 – B&A Consumer Study.
[210] See Slide 87 – B&A Consumer Study.

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

A 1.104 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.[211] 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.[212]

A 1.105 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).

A 1.106 These issues ('known' and 'unknown') create a number of distinct effects that hinder the effective and efficient 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**).

A 1.107 ComReg considers these related issues below in assessing consumer harm.

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

[212] 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.

Contagion effect

A 1.108 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 using NGNs altogether.

A 1.109 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,[213] while:
    - 30% of those aware of '1800' think '1800' calls are expensive;[214] and
    - 37% of those aware of '1800' think the caller pays for the services provided over the '1800' range.[215]
- 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;[216]
- 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');[217]
- 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

[213] See Slide 42 of ComReg Document 17/70b – Non-Geographic Numbers: Consumer Study – published 16 August 2017.
[214] See Slide 47 of ComReg Document 17/70b – Non-Geographic Numbers: Consumer Study – published 16 August 2017.
[215] See Slide 78 of ComReg Document 17/70b – Non-Geographic Numbers: Consumer Study – published 16 August 2017.
[216] See Slide 37 of ComReg Document 17/70b – Non-Geographic Numbers: Consumer Study – published 16 August 2017.
[217] See Slides 68, 69 and 70 of ComReg Document 17/70b – Non-Geographic Numbers: Consumer Study – published 16 August 2017.

- 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;

A 1.110 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 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.

A 1.111 Similarly, a significant proportion of consumers wrongly think that SPs make money from receiving '1800' calls.[218] 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

A 1.112 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. [219] 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.[220] DotEcon 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%"[221].

A 1.113 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.

[218] This view arose across all NGNs.
[219] ComReg observes that while the incidences of calling has fallen, consumers are spending more time on the phone when they do.
[220] Calls to the '1800' range have fallen by 15% from 190.2 million calls (2012) to 155.4 million (2015).
[221] 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.

A 1.114 For example, in relation to known retail charges:

- around 40% of those surveyed avoid calling certain NGNs (except 076) due to the perceived cost of such calls;[222]

- 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:

    - 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.[223]

A 1.115 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'*;[224] 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.[225]

A 1.116 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

A 1.117 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:

[222] See Slide 87 of ComReg Document 17/70b – Non-Geographic Numbers: Consumer Study – published 16 August 2017.
[223] See Slides 64 and 65 of ComReg Document 17/70b – Non-Geographic Numbers: Consumer Study – published 16 August 2017.
[224] See Slide 87 of ComReg Document 17/70b – Non-Geographic Numbers: Consumer Study – published 16 August 2017.
[225] Slide 84 of ComReg Document 17/70b – Non-Geographic Numbers: Consumer Study – published 16 August 2017.

- 28% of organisations do not use NGNs because they consider them too expensive for consumers to call[226];

- 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[227]; 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 than a NGN. Only 15%[228] think NGNs are more cost effective than Geographic Number or Mobile numbers for consumers.[229]

A 1.118 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 SPs or consumers.

A 1.119 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.[230] 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.

[226] Slide 87 of ComReg Document 17/70c – Non-Geographic Numbers: Organisation Study – published 16 August 2017.
[227] Slide 32 of ComReg Document 17/70c – Non-Geographic Numbers: Organisation Study – published 16 August 2017.
[228] This is likely to be for Freephone numbers.
[229] Slide 34 of ComReg Document 17/70c – Non-Geographic Numbers: Organisation Study – published 16 August 2017.
[230] Slide 46 of ComReg Document 17/70b – Non-Geographic Numbers: Consumer Study – published 16 August 2017.

Social effects

A 1.120 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).

A 1.121 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 avoid calls to NGNs[231].

A 1.122 To illustrate this point by example, consider a 30-year 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 bank 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 closely considered.

A 1.123 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*

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

'1850' Callsave, or '0818' National Call telephone numbers." [232]

A 1.124 ComReg discusses in detail the social effects arising out of high retail and wholesale origination charges in Chapter 3. 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.

A 1.125 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>

A 1.126 ComReg is of the view that consumers are more likely to prefer Option 2.

A 1.127 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 Number and Mobile numbers, this is mainly because they only need to know that their calls to Geographic Number and Mobile numbers are in-bundle and the fixed subscription rate which they pay (usually per month). Operators then compete for 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.

[232] 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.

A 1.128 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.[233] 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.

A 1.129 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 the same as Geographic Numbers and NGN calls would therefore be in-bundle. 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).[234] 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.

[233] 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.
[234] '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

A 1.130 Furthermore, consumers should be able to retain more consumer surplus by using up more of their inclusive minutes. As indicated by Table 2, Originating Operators currently accrue about €29m 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 calls "using up" in-bundle call minutes which would otherwise have gone unused.

A 1.131 In addition, consumers would be less likely to suffer from bill shock[235] caused by NGN calls if such calls are priced the same as 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.[236] 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.

A 1.132 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.

A 1.133 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.

A 1.134 The above two possibilities are considered below.

In-bundle allowance

[235] Bill shock is the negative reaction a subscriber can experience if their bill has unexpected charges or charges in excess of those expected.

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

A 1.135 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.

A 1.136 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:

- The average fixed-line residential subscriber usage is 85.7 call minutes per month[237];
- The average mobile subscriber usage is 163.5 call minutes per month[238];
- The average number of NGN call minutes per voice subscriber (excluding '1800'[239]) is around 4 minutes per month;[240]
- NGN calls (excluding '1800') account for around 2% of total voice calls; and
- Very few customers use NGNs on a regular basis. For example:[241]
    - 8% dial '1800' NGNs regularly;
    - 6% use '1890' and '1850' NGNs regularly;
    - 4% use '0818' NGNs regularly; and
    - 3% use '076' NGNs regularly.

[237] Quarterly Key Data Report (QKDR) Q1 2018 (excluding international and advanced minutes which are normally not included in bundles).
[238] Quarterly Key Data Report (QKDR) Q1 2018 (excluding international and advanced minutes which are normally not included in bundles)
[239] Calls to '1800' numbers are already free and have no effect on a subscribers bundle and therefore excluded from this analysis.
[240] This includes fixed and mobile subscriptions.
[241] See Slide 30 of ComReg Document 17/70b – Non-Geographic Numbers: Consumer Study – published 16 August 2017.

A 1.137 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

A 1.138 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.

A 1.139 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 operators' NGN call revenues totalled about €30 million in 2015[242], compared to those same operators' total retail revenues of around €2.9 billion for that same year, which is approximately 100 times higher.[243] 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. 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.

A 1.140 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.

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

A 1.141 Separately, and as noted above, 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.[244] Finally, even if a 1% price increase was passed through, it is unlikely to result in bill shock to same extent as consumers currently experience when they use NGNs.

A 1.142 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)

A 1.143 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[9]).

A 1.144 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[245] and ‘0800’, ‘084’, ‘085’, ‘087’, ‘088’, ‘0900’, ‘0906’, ‘0909’, ‘116’, ‘14’ and ‘18’ NGNs in the Netherlands[246]).

---

[244] ComReg 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. Consumers, however, would still be significantly better off overall as a result of Option 2 overall.

[245] 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

[246] “*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*

A 1.145 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 the same as 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.

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).

A 1.5 NGN Consolidation RIA

A 1.146 As described at the beginning of this Annex, 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.

A 1.147 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 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.

A 1.148 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.

A 1.149 In that regard, ComReg sets outs it views in relation to:

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

A 1.5.1 'Freephone' NGNs

A 1.150 Freephone 'NGNs ('1800') were introduced by Telecom Éireann 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.[247]

A 1.151 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

[247] 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.

range across any option. Freephone can be particularly important for 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)[248]. This high level of usage is confirmed in the Consumer Study – 74%[249] of consumers dial an '1800' NGN at some point.[250]
- The Organisation Study 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[251];
- Consumers are most aware of the current Freephone range '1800' compared to all other NGNs, with 86% of consumers aware of '1800'. Consumers are also more aware of the pricing structure for calls to '1800' compared to other NGNs; and
- DotEcon's view that there is a need for a specific 'Freephone' NGN class to ensure the effective functioning of the NGN platform.

A 1.152 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.

---

248 These figures correspond to the average of 2011 – 2015.
249 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%.
250 See Slide 30 of ComReg Document 17/70b – Non-Geographic Numbers: Consumer Study – published 16 August 2017.
251 See Slide 29 of ComReg Document 17/70b – Non-Geographic Numbers: Consumer Study – published 16 August 2017.

A 1.5.2 New NGN range(s)

A 1.153 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 -
  - o 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*;[252] and
  - o the main reason for wanting to use a number other than a NGN was the perception that an alternative number would be cheaper; and
  - o NGN calls are considered more expensive than Geographic Number calls (49% think NGN calls are expensive vs 15% for Geographic Number calls)[253];
- 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.[254]

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

A 1.154 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 to provide international accessibility.[255] 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

A 1.155 The need for a Freephone range has already been established in Section 3.3.2 above. 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).

A 1.156 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[256]. For example:

[255] 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.

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

- o more consumers (86%) are aware of '1800' than any other NGN range;[257] and
- o more consumers are aware of the retail pricing structure for '1800' calls than for any other NGN range.[258]

- The UK has a Freephone number range that beings 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[259].

- 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 '1800' range might not be remedied until enough Irish consumers had reported problems with making '1800' calls from abroad);

- The 'Universal International Freephone Number' range ('+800') is available for SPs that require an internationally accessible Freephone number[260]; and

[257] See Slide 28 of ComReg Document 17/70b – Non-Geographic Numbers: Consumer Study – published 16 August 2017.
[258] See Slides 39 and 41 of ComReg Document 17/70b – Non-Geographic Numbers: Consumer Study – published 16 August 2017.
[259] 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
[260] 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).

A 1.157 Therefore, while replacing the ‘1800’ range with a ‘0800’ range might have 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)

A 1.158 As noted above, 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.

A 1.159 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 make 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 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.

A 1.160 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.

A 1.161 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.

A 1.162 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[261], 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.

A 1.163 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.[262] Having regard to that significant risk, reserving the '082', '084' and '088' ranges for mobile numbers would increase the total amount of unreserved mobile numbers from 39 million to 62 million. These three unused '08X' ranges 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', '084' and '088' ranges – i.e. as mobile number and as NGNs - would also not be ideal for the reasons set out in the previous paragraph.

A 1.164 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.

A 1.165 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:

[261] Approx. 2.5M numbers have been assigned to operators from the '089' range.
[262] ComReg Document 15/60a – Report for ComReg: Conservation measures to meet future demand for mobile numbers – published 11 March 2016

- 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.

- 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 very strongly indicate that many consumers are already uncertain of the differences between NGN ranges and this lack of certainty causes many consumer to avoid NGNs, or to call them only when there is no alternative, all of which is counter to the purpose for having an NGN platform. Increasing the total number of NGN ranges, even for a 2-3 year 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, while new wholesale rates may also have to be set and introduced.

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

A 1.5.3 Identifying the regulatory options

A 1.166 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[263] (Article 28 of the Universal Services Directive[264]), 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.

A 1.167 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.

A 1.168 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

[263] 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.
[264] 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.

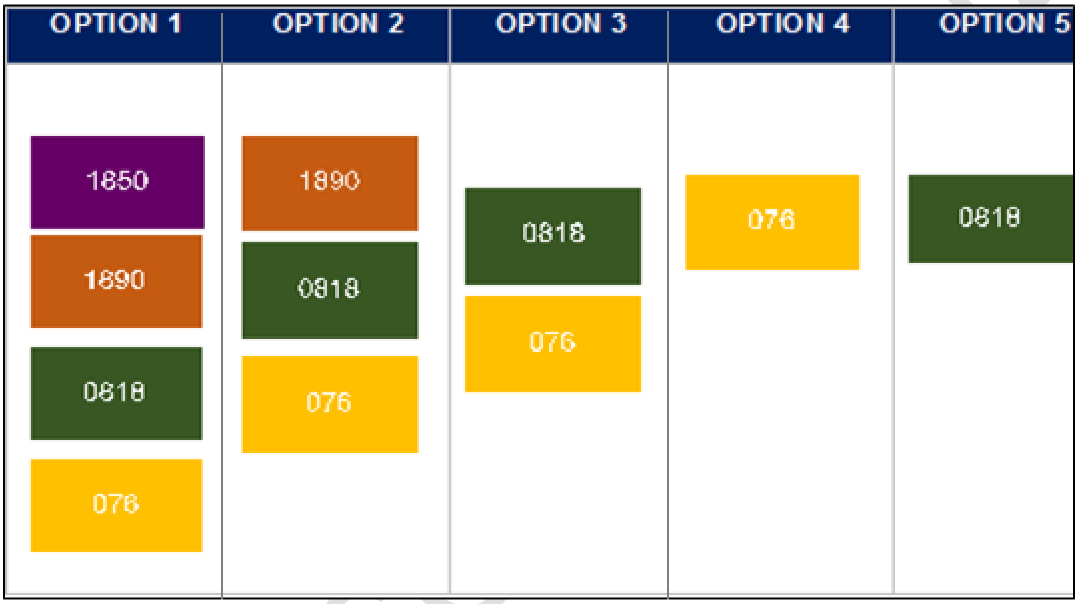
(c) **Option 3:** Close '1850' and '1890' – Retain '076' and '0818' as 'Geo-Linked' NGNs

(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.

A 1.169 Figure 6 below illustrates the Options assessed in this RIA.

Figure 6: Number Ranges retained for each Option



Determining the impact on stakeholders

A 1.170 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.

A 1.171 The impact on consumers is assessed separately below.

A 1.5.4 Impact on stakeholders

A 1.172 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.

A 1.173 The main stakeholders assessed in this section are:

- SPs;
- Originating Operators;
- Other end-users (e.g. corporate users of '076'); and
- Terminating Operators[265].

1. Service Providers

A 1.174 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[266] 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)

[265] 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.

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

A 1.175 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.

A 1.176 SPs are unlikely to favour having to migrate to an alternative NGN range if the costs of 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 platform, even where some migration costs are likely to arise as a direct consequence of those improvements.

A 1.177 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

A 1.178 Table 4 sets out ComReg's view on the extent to which each NGN range would likely satisfy SP requirements.

Table 4: SP requirements and NGN ranges

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

A 1.179 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').

A 1.180 Therefore, these three requirements will not be discussed further as they are provided by all options. ComReg discusses the remaining requirements below.

International access

A 1.181 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.[267]

A 1.182 '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 either the '0818' or the '076' range.

Memorability

A 1.183 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;[268]
- More consumers think that NGNs are easier to remember than Geographic Numbers (34% for NGNs versus 17% for landlines)[269]; and
- 1 in 10 who were happy to use the NGN did so because it was easier

[267] 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.
[268] See Slide 30 of ComReg Document 17/70c – Non-Geographic Numbers: Organisation Study – published 16 August 2017.
[269] See Slide 80 of ComReg Document 17/70b – Non-Geographic Numbers: Consumer Study – published 16 August 2017.

to remember[270];

A 1.184 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.[271]

A 1.185 Research on number memorability has established a number of relevant considerations, including:

- that immediate memory is generally limited to between four and seven pieces of information;[272][273]
- that memory is helped more when the first chunk consists of four digits rather than three digits;[274] [275]
- that repeated numbers and the number '8' is easier to remember than other single digit numbers[276] [277]; and
- that every additional number dialled before one gets to the seven digits increases the error rate.[278]

A 1.186 In this context, 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).

A 1.187 This view is also supported by evidence from the Organisation Study. 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

[270] See Slide 83 of ComReg Document 17/70b – Non-Geographic Numbers: Consumer Study – published 16 August 2017.
[271] '07X' range is associated with the North West region i.e. Donegal, Sligo, etc.
[272] Miller GA. The magical number seven, plus or minus two: Some limits on our capacity for processing information. Psychological Review. 1956;63:81–97
[273] Cowan N. The magical number 4 in short-term memory: A reconsideration of mental storage capacity. Behavioural and Brain Sciences. 2001; 24:87–185.
[274] Chicago Tribune 'Phone Numbers main memory experts' June 1998, p2
[275] 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.
[276] APS Observer 2001, Code overload: Doing a Number on Memory, American Physiological Society.
[277] Milikowski, M (1995), 'What makes a number easy to remember?' British Journal of Psychology, Vol 86 p 537-547
[278] Chicago Tribune 'Phone Numbers main memory experts' June 1998, p1.

by "*don't like it*" (16%);[279] 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'[280].

A 1.188 It appears that organisations that are most familiar with NGNs do not consider the '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.

Association with location

A 1.189 NGNs do not have a geographic location associated them. However, as noted above, 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

A 1.190 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.

A 1.191 Therefore, SPs, except for those SPs who currently use of '076' NGNs, are unlikely to prefer Option 4.

A 1.192 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,

[279] See Slide 32 of ComReg Document 17/70c – Non-Geographic Numbers: Organisation Study – published 16 August 2017.
[280] See Slide 86 of ComReg Document 17/70c – Non-Geographic Numbers: Organisation Study – published 16 August 2017.

3 and 5 also provide for these requirements.

A 1.193 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 4. In particular, the ‘0818’ range is:

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

A 1.194 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).

A 1.195 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 the retention of the number range currently being used by the SP. (See Response to RIA above).

A 1.196 The Organisation Study shows that 40% of organisations would consider using a NGN if customer costs were reduced.[281] 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

A 1.197 Table 5 sets out an estimate of the number of SPs that use particular NGN ranges[282] to provide services.[283] Therefore, this table sets out an estimate of the number of SPs that are likely to be affected if certain NGN ranges were rationalised.

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

[282] 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.

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

A 1.198 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 on NGN range.

Table 5: 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**

A 1.199 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.

A 1.200 In particular, DotEcon notes that they *"…expect 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*."[284] 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[285] ("B&A Cost Study").

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

[285] 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

B&A NGN Material Cost Study.

A 1.201 The focus of the Study (Document 17/70d[8]) was to:

a. estimate what migration costs[286] organisations could face, if ComReg proceeded to consolidate ranges in the short-run for the benefit of consumers; and
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.

A 1.202 In that regard, this 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.

A 1.203 In relation to the total cost[287] of updating materials over a short period of time (0-6 months), the survey shows that[288]:

- 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 or changed away from their NGN, 100% of all materials cost companies less than €5,000 to update.

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.

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

[287] 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.

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

A 1.204 The costs of migration varies substantially depending on the individual organisations and the material that requires changing. Separately, Table 6 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. [289]

Table 6: % of organisations that would incur a cost of greater or less than €5,000.[290]

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%

A 1.205 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. In that regard, 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.

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

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

Implementation of potential consolidation

A 1.206 An important factor in considering the time period for any migration is the trade-off between (a) achieving consumer benefits[291] sooner through faster implementation of a rationalised geo-linked NGN platform and the (b) migration and adjustment costs[292] 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 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.

8.8 In that regard, the B&A Cost Study additionally assessed:

(a) How often SPs incur the costs referred to above (associated with placing a NGN on company material[293] i.e. print runs, website updates etc.); and

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

A 1.207 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.

A 1.208 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:

[291] See impact on consumers below.

[292] 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

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

(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.

A 1.209 The replacement cycle for various items of expenditure are shown in Table 7 below.[294]

Table 7: 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

A 1.210 Table 7 shows the average replacement cycle[295] 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. In that regard, ComReg considers that a more conservative period of 2 - 3 years would provide greater scope for a greater number of organisations to avoid costs, while not unduly delaying the benefits to consumers.

[294] See slides 12 and 13 of ComReg Document 17/70d – Non-Geographic Numbers: Materials Cost Study – published 16 August 2017.

[295] The replacement cycle refers to the frequency of conducting print runs for paper based materials and making changes/updates to non-paper based materials.

A 1.211 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.[296]

A 1.212 In relation 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 rationalisation; and
- 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.

A 1.213 ComReg considers transparency measures in Chapter 6 of Consultation 17/70 which includes informing SPs of any changes arising from this consultation. This will allow SPs to make informed decisions about the timing of updating various materials in order to avoid or minimise costs.

Consumer welfare

A 1.214 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[297];

- 41% of SPs that use NGNs believe that it is important that consumers are aware of the retail charges for calling NGNs[298]; and

[296] ComReg also notes that old numbers and new numbers will be able to operate in parallel for the period of transition.
[297] See Slide 40 of ComReg Document 17/70c – Non-Geographic Numbers: Organisation Study – published 16 August 2017.
[298] See Slide 56 of ComReg Document 17/70c – Non-Geographic Numbers: Organisation Study – published 16 August 2017.

- One-third of SPs[299] would be willing to migrate to another NGN in order to improve consumer awareness and understanding and improve usage of NGNs.[300]

A 1.215 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.

2. Mobile and fixed originators

A 1.216 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.)

A 1.217 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.

A 1.218 In light of the fact that such changes would be completed over a period of 2-3 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).

1. Other end users

A 1.219 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

[299] Of those unwilling 46% related to potential costs, ComReg has consider migration costs in section above.

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

provided using Geographic Numbers).[301] DotEcon notes that there is evidence of organisations using SIP (Sessions 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 currently being used by consumers, SPs and corporates.

A 1.220 ComReg notes that '076' corporate users are different from SPs as they do not use '076' NGNs to deliver services to consumers.[302] 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. 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.

A 1.221 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 consumers services. The NGN class may be displayed on business cards and websites etc. Given that the proposed transitional period of 2-3 years is longer 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. In addition, ComReg notes that corporate users should use Geographic Numbers instead of '076' NGNs.

A 1.5.5 Impact on competition

A 1.222 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.

[301] "*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

[302] SPs that use the '076' range to deliver have already been considered in the impact on service providers above.

A 1.223 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.

A 1.224 Table 8 sets out the volume of individual numbers in each NGN class, the quantity of active numbers[303], and the current occupancy rate for each class.

Table 8: 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

A 1.225 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.

A 1.226 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[304] could be extended to NGNs; and

[303] See Table 2 of ComReg Document 17/70a – Strategic Review of Non Geographic Numbers in Ireland: A Report for ComReg – published 16 August 2017.
[304] ComReg Document 16/20b – Report for ComReg: Conservation measures to meet future demand for geographic numbers – published 11 March 2016

(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.

A 1.227 In light of the above, ComReg considers that the likely effect on competition across all options is neutral.

A 1.5.6 Impact on Consumers

A 1.228 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.

A 1.229 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.

A 1.230 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

A 1.231 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 or consider that there is no difference between using a Geographic Number or NGN to access the service[305];

(b) Thinking about the last time consumers[306] 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.

[305] See Slide 80 of ComReg Document 17/70b – Non-Geographic Numbers: Consumer Study – published 16 August 2017.
[306] See Slide 82 of ComReg Document 17/70b – Non-Geographic Numbers: Consumer Study – published 16 August 2017.

A 1.232 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).

A 1.233 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[307], 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.

A 1.234 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').

A 1.235 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).

[307] The NGN Pricing RIA considers this already.

2. Consumer awareness and confusion in relation to NGNs

A 1.236 Awareness among consumers of NGN ranges varies widely, from 86% being aware of '1800' to just 16% being aware '076'. 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.

A 1.237 Firstly, consumers are confused about a number of features related to various NGNs. For example:

- 57% and 46% of those aware of NGNs said that no NGNs are free to call from a mobile or landline;[308]
- Only 32% of those aware of NGNs correctly identified '1850' NGNs as being charged on a per call basis;[309] 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.[310]

A 1.238 Second, consumers appear to confuse NGNs with Premium Rate Service numbers. For example:

- 41% of those aware of NGNs associate '1850' and '1890' NGNs[311] with organisations that make money directly from customers dialing these NGNs;[312]
- 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

[308] See Slides 42 and 43 of ComReg Document 17/70b – Non-Geographic Numbers: Consumer Study – published 16 August 2017.
[309] See Slide 44 of ComReg Document 17/70b – Non-Geographic Numbers: Consumer Study – published 16 August 2017.
[310] See Slide 78 of ComReg Document 17/70b – Non-Geographic Numbers: Consumer Study – published 16 August 2017.
[311] 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.
[312] 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.

average estimated costs are all in excess of €1 per minute[313] (per call for 1850) (€1.06 - €1.58 for calls from a mobile)[314] which is similar to the price per minute for Premium Rate Service calls.

A 1.239 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, consumer are unlikely to prefer options that involve using additional NGN ranges where consumer's 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 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?

A 1.240 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.

A 1.241 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.

---

[313] excludes call estimates for '1800' NGNs

[314] See Slides 68 - 70 of ComReg Document 17/70b – Non-Geographic Numbers: Consumer Study – published 16 August 2017.

A 1.242 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[315] and only 43% of those aware of NGNs know that calls to ‘1800’ NGNs are free of charge[316].

A 1.243 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;[317]
- “*Organisations can make money from customers dialling these NGNs*” - 30% for ‘0818’ NGNs versus 19% for ‘076’ NGNs[318]; and
- “*I think they are expensive*” - 51% for ‘0818’ NGNs versus 31% for ‘076’ NGNs.[315]

A 1.244 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.[319] 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.

A 1.245 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?

[315] See Slide 46 of ComReg Document 17/70b – Non-Geographic Numbers: Consumer Study – published 16 August 2017.
[316] See Slide 37 of ComReg Document 17/70b – Non-Geographic Numbers: Consumer Study – published 16 August 2017.
[317] See Slide 27 of ComReg Document 17/70b – Non-Geographic Numbers: Consumer Study – published 16 August 2017.
[318] See Slide 37 of ComReg Document 17/70b – Non-Geographic Numbers: Consumer Study – published 16 August 2017.
[319] See Slide 46 of ComReg Document 17/70b – Non-Geographic Numbers: Consumer Study – published 16 August 2017.

A 1.246 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)

A 1.247 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.

A 1.248 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 for the '1850' range should diminish.

A 1.249 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).

A 1.250 ComReg is of the view that such concerns amongst consumers would not be likely 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. [320]

Table 9: Frequency of calling and callers affected (1850 range)

Frequency	Times a year	Callers affected
Regularly	10+	6%
Occasionally	3 - 10	20%

[320] See Table 3 of ComReg Document 17/70a – Strategic Review of Non Geographic Numbers in Ireland: A Report for ComReg – published 16 August 2017.

Frequency	Times a year	Callers affected
Rarely	1 - 3	44%
Never	0	30%

A 1.251 Table 9[321] 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;[322]

(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);[322] and

(c) the average call to an '1850' NGN is 2.05 minutes in duration.[320]

A 1.252 Given the proliferation of telephone service subscription packages, nearly all of 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[323] which accounts for a small amount of bundled minutes which typically range from 100 to unlimited minutes.

[321] See Slide 30 of ComReg Document 17/70b – Non-Geographic Numbers: Consumer Study – published 16 August 2017.

[322] See Slide 30 of ComReg Document 17/70b – Non-Geographic Numbers: Consumer Study – published 16 August 2017.

[323] Averaging 10+ calls per year

A 1.253 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.[324] However, ComReg notes that just 6% of consumers call '1850' NGNs on a regular basis[325]. On average, and assuming 12 calls per year, such users, under Option 2 would be required to pay circa €7.40 p.a.[326] compared to €3.60 p.a. if the '1850' range was retained.[327] 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.

A 1.254 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.

A 1.255 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).

A 1.256 Therefore, 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 the same pricing requirements. ComReg will, however closely consider the views of consumers and SPs in determining whether to retain or to remove the '1850' range.

[324] €0.30 X 5.
[325] See Slide 30 of ComReg Document 17/70b – Non-Geographic Numbers: Consumer Study – published 16 August 2017.
[326] 2.05 X 12 X €0.3 (Circa)
[327] 12 X €0.3 (Circa)

Option 3 removal of the '1890' NGN class

A 1.257 Option 3 involves the withdrawal of the '1890' NGN range in addition to the '1850' NGN range.

A 1.258 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;[328]
- 41% of those surveyed think that organisations make money from receiving '1850' and '1890' calls;[329]
- 53% of those surveyed who were aware of the '1890' range think that the cost of calls' falls on the caller;[330] and
- 31% of those surveyed avoid dialling '1890' NGNs[331].

A 1.259 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*".[332] 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.

[328] See Slide 46 of ComReg Document 17/70b – Non-Geographic Numbers: Consumer Study – published 16 August 2017.
[329] See Slide 37 of ComReg Document 17/70b – Non-Geographic Numbers: Consumer Study – published 16 August 2017.
[330] See Slide 78 of ComReg Document 17/70b – Non-Geographic Numbers: Consumer Study – published 16 August 2017.
[331] See Slide 85 of ComReg Document 17/70b – Non-Geographic Numbers: Consumer Study – published 16 August 2017.
[332] Page 109 of ComReg Document 17/70a – Strategic Review of Non Geographic Numbers in Ireland: A Report for ComReg – published 16 August 2017.

A 1.260 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 '076' ranges, would also not be compatible with Article 28 of the USD.

A 1.261 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 will, however closely consider the views of consumers and SPs in determining whether to retain or to remove the '1890' range. ComReg assesses the '0818' and '076' ranges below.

Option 4 (close the '0818' NGN class) v Option 5 (close the '076' NGN class)

A 1.262 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.

A 1.263 ComReg considers that one of consumers' main requirements for a NGN range[333] 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%;[334]
- The '0818' and '076' ranges are the least frequently dialed with 53% and 51% ever dialing[335];
- 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*';[336] and
- Surveyed consumers considered '0818' NGNs to be more memorable than '076' NGNs. 42% of those aware of NGNs and who had ever dialed

[333] Except for price which has already been assessed in the 'Pricing RIA'.
[334] See Slide 27 of ComReg Document 17/70b – Non-Geographic Numbers: Consumer Study – published 16 August 2017.
[335] See Slide 30 of ComReg Document 17/70b – Non-Geographic Numbers: Consumer Study – published 16 August 2017.
[336] See Slide 87 of of ComReg Document 17/70b – Non-Geographic Numbers: Consumer Study – published 16 August 2017.

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.[337]

A 1.264 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 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.

A 1.265 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.

A 1.266 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

A 1.267 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.

[337] See Slide 122 of ComReg Document 17/70b – Non-Geographic Numbers: Consumer Study – published 16 August 2017.

A 1.268 The impact of a number change on such users would include the time required to notify them all contacts of the change. However, ComReg also notes that a 2009 number change[338], 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 it is proposed that the removal of certain NGN ranges, as proposed in this consultation, would take place over a 2-3 year period.

A 1.269 Whilst 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

A 1.270 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.

A 1.271 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 features and/or price.

[338] 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)

A 1.272 In ComReg's view, and on balance, the information which it has gathered, including the results of the Consumer Study, 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.

A 1.273 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.

A 1.1 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

A 1.274 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.

A 1.275 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 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.

A 1.276 Similarly, ComReg is of the view that Originating Operators and Terminating Operators are likely to prefer Option 1 as the alternative five options, and in particular Options 4 and 5, may create some short-term disruption to the NGN platform. However, based on the analysis above, ComReg considers that while Originating Operators and Terminating Operators may 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) Option 1 would not be in the best interests of competition and consumers.

A 1.277 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.

A 1.278 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.

A 1.279 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 the ‘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;

- 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 2-3 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).

A 1.280 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.

A 1.281 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 2-3 years.

A 1.282 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*[339]".

A 1.6 Overall Preferred Option for NGN Pricing and

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

Consolidation ('Preferred Option')

A 1.283 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 - at this point in time and subject to its full consideration of all responses to this consultation – are 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 '1890', '1850', and '076' NGN ranges should be withdrawn following a transitional period of 2-3 years.

A 1.284 The Freephone '1800' range and the 'Geo-linked' '0818' range would thus be the only two NGN ranges to remain in effect, after the 2-3 year transitional period had ended.

A 1.285 The following section assesses the above Preferred Option against ComReg's other relevant objectives, regulatory principles and duties.

A 1.6.1 Assessment of overall Preferred Option against ComReg's other relevant objectives, regulatory principles and duties

A 1.286 The RIAs herein consider a number of proposed 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).

A 1.287 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.

A 1.288 As noted above, ComReg's Preferred Option at this point in time is to withdraw the '1890', '1850', and '076' NGN ranges following a 2-3 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

A 1.289 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 use of the national numbering resource

A 1.290 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.

A 1.291 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.

A 1.6.2 General Provisions on Competition

A 1.292 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.

A 1.293 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.[340]

[340] The final two statutory obligations were introduced by Regulation 16 of the Framework Regulations.

A 1.294 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.

A 1.295 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).

A 1.296 As noted earlier in this consultation paper, today 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 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).

A 1.297 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.

A 1.298 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.

A 1.299 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 non-inclusion) 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.

A 1.300 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 to the end goal.

A 1.301 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, as proposed, 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 ever more NGN calls being made by consumers, to the benefit of those consumers.

A 1.302 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).

A 1.303 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.

A 1.6.3 Promoting the development of consistent regulatory consistent application of EU law

A 1.304 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.

A 1.6.4 Promoting the interest of users within the Community

A 1.305 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.

A 1.306 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 2-3 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.

A 1.6.5 Efficient Use and Effective Management of the

numbering resource

A 1.307 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.

A 1.308 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 NGN in one of the two ranges that would be retained, the Preferred Option includes a 2-3 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.

A 1.6.6 Article 28 of the Universal Service Directive

A 1.309 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.

A 1.310 In that regard, ComReg notes that the preferred ‘0818’ NGN range is internationally accessible.

A 1.6.7 Relevant Policy Statements

A 1.311 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.

A 1.312 ComReg considers below those Policy Directions which are most relevant in this regard (and which have not been considered elsewhere in this annex).

Policy Direction No.4 of 21 February 2003 on Industry Sustainability

A 1.313 This Policy Direction provides that:

A 1.314 "*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*."

A 1.315 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.

A 1.316 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 award proposals in the context of all industry stakeholders, including different types of industry stakeholders.

A 1.317 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 Pricing RIA and Numbering RIA.

A 1.318 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 to the proposed two NGN ranges, the Preferred Option includes a 2-3 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

A 1.319 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.*"

A 1.320 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.

A 1.321 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.

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[341] fall into two broad categories in that they are either "General Authorisation Conditions" or "Rights of Use Conditions".

1 General Authorisation Conditions

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;

[341] ComReg Document 15/136R1 – Numbering Conditions of Use and Application Process – published 1 June 2018

- 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.[342]

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.

[342] 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).

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[343] at rates similar to those applied for calls to and from other Member States.

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).

[343] ComReg notes that ETNS is suspended and the ITU has withdrawn the shared code for Europe that was due to be used.

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.

Annex: 3 Questions

Section **Page**