



Commission for  
**Communications Regulation**

# **Review of Non-Geographic Numbers**

**Document:** ComReg 17/70

**Date:** 16/08/2017

**An Coimisiún um Rialáil Cumarsáide**

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# 1 Executive Summary

- 1.1 Non-Geographic Numbers (“NGNs”) are telephone numbers that are not linked with any particular geographic location. This contrasts with Geographic Numbers<sup>1</sup> (“GNs”) where the prefix indicates a particular location where a call terminates (e.g. ‘01’ for Dublin or ‘061’ for Limerick).
- 1.2 NGNs provide an important platform for the delivery of a wide variety of services to consumers. Organisations such as private companies, public sector bodies and charities (referred to herein as “Service Providers” or “SPs”)<sup>2</sup> use NGNs to deliver teleconference services, product and service help lines, customer support, marketing campaigns and information services, etc.
- 1.3 In 2016, ComReg began a review of the following five classes<sup>3</sup> of NGNs as ComReg was concerned as to whether the NGN platform is operating effectively and in the best interests of consumers and SPs:
- 1800 – Freephone;
  - 1850 – Shared cost (per call charge);
  - 1890 – Shared cost (per minute charge);
  - 0818 – Universal access; and
  - 076 – Nomadic.
- 1.4 As part of its review, ComReg engaged Behaviour & Attitudes Ltd. (with the Research Perspective) (“B&A”) and DotEcon Ltd (“DotEcon”) to assist in conducting market and economic research, data gathering and modelling of the NGN platform.
- 1.5 Having reviewed the evidence and DotEcon’s analysis of the NGN platform, ComReg’s main preliminary concerns regarding the NGN platform are as follows:
- that 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

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<sup>1</sup> “Geographic Number” means a number from the National Numbering Scheme where part of its digit structure contains geographic significance used for routing calls to the physical location of the network termination point (NTP).

<sup>2</sup> “Service Provider” for the purpose of this consultation means organisations such as businesses, charities, public bodies, etc. that provide services (e.g. telemarketing, helplines, sales, public services, etc.) to consumers via a telephone number from the national numbering scheme.

<sup>3</sup> The terms “class”, “type” and “range” are used interchangeably throughout this Document.

many consumers from calling NGNs;

- that 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;
- that 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
- that 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 that 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.

1.6 The following summary of ComReg's preliminary findings, taken from the broad body of relevant information, illustrates ComReg's current concerns with the NGN platform:

- 67% of adults prefer to contact organisations by telephone, as opposed to other means such as online or face-to-face;
- 86% of surveyed consumers did not know the per minute/per call cost of NGN calls;
- Although surveyed consumers did not know the per-minute/per call cost, many thought that NGN calls are expensive. Of those aware of NGNs, 49% thought NGN calls are expensive compared to 15% who thought calls to landlines are expensive;
- 62% of surveyed consumers aware of NGNs believed that they are used by SPs to make money;
- 62% of surveyed SPs use NGNs (other than '1800' NGNs) to reduce the cost of calls for their customers; and

- Evidence from SP interviews and the B&A Organisation Survey shows that SPs are unhappy with the cost to them for using NGNs to provide services to consumers. This is particularly the case for the '1800' NGN range, where the called party pays the entire cost of the call (in some cases SPs are charged as high as 34 cents per minute for receiving '1800' calls).
- 1.7 ComReg is of the preliminary view that NGNs and their associated retail tariffs should be more transparent, in order to ensure the more efficient functioning of the NGN platform at the retail level and to better meet the reasonable needs of consumers. Towards the achievement of this goal, ComReg is now proposing the following regulatory measures:
- (a) First, to have two main categories of retail tariff principles:
    - (i). A "Freephone" retail for '1800' NGNs (i.e. to retain the current tariff principle); and
    - (ii). a retail tariff, for the other four classes of NGNs, which would be equivalent to GN calls (i.e. to 'geo-link' NGN calls to equivalent GN calls so that, for example, if a consumer's GN 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).
  - (b) ComReg is of the preliminary view that introducing a new retail tariff principle alone may not be enough to best ensure the efficient and effective functioning of the NGN platform for both consumers and SPs. Information from the B&A surveys and DotEcon's analyses shows there is confusion amongst consumers and SPs regarding both the charging structure and the cost of calling each of the five classes of NGNs. Therefore ComReg proposes to rationalise the number of NGN ranges from five to two over time so as to match the two categories of NGN retail tariffs. (i.e. one Freephone and one 'geo-linked'). Having considered each of the existing ranges and the introduction of a new number range(s), it is proposed, on balance, that the '1800' and '0818' ranges would be retained as the Freephone and geo-linked ranges. The '1850', '1890', and '076' ranges would be closed over a 2 – 3 year period.
  - (c) Third, to consider 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.
- 1.8 If the first proposed measure above in 1.7 (a) is implemented then operators would be given a six-month period in which to update their tariff information and billing systems. It is proposed that the second proposed measure above in 1.7 (b) would be implemented over a 2 – 3 year period so as to allow SPs enough time in which to move to alternative classes of numbers. Other price



transparency measures would be introduced over time following appropriate engagement with interested parties.

- 1.9 While the measures proposed in this consultation are aimed at addressing issues affecting the functioning of NGNs at the retail level, ComReg considers that retail remedies alone would be unlikely to address any market failure at the wholesale level. Therefore, any issues identified at the wholesale level will be addressed in line with the approach outlined by ComReg in Information Notice 17/53R.<sup>4</sup>
- 1.10 ComReg invites and welcomes the views of all interested parties and will consider all responses to this consultation. Chapter 7 sets out how to respond to this consultation and please note that consultation period will run until 5pm on 12 October 2017.

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<sup>4</sup> <https://www.comreg.ie/publication/information-notice-wholesale-charges-non-geographic-numbers/>

## 2 Background and purpose

### Background

- 2.1 The Commission for Communications Regulation (“ComReg”) has the statutory function to manage the national numbering resource.<sup>5</sup> To this end ComReg must ensure, amongst other things, that numbers are used efficiently and in a manner that protects consumers<sup>6</sup> and promotes competition.
- 2.2 In 2014, ComReg outlined some concerns regarding retail tariffs for non-geographic numbers (“NGNs”) and stated that it would review the functioning of NGNs at the retail level and the possible effects of changes to their conditions of use, for example those related to retail tariff principles.<sup>7</sup>
- 2.3 On 11 February 2016, ComReg published an Information Notice<sup>8</sup> stating that ComReg had commenced a review (the “Project”) of the five classes (or types or ranges) of NGN listed in [Table 1](#) below. 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](#).

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

*Table 1: The five classes of NGNs under review*

<sup>5</sup> 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.

<sup>6</sup> “consumer” means any natural person who uses or requests a publicly available electronic communications service for purposes which are outside his or her trade, business or profession.

<sup>7</sup> ComReg Document 14/130 - Update on Treatment of Non-Geographic Numbers – published 05 December 2014.

<sup>8</sup> ComReg Document 16/11 – Strategic Review of Non-Geographic Numbers: Project Update – published 11 February 2016.

- 2.4 Because Premium Rate Service<sup>9</sup> (“PRS”) numbers<sup>10</sup> can only be used to provide a PRS and that PRS providers must display the cost of calling their services in all advertising, PRS numbers do not fall within the scope of the Project. Directory Enquiry (“DQ”) numbers are also outside the scope of this Project.<sup>11</sup>
- 2.5 Internet Access Numbers are also outside of scope because they are not used by SPs and can only be used by internet service providers (“ISPs”) for the purpose of routing traffic from a Public Switched Telephone Network, Integrated Services Digital Network, or Mobile Network to the point of presence of the ISP with which the number is associated.
- 2.6 The current conditions attaching to the five classes of NGNs listed in Table 1 are set out in section 4 of the *Numbering Conditions of Use and Application Process* (“Numbering Conditions”), as amended.<sup>12</sup>

## Purpose

- 2.7 As stated in Information Notice 16/11<sup>8</sup>, the Project would gather and analyse information relevant to ComReg’s preliminary concerns with regard to retail tariffs, transparency, and consumer understanding and usage of the above five classes of NGNs, at the retail level. Having gathered and analysed such information, ComReg is now of the preliminary view that certain regulatory measures are required in order to ensure the better functioning of the NGN platform, towards the best interests of consumers and SPs.
- 2.8 Consumers’ apparent lack of understanding (and consequent under-utilisation) of NGNs may undermine the utility of NGNs to SPs who wish to provide consistent and convenient access to their services across all telephone networks. Any deficiencies in the NGN platform could lead to lower quality services being provided over NGNs, leading to decreased NGN call volumes which would ultimately be to the detriment of consumers and SPs.
- 2.9 Consumers of publicly available electronic communications services are entitled to a high level of protection in their dealings with suppliers of such services and to maximise benefit in terms of the choice, price, and quality. Clear

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<sup>9</sup> “premium rate service” means a service having all of the following characteristics:

- (i) the provision of the contents of communications (other than a broadcasting service) through an electronic communications network (“ECN”) or by using an electronic communications service (“ECS”), which may include or allow the use of a facility made available to the users of the service;
- (ii) there is a charge for the provision of the service which exceeds the cost attributable to communications carriage alone; and
- (iii) the charge referred to in paragraph (ii) is paid by the end-user of the service directly or indirectly to the provider of the ECN or ECS used in connection with the provision of the service by means of a billing or other agreed payment mechanism.

<sup>10</sup> “Premium Rate Service number” means a NGN that is used to provide Premium Rate Services.

<sup>11</sup> ComReg does not currently set a price ceiling for DQ calls. Nevertheless ComReg will continue to monitor the costs of calling DQ numbers and consider whether intervention is required.

<sup>12</sup> ComReg Document 15/136 – Numbering Conditions of Use and Application Process – published 22 December 2015.

and meaningful information regarding such services, and in particular transparency of retail tariffs for such services, is essential.

- 2.10 ComReg has previously noted the lack of information on the NGN platform, including NGN call traffic volumes, and consumer and organisational perceptions of NGNs. To address this information deficit, ComReg contracted Behaviour & Attitudes Ltd. (with the Research Perspective) (“B&A”) and DotEcon Ltd (“DotEcon”) to conduct market research, data gathering and modelling.
- 2.11 B&A surveyed consumers (“Consumer Survey”) and organisations (“Organisation Survey”) in order to explore:
- (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 the costs of NGN calls; 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.
- 2.12 B&A also conducted a cost survey which explored the extent to which migrating from a NGN imposes costs on SPs.
- 2.13 DotEcon, using data collected from relevant parties<sup>13</sup>, developed models to inform ComReg’s understanding of the NGN platform. 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;<sup>14</sup>
  - (c) provided a description of 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 NGNs between the consumer, originating operator (“OO”), the terminating operator (“TO”) and the SP, as well as any intermediaries involved in carrying a call (such as transit operators); and
  - (d) has recommended remedies for any concerns with the current NGN system which have been identified.

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<sup>13</sup> Data was collected from operators in the Irish market.

<sup>14</sup> For the purpose of this Project, “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.

- 2.14 ComReg and DotEcon also conducted in depth, one-to-one interviews with seven large SPs (public and private). Those seven SPs provided a substantial body of information on their experiences in using NGNs, including the costs and perceived benefits of doing so.
- 2.15 DotEcon's Report (ComReg 17/70a<sup>15</sup>) and the results of the surveys carried out by B&A (ComReg 17/70b<sup>16</sup>, ComReg 17/70c<sup>17</sup> and ComReg 17/70d<sup>18</sup>) are published alongside this consultation document.

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<sup>15</sup> ComReg Document 17/70a – Strategic Review of Non Geographic Numbers in Ireland: A Report for ComReg – published 16 August 2017

<sup>16</sup> ComReg Document 17/70b – Non-Geographic Numbers: Consumer Survey – published 16 August 2017

<sup>17</sup> ComReg Document 17/70c – Non-Geographic Numbers: Organisation Survey – published 16 August 2017

<sup>18</sup> ComReg Document 17/70d – Non-Geographic Numbers: Materials Cost Survey – published 16 August 2017

## 3 Non-geographic numbers

- 3.1 A NGN is a number from the National Numbering Scheme<sup>19</sup> that is not a Geographic Number (“GN”) (also known as a landline number) in that a NGN’s geographic network termination point is not identifiable from its digit structure.<sup>20</sup>
- 3.2 NGNs are mainly used by various SPs such as businesses, charities, and public bodies to offer services to consumers, including telemarketing, helplines, sales, and support services. NGNs provide consumers with near universal accessibility to SPs in a way that cannot be provided by non-voice based platforms, such as face-to-face or online.
- 3.3 Five NGN ranges are considered in this Project:
- (a) ‘1800’, ‘1850’ and ‘1890’ – these NGNs were introduced by Telecom Éireann to allow SPs either to pay for the entire cost of the call (‘1800’) or to share the cost of the call with the caller (‘1850’ and ‘1890’). These NGN ranges are not internationally accessible and can only be dialled within Ireland;
  - (b) ‘0818’ –was introduced by the Office of the Director of Telecommunications Regulation in 1998 in response to demand from large organisations for a class of number that would allow callers to dial a single number from anywhere in the world and which would be routed to the organisation at a network termination point convenient to the organisation. ‘0818’ NGNs are internationally accessible and may be dialled outside Ireland; and
  - (c) ‘076’ –was introduced by ComReg in 2004 to facilitate Voice over Internet Protocol (VoIP) services for individual end-users<sup>21</sup>. Because VoIP services are nomadic by nature, such that the call termination point may be located anywhere, ComReg decided a new class of number was required for VoIP services, as the conditions of use that attached to GNs limited their usefulness for certain VoIP services. In

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<sup>19</sup> “National Numbering Scheme” means the scheme administered by ComReg which sets out the sequence of numbers or other characters which must be used to route communications to specific locations, terminals, persons or functions on public electronic communications networks, and consisting of:

- (i) the numbering plan databases containing details for all rights of use for numbers granted;
- (ii) the national numbering plan, listing the 106 geographic areas associated with Geographic Numbers and the designations for all classes and types of number; and
- (iii) the numbering conditions of use and application process document.

<sup>20</sup> NGNs are sometimes referred to as number translation codes because they have no physical destination address of their own but can reach real destinations and/or real services once they are translated by an intelligent network (“IN”) into other number classes such as a GN or Mobile Number or other class of number.

<sup>21</sup> “end-user” means a user not providing public communications networks or publicly available electronic communications services.

recent years, certain SPs began using '076' NGNs to provide services to consumers. The range is also used by certain organisations for their IP-based Unified Communications. '076' NGNs are also internationally accessible and may be dialled outside Ireland.

- 3.4 SPs are not restricted to using NGNs to provide services to consumers. SPs may also use GNs and/or Mobile Numbers to such provide services and many SPs do so.
- 3.5 The NGN supply chain between a consumer and a SP is shown in Figure 1. A detailed description of the NGN supply chain is provided in Section 3.2.

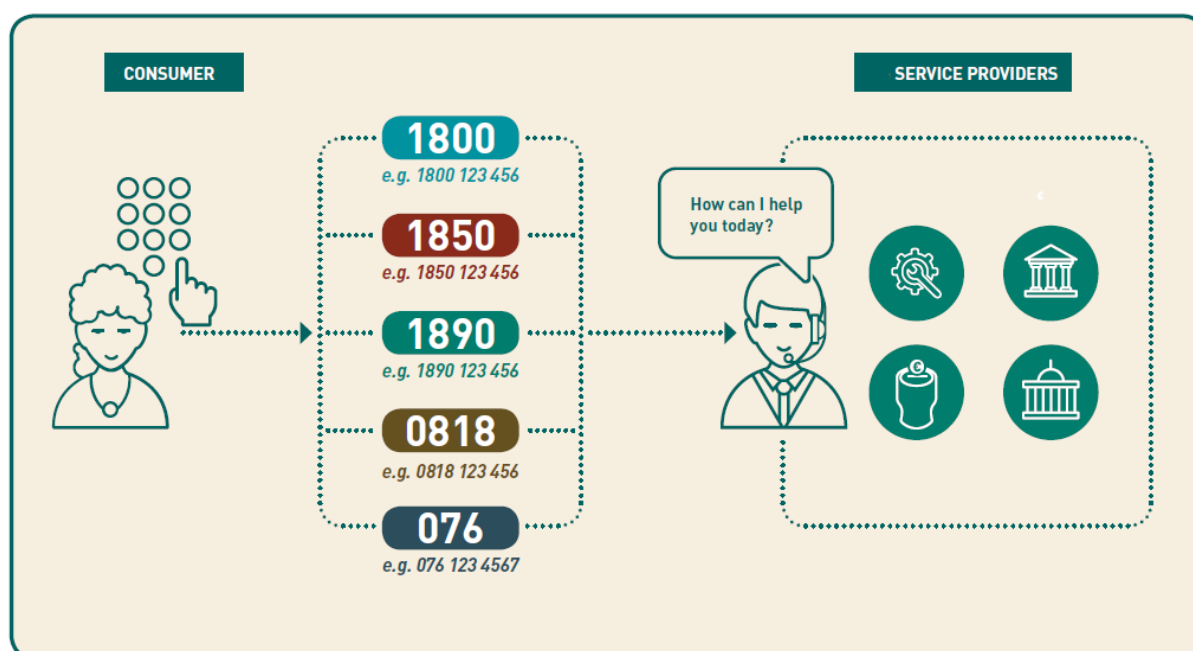


Figure 1: Simplified NGN call supply chain

### 3.1 NGN retail tariff principles and typical retail rates

- 3.6 ComReg sets conditions for all numbers in the National Numbering Scheme, including conditions as to the designated use of different number ranges and retail tariff conditions. The current conditions relating to retail tariffs for NGNs are set out in ComReg Document 15/136<sup>12</sup>:
- '1800' calls are free to the caller<sup>22</sup> where the call originates from within the State, from both fixed-line and mobile calls. The charge for an '1800' call is borne entirely by the called party<sup>23</sup>.
  - For '1850' calls, the caller pays a fixed retail charge which shall not exceed the OO's retail charge for a 5 minute call to a GN, at the OO's

<sup>22</sup> "caller" means the person that initiates a call.

<sup>23</sup> "called party" means the person or organisation that receives a call.

standard rate.<sup>24</sup> The '1850' caller pays a fixed retail charge and the called party also pays a charge for receiving the '1850' call.

- At present, '1850' calls made from a mobile can cost up to approximately five times more than such calls made from a fixed-line - e.g. €0.30 per call<sup>25</sup> from a mobile and €0.06 per call<sup>26</sup> from a fixed-line. In some cases, the retail charge may be higher depending on the OO's standard rate for a 5 minute GN call.<sup>27</sup>
- (c) For '1890' calls, the caller is charged at a per-minute rate that shall not exceed the OO's standard rate for a call of the same duration to a GN. As with '1850' calls, the called party also pays a charge for receiving the '1890' call.
- '1890' calls can typically cost up to five times more from a mobile than from a fixed-line - e.g. €0.35 per minute<sup>28</sup> from a mobile and €0.069 per minute<sup>29</sup> from a fixed-line. In some cases the retail charge may be higher depending on the OO's standard per-minute rate for a call to a GN.
- (d) For '0818' and '076' calls, the caller is charged at a per-minute rate that shall not exceed the OO's standard rate for a call of the same duration to a GN.
- The retail charge to the caller for an '0818' or '076' call varies depending on whether the call originates on a fixed-line or on a mobile – the retail charge to the caller can be as high as €0.45 per minute<sup>30</sup> for some pre-pay mobile callers.

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<sup>24</sup> "standard rate" means the rate charged to the customer during regular working hours (e.g. Mon-Friday; 8am to 6pm). If individual package effects or other factors cause the calculation of standard rate to be unduly complex or impractical, the undertaking may estimate its value by reference to its average charges for calling Geographic Numbers, such variations must however be notified to ComReg

<sup>25</sup> Other charges on Pay As You Go, Meteor, <https://www.meteor.ie/pay-as-you-go/other-charges/> accessed 24 May 2017.

<sup>26</sup> Eir Price List 2017, <https://www.eir.ie/opencms/export/sites/default/.content/pdf/pricing/Part2.1.pdf> accessed 24 May 2017.

<sup>27</sup> ComReg notes that certain operators in addition charge a 'connection fee' for calls to certain NGNs.

<sup>28</sup> Pay as you go costs, Vodafone, <http://www.vodafone.ie/pay-as-you-go-plans/charges/> accessed 24 May 2017.

<sup>29</sup> Sky Talk Tariff Guide Freetime and Anytime, Sky Ireland, [http://www.sky.com/ireland/\\_PDF/ROI\\_SkyTalkTariffGuide\\_May\\_2016.pdf](http://www.sky.com/ireland/_PDF/ROI_SkyTalkTariffGuide_May_2016.pdf) accessed 24 May 2017.

<sup>30</sup> Vodafone prepay customers not signed up to a top up offer are charged a Lifestyle rate of 45c per minute (peak). Pay as you go costs, Vodafone, <http://www.vodafone.ie/pay-as-you-go-plans/charges/> accessed 24 May 2017.



- 3.7 Information collected from operators by ComReg under its Voluntary Information Request and subsequent Section 13D Information Requirement<sup>31</sup> shows that most calls to '1850', '1890' and '0818' NGNs are not included in the various "bundles" of call minutes which form part of the various telephone subscriptions offered by Irish Fixed-line operators ("FLOs") and Mobile Operators ("MOs"). The sole exception is that Vodafone does include '0818' calls in its bundled minutes for its bill-pay customers (but not for its pre-pay customers). The same data shows that '076' calls are more likely to be included in operators' bundles of call minutes.<sup>32</sup>
- 3.8 Annex E of the DotEcon Report<sup>15</sup> provides a detailed view of the retail tariffs for calls to NGNs charged by the main FLOs and MOs in the Irish market.

## 3.2 NGN Supply Chain

- 3.9 This section briefly describes the NGN supply chain and the revenue flows between operators involved in connecting NGNs calls between callers and called parties. Readers are referred to the DotEcon Report<sup>15</sup> for a more detailed description.
- 3.10 For the purposes of the Project, the supply chain described below is based solely on scenarios where (i) the caller is a consumer and (ii) the called party is a SP and (iii) the SP uses a NGN to enable consumers to access the SP's services. Scenarios such as an end-user using a NGN (e.g. '076') for personal communications (rather than to provide a service) are not considered.

### The NGN supply chain

3.11 The NGN supply chain has the following main elements:

- The **consumer (caller)** – the person who initiates the NGN call;
- The **originating operator ("OO")** - the FLO or MO on whose network the NGN call originates;
- The **terminating operator ("TO")** – the FLO or MO on whose network the NGN call terminates; and
- The **service provider ("SP")** - the called party who uses the NGN to provide a service to the consumer (the caller).

3.12 A NGN call may originate and terminate on the same network or it may originate on one network and terminate on a different network. In addition, some NGN calls are routed through a **transit operator** (i.e. neither the OO nor TO) who

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<sup>31</sup> See Annex D of the DotEcon report.

<sup>32</sup> Operators that include '076' numbers as free inclusive minutes are: Eir, Lycamobile, Meteor, Pure Telecom, Ripplecom, Tesco Mobile.

carries the NGN call between the OO and the TO<sup>33</sup>. The OO may be a FLO or a MO. NGN calls typically terminate on a fixed-line network. Therefore, MOs which provide call termination to NGNs typically purchase a wholesale service from a FLO. *Figure 2* shows the NGN supply chain.

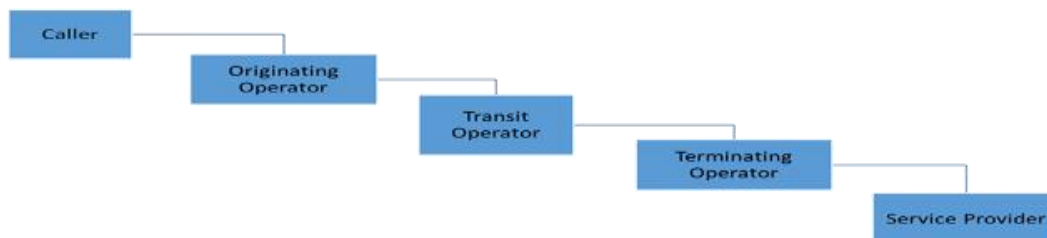


Figure 2: NGN call supply chain

3.13 Some smaller operators, who do not have a network or an interconnection agreement<sup>34</sup>, may purchase wholesale services from larger operators for outbound (call origination) and/or inbound (call termination) NGN call traffic and may compete in the retail market for callers and/or SPs. These smaller operators are known as **resellers**<sup>35</sup> and they operate in the fixed-line and/or mobile market. However, resellers account for less than 5% of total NGN calls. *Figure 3* shows the link between the caller and called party (SP) when a reseller is involved in the supply chain.

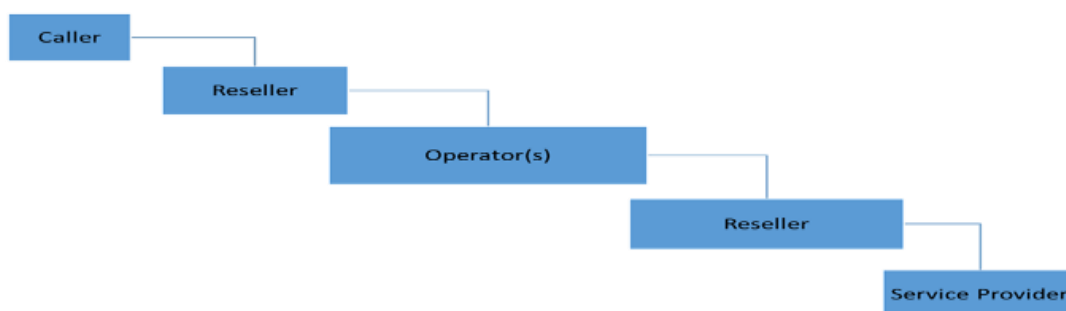


Figure 3: NGN supply chain with Resellers

3.14 TOs and resellers that provide a platform on which SPs can run their services (similar to platforms provided by TOs) are sometimes referred to as **hosting operators**.

<sup>33</sup> Transit is a wholesale service provided to operators that involves the switching, routing and conveyance of calls between the point after the origination of a call, up to, but not including the termination. It is common for operators to use transit services, rather than for originating operators to try to interconnect with every terminating operator. The originating operator decides on whether to use a transit provider. This may be more efficient for the originating operator rather than having to decide how to route calls to each terminating operator.

<sup>34</sup> Appendix: 3 provides a description of the NGN interconnect settlement regime.

<sup>35</sup> A reseller, being a FLO or MO who negotiates better conditions with the originating operators and terminating operators by aggregating volumes of calls. MO resellers include Blueface and Postfone and FLO resellers include Sky Ireland and IFA Telecom.

## 4 Key findings and issues identified

- 4.1 Having gathered and analysed a substantial body of relevant information, in order to assess consumer understanding and usage of NGNs at the retail level with particular regard to the transparency of NGN retail tariffs, ComReg's preliminary concerns may be summarised as follows:
- (a) that FLOs and MOs 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;
  - (b) that 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;
  - (c) that 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
  - (d) that 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 that 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.
- 4.2 The following section explores the current functioning of the NGN platform, with reference to the key findings from the B&A Consumer and Organisation Surveys and the issues identified by DotEcon following its analysis of the NGN platform. In addition, the Regulatory Impact Assessments ("RIA") in Chapter 5 assess the proposed regulatory measures.

## 4.1 Key findings from the Consumer Survey

4.3 The B&A Consumer Survey provides a detailed insight into consumers' awareness of, and interaction with, NGNs. In summary, the main findings of the B&A Consumer Survey are as follows:

- Voice-based communications are consumers' preferred method of contacting organisations. Just over two-thirds, or 67%, of consumers prefer to access services by telephone (landline or mobile) rather than online (19%) or in person (10%);<sup>36</sup>
- The mobile phone is the most popular method of contacting organisations. 43% of adults use a mobile phone to call NGNs while 24% use a landline phone.<sup>37</sup> Online webchat is mainly used by the under 50s, social class ABC, and persons living in Dublin;
- Awareness of NGNs is quite high but usage is relatively low. Of those consumers who are aware of NGNs, the majority rarely (35-44%) or never (26-49%) make NGN calls<sup>38</sup> and many avoid doing so where possible;<sup>39</sup>
- There is a lack of consumer understanding of retail tariffs for NGN calls. Retail tariffs seem insufficiently clear for consumers to know, or to be able to calculate or to reasonably estimate, the retail charge for any NGN call in advance;<sup>40</sup>
- Many consumers think that NGN calls are more expensive than GN calls. 49% of those aware of NGNs think NGN calls are expensive, compared with 15% who think GN calls are expensive;<sup>41</sup>
- 86% of consumers did not know or could not estimate the retail charge per minute/per call for a NGN call;<sup>42</sup>
- Many consumers (61%) have reservations about calling NGNs. 32% indicated that they would only make a NGN call if there is no alternative option;<sup>43</sup>
- There is a lack of transparency as to retail tariffs for NGN calls. Many surveyed consumers did not know or understand how NGN calls are

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<sup>36</sup> See Slides 22 and 23 – B&A Consumer Survey.

<sup>37</sup> See Slide 22 – B&A Consumer Survey. These numbers vary by age group - mobile usage is significantly higher amongst 25-49 year-olds but those aged 50+ have a significantly higher use of landline phones when contacting organisations.

<sup>38</sup> See Slides 29 and 30 – B&A Consumer Survey.

<sup>39</sup> See Slide 85 – B&A Consumer Survey.

<sup>40</sup> See Slides 66 to 70 – B&A Consumer Survey.

<sup>41</sup> See Slide 80 – B&A Consumer Survey.

<sup>42</sup> See Slide 67 – B&A Consumer Survey.

<sup>43</sup> See Slide 84 – B&A Consumer Survey.

charged under their subscription packages and did not know or understand the designation of each of the five classes of NGN; and

- It can be difficult for consumers to obtain and understand NGN retail pricing information.<sup>44 45</sup> Consequently, most consumers are unaware of the retail tariffs for calling NGNs.<sup>46</sup>

4.4 The issues outlined above are very similar to those found in a number of other EU Member States.<sup>47 48</sup> In particular, relatively high retail charges for calling NGNs, coupled with relatively low pricing transparency, appears to have significantly reduced overall consumer demand for accessing services through NGNs, to the ultimate detriment of consumers and SPs.

## 4.2 Key findings from the Organisation Survey

4.5 The B&A Organisation Survey provides a detailed insight into organisations' awareness and interaction with NGNs. In summary, the main findings of the Organisation Survey are as follows:

- Outside of voice-based communications, email (used by 91% of organisations) and social media (used by 46% organisations) are the most important methods used by organisations to provide services;<sup>49</sup>
- A wide range of services are provided over NGNs with the most popular being customer services, helplines, general contact and sales;<sup>50</sup>
- Currently, about 10% of organisations use NGNs to provide services, although NGN usage rises substantially amongst larger organisations. Use of NGNs is generally higher for organisations located in Dublin;<sup>51</sup>
- Of those organisations that use a NGN other than '1800', their reasons for doing so include that they wish to reduce the cost of NGN calls for their customers (62%), provide memorable contact numbers (59%), and offer a single contact point for customers (59%);<sup>52</sup>

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<sup>44</sup> See Slide 74 – B&A Consumer Survey.

<sup>45</sup> See Slide 77 – B&A Consumer Survey.

<sup>46</sup> See Slide 66 – B&A Consumer Survey.

<sup>47</sup> BoR(12)55 – BEREC Report on Special Rate Services – published 24 May 2012. [http://berec.europa.eu/eng/document\\_register/subject\\_matter/berec/reports/338-berec-report-on-special-rate-services](http://berec.europa.eu/eng/document_register/subject_matter/berec/reports/338-berec-report-on-special-rate-services)

<sup>48</sup> Ofcom Research Document – Non-geographic telephone numbers Omnibus Survey – published November 2011 [https://www.ofcom.org.uk/data/assets/pdf\\_file/0028/92269/omnibus-survey.pdf](https://www.ofcom.org.uk/data/assets/pdf_file/0028/92269/omnibus-survey.pdf)

<sup>49</sup> See Slide 43 – B&A Organisation Survey.

<sup>50</sup> See Slide 28 – B&A Organisation Survey.

<sup>51</sup> 58% of organisations with 100+ employees use NGNs, 32% of organisations with 41 – 99 employees use NGNs, about 19% of organisations with 11 – 40 employees use NGNs; and about 7% for organisations with <10 employees use NGNs. See Slide 81 – B&A Organisation Survey.

<sup>52</sup> See Slide 30 – B&A Organisation Survey.

- Organisations generally seem to have a poor understanding of how consumers are billed for NGN calls and of the associated costs of NGN calls;
- 40% of organisations that do not use NGNs because they are too expensive for customers to call, and 44% of organisations that do not use NGNs because they are too expensive for the organisation to use, would consider using NGNs if the costs to customers and the organisations were reduced;<sup>53</sup>
- Organisations identified cost as an important factor for consumers when deciding whether to make NGN calls, but many (77%) of those same organisations do not give guidance to their customers on the cost of NGN calls<sup>54</sup>; and
- Many organisations which use NGNs also provide a GN and/or Mobile number as an alternative. 76% of organisations which use NGNs also provide a GN and 33% also provide a Mobile number. 21% of organisations which provide a non-NGN alternative indicated that they do so because callers may have free calls to GNs and/or Mobile numbers<sup>55</sup>.

4.6 The B&A surveys are discussed in more detail in Chapter 5 (Draft RIA).

### **4.3 Issues identified with the current Irish NGN platform**

4.7 Using data collected from the Voluntary Information Requests and the Section 13D Information Requirements and the Consumer and Organisation Surveys, DotEcon set out an economic framework<sup>56</sup> and identified a number of issues with the current NGN platform in Ireland<sup>57</sup>. The specific concerns identified by DotEcon may be summarised as follows:

- (a) Retail prices for NGN calls are relatively high (particularly from mobile) particularly given that most phone subscription packages include GN and Mobile calls in call minute bundles but exclude NGN calls in those same bundles;
- (b) Retail tariffs for NGN calls are not sufficiently clear such that many consumers do not know the retail charge for a NGN call or cannot calculate or reasonably estimate the retail charge in advance;

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<sup>53</sup> See Slide 66 – B&A Organisation Survey

<sup>54</sup> See Slide 57 – B&A Organisation Survey.

<sup>55</sup> See Slide 45 – B&A Organisational Survey.

<sup>56</sup> See section 2 of the DotEcon Report.

<sup>57</sup> Section 5 of the DotEcon Report provides a detailed analysis of each of the identified issues in the Irish NGN market.

- (c) There is a lack of retail tariff transparency such that many consumers do not appear to understand how NGN calls are charged under their various subscription packages or the designation of each NGN range;
  - (d) Many SPs have concerns regarding the retail charges which they pay for using NGNs and this is likely to stem from bottleneck control by OOs where they are setting wholesale prices for which there is no competition; and
  - (e) The lack of consumer and SP understanding of NGN retail prices, coupled with the relatively high retail and wholesale prices paid by consumers and SPs to use NGNs, appear to be having a negative impact on the usage of NGNs which can result in harm through lost consumer surplus.
- 4.8 In summary, DotEcon considers that the NGN platform is not working effectively to the detriment of consumers and SPs, and suggests that action is required at the retail and wholesale level to address problems along the entire NGN supply chain as to price transparency, user perception and understanding, retail pricing structures, and the wholesale relationship between OOs and TOs. DotEcon also considers potential regulatory measures to address the identified concerns<sup>58</sup>.

#### 4.4 Recommended measures

- 4.9 DotEcon considers that the NGN retail market needs a coherent set of transparent retail tariffs that would meet the needs of consumers and SPs, where the goal should be to simplify the NGN regime by improving transparency and addressing the actual and perceived cost of retail calls to NGNs.
- 4.10 While DotEcon considers that retail remedies are necessary to address consumer harm, such measures are also considered to be unlikely to address market failure at the wholesale level. DotEcon also recommend a number of measures for the wholesale market as its analysis shows that the wholesale charges to SPs are too high and need to be addressed.
- 4.11 The specific recommended measures by which to address the wholesale market are set out in section 6.2 of the DotEcon Report. However, the focus of this consultation is to identify and address issues affecting the functioning of NGNs at the retail level, therefore issues at the wholesale level are not further considered herein but will be addressed by ComReg in line with the approach outlined in Information Notice 17/53r.<sup>59</sup>

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<sup>58</sup> See section 6 of DotEcon's report

<sup>59</sup> 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/>

## Remedies for the retail market

4.12 DotEcon considered what would best provide for the effective functioning of the NGN platform, noting that the characteristics of such a platform should include the following:

- The NGN platform should meet the requirements of SPs -
  - SPs are a very disparate group that use NGNs for a range of different purposes and so the degree to which any individual SP will be willing to bear some, all, or none of the costs of a NGN call will inevitably vary. Many SPs also value flexibility in terms of the geographical anonymity that NGNs provide and they value the use of a single number as a gateway to various services.
- The NGN platform should contain a class of number that is entirely free of charge to the caller -
  - Some SPs want to allow consumers to access their services entirely free of charge, for reasons which include that they wish to remove barriers to consumers calling and/or to provide consumers with free calls as a competitive differentiator. Such SPs are willing to pay the full cost for NGN calls which they receive.
- The NGN platform should have reasonable retail pricing -
  - For SPs that are not willing to pay the full cost for NGN calls which they receive, but who are nevertheless concerned about the cost of NGN calls for consumers, there should be a category of NGN where the retail charges are not excessive and can be shown to not be excessive (so as not to discourage calling).
- The NGN platform should have predictable pricing -
  - Retail charges for NGN calls should be reasonable and predictable. There is some concern amongst both SPs and consumers regarding call duration, where call queuing can significantly increase the cost exposure.

4.13 DotEcon recommends three measures to address the above matters.

### 1. Differentiation and pricing:

DotEcon recommends that any NGN should be subject to one of the following two-pricing structures:

(a) “Freephone” pricing:

- Ensure that ‘1800’ calls remain free of charge to callers (fixed-line and mobile); and



(b) “Geo-linked” pricing:

- Make a new condition under which the retail charges for the other four classes of NGN (1850, 1890, 0818, and 076) must be “Geo-linked”.

Geo-linked means that the retail charge for a NGN call would be dynamically linked to the retail charge for a GN call at the point in time. This would mean that NGN calls would be no more expensive at the point in time than GN calls. Therefore, if a GN call is included in the caller’s bundle of call minutes then any NGN call made by that caller must also be included in the same bundle of call minutes. Where a caller does not have a bundle tariff, she/he would be charged up to the out of bundle retail GN rate.

**2. Numbering:**

Reduce the number of NGN classes from five to two by withdrawing the ‘1850’, ‘1890’ and ‘076’ ranges over a period of time during which SPs may migrate to another NGN or other classes of numbers (e.g. ‘1800’, ‘0818’, landline, or mobile).

**3. Transparency:**

Introduce measures to improve the transparency of NGNs, including a common branding. This should better inform consumers of the cost/charging structure of NGNs and raise consumer awareness generally.

DotEcon’s recommended retail remedies are illustrated in [Figure 4](#).

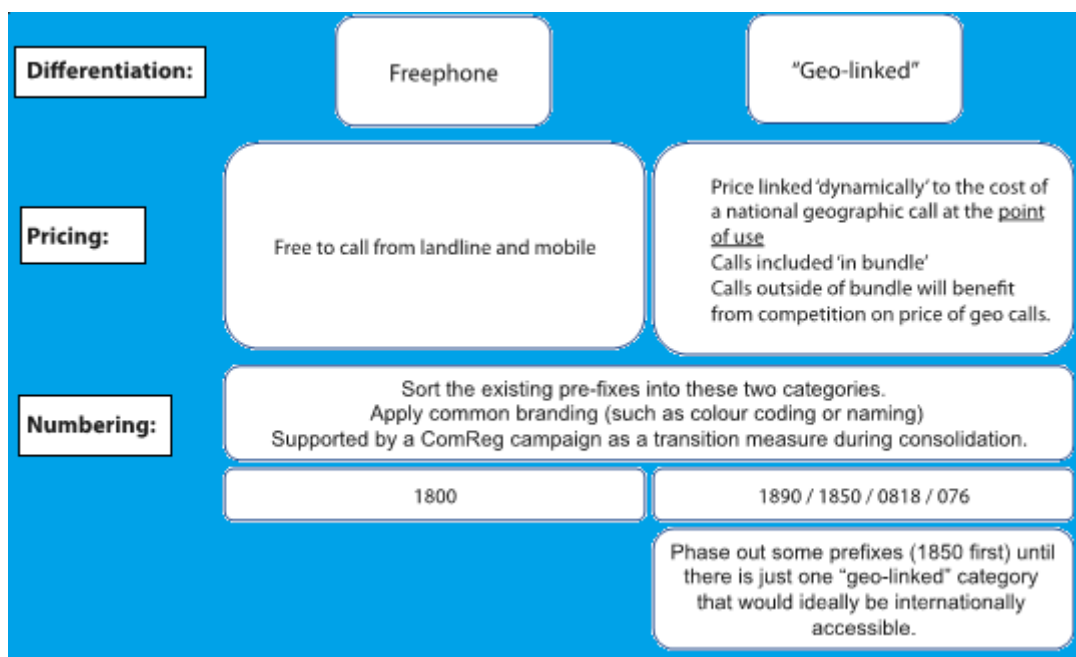


Figure 4: DotEcon’s recommended retail remedies

## 4.5 ComReg's position

- 4.14 ComReg agrees with the approach taken by DotEcon to assess the NGN market in Ireland. That approach explains the NGN supply chain in detail and the parties involved in connecting calling and called parties and the revenue flows between those parties. Information gathered through the Information Requirement, surveys, SP interviews, desk research, and from other sources is sufficiently robust to create a detailed overview of the NGN market over the past five years. Further, DotEcon has set out a detailed overview (Annex D) of any missing or inconsistent data and discusses how such issues were taken into account in its analysis.
- 4.15 Having carefully considered the relevant information and the analysis of that information, ComReg agrees that certain measures may be required to ensure that the NGN platform functions effectively and efficiently so as to meet the reasonable need of consumers, including SPs. In particular, ComReg notes that similar methodologies have been employed in the past to determine the effective functioning of NGNs. Ofcom's "Simplifying Non-Geographic Numbers" project<sup>60</sup> and BEREC's "BEREC Report on Special Rate Services" report<sup>61</sup> both identified issues with NGNs and proposed regulatory remedies to ensure their effective functioning.
- 4.16 The next chapters of this paper set out and consider options by which to address the issues identified. The first and second category of measures recommended by DotEcon (1 and 2 above) are considered in the draft Regulatory Impact Assessments in Chapter 5. Chapter 6 assesses the third recommended measure and provides a high level outline of the types of transparency measures that ComReg may consider introducing in order to give effect to the preferred options set out in the draft RIAs and to improve NGN tariff transparency in general.

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<sup>60</sup> <https://www.ofcom.org.uk/consultations-and-statements/category-1/simplifying-non-geo-numbers>

<sup>61</sup> [http://bereg.europa.eu/eng/document\\_register/subject\\_matter/bereg/reports/338-bereg-report-on-special-rate-services](http://bereg.europa.eu/eng/document_register/subject_matter/bereg/reports/338-bereg-report-on-special-rate-services)

## **5 Draft Regulatory Impact Assessments (“RIAs”)**

### **5.1 Introduction and background**

- 5.1 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.
- 5.2 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.
- 5.3 ComReg’s review of the NGN platform has involved gathering a large amount of information. That information is outlined in Chapter 4 and is covered in greater detail in the DotEcon Report 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.
- 5.4 Prior to setting out the draft RIAs, this chapter summarises the economic framework in order to give context to ComReg’s subsequent assessment of each of the regulatory options identified.

### **5.2 Economic framework and issues arising on the NGN platform**

- 5.5 A SP providing a service over the NGN platform requires that service to be accessible to all possible NGN callers (being the customers of OOs) at an affordable price or free of charge. From the SP’s perspective, OOs 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 OO. If customers of even a relatively small OO 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 OOs enable their customers to access the SPs’ services, at an affordable price or free of charge.
- 5.6 However, OOs could assert bottleneck control over their customers’ access to SPs, by raising their retail and/or wholesale tariffs. OOs could thereby capture some or all of the consumer surplus associated with the voice-based service

provided by SPs. If an OO 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 OO'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<sup>62</sup> other than using a GN or Mobile number, neither of which may be suitable in some instances for reasons including the following:

- Switching to a GN 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 OO also increases its retail prices for that alternative NGN; and/or
  - the associated wholesale charges are too high for the SP; and
- 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.<sup>63</sup>

5.7 Furthermore, in deciding to increase its retail charge an OO 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** – OOs 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** – OOs 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).

5.8 Chapter 3 of the DotEcon Report sets out the evidence which strongly indicates that several issues in the Irish NGN platform require regulatory intervention, including:

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<sup>62</sup> Disconnecting from any OO who creates a retail price bottleneck may not be feasible if the SP needs to be accessible to all possible callers.

<sup>63</sup> The B&A study confirmed that consumers still value voice based services. 67% prefer to contact organisations by telephone over alternative forms of communication.

- 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 OOs 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.
- 5.9 A key issue is the transparency of retail charges for NGN calls and consumer awareness and understanding of those charges. Chapter 6 of this paper sets out possible regulatory measures for improving the transparency of NGN retail charges. These possible price transparency measures apply to all regulatory options and are not discussed further in this 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.
- 5.10 In line with ComReg's statutory remit, and having regard to the issues outlined above, this chapter sets out the following draft RIAs:
- (a) Draft "**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) Draft "**NGN Consolidation RIA**" - based on the preferred option arising from the draft NGN Pricing RIA, whether it is necessary to rationalise the five existing NGN ranges and, if so, how many NGN ranges are required.
- 5.11 This section concludes with ComReg's assessment of its preferred option arising from the above two draft RIAs (the "Preferred Option") against relevant statutory objectives, regulatory principles and duties.
- 5.12 All references herein to "RIA", "RIAs" and "RIA(s)" etc. are references to the draft RIAs in this section, unless the context indicates otherwise.

### 5.3 RIA Framework

- 5.13 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

5.14 ComReg's RIA Guidelines<sup>64</sup> 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.

5.15 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

5.16 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<sup>65</sup>. (The impact on consumers is assessed separately in "Impact on consumers");
- (ii). SPs. (The impact on SPs is assessed in "Impact on stakeholders"); and
- (iii). Other users. The RIA also assesses the impact on other users of the NGN platform such as corporate users who use the '076' range for their IP-based Unified Communications.

2. Industry stakeholders:

- (i). Fixed-line and mobile OOs;
- (ii). Fixed line and mobile TOs;
- (iii). Transit operators; and
- (iv). Other operators (resellers, including MVNOs).

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<sup>64</sup> ComReg Document 07/56a - Guidelines on ComReg's approach to Regulatory Impact Assessment - August 2007.

<sup>65</sup> ComReg notes that consumers includes anyone who calls a NGN.

- 5.17 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 DotEcon Report).
- 5.18 ComReg has taken what it considers to be a reasonable and pragmatic approach to assessing the likely impact of each proposed measure on the various stakeholders. However, ComReg has yet to receive submissions on its proposed measures from interested parties and is therefore not yet in a position to refer to, or to consider, such submissions as may be received, including any submissions from any of the stakeholders identified above. ComReg will further develop its RIAs having regard to submissions from all respondents to this consultation.
- 5.19 Step 4 assesses the impact of the proposed measures on competition having regard to ComReg's statutory objective to promote competition (see [Appendix: 2](#)).
- 5.20 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 [Appendix: 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.
- 5.21 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***

- 5.22 In light of the analysis of, and issues identified by DotEcon, 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
- (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?

5.23 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**

5.24 ComReg is carrying out these RIAs having regard to its statutory objectives (summarised in [Appendix: 2](#)) 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<sup>66</sup>, and to promote competition in the electronic communications sector<sup>67</sup>. 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.

5.25 ComReg notes that “users” for the purposes of NGNs include consumers (callers) and SPs<sup>68</sup>. Some SPs may have to make certain changes if the proposed measures were implemented and may incur some costs in doing so<sup>69</sup>. 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.

5.26 Having identified the policy issues and objectives, as outlined above, the remainder of this chapter is divided between the two policy issues identified above – the “**NGN Pricing RIA**” and the “**NGN Consolidation RIA**”.

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<sup>66</sup> 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.

<sup>67</sup> 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.

<sup>68</sup> “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

<sup>69</sup> See [Table 6](#) below.



### ***Implications of preferred options on each RIA***

5.27 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.

## **5.4 Draft 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 GN calls and shall be treated the same as national<sup>70</sup> GN calls at the point in time.

5.28 These Options are illustrated below in [Figure 5](#).



**Figure 5: Pricing RIA Options**

5.29 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 OO. However, currently NGN calls are charged at the out-of-bundle geographic rate, whereas GN calls generally benefit from remaining in-bundle (up to the number of inclusive minutes). Therefore, currently under Option 1 there is different treatment of GN and NGN calls – NGN calls, on average, have a higher marginal price because they are not in-bundle.

5.30 Under Option 2, in terms of retail pricing it would be a requirement that NGN calls

<sup>70</sup> 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>.

be treated the same as GN calls – i.e. that NGN calls must be no more expensive than GN calls at the point in time. For example:

- If a caller's GN 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 GN call, made by that same caller at that time.

### **Impact on Stakeholders and Competition (Steps 3 and 4)**

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

- (i) Industry stakeholders (Section 5.4.1);
- (ii) SPs (Section 5.4.2);
- (iii) Competition (Section 5.4.4); and
- (iv) Consumers (Section 5.4.5).

#### **5.4.1 Impact on Industry Stakeholders**

5.32 As noted above, OOs, TOs, 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.

5.33 ComReg's approach to wholesale implications are considered below in Section 5.4.3.

#### **Option 1 versus Option 2 – Fixed and Mobile Fixed OOs**

5.34 The extent to which fixed and mobile OOs 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 GN 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. OOs' 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

5.35 GN 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 GN and this requires an intelligent network query. However, this is also a feature of many calls to ported GNs as the dialled GN needs to be “translated” for routing to the called party. Therefore, ComReg considers that the network costs of originating GN 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.<sup>71</sup>

5.36 This view is informed by:

- Wholesale market reviews;
- Information provided by FLOs and MOs as to any costs differences in originating NGN calls, as opposed to GN calls; and
- The DotEcon Report.

### Wholesale market reviews

5.37 As explained by ComReg in its Wholesale Fixed Voice Call Origination and Transit Markets Review<sup>72</sup>, there are many similarities between the different types of calls that can be made from a specific location (i.e. fixed-line calls to GNs 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 FLOs must interconnect with other FLOs, 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 FLO 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.

5.38 In relation to transit services, GNs, 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<sup>73</sup>. 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<sup>74</sup>.

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<sup>71</sup> ComReg notes that originating NGN calls may include higher retention rates than GN 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.

<sup>72</sup> [https://www.comreg.ie/media/dlm\\_uploads/2015/12/ComReg1426.pdf](https://www.comreg.ie/media/dlm_uploads/2015/12/ComReg1426.pdf)

<sup>73</sup> It should be borne in mind that Eircom’s pricing has been subject to SMP based price regulation.

<sup>74</sup> 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/](http://www.eircomwholesale.ie/Reference_Offers/).

### Response of operators to ComReg's Information Requirement

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

5.40 Eight respondents<sup>75</sup> submit that there are some cost differences between GN calls and NGN calls, including:

- (a) Having to maintain an Intelligent Network (IN) infrastructure in order to route NGN calls (Viatel, Colt, Magnet and BT). In particular:
  - (i). Switching and forwarding infrastructure is quite manual and not particularly efficient and has to be monitored for spikes (BT);
  - (ii). A proper "Non-Geographic Number Portability" ("NGNP"), which would allow a more efficient egress path, is not available (BT);
  - (iii). There may be possible cost differences between originating NGN calls and GN 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).

5.41 Ten respondents<sup>76</sup> submit that there are no network cost differences, or no observable network cost differences, between originating NGN calls and GN calls.

5.42 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 GN calls. However, ComReg is of the preliminary 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 GN calls and NGN calls, as an IN is also required to facilitate the routing of calls to ported GNs.

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<sup>75</sup> 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.

<sup>76</sup> Airspeed, Eir, Meteor, Equant, Imagine, In2tek, Intellicom, Lycamobile, Magrathea and Nova.

## 5.43 ComReg also notes the following:

- 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<sup>77</sup>;
- DotEcon’s view that maintaining these IN services is a ‘normal cost’ of operating in electronic communications markets;
- The views of Eir/Meteor<sup>78</sup> that the IN query required for routing a NGN call is also required for a GN 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.”*<sup>79</sup>
  - *...“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.”*<sup>80</sup>;
  - *“NGN and GN 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 operate an IN Infrastructure for Non-geo Numbering routing so some cost*

<sup>77</sup> <https://www.comreg.ie/publication/market-review-fixed-voice-call-origination-fvco-and-transit-markets/>, para 7.169

<sup>78</sup> Meteor response noted that *“answer to be provided in Eir fixed response”*.

<sup>79</sup> 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.

<sup>80</sup> ComReg Document 14/130.

*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 PRS rather than calls to the NGN ranges at issue.

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

### **DotEcon Report**

5.45 From a technical perspective, DotEcon notes that GN calls and NGN calls originate in very similar ways and both are switched services carried through the network. The TO "translates" the dialled number in order to deliver the call. Therefore, the scope for genuine cost differences between GN 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 GNs.

5.46 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*".

5.47 ComReg preliminary position is that it agrees with DotEcon's assessment and conclusion, as summarised above. ComReg therefore considers that such differences between the origination costs for GN and NGN calls as do exist do not warrant separate retail pricing of GN and NGN calls.

## **2. Inclusion of NGNs in-bundles**

5.48 Retail tariffs for NGN calls (except to '1800' NGNs) and for GN calls are generally the same, however certain OOs charge less for NGN calls than for out-of-bundle GN calls while other OOs charge a higher rate for NGN calls than for out-of-

bundle GN calls. <sup>81 82 83 84</sup>

5.49 However, the DotEcon Report confirms that most GN 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 the DotEcon Report 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 OO includes all NGN calls in any of its bundles;
- (b) No OO includes ‘1850’ or ‘1890’ NGN calls in any of its bundles:
  - All OOs apply per-call retail tariffs for calls to ‘1850’ NGNs; and
  - All OOs apply per-minute retail tariffs for calls to ‘1890’ NGNs;
- (c) Only Sky and Vodafone include (some) ‘0818’ NGN calls in their bundles:
  - Sky offers calls to its own ‘0818’ customer care number in-bundle<sup>85</sup>;
  - Vodafone’s mobile bill pay customers have 0818 NGNs included “in bundle”<sup>86</sup>;
- (d) Several OOs offer ‘076’ NGN calls <sup>87</sup> in-bundle, particularly calls to the ‘076 1XX XXX’ portion of the subscriber number range<sup>88</sup>. Those operators include Eir, Lycamobile, Meteor<sup>89</sup>, Pure Telecom, Ripplecom, and Tesco Mobile.

5.50 Under Option 1, which is to maintain the status quo, OOs could continue to apply retail charges for NGN calls at the same or different tariff rates compared to GN

<sup>81</sup> 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](https://www.lycamobile.ie/sysimages/editorfiles/Ireland_premium.pdf). Accessed on 30 May 2017.

<sup>82</sup> 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.

<sup>83</sup> 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](https://www.digiweb.ie/price-plan-rules/#call_charges_terms_conditions). Accessed on 30 May 2017.

<sup>84</sup> 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.

<sup>85</sup> However, Sky does not attribute any retail revenues earned from these in-bundle 0818 calls.

<sup>86</sup> 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,

<sup>87</sup> 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.

<sup>88</sup> Government Networks has been assigned the 076 100 0000 – 076 119 9999 range.

<sup>89</sup> 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.

calls and could continue to treat NGN calls differently with respect to bundling. The current retail tariff rates are summarised in [Table 3](#) below.

- 5.51 Under Option 2, OOs would be required to treat NGN calls (except calls to '1800' NGNs) no differently to GN calls for the purposes of retail charges. For example, to the extent that any OO includes its customers' GN calls in-bundle, that OO would be required to also include its customers' NGN calls in-bundle.
- 5.52 It would appear that OOs 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<sup>90</sup> that OOs may be able to obtain a competitive advantage by including NGN calls in their customers' bundles of call minutes, the DotEcon report shows that, over the past 7 years, OOs do not appear to have considered including NGN calls in bundles and the Consumer Surveys confirm this.<sup>91</sup> ComReg is therefore of the view that OOs would prefer Option 1, being the option which would allow them to continue to exclude NGNs from their customers' bundles of call minutes.<sup>92</sup>

### **3. Revenue earned from consumers<sup>93</sup>**

- 5.53 The DotEcon report describes how revenue from NGN calls is allocated across various parts of the NGN platform, between OOs, transit operators, TOs, and SPs.
- 5.54 The DotEcon revenue allocation model shows that operators, over the period 2011 to 2015, earned an average of about €29m<sup>94</sup> 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:

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<sup>90</sup> ComReg Document 10/60 – Consultation Paper: Sixth Review of the National Numbering Conventions – published 4 August 2010.

<sup>91</sup> See Slide 52 onwards – B&A Consumer Survey.

<sup>92</sup> 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.

<sup>93</sup> 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.

<sup>94</sup> 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.



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
<b>Total</b>	<b>28.8</b>	<b>10.9</b>	<b>17.9</b>

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

5.55 Under Option 2, fixed-line and mobile OOs would be required to treat NGN calls the same as GN calls. This would include, for example, that where OOs offer subscription packages with bundled call minutes then any bundle that includes GN calls would also have to include NGN calls. OOs 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 include bundled minutes (i.e. certain prepay customers) and other customers who use up their monthly minute allowance would continue to be earned under Option 2. Therefore, a proportion of revenues earned as set out in Table 2 will continue to be earned as normal. However, Option 2 would effectively eliminate a proportion of the OOs' current additional NGN revenues which result from most NGN calls being out-of-bundle (where a consumer has minutes remaining), except in the following cases:

1. OOs may earn additional revenues from GN 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 OOs 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 as GN calls).

5.56 The "Impact on Consumers" section in 5.4.5 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 OOs would lose the largest amount of revenue if they had to treat NGN and GN 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 GN calls differently for the purposes of retail pricing (thereby retaining the current higher revenues from NGN calls).

#### 4. Increased/decreased call volumes

5.57 ComReg considers that Option 2 would 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). This view is supported by the results of the Consumer and Organisation Surveys by B&A which include the following:

- 49% of consumers aware of NGNs consider NGN calls to be more expensive than landline calls<sup>95</sup>;
- Consumers' main reasons for not making NGN calls (except '076' calls)<sup>96</sup> are their concerns that such calls:
  - may be expensive;
  - are expensive; or
  - that a previous telephone bill included an unexpectedly large charge for a NGN call.<sup>97</sup>
- 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;<sup>98</sup>
- 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;<sup>99</sup>
- 28% of organisations do not consider using NGNs because they think NGN calls are too expensive for consumers <sup>100</sup>; 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.<sup>101</sup>

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<sup>95</sup> 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 – B&A Consumer Survey.

<sup>96</sup> The main reason for avoiding '076' numbers is that "*I have never heard of this number*". See Slide 87 – B&A Consumer Survey.

<sup>97</sup> See Slide 87 – B&A Consumer Survey. For example, 72% avoid dialling 1890 numbers for reasons related to expense.

<sup>98</sup> See Slide 65 – B&A Consumer Survey.

<sup>99</sup> See Slide 64 – B&A Consumer Survey.

<sup>100</sup> See Slide 33 – B&A Organisation Survey.

<sup>101</sup> See Slide 66 – B&A Organisation Survey.

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

5.59 ComReg considers that two effects on stakeholders could result from an increase in the volume of NGN calls:

- (a) More NGN and GN calls might be made outside of bundled minutes – this potential effect is assessed in 5.4.5 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 – TOs).

5.60 Notwithstanding, ComReg is of the preliminary view that any positive effects on OOs’ 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 OOs would likely prefer Option 1.

## 5. Billing and technical changes

5.61 Under Option 2, there would likely be some implementation costs on OOs 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 GN 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 preliminary view that Option 2 should result in less complex billing and the costs of same in the medium to long term.

### Option 1 versus Option 2 – Terminating Operators

5.62 Most NGN calls terminate on a fixed network and therefore MOs which provide NGN hosting services to SPs typically purchase a wholesale service from a FLO. 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.

5.63 For the purposes of this section, TOs are divided into two groups:

- (a) TOs that also originate calls<sup>102</sup> (‘Terminators A’); and
- (b) TOs that do not originate calls (‘Terminators B’).

5.64 In relation to Terminators A, in certain instances the OO and the TO may be the same operator – i.e. where a NGN call originates and terminates on the same

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<sup>102</sup> 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.

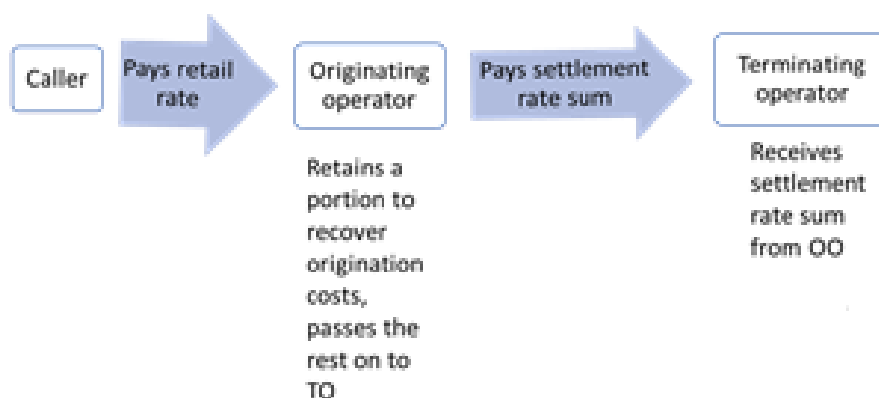
network. Alternatively, an operator may be the TO for some calls but the OO for other calls. The NGN call revenues currently accruing to OOs are such that TOs who also originate NGN calls are likely to prefer Option 1, regardless of the fact that they originate and terminate some NGN calls. As a distinct group, Terminators A would likely prefer Option 1 as most TOs 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.

5.65 In relation to Terminators B, ComReg notes that:

- (a) for mobile calls to '1850' and '1890' NGNs, TOs 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 OO a retail tariff and the OO retains a portion of that tariff to cover its origination costs (the "retention rate") and passes the balance to the TO in the form of settlement rates. For fixed calls to '1850'/'1890' NGNs, TOs also collect a payment from SPs for terminating calls.

5.66 For a single Geo-linked NGN, the TO 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.

5.67 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 OO. The OO retains a portion of that retail tariff to cover its origination costs and passes the balance to the TO, in the form of settlement rates. This settlement regime is illustrated in Figure 6 below.



*Figure 6: Current revenue arrangements for calls to '0818' NGNs*

5.68 To the extent that the settlement 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. Notwithstanding, the current settlement regime for the '0818' NGN class is, in theory, open to change and any changes to retail tariffs could affect OOs' incentives to pass an appropriate settlement rate onto TOs. 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**

5.69 Some off-net<sup>103</sup> NGN calls have to be routed via a third network (i.e. not the OO's network nor the TO's network). Such NGN calls involve a Transit Operator who will levy a transit fee for each call on the TO. Though the TO is the purchaser of the transit service and is charged for same, the TO cannot choose the Transit Operator or the most efficient routing path for the call; those decisions are made by the OO.

5.70 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 providers are unlikely to prefer Option 2.

### **5.4.2 Service Providers (Option 1 v Option 2)**

5.71 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**

5.72 As described in 5.4.5 ("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 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<sup>104</sup>. More specifically:

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<sup>103</sup> This occurs where a call originated on one network terminates on a different network.

<sup>104</sup> See Slide 85 – B&A Consumer Survey.

- 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<sup>105</sup>.
- Consumers change their behaviour when they become aware of the relatively high retail charges for NGN calls. For example, 83% of fixed-line consumers<sup>99</sup> and 89% of mobile consumers<sup>98</sup> changed their behaviour by making fewer, shorter, or no calls to NGNs.
- Many consumers think that SPs make money from NGN calls. For example, 41% of those surveyed who were aware of NGNs thought that SPs can make money from consumers dialling '1850' and '1890' NGNs. Only 29% correctly stated that none of the five NGN classes can be used by SPs to make money from consumers dialling those NGNs.<sup>106</sup>

5.73 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 FLOs and MOs), noting in particular that the Organisation Survey found that:

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<sup>105</sup> See Slide 123 - B&A Consumer Survey.

<sup>106</sup> See Slide 37 - B&A Consumer Survey.

- 63% of organisations currently using NGNs think it is important that customers are aware of the cost of calling NGNs<sup>107</sup>; and
- While 77% of organisations<sup>108</sup> 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.<sup>109</sup>
- 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.

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

### **Option 2**

5.75 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.

5.76 Under Option 2, consumers should view retail charges for NGN calls (except '1800' calls) as being the same as for GN calls. In particular, consumers with bundled call minutes should view NGN calls as being essentially no different to GN 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).

5.77 ComReg is of the preliminary 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 preliminary 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.<sup>110</sup>

5.78 ComReg is also of the preliminary 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 GNs then this should increase the value of the NGN platform to SPs and significantly reduce the identified current harm to SPs.

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<sup>107</sup> Slide 56 – B&A Organisation Survey.

<sup>108</sup> Slide 58 – B&A Organisation Survey.

<sup>109</sup> Slide 57 – B&A Organisation Survey.

<sup>110</sup> The preferred option in the draft NGN Consolidation RIA will reduce confusion and subsequent suppression of calls.

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

### **5.4.3 Impact of Option 2 on wholesale costs**

5.80 DotEcon observes that any retail pricing remedies, made without any corresponding wholesale pricing remedies, could create difficulties for SPs if OOs 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 OOs; they decide how much to retain in order to cover their call origination costs<sup>111</sup>. 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 Document 17/53R<sup>59</sup>, 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 OOs could recover their lost margins from SPs.

### **5.4.4 Impact on Competition**

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

1. At the retail level OOs compete to attract subscribers and callers (“Retail Competition”); and
2. In the market for call termination, TOs compete to provide hosting to SPs (“Terminating Markets”).

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

#### **1. Retail competition**

5.83 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<sup>112</sup> and the charges for each service.

5.84 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

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<sup>111</sup> 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.

<sup>112</sup> This includes bundles, data allowance and the price of calls and texts.



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 OOs 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.

5.85 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;<sup>113</sup>
- Many consumers seem to confuse NGNs with PRS numbers - 41% of those aware of NGNs think that SPs can make money from consumers dialling '1850' and '1890' NGNs;<sup>114</sup>
- 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);<sup>115</sup>
- 86% of adults surveyed did not know the per minute charge or the per call charge for NGN calls;<sup>116</sup>
- 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<sup>117</sup>; 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 GNs or Mobile numbers (7% and 10%) despite the fact that calls to such numbers

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<sup>113</sup> See Slide 56 – B&A Consumer Survey.

<sup>114</sup> See Slide 37 – B&A Consumer Survey.

<sup>115</sup> See Slide 41 – B&A Consumer Survey.

<sup>116</sup> See Slide 66 – B&A Consumer Survey.

<sup>117</sup> See Slides 68, 69 and 70 – B&A Consumer Survey.

are in-bundle for most fixed-line and mobile bill-pay customers and for some mobile prepay customers.

5.86 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<sup>118</sup>, other retention/acquisition expenditures include more marketing and advertising which do not provide any direct benefit or gain to consumers.

5.87 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.

5.88 Under Option 2, retail charges for NGN calls would align with retail charges for GN calls in that OOs would be required to treat them the same at the point in time. This would have the effect of leveraging domestic retail competition and competition between MOs over GN call pricing and all call minute bundles would include NGN calls. DotEcon notes that there is no reason to suppose that competition is not effective across the bundles offered by OOs. Therefore, NGNs should benefit from the same competition at the retail level that has, for example, resulted in GN calls being in-bundle.

5.89 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.

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<sup>118</sup> ComReg also notes that subsidising handsets can often be inefficient as consumers could often retain their current handset absent the subsidy.

5.90 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 GN calls<sup>119</sup>; however, competition is nevertheless effective because consumers are aware that GN calls are included in-bundled minutes and that relatively high charges apply for GN 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 preliminary view that Option 2 would have a positive impact on retail competition.

## 2. Terminating Markets

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

- (a) '1850' and '1890' NGNs (set by the mobile OOs<sup>120</sup>); and
- (b) '1800' NGNs (set by the fixed and mobile OOs).

5.92 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.

5.93 Under Option 1, TOs face the possibility that any OO 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 OOs 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.

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

5.95 In light of the above, ComReg is of the preliminary view that Option 2 is the preferred option in terms of the impact on competition in Terminating Markets.

### 5.4.5 Impact on Consumers

#### Option 1 (status quo)

5.96 ComReg is of the preliminary view that consumers would be unlikely to prefer Option 1, as currently in effect. In particular, ComReg considers that the DotEcon

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<sup>119</sup> See slides 71 & 77 – B&A Consumer Survey.

<sup>120</sup> The end of the 'deemed to be' regime means this also may arise for fixed originators.

Report and B&A surveys both contain cogent and convincing evidence that Option 1 is detrimental to consumers.

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

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**

5.98 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). GN 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). GN 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 GN 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<sup>121</sup>.

5.99 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 Survey 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.<sup>122</sup>

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<sup>121</sup> See slide 24 – B&A Consumer Survey.

<sup>122</sup> See slide 87 B&A Consumer Survey.

NGN	Fixed NGN Calls (price)	Mobile NGN Calls (price)
1850 (per call)	7 – 16	30 – 35
1890 (per minute)	4 - 7	15 – 45
0818 (per minute)	4 - 13	15 – 45
076 (per minute)	4 – 9	30 - 45

Table 3: Typical charges to NGNs from fixed and mobile<sup>124</sup>

## 2. Unknown retail prices

5.100 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).

5.101 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;<sup>125</sup>
- 18% of all adults avoid dialling ‘1800’ NGNs altogether<sup>126</sup>;
- 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 GN;<sup>127</sup> and
- 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’).<sup>128</sup>

<sup>123</sup> Cent per minute

<sup>124</sup> Charges as per DotEcon Report, p38. Certain operators may charge a connection fee for calls to certain NGNs. This can be up to 29c.

<sup>125</sup> See Slide 46 – B&A Consumer Survey.

<sup>126</sup> See Slide 85 – B&A Consumer Survey.

<sup>127</sup> See Slide 82 – B&A Consumer Survey.

<sup>128</sup> See Slide 87 – B&A Consumer Survey.

5.102 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.<sup>129</sup> 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.<sup>130</sup>

5.103 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).

5.104 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**).

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

### **Contagion effect**

5.106 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 OOs and/or across other NGNs ranges. Many such consumers may subsequently curb their use of NGNs or cease using NGNs altogether.

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

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<sup>129</sup> See Slide 63 – B&A Consumer Survey.

<sup>130</sup> 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 – B&A Consumer Survey.

- only 33% of those aware of NGNs think that '1800' calls are free from a mobile,<sup>131</sup> while:
  - 30% of those aware of '1800' think '1800' calls are expensive;<sup>132</sup> and
  - 37% of those aware of '1800' think the caller pays for the services provided over the '1800' range.<sup>133</sup>
- 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;<sup>134</sup>
- 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');<sup>135</sup> and
- 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.

5.108 ComReg is of the preliminary 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.

5.109 Similarly, a significant proportion of consumers wrongly think that SPs make money from receiving '1800' calls.<sup>136</sup> In this regard, the relatively high NGN retail charges estimated by many consumers indicates that such consumers confuse NGNs with PRS numbers. As a result, SPs may experience a degree of reputational damage related to their use of NGNs.

### **Call reduction effect**

5.110 ComReg considers that relatively high NGN retail charges and/or the prevailing consumer perception that such charges are relatively high reduces the

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<sup>131</sup> See Slide 42 – B&A Consumer Survey.

<sup>132</sup> See Slide 47 – B&A Consumer Survey.

<sup>133</sup> See Slide 78 – B&A Consumer Survey.

<sup>134</sup> See Slide 37 – B&A Consumer Survey.

<sup>135</sup> See Slides 68, 69 and 70 – B&A Consumer Survey.

<sup>136</sup> This view arose across all NGNs.

usefulness of the NGN platform to consumers and suppresses the volume of NGN calls, leading to a loss of consumer surplus.<sup>137</sup> The DotEcon Report shows that there has been a steady decline in the volume of NGN calls over the past five years, with ‘1800’ calls seeing the steepest decline.<sup>138</sup> DotEcon note 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%”*<sup>139</sup>.

5.111 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.

5.112 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<sup>140</sup>;
- 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:
  - 25% of mobile users and 22% of fixed-line users stopped calling NGNs altogether; and
  - 54% of mobile users and 55% of fixed-line users only call NGNs when absolutely necessary.<sup>141</sup>

5.113 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’*<sup>142</sup>; 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.<sup>143</sup>

<sup>137</sup> ComReg observes that while the incidences of calling has fallen, consumers are spending more time on the phone when they do.

<sup>138</sup> Calls to the ‘1800’ range have fallen by 15% from 190.2 million calls (2012) to 155.4 million (2015).

<sup>139</sup> See Section 3.5 “*volume trends and changes over time*” of DotEcon report.

<sup>140</sup> See Slide 87 – B&A Consumer Survey.

<sup>141</sup> See Slides 64 and 65 – B&A Consumer Survey.

<sup>142</sup> See Slide 87 – B&A Consumer Survey.

<sup>143</sup> Slide 84 – B&A Consumer Survey.



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

### Feedback effect

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

- 28% of organisations do not use NGNs because they consider them too expensive for consumers to call<sup>144</sup>;
- 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<sup>145</sup>; and
- 49% of organisations that never used a NGN think it is more cost effective for customers to call a GN or Mobile number than a NGN. Only 15%<sup>146</sup> think NGNs are more cost effective than GN or Mobile numbers for consumers.<sup>147</sup>

5.116 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 (see Section 5.2) 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.

5.117 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.<sup>148</sup> 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

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<sup>144</sup> Slide 87 – B&A Organisation Survey

<sup>145</sup> Slide 32 – B&A Organisation Survey.

<sup>146</sup> This is likely to be for Freephone numbers.

<sup>147</sup> Slide 34 – B&A Organisation Survey.

<sup>148</sup> Slide 46 – B&A Consumer Survey.

charges for accessing such services through NGNs, may nevertheless be unable to access such voice based services.

## Social effects

5.118 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).

5.119 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<sup>149</sup>.

5.120 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.

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

*"Irish consumers are potentially paying up to €5 a time to phone so called "low cost" telephone numbers like those beginning 1890, 1850, 0818 and 0761 - even though an alternative number may also be available. Many organisations and businesses are encouraging their customers to ring their LoCall 1890, or 1850 Callsave, or 0818 National Call telephone numbers."*<sup>150</sup>

5.122 Therefore, for the reasons set out above, ComReg is of the preliminary view that consumers, and in particular certain social groups and more vulnerable user groups, are unlikely to prefer Option 1.

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<sup>149</sup> See Slide 85 – B&A Consumer Survey.

<sup>150</sup> 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.

### **Option 2 (Geo-linked NGN calls)**

- 5.123 ComReg is of the preliminary view that consumers are more likely to prefer Option 2 for a number of reasons.
- 5.124 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 GN and Mobile numbers, this is mainly because they only need to know that their calls to GN 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.
- 5.125 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 GNs. If consumers know that NGN calls are treated the same as GN 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.<sup>151</sup> 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. OOs 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.
- 5.126 More generally, ComReg is of the preliminary 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 NGN to GNs, 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 GNs 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).<sup>152</sup> 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). Chapter 6 sets out ComReg's approach to transparency in respect of these calls.

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<sup>151</sup> 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 6.

<sup>152</sup> '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

5.127 Furthermore, consumers should be able to retain more consumer surplus by using up more of their inclusive minutes. As indicated by [Table 2](#), OOs currently accrue about €29m p.a. from NGN calls made at out-of-bundle rates where a caller has 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.

5.128 In addition, consumers would be less likely to suffer from bill shock<sup>153</sup> caused by NGN calls if such calls are priced the same as GN 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.<sup>154</sup> 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 PRS calls, rather than being due to retail charges for NGN calls.

5.129 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.

5.130 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.

5.131 The above two possibilities are considered below.

#### ***In-bundle allowance***

5.132 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, GN or NGN calls made at out-of-bundle rates. This could reduce consumer welfare as out-of-bundle rates for GN calls (particularly for mobile) are high relative to the marginal rate (zero) of GN calls made in-bundle.

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<sup>153</sup> Bill shock is the negative reaction a subscriber can experience if their bill has unexpected charges or charges in excess of those expected.

<sup>154</sup> See slide 63 – B&A Consumer Survey.

5.133 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:

- (a) The average fixed-line residential subscriber usage is 92.8 call minutes per month<sup>155</sup>;
- (b) The average mobile subscriber usage is 187.1 call minutes per month<sup>156</sup>;
- (c) The average number of NGN call minutes per voice subscriber (excluding '1800'<sup>157</sup>) is around 4 minutes per month;<sup>158</sup>
- (d) NGN calls (excluding '1800') account for around 2% of total voice calls; and
- (e) Very few customers use NGNs on a regular basis. For example:<sup>159</sup>
  - 8% dial '1800' NGNs regularly;
  - 6% use '1890' and '1850' NGNs regularly;
  - 4% use '0818' NGNs regularly; and
  - 3% use '076' NGNs regularly.

5.134 Therefore, ComReg is of the preliminary 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.

### ***Waterbed effect***

5.135 The 'waterbed effect' discussed here concerns the extent to which OOs' 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 would increase OOs' incentives to increase prices and reduced their incentives to cut prices for other services in order to win and retain customers.

5.136 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

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<sup>155</sup> Quarterly Key Data Report (QKDR) Q1 2017 (excluding international and advanced minutes which are normally not included in bundles).

<sup>156</sup> Quarterly Key Data Report (QKDR) Q1 2017 (excluding international and advanced minutes which are normally not included in bundles)

<sup>157</sup> Calls to '1800' numbers are already free and have no effect on a subscribers bundle and therefore excluded from this analysis.

<sup>158</sup> This includes fixed and mobile subscriptions.

<sup>159</sup> See Slide 30 – B&A Consumer Survey.

observes that operators' NGN call revenues totalled about €30 million in 2015<sup>160</sup>, compared to those same operators' total retail revenues of around €2.9 billion for that same year, which revenue figure is approximately 100 times higher.<sup>161</sup> That means that even if there was a complete waterbed effect, then a 100% decline in NGN call revenues would require a roughly 1% price increase for other electronic communication services, in order to have a revenue-neutral effect on operators.

5.137 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.

5.138 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.<sup>162</sup>

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

#### **5.4.6 'Draft NGN Pricing RIA' - Assessment and the Preferred Option (Step 5)**

5.140 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).

5.141 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, 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

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<sup>160</sup> The figure €29mn provided in Table 2 is the average call revenue for the period 2011-2015.

<sup>161</sup> Irish Communications Market: Quarterly Key Data Report – Q4 2015.

<sup>162</sup> ComReg notes that the out of bundle NGN rate in some instances is less than the corresponding out of bundle GN rate. Under Option 2 OOs may decide to increase this rate. Consumers, however, would still be significantly better off overall as a result of Option 2 overall.

included in-bundle ('03' NGNs in the UK<sup>163</sup> and '0800', '084', '085', '087', '088', '0900', '0906', '0909', '116', '14' and '18' NGNs in the Netherlands<sup>164</sup>).

5.142 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 GNs and this should allow NGNs users (callers and SPs) to benefit from competition between OOs 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 preliminary view that, on balance, Option 2 is the preferred option in terms of its impact on stakeholders, competition and consumers.

## 5.5 Draft NGN Consolidation RIA

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

5.144 ComReg sets out below some high level observations which will feed into its identification of valid regulatory options. As described in 3), 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.

5.145 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

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<sup>163</sup> 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](https://www.ofcom.org.uk/_data/assets/pdf_file/0023/51944/statement.pdf)

<sup>164</sup> "For calls to numbers from the series 14, 116, 085 and 088, there is no tariff structure that consists of two components. However, it has been found that there are fixed and mobile telephony providers who charge an external rate fee for calls to these numbers, or calls to these numbers do not fall within subscription forms for unlimited calls. This difference in tariff structure is considered a discriminatory tariff structure that is contrary to Article 5, paragraph 2. If a call bundle is used with a fixed number of call minutes, as is often the case with mobile telephony, calls to the aforementioned non-geographical numbers can only be settled outside the call bundle when a caller has actually made his call minutes. If there is a subscription form that allows the caller to call unlimited, whether or not at certain times (e.g. at night and at weekends), as is the case with fixed telephony, calls to these numbers may only be charged separately. If the call occurs on a day or time that does not fall within the scope of the relevant subscription form. The call should therefore be treated equally as a call to a geographical number." Source: Third paragraph on Page 22 of <https://zoek.officielebekendmakingen.nl/stb-2012-236.html> (available in Dutch only).

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.

5.146 In that regard, ComReg sets out its views in relation to:

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

### 5.5.1 'Freephone' NGNs

5.147 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.<sup>165</sup>

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

- A Freephone NGN enables a caller to reach a called party at no charge to the caller and consumers would likely prefer the retention of this NGN range across any option. Freephone can be particularly important for certain services where the cost of the call cannot be borne by the consumer (e.g. helplines for homeless people 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, '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)<sup>166</sup>. This high level of usage is confirmed in the Consumer Survey – 74%<sup>167</sup> of consumers dial an '1800' NGN at some point.<sup>168</sup>
- The Organisation Survey 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

<sup>165</sup> 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.

<sup>166</sup> These figures correspond to the average of 2011 – 2015.

<sup>167</sup> 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%.

<sup>168</sup> See Slide 30 of B&A Consumer Survey.



customers to access their services free of charge<sup>169</sup>;

- 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.

5.149 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 preliminary 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.

### 5.5.2 New NGN range(s)

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

- that they may have a poor reputation/perception amongst consumers, for example -
  - the main reason given for avoiding certain NGNs ('1800', '1850', '1890' and '0818') was - *'I don't know how much it costs per minute/per call but I avoid it because I think it's expensive'*<sup>170</sup> and
  - the main reason for wanting to use a number other than a NGN was the perception that an alternative number would be cheaper; and
  - NGN calls are considered more expensive than GN calls (49% think NGN calls are expensive vs 15% for GN calls)<sup>171</sup>;
- 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 GNs, Mobile numbers, or PRS Numbers;

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<sup>169</sup> See Slide 29 of B&A Consumer Survey.

<sup>170</sup> Slide 87 – B&A Consumer Survey.

<sup>171</sup> Slide 80 – B&A Consumer Survey.

- 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.<sup>172</sup>

5.151 ComReg first assesses what new NGN range(s), if any, could be introduced, noting particular that any new 'Geo-Linked' range would need to begin with "0" in order to provide international accessibility.<sup>173</sup> 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**

5.152 The need for a Freephone range has already been established in Section 5.5.1 above. This section 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 charges and consequently set new SP charges

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<sup>172</sup> See DotEcon Report, p111.

<sup>173</sup> 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.

(though it would be a pre-requisite that '0800' calls would be free to the caller from landline and mobile).

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

- The '1800' range is generally effective<sup>174</sup>. For example:
  - more consumers (86%) are aware of '1800' than any other NGN range;<sup>175</sup> and
  - more consumers are aware of the retail pricing structure for '1800' calls than for any other NGN range.<sup>176</sup>
- The UK has a Freephone number range that begins with '0800' and therefore a new Irish '0800' Freephone range could carry the risk of creating additional consumer confusion and misdialling issues (in the absence of detailed number analysis on networks), particularly given the extent of UK TV and print media consumption in Ireland. For example, a UK advertisement for a service with UK Freephone number '0800 123 4567' may have a corresponding Irish Freephone number for an entirely different service<sup>177</sup>.
- 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); and

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<sup>174</sup> Confusion in respect of the '1800' range largely arises due to contagion from the '1850' and '1890' ranges as described in the Pricing RIA).

<sup>175</sup> See Slide 28 – B&A Consumer Survey.

<sup>176</sup> See Slides 39 and 41 – B&A Consumer Survey.

<sup>177</sup> Misdialling of UK numbers was a particular issue recently where Irish callers were trying to access UK '098' PRS 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>

- The 'Universal International Freephone Number' range ('+800') is available for SPs that require an internationally accessible Freephone number.<sup>178</sup>

5.154 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)**

5.155 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.

5.156 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.

5.157 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 GNs (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 GNs, 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 GN ranges, such that the two could easily be confused.

5.158 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 GN would not be thematically consistent with the '1800' range, and potentially become confused with a GN or PRS number.

5.159 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 MNOs, who all have in excess of 1 million subscribers.

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<sup>178</sup> <http://www.itu.int/en/ITU-T/inr/unum/Pages/uifn.aspx>

However, '089', for example, has about 400,000 subscribers<sup>179</sup>, 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 preliminary 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.

5.160 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.<sup>180</sup> 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.

5.161 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.

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

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

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<sup>179</sup> Approx. 2.5M numbers have been assigned to operators from the '089' range.

<sup>180</sup> ComReg Document 15/60a – Report for ComReg: Conservation measures to meet future demand for mobile numbers – published 11 March 2016

- 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 Survey 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 agreed 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.

5.163 Despite its preliminary views as set out above that new NGN ranges are neither necessary nor appropriate, ComReg will give full consideration to any responses to this consultation which submit that a new NGN range, or ranges, would better meet the needs of consumers and SPs. Any such submission should clearly

identify the NGN range or ranges which the respondent thinks ought to be introduced. It should also set out and explain the perceived likely benefits of such a new NGN range or ranges (over and above the benefits of the existing ranges), and it should address the negative impacts likely to result from introducing a new NGN range or ranges (e.g. consumer confusion, costs to SPs in having to migrate to new number, or costs to operators). As always, all relevant information which supports the submission should be provided.

### 5.5.3 Identifying the regulatory options

5.164 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<sup>181</sup> (Article 28 of the Universal Services Directive<sup>182</sup>), 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.

5.165 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.

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

- (a) **Option 1:** Status quo – Retain '1850', '1890', '076' and '0818' as 'Geo Linked' NGNs.
- (b) **Option 2:** Close '1850' – Retain '1890', '076' and '0818' as 'Geo-Linked' NGNs
- (c) **Option 3:** Close '1850' and '1890' – Retain '076' and '0818' as 'Geo-Linked' NGNs
- (d) **Option 4:** Close '1850' and '1890' and '0818' – Retain '076' as a single 'Geo-Linked' NGN.
- (e) **Option 5:** Close '1850' and '1890' and '076' – Retain '0818' as a single 'Geo- Linked' NGN.

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<sup>181</sup> 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.

<sup>182</sup> 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.

5.167 Figure 7 below illustrates the Options assessed in this RIA.

OPTION 1	OPTION 2	OPTION 3	OPTION 4	OPTION 5
1850	1890	0818	076	0818
1890	0818	076		
0818	076			
076				

Figure 7: Number Ranges retained for each Option

### Determining the impact on stakeholders

5.168 There are a number of broad stakeholder groups, the impacts upon which are considered in this draft 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 OOs;
- TOs; and
- Transit operators.

5.169 The impact on consumers is assessed separately in Section 5.5.6 below.

### 5.5.4 Impact on stakeholders

5.170 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.

5.171 The main stakeholders assessed in this section are:

- SPs;
- OOs;



- Other end-users (e.g. corporate users of '076') ; and
- TOs<sup>183</sup>.

## 1. Service Providers

5.172 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 Survey<sup>184</sup> 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)

5.173 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.

5.174 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.

5.175 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

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<sup>183</sup> 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'.

<sup>184</sup> See Slide 85 – B&A Organisation Survey.

(c) Consumer Welfare.

### SP Requirements

5.176 Table 4 sets out ComReg’s preliminary view on the extent to which each NGN range would likely satisfy SP requirements.

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

*Table 4: SP requirements and NGN ranges*

5.177 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’).

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

### International access

5.179 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.<sup>185</sup>

5.180 '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**

5.181 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;<sup>186</sup>
- More consumers think that NGNs are easier to remember than GNs (34% for NGNs versus 17% for landlines)<sup>187</sup>; and
- 1 in 10 who were happy to use the NGN did so because it was easier to remember<sup>188</sup>;

5.182 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 GN.<sup>189</sup>

5.183 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;<sup>190,191</sup>
- that memory is helped more when the first chunk consists of four digits rather than three digits;<sup>192, 193</sup>

<sup>185</sup> 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.

<sup>186</sup> See Slide 30 – B&A Organisation Survey.

<sup>187</sup> See Slide 80 – B&A Consumer Survey.

<sup>188</sup> See Slide 83 – B&A Consumer Survey.

<sup>189</sup> '07X' range is associated with the North West region i.e. Donegal, Sligo, etc.

<sup>190</sup> Miller GA. The magical number seven, plus or minus two: Some limits on our capacity for processing information. *Psychological Review*. 1956;63:81–97

<sup>191</sup> Cowan N. The magical number 4 in short-term memory: A reconsideration of mental storage capacity. *Behavioural and Brain Sciences*. 2001; 24:87–185.

<sup>192</sup> Chicago Tribune 'Phone Numbers main memory experts' June 1998, p2

<sup>193</sup> 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.

- that repeated numbers and the number '8' is easier to remember than other single digit numbers<sup>194 195</sup>; and
- that every additional number dialled before one gets to the seven digits increases the error rate.<sup>196</sup>

5.184 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 GN (noting that SPs already have the option of using a GN instead of a NGN).

5.185 This view is also supported by evidence from the Organisation Survey. For example:

- (a) the main reason current NGN users (56%) would not consider using the '076' range is that they are '*not familiar/never heard*' of it followed by "*don't like it*" (16%);<sup>197</sup> 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'<sup>198</sup>.

5.186 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 Survey as identified in (b) above.

### **Association with location**

5.187 NGNs do not have a geographic location associated them. However, as noted above, the '076' range has a digit structure similar to a GN 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.

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<sup>194</sup> APS Observer 2001, Code overload: Doing a Number on Memory, American Physiological Society.

<sup>195</sup> Milikowski, M (1995), 'What makes a number easy to remember?' British Journal of Psychology, Vol 86 p 537-547

<sup>196</sup> Chicago Tribune 'Phone Numbers main memory experts' June 1998, p1.

<sup>197</sup> See Slide 32 – B&A Organisation Survey.

<sup>198</sup> See Slide 86 – B&A Organisation Survey.

### **Conclusion on SP requirements**

5.188 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.

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

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

5.191 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 5](#). In particular, the '0818' range is:

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

5.192 ComReg is of the preliminary 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).

5.193 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.

5.194 The Organisation Survey shows that 40% of organisations would consider using a NGN if customer costs were reduced.<sup>199</sup> 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**

5.195 [Table 5](#) sets out an estimate of the number of SPs that use particular NGN

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<sup>199</sup> See Slide 66 – B&A Organisation Survey

ranges<sup>200</sup> to provide services.<sup>201</sup> Therefore, this table sets out an estimate of the number of SPs that are likely to be affected if certain NGN ranges were rationalised.

5.196 Column 1 ('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 2 may also have additional NGNs but Column 2 corresponds to the main NGN. Therefore, Column 2 refers to SPs that have any NGN.

NGN Range	1.SP s who use NGN range	2. SP s (Any NGN)
1800	9,321	7,352
1890	9,886	8,201
1850	6,779	5,090
0818	3,389	2,828
076	1,412	1,414 <sup>202</sup>
<b>Total</b>	<b>30,778</b>	<b>24,884</b>

Table 5: Service Providers that use NGNs

5.197 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.

5.198 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

<sup>200</sup> 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.

<sup>201</sup> This has been estimated using the B&A survey to match active enterprises as provided by the Central Statistics Office Business Demography series.

<sup>202</sup> The higher number referenced here is due to rounding and is within the margin of error quoted by B&A survey.

*regime to meet the needs of SPs and callers of these numbers.*<sup>203</sup> 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<sup>204</sup> (“B&A Cost Survey”).

### **B&A NGN Material Cost Study.**

5.199 The focus of the survey (Document 17/70d) was to:

- a. estimate what migration costs<sup>205</sup> 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.

5.200 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.

5.201 In relation to the total cost<sup>206</sup> of updating materials over a short period of time (0-6 months), the survey shows that<sup>207</sup>:

- 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

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<sup>203</sup> DotEcon Report, p. 110.

<sup>204</sup> 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.

<sup>205</sup> Number migration costs refers to the costs of updating or making changes to various materials that currently display NGNs.

<sup>206</sup> 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.

<sup>207</sup> See slide 14, B&A Material Cost survey.

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

5.202 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. <sup>208</sup>

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%

*Table 6: % of organisations that would incur a cost of greater or less than €5,000.*<sup>209</sup>

5.203 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.

### **Implementation of potential consolidation**

5.204 An important factor in considering the time period for any migration is the trade-off between (a) achieving consumer benefits<sup>210</sup> sooner through faster implementation of a rationalised geo-linked NGN platform and the (b) migration and adjustment costs<sup>211</sup> that this would cause on the other. That is, whilst faster

<sup>208</sup> This refers to the average cost for all business that have a NGN.

<sup>209</sup> See slide 14, B&A Materials Cost Survey.

<sup>210</sup> See impact on consumers below.

<sup>211</sup> 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 GN or alternative class of number or non-voiced based service.
- Required changes to back-end operational systems;



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.

5.205 In that regard, the B&A Cost Survey additionally assessed:

- (a) How often SPs incur the costs referred to above (associated with placing a NGN on company material<sup>212</sup> i.e. print runs, website updates etc.); and
- (b) When the last time such costs were incurred.

5.206 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.

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

- (a) the effective elimination of migration costs where the transitional period coincides with or exceeds the replacement cycle of expenditure items; and/or
- (b) minimisation of any migration costs by providing an appropriate implementation period to provide for migration.

5.208 The replacement cycle for various items of expenditure are shown in [Table 7](#) below.<sup>213</sup>

Material	Average Cycle (Months)	Last incurred (Months)
Headed Paper/ Compliment slips	21	13
Business Cards	26	25

- Updates to billing and information systems;
- The need for TOs to communicate the change to all its SPs.
- The time needed to inform consumers of changes to the numbering scheme

<sup>212</sup> This can include stationary, promotional, advertising material or vehicle signage.

<sup>213</sup> See slides 12 and 13, B&A Materials Cost Survey.

Material	Average Cycle (Months)	Last incurred (Months)
Promotional	17	10
Shopfront/Signage	36	38
Vehicles	52	7
Websites	8	12

Table 7: Replacement cycle for expenditure items

5.209 Table 7 shows the average replacement cycle<sup>214</sup> 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.

5.210 Therefore, ComReg is of the view 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.<sup>215</sup>

5.211 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.

5.212 ComReg considers transparency measures in Chapter 6 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.

<sup>214</sup> The replacement cycle refers to the frequency of conducting print runs for paper based materials and making changes/updates to non-paper based materials.

<sup>215</sup> ComReg also notes that old numbers and new numbers will be able to operate in parallel for the period of transition.

## Consumer welfare

5.213 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 GN 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<sup>216</sup>;
- 41% of SPs that use NGNs believe that it is important that consumers are aware of the retail charges for calling NGNs<sup>217</sup>; and
- One-third of SPs<sup>218</sup> would be willing to migrate to another NGN in order to improve consumer awareness and understanding and improve usage of NGNs.<sup>219</sup>

5.214 ComReg is therefore of the preliminary 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

5.215 A consolidation of NGN ranges would require mobile and fixed OOs/TOs 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.)

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<sup>216</sup> See Slide 40, B&A Organisational Survey.

<sup>217</sup> See Slide 56, B&A Organisational Survey

<sup>218</sup> Of those unwilling 46% related to potential costs, ComReg has consider migration costs in section above.

<sup>219</sup> See Slide 17, B&A Materials Cost Survey.

5.216 At the same time, it is noted that, in the long run, OOs should also have a significantly reduced number of price points, thereby reducing billing complexity.

5.217 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).

### 3. Other end users

5.218 As set out in the DotEcon Report, the utilisation of the '076' NGN range has evolved over time and has moved away from its original intended use as a dedicated NGN range for VoIP services (as most VoIP services are now provided using GNs).<sup>220</sup> DotEcon notes that there is evidence of organisations using SIP (Sessions Initiation Protocol) Voice Services using '076' NGNs instead of GNs, 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.

5.219 ComReg notes that '076' corporate users are different from SPs as they do not use '076' NGNs to deliver services to consumers.<sup>221</sup> Essentially, they use the '076' range in the same fashion as a GN 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 2 – 3 year period.

5.220 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.

5.221 In addition, ComReg notes that all options should fulfil all requirements that such corporate users may have. For example, the '0818' NGN class would have the same prefix regardless of location. Alternatively, corporate users can use GNs instead of '076' NGNs to provide more flexibility where location of a business is an important requirement.

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<sup>220</sup> See para 3.37 of [ComReg 14/26](#) "Managed VOB FSPs are typically allocated geographic number ranges or 076 number ranges which are in turn provided to their retail customers."

<sup>221</sup> SPs that use the '076' range to deliver have already been considered in the impact on service providers above.

### 5.5.5 Impact on competition

5.222 An effect of the proposed ‘Geo-linked’ condition would be to leverage competition for GN 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.

5.223 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.

5.224 [Table 8](#) sets out the volume of individual numbers in each NGN class, the quantity of active numbers<sup>222</sup>, and the current occupancy rate for each class.

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

*Table 8: Occupancy rate of NGN ranges*

5.225 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 GN 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.

5.226 In addition, to the extent that any significant increase in NGN demand may arise in the future, ComReg notes that:

<sup>222</sup> See Table 2, DotEcon Report.

- (a) to ensure the continued availability of numbers, conservation measures similar to those proposed for GNs<sup>223</sup> could be extended to NGNs; and
- (b) there are currently spare sub-ranges in the '081X' NGN class that could be opened to meet future demand, for example, by extending into the '0819' sub-range; and
- (c) such a requirement is not likely to be required given the current low occupancy rate of NGNs.

5.227 In light of the above, ComReg considers that the likely effect on competition across all options is neutral.

### 5.5.6 Impact on Consumers

5.228 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.

5.229 A number of issues arise in respect of how consumers are likely to view each regulatory option. These include:

- The value of NGNs to consumers;
- Consumer awareness and confusion in relation to NGNs; and
- End-users with '076' NGNs.

5.230 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

5.231 Research shows that consumers treat GNs and NGNs as highly substitutable. For example:

- (a) 81% of consumers aware of NGNs either prefer to access services via a GN or consider that there is no difference between using a GN or NGN to access the service<sup>224</sup>;
- (b) Thinking about the last time consumers<sup>225</sup> dialled a NGN:
  - 36% would have preferred to call a GN;
  - 35% had no calling preference;
  - 18% would have preferred to call a mobile number; and

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<sup>223</sup> ComReg Document 16/20b – Report for ComReg: Conservation measures to meet future demand for geographic numbers – published 11 March 2016

<sup>224</sup> See Slide 80 – B&A Consumer Survey.

<sup>225</sup> See Slide 82 – B&A Consumer Survey.

- only 10% preferred to call the NGN used.

5.232 As a result, the main beneficiaries of providing services over a NGN as opposed to GN or Mobile number appear to be SPs. Consumers are somewhat indifferent about whether the services they access are available over a NGN, a GN, or a Mobile Number, although there is a clear preference for GNs over NGNs. This is likely because consumers generally have a positive experience of GNs and many of the issues and externalities discussed in this RIA do not arise for GNs (which were discussed in the 'Impact on Consumers' section of the Pricing RIA).

5.233 In light of the above, consumers are likely to prefer a NGN platform that best replicates their experience in using GNs 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<sup>226</sup>, 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 PRS numbers.

5.234 In relation to (a), consumers are generally aware that GNs 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), GNs and Mobile Numbers are readily recognised from their 3-4 digit prefixes and Dublin is recognised as the only GN range with a two-digit prefix (i.e. '01').

5.235 ComReg is of the preliminary view that consumers would prefer the option which best resembles their current experience in using GNs and Mobile Numbers. In particular, the preferred classes of NGN should be internationally accessible and provide a reasonable signal to callers about the type of number and likely charging principle for calling that number. For example, if one charging principle is "Geo-linked" it should be associated with a particular NGN range. This price signal would not only ensure that callers can make well informed decisions about whether to call a service hosted on the NGN platform, but would also allow SPs to position their services accordingly on an appropriate range depending on their charging preferences (i.e. SP pays or consumers pays).

## **2. Consumer awareness and confusion in relation to NGNs**

5.236 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

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<sup>226</sup> The NGN Pricing RIA considers this already.

different NGN ranges to statements about the charging structure for calls to those ranges, very few customers answered correctly.

5.237 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;<sup>227</sup>
- Only 32% of those aware of NGNs correctly identified '1850' NGNs as being charged on a per call basis;<sup>228</sup> 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.<sup>229</sup>

5.238 Second, consumers appear to confuse NGNs with PRS numbers. For example:

- 41% of those aware of NGNs associate '1850' and '1890' NGNs<sup>230</sup> with organisations that make money directly from customers dialing these NGNs;<sup>231</sup>
- 30% of those aware of NGNs associate '1800' NGNs with organisations that make money directly from customers dialing '1800' NGNs (in fact, all '1800' calls are free of charge to the caller and the retail charge is paid by the call receiver); and
- For those consumers who claim to know the cost of calling NGNs, the average estimated costs are all in excess of €1 per minute<sup>232</sup> (per call for 1850) (€1.06 - €1.58 for calls from a mobile)<sup>233</sup> which is similar to the price per minute for PRS calls.

5.239 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.

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<sup>227</sup> See Slides 42 and 43 – B&A Consumer Survey.

<sup>228</sup> See Slide 44 – B&A Consumer Survey.

<sup>229</sup> See Slide 78 – B&A Consumer Survey.

<sup>230</sup> 30% for the '0818' NGN class and at 19% for the '076' NGN class, See Slide 37 – B&A Consumer Survey.

<sup>231</sup> Revenue sharing is allowed on PRS numbers. See Condition 3.1.4, Document 15/136

<sup>232</sup> excludes call estimates for '1800' NGNs

<sup>233</sup> See Slides 68 - 70 – B&A Consumer Survey.



## Would the Preferred Option in the 'NGN Pricing RIA' sufficiently address consumer confusion?

5.240 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 preliminary 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 Draft NGN Consolidation RIA considers which NGN ranges should be removed from operation and which should be retained.

5.241 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.

5.242 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<sup>234</sup> and only 43% of those aware of NGNs know that calls to '1800' NGNs are free of charge<sup>235</sup>.

5.243 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;<sup>236</sup>
- "Organisations can make money from customers dialling these NGNs" - 30% for '0818' NGNs versus 19% for '076' NGNs<sup>237</sup>; and
- "I think they are expensive" - 51% for '0818' NGNs versus 31% for '076' NGNs.<sup>234</sup>

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<sup>234</sup> See Slide 46 – B&A Consumer Survey.

<sup>235</sup> See Slide 37 – B&A Consumer Survey.

<sup>236</sup> See Slide 27 – B&A Consumer Survey.

<sup>237</sup> See Slide 37 – B&A Consumer Survey.

5.244 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.<sup>238</sup> 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 PRS numbers.

5.245 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?**

5.246 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)**

5.247 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 GN. 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.

5.248 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.

5.249 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).

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<sup>238</sup> See Slide 46 – B&A Consumer Survey.

5.250 ComReg is of the preliminary 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.<sup>239</sup>

Frequency	Times a year	Callers affected
Regularly	10+	6%
Occasionally	3 - 10	20%
Rarely	1 - 3	44%
Never	0	30%

Table 9: Frequency of calling and callers affected (1850 range)

5.251 Table 9<sup>240</sup> above sets out results from the Consumer Survey 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;<sup>241</sup>
- (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);<sup>241</sup> and
- (c) the average call to an '1850' NGN is 2.05 minutes in duration.<sup>239</sup>

5.252 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<sup>242</sup> which accounts for a small amount of bundled minutes which typically range from 100 to unlimited minutes.

5.253 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.<sup>243</sup> However,

<sup>239</sup> See Table 3, the DotEcon Report.

<sup>240</sup> See Slide 30 – B&A Consumer Survey.

<sup>241</sup> See Slide 30 – B&A Consumer Survey.

<sup>242</sup> Averaging 10+ calls per year

<sup>243</sup> €0.30 X 5.

ComReg notes that just 6% of consumers call '1850' NGNs on a regular basis<sup>244</sup>. On average, and assuming 12 calls per year, such users, under Option 2 would be required to pay circa €7.40 p.a.<sup>245</sup> compared to €3.60 p.a. if the '1850' range was retained.<sup>246</sup> 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.

5.254 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 GN 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.

5.255 ComReg is therefore of the preliminary 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).

5.256 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.

### **Option 3 removal of the '1890' NGN class**

5.257 Option 3 involves the withdrawal of the '1890' NGN range in addition to the '1850' NGN range.

5.258 The consumer research shows that the '1890' NGN range suffers from serious reputational damage. For example:

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<sup>244</sup> See Slide 30 – B&A Consumer Survey.

<sup>245</sup> 2.05 X 12 X €0.3 (Circa)

<sup>246</sup> 12 X €0.3 (Circa)

- 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;<sup>247</sup>
- 41% of those surveyed think that organisations make money from receiving '1850' and '1890' calls;<sup>248</sup>
- 53% of those surveyed who were aware of the '1890' range think that the cost of calls' falls on the caller;<sup>249</sup> and
- 31% of those surveyed avoid dialling '1890' NGNs<sup>250</sup>.

5.259 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".<sup>251</sup> 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.

5.260 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.

5.261 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)**

5.262 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.

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<sup>247</sup> See Slide 46 – B&A Consumer Survey.

<sup>248</sup> See Slide 37 – B&A Consumer Survey.

<sup>249</sup> See Slide 78 – B&A Consumer Survey.

<sup>250</sup> See Slide 85 – B&A Consumer Survey.

<sup>251</sup> DotEcon Report, p109.

5.263 ComReg considers that one of consumers' main requirements for a NGN range<sup>252</sup> 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 those surveyed were aware of the '0818' while awareness of the '076' range was lowest at 16%;<sup>253</sup>
- The '0818' and '076' ranges are the least frequently dialed with 53% and 51% ever dialing<sup>254</sup>;
- 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*';<sup>255</sup> and
- Surveyed consumers considered '0818' NGNs to be more memorable than '076' NGNs. 42% of those aware of NGNs and who had ever dialed an '0818' NGN think that '0818' NGNs are easier to remember while 34% of those aware of NGNs and who had ever dialed an '076' NGN think that '076' NGNs are easier to remember.<sup>256</sup>

5.264 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 'Draft NGN Pricing RIA'. ComReg also notes that consumers think that NGNs are more memorable than GNs 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.

5.265 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 6)

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<sup>252</sup> Except for price which has already been assessed in the 'Pricing RIA'.

<sup>253</sup> See Slide 27 – B&A Consumer Survey.

<sup>254</sup> See Slide 30 – B&A Consumer Survey.

<sup>255</sup> See Slide 87 – B&A Consumer Survey.

<sup>256</sup> See Slide 122 – B&A Consumer Survey.

sets out ComReg's approach to transparency which would include measures to increase awareness of the preferred options.

5.266 Therefore, ComReg is of the preliminary 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**

5.267 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 GNs.

5.268 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<sup>257</sup>, 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 FLOS and MOs 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.

5.269 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**

5.270 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.

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<sup>257</sup> 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)

5.271 In that regard, ComReg is of the preliminary 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.

5.272 In ComReg's view, and on balance, the information which it has gathered, including the results of the consumer surveys, 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.

5.273 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.

5.274 Therefore ComReg is of the preliminary 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.

### **5.5.7 Preferred Option for Non-Geographic Numbering Consolidation**

5.275 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.

5.276 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 preliminary 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.

5.277 Similarly, ComReg is of the preliminary view that OOs and TOs 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 OOs and TOs 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.

5.278 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 PRS 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.

5.279 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.

5.280 In particular, ComReg is of the preliminary 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).

5.281 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 GN ranges.

5.282 While the '0818' range does have certain disadvantages, ComReg is of the overall preliminary 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.

5.283 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<sup>258</sup>".*

### **5.5.8 Overall Preferred Option for NGN Pricing and Consolidation ('Preferred Option')**

5.284 ComReg's preliminary 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 the '1890', '1850', and '076' NGN ranges should be withdrawn following a transitional period of 2-3 years; and

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<sup>258</sup> DotEcon Report, p.110.

2. that a 'Geo-linked' pricing condition should attach to the retained '0818' NGN range which would operate alongside the retained '1800' Freephone range

5.285 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.

5.286 The following section assesses the above Preferred Option against ComReg's other relevant objectives, regulatory principles and duties.

## **5.6 Assessment of overall Preferred Option against ComReg's other relevant objectives, regulatory principles and duties**

5.287 The draft 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).

5.288 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.

5.289 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

5.290 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 Appendix 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

5.291 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.

5.292 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.

### 5.6.1 General Provisions on Competition

5.293 As noted above, there is a natural overlap between the aims of the draft 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.

5.294 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.<sup>259</sup>

5.295 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.

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<sup>259</sup> The final two statutory obligations were introduced by Regulation 16 of the Framework Regulations.

- 5.296 ComReg's preliminary 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).
- 5.297 As noted earlier in this consultation paper, today retail competition amongst OOs 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).
- 5.298 Calls to any GN or Mobile Number are typically included in any bundle of call minutes but Irish OOs currently exclude almost all NGN calls from their various bundles of call minutes.
- 5.299 The net effect of NGN calls not being “in-bundle” is that NGN callers do not benefit from the retail competition between OOs which is centred on their various subscription packages of bundled call minutes.
- 5.300 ComReg is therefore of the preliminary 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.
- 5.301 ComReg is also of the preliminary view that the Preferred Option would be objective, transparent and non-discriminatory, noting that the proposed regulatory measures would apply to all OOs equally. Further, although the measures may result in some initial and medium-term costs and some degree of disruption – mainly to OOs and some SPs – such costs and disruption are considered to be proportionate to the end goal.
- 5.302 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.

5.303 As described in the draft 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 OOs which is available to other call components of “in-bundle” packages (e.g. GN calls, Mobile Number calls, SMS, and data).

5.304 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 use 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.

### **5.6.2 Promoting the development of consistent regulatory consistent application of EU law**

5.305 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.

### **5.6.3 Promoting the interest of users within the Community**

5.306 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.

5.307 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.

#### **5.6.4 Efficient Use and Effective Management of the numbering resource**

5.308 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.

5.309 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.

### 5.6.5 Article 28 of the Universal Service Directive

5.310 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.

5.311 In that regard, ComReg notes that the preferred '0818' NGN range is internationally accessible.

### 5.6.6 Relevant Policy Statements

5.312 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.

5.313 ComReg considers below those Policy Directions which are most relevant in this regard (and which have not been considered elsewhere in this chapter).

#### **Policy Direction No.4 of 21 February 2003 on Industry Sustainability**

5.314 This Policy Direction provides that:

*"ComReg shall ensure that in making regulatory decisions in relation to the electronic communications market, it takes account of the state of the industry and in particular the industry's position in the business cycle and the impact of such decisions on the sustainability of the business of undertakings affected."*

5.315 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.

5.316 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 draft RIAs above, ComReg has considered the impact of its award proposals in the context of all industry stakeholders, including different types of industry stakeholders.

5.317 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.

5.318 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**

5.319 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.”*

5.320 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.

5.321 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.

## 6 Proposed implementation of Preferred Option

6.1 This chapter presents ComReg’s proposals for specific measures to enable the implementation of its Preferred Option.

### 6.1 Proposed ‘Geo-linked’ NGN pricing tariff

6.2 The proposed ‘Geo-linked’ NGN measure would be implemented by replacing the current retail tariff General Authorisation conditions of use for ‘1850’, ‘1890’, ‘0818’ and ‘076’ NGNs<sup>260</sup> with a new ‘Geo-linked’ retail tariff General Authorisation condition of use, being:

*“The retail charge that would apply to a caller for calling a [1850/1890/0818/076] number at a particular point in time shall not exceed the retail charge that would apply to that same caller for calling a Geographic Number at that same point in time.*

*For example, and for the avoidance of doubt, the above condition shall include the following scenarios:*

*If a caller has a subscription which includes a “bundle” of call minutes - under which calls to Geographic Numbers in a specified time period and up to a specified amount are free of charge - then calls made by that same caller to [1850/1890/0818/076] numbers, in that same time period and up to the same specified amount, shall also be free of charge.*

*Where a caller exceeds its bundle of call minutes, the retail charge for any “out-of-bundle” call made by that caller to a [1850/1890/0818/076] number shall not exceed the retail charge for any “out-of-bundle” call to a Geographic Number made by that same caller.”*

6.3 ComReg seeks views on the proposed new ‘Geo-linked’ retail tariff condition for ‘1850’, ‘1890’, ‘0818’ and ‘076’ NGNs as described.

**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.

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<sup>260</sup> The current retail tariff General Authorisation conditions of use for ‘1850’, ‘1890’, ‘0818’ and ‘076’ and set out ComReg 15/136 in sections 4.4.3, 4.4.4, 4.6.3 and 4.8.2.

## 6.2 Proposed consolidation of the five NGN classes

- 6.4 ComReg proposes to withdraw the '1850', '1890' and '076' NGNs and migrate the current users of those NGNs to an alternative number of their choosing i.e. to an alternative NGN, landline or mobile number. The proposed withdrawal of these three NGNs would follow a 2 – 3 year transitional period.
- 6.5 In terms of the practicalities of phasing out certain NGNs, ComReg has previously rationalised some GN ranges and a process for conducting number changes was set out in the "Number Change Process" (outlined in Annex 5 of ComReg 11/17<sup>261</sup>). If ComReg should decide to close the '1850', '1890' and '076' NGNs, it is envisaged that a similar process would be used.
- 6.6 ComReg seeks views on its proposal to withdraw the '1850', '1890' and '076' NGNs following a transitional period of 2 - 3 years.

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.

## 6.3 Transparency

- 6.7 In ComReg's view, the DotEcon Report<sup>262</sup> and B&A surveys evidence a lack of adequate transparency associated with the use of NGNs (i.e. retail price transparency; and NGN users do not understand the different designations for each of the five classes of NGNs) which is hindering the effective functioning of the NGN platform. Similarly, the RIAs identify that consumers often fail to understand the cost associated with calling NGNs or the differences between number ranges, illustrating that the current system for NGNs is not working effectively.
- 6.8 While the Preferred Option may mitigate some of the problems created by poor transparency<sup>263</sup>, ComReg observes that certain consumers (i.e. some pre-pay consumers) will continue to pay out of bundle rates (price per minute) and consumers with bundles may also at some point make calls to NGNs that are out of bundle. In that context, ComReg recalls the results of the Consumer Survey which show that:

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<sup>261</sup> ComReg Document 11/17 – National Numbering Conventions v7.0 – published 9 March 2011.

<sup>262</sup> See Section 5 – DotEcon Report.

<sup>263</sup> In particular:

- (a) Geo-linking means that most consumers (i.e. those that have in-bundle minutes as part of their telephone subscription package) may no longer need to calculate upfront the charge (i.e. price per min) for making a NGN call. Rather, such a consumer would now consider a call in the same way it treats a call to a mobile or GN and considers as part of its in-bundle minutes; and
- (b) The consolidation to two classes of NGNs that have two distinct pricing structures (Free and Geo-linked) would reduce confusion among consumers about what each particular range offers in terms of its features and pricing.

- the majority of consumers (86%) do not know NGN call costs, and only 14% of consumers stated that they were confident in being able to report the costs of calls to at least some of these NGN classes;
- 12% of those who looked up costs for calls to mobile numbers reported this as being very difficult or fairly difficult; this rose to 15% for GNs, whilst 34% of those looking up cost of calls to NGNs reported this as difficult; and
- DotEcon’s desk research support the claim that finding the exact cost of calls to NGNs is often quite difficult. For example, DotEcon state: *“For example, when trying to find such information from the operator’s website in some cases this required delving into detailed terms and conditions, rather than an easy to find tariff page<sup>264</sup>.”*

6.9 Given the above, ComReg considers that specific transparency measures appear necessary to:

- (a) ensure that consumers and SPs know the costs of calling NGNs where calls are made out of bundle. While the cost of geographic calls are generally communicated to consumers (via their provider’s website, telephone bill, contract), in ComReg’s view operators should clearly communicate potential non-geographic call costs to allow consumers to calculate the cost of calls upfront (“**Transparency and publication of information**”); and
- (b) 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**”).

### Transparency and publication of information

6.10 Given that consumers generally do not adequately know and understand the cost of NGN calls and, further, encounter difficulties in finding the relevant information, ComReg is considering whether to impose transparency obligations including the publication of transparent pricing and tariff information, such as requiring operators to:<sup>265</sup>

- (a) publish transparent, comparable, adequate and up-to-date information on applicable prices and tariffs in a clear, comprehensive and accessible form; and

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<sup>264</sup> P.40 – DotEcon Report.

<sup>265</sup> Noting section 12(2)(c)(iv) of the Communications Regulation Act 2002 (as amended) and Regulation 15 of the European Communities (Electronic Communications Networks and Services) (Universal Service and Users’ Rights) Regulations 2011 regarding transparency and publication of information and quality of service.

- (b) 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.<sup>266</sup>

6.11 ComReg is open to considering all transparency options available to it to ensure that NGN costs are clearly and unambiguously communicated to callers. In that regard, ComReg is of the view that measures including the following may be appropriate:

- (a) 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;
- (b) unified branding and presentation of NGNs e.g. Freephone, 'Geo-Linked', possibly with colour coding<sup>267</sup>;
- (c) uniform presentation of NGNs e.g. '1800 XXX XXX' and '0818 XXX XXX';
- (d) recorded voice announcements alerting callers to the costs of calling NGNs prior to call connection; and
- (e) mobile phone pop-up messages or regular text messages alerting callers to the costs of NGN calls.

6.12 ComReg may also consider additional measures in order to improve transparency and protect consumers.

### **Information Campaign**

6.13 In order for the Preferred Option to be effective it is important that users of NGNs are sufficiently aware of the proposed changes and the extent to which they would improve their interaction with the NGN platform. ComReg also therefore proposes co-ordinating an information campaign to ensure any such changes are communicated in a timely and effective manner.

6.14 In particular, it is envisaged that such an information campaign would inform consumers and SPs of any changes to be implemented to the NGN platform and the timelines for same, including:

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

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<sup>266</sup> Regulation 15 of S.I. 337 of 2011.

<sup>267</sup> In France, a reverse directory has been created by SPs and operators ([www.infosva.org](http://www.infosva.org)). Colour coding of numbers (Green = Freephone, Grey = 'normal' number, Purple = premium rate number) and recorded messages on pricing played at start of calls to premium rate numbers have also been used

- (b) 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;
- (c) An interactive tariff guide (<https://www.comreg.ie/compare/>) is already in place providing consumers with accurate and up-to-date information on NGN 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);
- (d) Co-operating with operators on promotional options which could include standardised text<sup>268</sup> to inform customers of any upcoming NGN changes and of new NGN call costs (e.g. for billing inserts, messages on bills);
- (e) 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
- (f) 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.

6.15 ComReg will also consider conducting additional information campaigns on NGN call costs as required in order to ensure that such costs are widely understood.

6.16 ComReg observes that the provision of clear and unambiguous information on call costs should benefit SPs, as consumers will be quickly able to understand the actual costs of calling their specific NGNs. This should contribute to the better functioning of the NGN platform, i.e. what numbers mean, how much they cost to call and how calls to those numbers are charged in relation to a consumer's telephone package.

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.

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<sup>268</sup> Similar to standardised text for PRS numbers – see ComReg Document 14/45 – <https://www.comreg.ie/csv/downloads/ComReg1445.pdf>

## 7 Next Steps and submitting comments

7.1 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

7.2 The period for submitting responses to this consultation will run until 5pm on 12 October 2017.

7.3 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.

7.4 ComReg will publish all responses to this consultation in due course in accordance with its policy. Respondents are therefore asked to provide confidential and non-confidential versions of any document in respect of which any confidentiality is claimed (e.g. commercially sensitive information). In this respect, please see ComReg's Consultation Procedures (ComReg 11/34) and Guidelines on the Treatment of Confidential Information (ComReg 05/24).

7.5 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.

7.6 All responses to this consultation should be clearly marked:- "Reference: Consultation 17/70 - Review of Non-Geographic Numbering", and sent by post, facsimile or e-mail to arrive on or before 5pm, on 12 October 2017, to:

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# Appendix: 1 Questions

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## Appendix: 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*<sup>12</sup> fall into two broad categories in that they are either “GA Conditions” or “Rights of Use Conditions”.

- **GA 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.

### ***Rights of Use Conditions***

A 2.19 Some of the numbering conditions are attached to “rights of use for numbers” which ComReg has granted to individual undertakings. These conditions are created and imposed pursuant to Regulations 13 & 14 and Part C of the Schedule to the Authorisation Regulations. This category of condition does not have universal effect in that it applies only to the individual authorised undertaking which applied for and was granted the right of use to which the condition is attached. Only the individual authorised undertaking which applied for and was granted the right of use for a number is required to comply with the conditions attached to that right of use.

A 2.20 The key statutory provisions relevant to the above two categories of conditions are outlined in more detail below:

## **Regulation 20 of the Framework Regulations**

A 2.21 Regulation 20 of the Framework Regulations provides that ComReg:

- shall grant rights of use for numbers for all publicly available ECS in a manner that gives fair and equitable treatment to all undertakings and by application of procedures which are open, objective, transparent, non-discriminatory and proportionate;
- may attach conditions to rights of use for numbers, to ensure their efficient and effective management and use and to ensure that undertakings do not discriminate against one another as regards the number sequences used to give access to their respective services; and
- shall, from time to time, publish details of the “National Numbering Scheme” and that ComReg shall publish details of any significant additions or amendments to the scheme and, in so far as is practicable, support the harmonisation of specific numbers or numbering ranges within the European Union.

A 2.22 Regulation 20(4) of the Framework Regulations states that an “undertaking commits an offence if the undertaking assigns to locations, terminals, persons or functions on public communications networks numbers from the National Numbering Scheme that the regulator has not specifically allocated to the undertaking in connection with the provision of publicly available electronic communications services”.

## **GA 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.

## RoU 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 03/81R4).

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.

### ***Enforcement – compliance with GA Conditions and RoU Conditions***

A 2.33 The statutory provisions for enforcing the GA Conditions and the RoU 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.<sup>269</sup>

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<sup>269</sup> 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).

A 2.38 Regulation 19 of the Authorisation Regulations provides that ComReg may impose fees for rights of use for numbers which reflect the need to ensure the optimal use of the National Numbering Scheme. No such fees are imposed at present though ComReg reserves the right to review and amend this policy as it sees fit.

## The Universal Service Regulations

A 2.39 Regulation 15 of the Universal Service Regulations allows ComReg to require undertakings to publish information on services in a transparent manner.

A 2.40 Regulation 20 of the Universal Service Regulations requires that an undertaking providing end-users with an electronic communications service for originating national calls to a number or numbers in the National Numbering Scheme (including public pay telephones) shall ensure that such end-users are able to call the emergency services free of charge and without having to use any means of payment by using the single European emergency call number “112” and any national emergency call number that may be specified by ComReg (i.e. the “999” number).

A 2.41 Regulation 21(3) of the Universal Service Regulations requires that an undertaking providing publicly available telephone services (PATS) allowing International calls shall handle all calls to and from the European Telephony Numbering Space<sup>270</sup> 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).

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<sup>270</sup> 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 GNs, 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.

# Appendix: 3 NGN Interconnect Settlement Regime

## Payment flow for fixed-line and mobile calls to ‘1800’ NGNs

A 3.1 ‘1800’ calls are free of charge for fixed-line and mobile callers; the called party (SP) pays the entire charge for the call. The OO does not receive any retail payment from the ‘1800’ caller and recovers its costs from the terminating operator who in turn recovers its costs from the called party (the SP). This is illustrated in Figure 8.

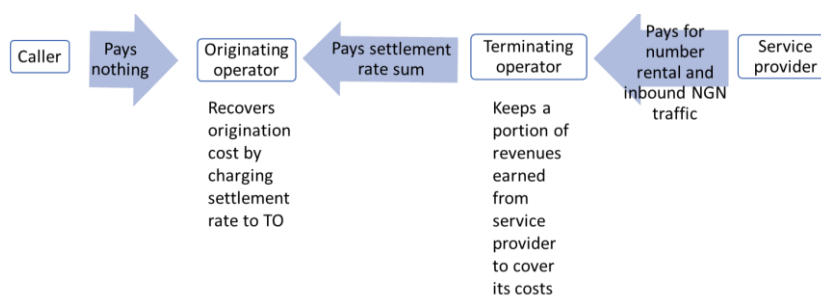


Figure 8: Payment flow for calls to ‘1800’ NGNs

## Payment flow for mobile calls to ‘1850’ and ‘1890’ NGNs

A 3.2 The charge of a ‘1850’ or ‘1890’ call is shared between the caller and called party. The originating MO recovers the cost of the call through (i) a retail rate paid by the caller, and (ii) settlement rates paid by the TO. TOs in turn recover their costs from the called parties (the SPs). This is illustrated in Figure 9.

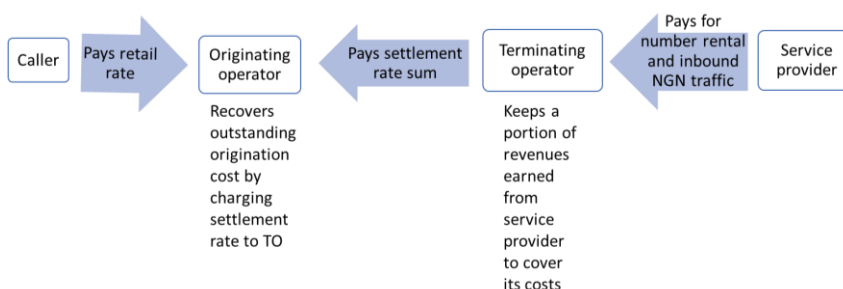


Figure 9: Payment flow for mobile calls to ‘1850’ and ‘1890’ NGNs

## Payment flow for fixed-line calls to ‘1850’ and ‘1890’ NGNs

A 3.3 As with mobile calls, the charge of a fixed-line ‘1850’ or ‘1890’ NGN call is shared between the caller and called party. However, the originating FLO passes a portion of the retail rate sum paid by the caller to the TO, in the form of settlement rates. TOs recover and retain the remaining costs from the called party. Settlement rates for ‘1850’ / ‘1890’ calls originating with FLOs flows in the opposite direction to settlement rates for ‘1850’ / ‘1890’ calls originating with

MOs. This is illustrated in figure 9.

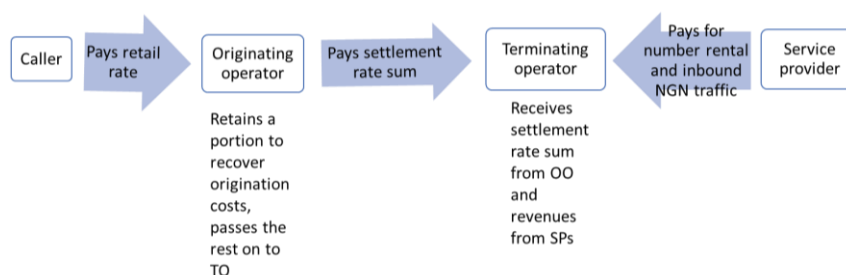


Figure 10: Payment flow for fixed-line calls to '1850' and '1890' NGNs

### **Payment flow for fixed-line and mobile calls to '0818' and '076' NGNs**

A 3.4 Settlement rates for fixed-line and mobile calls to '0818' and '076' NGNs flow in the same direction as settlement rates for fixed-line '1850' and '1890' calls – i.e. from the FLO/MO to the TO - except that the TO does not recover any call costs for inbound traffic from the called party (the SP). This is illustrated in *Figure 11*.

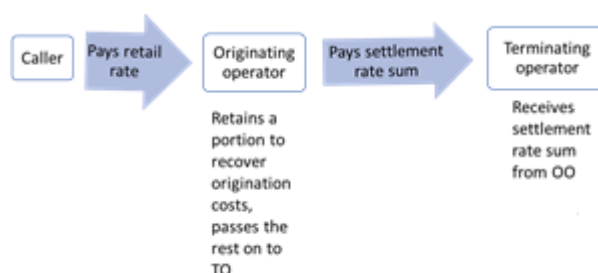


Figure 11: Payment flow for calls to '0818' and '076' NGNs

### **Payment of transit fees and settlement rates**

A 3.5A NGN call may transit one or more networks before it arrives at the terminating network. Transit fees for NGNs are levied by the transit operator on the TO. While the TO is the purchaser of the transit service (and is charged for it) the TO cannot choose the transit operator or an efficient routing path for the call, which is determined by the OO.

A 3.6Eir and BT Ireland are the two main transit operators for NGN calls, with Eir accounting for the vast majority of NGN transit traffic.

### **Payment flows involving Resellers and their Wholesale Providers**

A 3.7Resellers purchase wholesale services from wholesale providers at a wholesale rate and form additional links in the supply chain, between:

- the NGN caller and originating network operator at the call origination end; and/or
- the terminating network operator and SP at the call termination end.

A 3.8 NGN callers served by resellers pay a retail charge to make NGN calls and SPs served by resellers pay a charge to receive NGN calls.

A 3.9 Resellers, like TOs, may also provide additional services for inbound NGN traffic such as hosting, number inventory management, and intelligent call routing, or resellers may have some infrastructure in place to manage part of the NGN traffic.

A 3.10 Resellers typically negotiate individual contracts with wholesale providers. Under such a contract, a reseller pays the wholesale provider for NGN calls made by the reseller's customers (NGN callers) and received by the reseller's customers (SPs). Wholesale payment rates are generally a per minute rate, a flat per call fee, or a fixed rate up to a fixed capacity of minutes. The reseller recovers its wholesale payments to its wholesale provider through its charges to its customers.

## Appendix: 4 Glossary of Frequently Used Terms

Acronym	Full Title
DQ	Directory Enquiry
FLO	Fixed line operator
GN	Geographic number
MO	Mobile operator
NGN	Non-geographic number
OO	Originating operator
PRS	Premium Rate Service
RIA	Regulatory Impact Assessment
SP	Service provider
TO	Terminating operator
VoIP	Voice over Internet Protocol