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The National Broadband Plan has the potential to improve the lives of every citizen in Ireland by delivering quality high-speed broadband to every home, school and business in the country. The initiative, which involves Government and industry, has already seen accelerated commercial investment in broadband services in many areas of the country.

This strategy sets out how the Government proposes to intervene to deliver quality high-speed broadband in areas where it is uneconomic for the commercial sector to invest. Its publication is another milestone on the road to delivery of the state intervention element of the National Broadband Plan. The short consultation that will now follow, and which is required under EU state aid rules, will ensure that industry and other stakeholders can give their views before we move to the procurement phase later this year.

Led by the Department of Communications, Energy and Natural Resources, this intervention represents a determination to ensure that all our citizens have the same access to information, culture, ideas, commerce, social interaction and the other opportunities that broadband gives, regardless of where they live or work. The Government wants every citizen to be able to access the best content, deals and services that the internet can offer. And we want every business in Ireland to have the capacity to trade online, unhindered by limited upload and download speeds.

Universal access to high quality broadband will provide a rich learning resource for young and old alike. It has the potential to attract investment to every part of the country. And it will help create and sustain jobs, including in the rural economy.

Delivering an intervention of this scale and size is a considerable task. That's why every aspect of this strategy has been carefully designed and developed. It is based on our belief that quality broadband is a fundamental social and economic infrastructure, which must be available in every community. It is akin to rural electrification, which bought power to every citizen in the last century. Connecting our communities through high speed broadband has the same potential to open up opportunities and improve living standards for all our people.

Alex White
Minister for Communications, Energy and Natural Resources, July 2015
The National Broadband Plan (NBP) is a Government policy initiative which aims to deliver high speed broadband to every citizen and business in Ireland.

This is being achieved through a combination of accelerated commercial investment by telecoms operators, and a proposed State intervention to provide high speed broadband to those parts of the country where the commercial sector will not invest.

This public consultation document sets out a series of detailed proposals by Government in respect of the proposed State intervention. Specifically it sets out the key elements of the intervention - what services are proposed and how they will be delivered.
3: Purpose of this public consultation
The purpose of this public consultation is to seek the views of industry, stakeholders and members of the public, on the detailed measures proposed in the intervention strategy.

The strategy has been developed following intensive engagement with industry and wider stakeholders. In addition, the European Commission has set out detailed guidelines on what is required to obtain State Aid approval for Government interventions in the broadband sector. The Department has followed these guidelines when formulating the proposed intervention strategy. The strategy is also informed by detailed input from expert advisors who were commissioned by the Department to produce the following reports:

1. Broadband Strategy for Ireland;
2. NBP Cost Benefit Analysis;
3. State Aid Compliance Report;
5. Ownership Report;
6. Funding Report;
7. Governance Report;
8. Technical Report; and
3 Purpose of this public consultation

The reports are published on [www.broadband.gov.ie](http://www.broadband.gov.ie), other than the Financial Appraisal report, Cost Modelling Report and CBA report, which cannot be published due to the commercially sensitive nature of these reports. However an extract from the CBA report showing the qualitative benefits (titled ‘Benefits of High Speed Broadband’) is being made available. Readers/stakeholders are encouraged to refer to the published reports for detailed descriptions of the issues considered and the experts’ recommendations. Confidential and commercially sensitive information has been redacted from the published reports.

For further information on our consultation process and how you can participate, please see Section 8 of this consultation document or visit our public consultation page on www.broadband.gov.ie. This consultation will conclude at 5.00pm on 14th September 2015.

Submissions received will be carefully considered with a view to finalising the strategy and proceeding to formal procurement by the end of 2015.

**Consultation Process**

This consultation is not a binding legal document and the Department of Communications, Energy and Natural Resources is not bound by the views and preliminary positions set out in it. The consultation does not set out the Department’s final or definitive position on particular matters.
4: Background
The National Broadband Plan sets out the means by which the Government will deliver its commitment to provide high speed broadband to all parts of Ireland.

Achieving universal access to high speed broadband is also a key target under the EU Digital Agenda for Europe which envisages that by 2020 all EU citizens will have access to speeds of 30Mbps, and that 50% of citizens will be subscribing to speeds of 100Mbps.

A key principle of the National Broadband Plan is to support and stimulate commercial investment through policy and regulatory measures. This collaboration with industry has been informed by the Next Generation Broadband Task Force in May 2012 where industry advised Government on measures that could help accelerate investment.

Commercial investment since then has considerably exceeded expectations. In 2012, industry committed to providing high speed broadband to 1m addresses in Ireland by 2015, with top speeds ranging from 100Mbps for cable and 70Mbps for eFibre services. Today, cable is delivering speeds of up to 240Mbps to over 700,000 addresses and eFibre services of up to 100Mbps are available to 1.2m addresses. Legislation enacted in 2014 has enabled the use of ESB's national distribution system to deliver fibre services. This has resulted in a new wholesale operator entering the market, adding increased competition for ultra-fast services. Two companies are now investing in fibre-to-the-home services and one has recently committed to a further extension of its network to potentially 1.9m addresses. This commercial activity far exceeds what was envisaged in 2012 and represents a significant step-change in the quality of broadband connectivity now available to many business and residential customers.

Over the coming months, the Department will rigorously assess new and existing industry investment commitments in order to ensure that they will deliver the services they promise.
The High Speed Broadband Map published in 2014, shows the extent of industry commitments to end 2016 and indicates that 70% of addresses in Ireland will have access to high speed broadband within that timescale. The balance of 30%, approximately 757,000 addresses, represents the target for the proposed State intervention. This figure may be revised over the coming months, following detailed assessment of new information and investment decisions announced in recent weeks.

These industry investments in the region of €2.5 billion are transforming the broadband experience of millions of Irish citizens. A second key principle of the National Broadband Plan is a recognition that industry investment will not extend to all parts of Ireland. The Government has therefore committed to a State-led intervention into those areas where it has been demonstrated that industry investment will not be forthcoming.

Delivering high speed broadband to these areas presents a significant challenge. With only 67 people per km², Ireland has one of the lowest population densities in Europe. Some counties in Ireland have a population density as low as 19 people per km². This low population density, coupled with a thinly distributed rural population makes the deployment of a high speed broadband network infrastructure difficult and costly.

This document sets out, for consultation, how Government proposes to intervene to provide high speed services to these areas.
5: Vision - High speed broadband to all
Vision - High speed broadband to all

Seamless access to technology and the internet is a necessity for any modern economy or society.

In Ireland, the digital economy already represents 5% of GDP and is anticipated to be some 10% of GDP by 2020. It employs almost 100,000 people directly and indirectly. Traditional industries such as farming and retail are increasingly relying on technology to compete nationally and globally.

Broadband is also essential to the delivery of internationally traded services. The Economic and Social Research Institute (ESRI) predicts that over 70% of Irish exports will be traded services by 2025\(^1\). Broadband allows enterprises and workers more flexibility in terms of how working patterns are established. The efficient delivery of public services including education, healthcare and central and local government services is increasingly reliant on digital platforms. In addition, social and leisure activities are also progressively more dependent on ICT.

Vision - High speed broadband to all

The key principles underpinning the proposed intervention strategy are therefore:

• To deliver high speed broadband to all premises that will not be able to access such services through commercial investment alone.

• To conclusively address connectivity deficits across Ireland by setting down minimum speeds and delivering an infrastructure that is capable of meeting current and future demands for bandwidth.

• To ensure that services are affordable, competitive and on a par with those available in commercial areas, by delivering a wholesale service that is open to all retailers, with benchmarked and transparent pricing and conditions for access.

• To ensure value for money and compliance with EU State Aid Guidelines through a technology neutral procurement process that attracts multiple bidders over competing platforms.

• To ensure that the most efficient and cost effective network is built within the shortest possible timeframe, by building on and integrating with commercial operators’ existing networks.

• To ensure that quality and affordable services are continuously provided through a long term contract with stringent governance measures.
6: Who will benefit?
Who will benefit?

Through ongoing commercial investment, most of our cities and towns will benefit from high speed broadband over the coming years.

The areas that are not covered by commercial investment are the target for the State funded investment. The NBP’s ambition is to achieve 100% access to high speed broadband by the end of 2020. The profile of the area expected to be addressed by the intervention strategy or potential commercial investments over 2016-2020 includes:

- 96% of national land mass
- 100,000km of road network
- Over 757,000 postal addresses
- 1.8m citizens (38% of national population)
- 688,000 members of active labour force (38% of national total)
- 214,000 white collar employees (34% of national total)
- 89% of farm employment (139,000 farmers nationally)
- 80,266 farms (94% of national total of farms)
- 63,440 non-farm businesses (B&Bs, shops, doctors, etc.)
- 62,226 SMEs, primarily micro
- 1,522 schools (40% of total)
- 601 business parks (7% of national total)

A detailed Cost Benefit Analysis (CBA) has been carried out to assess the return over the lifetime of the state intervention. The CBA demonstrates that the benefits to this
intervention outweigh the costs and that there will a positive benefit across all areas of Irish society.

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<tr>
<th>BENEFICIARY</th>
<th>POTENTIAL BENEFITS</th>
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<tr>
<td>General Public</td>
<td>• Savings from remote working&lt;br&gt;• Reduced costs of communications bundles e.g. mobile, internet, television, land line&lt;br&gt;• Time savings for online transactions&lt;br&gt;• Monetary saving from ‘shopping around’ online</td>
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<td>Business located outside the intervention area whose employees live and commute from the intervention area</td>
<td>• Increased productivity from employees living in intervention area as they would have an ‘always on’ capability&lt;br&gt;• Gains from teleworking</td>
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<tr>
<td>Farming Community</td>
<td>• Advanced ICT integration in farming&lt;br&gt;• Time savings from remote monitoring of livestock</td>
</tr>
<tr>
<td>SMEs</td>
<td>• Access to a huge international market&lt;br&gt;• Time savings from online services leading to increased productivity</td>
</tr>
<tr>
<td>eHealth</td>
<td>• Remote monitoring of elderly people in their homes&lt;br&gt;• Enhanced home-based care as an alternative to hospitalisation</td>
</tr>
<tr>
<td>Jobs and Entrepreneurship</td>
<td>• Support job creation&lt;br&gt;• Improve financial performance of existing businesses&lt;br&gt;• Enable the formation of new enterprises in the intervention area which would previously have been restricted by a lack of access to high speed reliable broadband&lt;br&gt;• Enhanced competitiveness in the attraction of foreign investment</td>
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## Who will benefit?

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<tr>
<th>BENEFICIARY</th>
<th>POTENTIAL BENEFITS</th>
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<tr>
<td><strong>Education</strong></td>
<td>• Availability of online educational tools which complement classroom learning</td>
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<td></td>
<td>• Easier access to relatively specialist teaching resources e.g. applied maths through online tutorials or webcasts</td>
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<td></td>
<td>• Enabling online student fora and project teams</td>
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<td></td>
<td>• Early engagement with technology leading to longer term benefits from IT literacy</td>
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<tr>
<td><strong>Environmental Benefits</strong></td>
<td>• Promotion of social inclusion through equal access to online services</td>
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<td></td>
<td>• Significant reductions in the need for fossil fuels leading to lower carbon submissions</td>
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<tr>
<td></td>
<td>• Opportunity for more balanced regional development</td>
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<tr>
<td></td>
<td>• Enabling energy efficiency through smart technologies in the home, including smart meters.</td>
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A conservative approach was adopted in the profiling of these benefits and the intervention has the potential to support a broad range of other public policy priorities, including in employment, education, environment, social inclusion, tourism, balanced regional development, and public sector reform.
7: Key elements of the proposed intervention strategy
Key elements of the proposed intervention strategy

7.1 THE INTERVENTION AREA

In order to establish the extent of the Intervention area and to ensure that public funds are not spent where commercial investment is forthcoming, a detailed mapping exercise of current and planned high speed broadband deployment has been carried out. This has involved public consultation and consultation with industry.

The mapping process enabled the identification of the areas of the country that require state intervention. The High Speed Broadband Map shows where high speed broadband services are provided commercially today, and establishes where commercial operators have concrete plans to roll-out new high speed broadband coverage. Under EU State Aid Guidelines, the Government can only intervene in the market where there is proven market failure.

The map is being kept under review to ensure that relevant commercial plans are accurately reflected. There have been some significant proposals from industry in recent months. The Department is reviewing these proposals, assessing their technical and financial aspects and the robustness of their deployment plans.

Following a review of new and existing operator plans, the Department will produce a revised High Speed Broadband Map.

7.2 HIGH SPEED BROADBAND – DEFINITION OF SERVICES

To ensure that citizens and businesses have access to reliable, future proofed services, the intervention strategy proposes the build-out of a wholesale, open access network capable of meeting defined minimum standards.
Key elements of the proposed intervention strategy

The Department is proposing to set the following technical standards to be met by the winning bidder(s) in the procurement process:

- A minimum of 30Mbps download
- A minimum of 6Mbps upload
- Latency – no more than 25 milliseconds
- Jitter – no more than 25 milliseconds
- Packet loss – not more than 0.1%
- Service availability – at least 99.95% of the time

In addition to these technical standards, it is proposed that the winning bidder(s) must ensure

- Availability of an affordable retail package of services which should be comparable to prices charged in commercial areas outside the intervention area.

The intervention strategy also proposes measures to meet the specific needs of business as well as ensuring scalability in terms of future anticipated growth in demand for bandwidth.

Accordingly it is proposed that bidder(s) will be invited to put forward:

- Minimum speeds for businesses, which can be built into the service standards of the winning bidder(s) contract
Key elements of the proposed intervention strategy

- Proposals to ensure that the network is future-proofed to meet growing bandwidth demand. This is considered the optimal approach rather than the Department prescribing future speeds which may not reflect future market developments and technology evolution.

For more information on service specifications, please see Section 4 of the Technical Report.

7.3 CHARACTERISTICS OF THE NETWORK

A wholesale, open access infrastructure

Given the commercial challenges of investing in the intervention area, the Department believes that each area will be served by one high speed network only, rather than the multiple network structure that exists in some commercial areas. Delivery of the network (or networks if there is more than one successful bidder) will require Government subvention. Given the competitive constraints of a non-commercial area, the challenge is to design an intervention model that can ensure that consumers have a choice of retail service providers and can avail of affordable and competitive services.

Accordingly it is proposed that the intervention will fund the building of a wholesale, open access network. As described in Section 7.9, it is proposed that the network will be rolled out to be as close as possible to end users to ensure all premises can be connected.

The open-access nature will allow any retail company to access the network on transparent and equal terms and conditions. In this way, the strategy aims to promote strong competition at retail level, recognising that only one wholesale physical infrastructure is likely to be viable over the long term.

In order to ensure that services are always available, it is further proposed that the
Key elements of the proposed intervention strategy

wholesale operator must provide a retail service if no retailer emerges in a given part of the intervention area.

Providing Backhaul and access connectivity

For technical and commercial reasons discussed in greater detail in the expert reports, the network must be as close as possible to each premises so as to ensure availability of a high speed connection. Given the highly dispersed nature of rural housing development, delivering a backhaul-only network is unlikely to ensure that all premises can avail of services in a timely or affordable manner.

In order to guarantee a competitive market where retailers can provide services to all premises in the intervention area, it is therefore proposed that the wholesale network to be built should include provisions to deliver backhaul and access to premises.

7.4 WHO WILL OWN THE NETWORK?

The Government has considered a range of options for the ownership of the network. These range from a commercial stimulus model, in which a limited amount of Government funding is used to stimulate commercial investment in the intervention area, to a fully owned public utility, funded entirely by the Exchequer.

The options which are still being considered include:

1. A commercial stimulus model where public funds are made available to make private investment commercially viable.

2. A concession type arrangement where a commercial company designs, builds and owns the network for the duration of the contract but the asset reverts to the State at the end of contract.
Key elements of the proposed intervention strategy

3 A joint venture / equity share arrangement with the winning bidder(s).

4 A full concession type arrangement similar to option 3 except that ownership of the asset resides with the State from the outset.

5 Full public ownership where a new utility type company is set up to design, build and manage the broadband network required for the intervention area.

For further detail on the consideration and recommendations in relation to ownership options, please refer to the Ownership report.

The principal advantages and disadvantages of the commercial stimulus model at one extreme, versus full public ownership, at the other, have been identified as follows:

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<tr>
<th>MODEL</th>
<th>ADVANTAGES</th>
<th>DISADVANTAGES</th>
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<tbody>
<tr>
<td>Commercial Stimulus</td>
<td>• Significantly reduced upfront cost for the Exchequer</td>
<td>• The network is privately owned and would require stringent governance / regulation</td>
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<td></td>
<td>• Cost to Exchequer can be spread over several years</td>
<td>• The Government has less control on investment and of the future of the network</td>
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<td></td>
<td>• Strategic value to bidders reduces overall cost to State</td>
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<td></td>
<td>• Synergies with existing business may reduce costs further</td>
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<tr>
<td></td>
<td>• Unlocks considerable private funding</td>
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<tr>
<td></td>
<td>• Industry, market and technical expertise in situ in companies</td>
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<tr>
<td></td>
<td>• Commercial sector carries risk</td>
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<tr>
<td></td>
<td>• No further exchequer subvention required</td>
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### Key elements of the proposed intervention strategy

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<tr>
<th>MODEL</th>
<th>ADVANTAGES</th>
<th>DISADVANTAGES</th>
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<tbody>
<tr>
<td>Public Ownership</td>
<td>• Network remains in state ownership and control</td>
<td>• High upfront investment cost for the Exchequer</td>
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<td>• Income from the network can be offset against build costs over a longer period</td>
<td>• Substantial additional time and cost in establishing a dedicated State entity, potentially delaying rollout</td>
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<td>• State controls costs, access and upgrade of the network</td>
<td>• Exchequer bears all the risks</td>
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<td>• Network relies on interconnection with existing privately owned networks</td>
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<td>• Network may require rental of poles and ducts that are privately owned.</td>
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<td></td>
<td></td>
<td>• Few synergies with existing networks or business.</td>
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<td>• Will require ongoing investment</td>
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For technical, commercial and financial reasons the commercial stimulus option appears to be the optimal proposal. A number of companies are already indicating a strong interest in bidding to provide the relevant network and services on this basis. Accordingly, some of the proposals in the strategy are directed towards the prospect of a commercially owned infrastructure with stimulus funding from Government.

Government however remains open to views on the optimum ownership arrangements as part of the proposed intervention strategy.
Key elements of the proposed intervention strategy

Governance arrangements in commercial stimulus

Should the commercial stimulus model emerge as the preferred option, certain safeguards will be required in order to protect the Government’s investment and policy objectives. These could include:

- A financial claw-back mechanism for commercial profits over and above those envisaged in the winning tender;

- A financial claw-back mechanism for any savings that are achieved, particularly during the construction phase of the project;

- Annual financial clawbacks for non-performance over the lifetime of the contract; and

- Termination clauses for persistent sub-standard performance.

Under the commercial stimulus model, in the event of the winning bidder(s) being the dominant monopoly wholesale and infrastructure player in the intervention area, there may then be a requirement for formal regulation by the Commission for Communications Regulation (ComReg). In any event, and to ensure alignment with best practice regulation, the governance arrangements will include measures to align with existing regulatory rules for the sector.

Measures to ensure that services continue, post-contract, will also be designed in close consultation with ComReg. These may include ongoing requirements to allow access to infrastructure.
7.5 HOW THE NETWORK BUILD WILL BE FUNDED

The estimated level of funding required has been informed by detailed network modelling, financial analysis and engagement with industry.

In the event of a commercial stimulus model being the preferred option, the exact amount of funding will ultimately be determined by the competitive procurement process. Bidders would be expected to meet the standards set out in the finalised strategy, at least cost to the Exchequer.

It will be possible to spread the total cost of the publicly-funded element of the intervention over the lifetime of the contract (20 years) with some front-loading during the construction phase. Mechanisms could be put in place to provide for contract compliance and to ensure value for money (see Section 7.4 above).

In advance of any competitive procurement process, it is not the intention to indicate the overall estimated Exchequer funding parameters at this stage.

Various options have been explored in terms of the source of funding to the commercial sector and the State including commercial market lenders, the European Investment Bank (EIB), Ireland Strategic Investment Fund (ISIF) and the European Fund for Strategic Investment (EFSI). All these organisations have expressed an interest in funding any commercial aspect of the investment.

The Government contribution towards the cost of delivering this project may be achieved through a combination of exchequer, EIB and European Fund for Strategic Investment sources with €75m also committed under the European Regional Development Fund (ERDF).
Key elements of the proposed intervention strategy

7.6 PROCUREMENT

Subject to finalisation of this intervention strategy and the State Aid approval process, it is proposed to proceed with formal public procurement in December 2015.

In order to maximise competition in the procurement, allow smaller operators to bid and potentially realise savings for the Exchequer, it is proposed:

- to conduct a single tender process with at least two to three lots. Bidder(s) would be allowed to bid for individual areas. Where a single bid is received for the entire area, bidder(s) would be obliged to also submit bids for individual lots; and

- that all bidders should inform the Department and ComReg of the infrastructure they intend to use, so that other bidders can also use this infrastructure in their bids and in order to have timely and clear terms, conditions and pricing for access to that infrastructure by other bidders. This is also a requirement under the EU State Aid Guidelines which state ‘Since the reusability of existing infrastructure is one of the main determinants for the cost of broadband roll-out, Member States should encourage bidders to have recourse to any available existing infrastructure so as to avoid unnecessary and wasteful duplication of resources and to reduce the amount of public funding. Any operator which owns or controls infrastructure (irrespective of whether it is actually used) in the target area and which wishes to participate in the tender, should fulfil the following conditions: (i) to inform the aid granting authority and the NRA about that infrastructure during the public consultation; (ii) to provide all relevant information to other bidders at a point in time which would allow the latter to include such infrastructure in their bid. Member States should setup a national database on the availability of existing infrastructures that could be reused for broadband roll-out.’

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2 EU Guidelines for the application of State aid rules in relation to the rapid deployment of broadband networks (2013/ C25/01)
3 National Regulatory Authority
Key elements of the proposed intervention strategy

It is recognised that a multiple-lots model introduces potential technical and governance challenges. However, the Department is of the view that introducing greater competition into the procurement process will be to the long-term benefit of consumers. While the Department favours such an approach, it will remain open for bidders to propose one network architecture for the entire intervention area.

The intervention strategy proposes that the procurement will be for a 20 year contract with the first five years relating to build-out and embedding service delivery. Measures to ensure ongoing service provision beyond the lifetime of the contract will be considered. The continuous evolution of the regulatory regime should ensure that contract conditions which are critical to the competitive functioning of the market can be continued through robust regulation.

7.7 ENSURING THAT THE NETWORK DELIVERS

The ambition of the proposed intervention is to conclusively deal with outstanding high speed connectivity issues in areas where the commercial sector will not invest. Robust governance arrangements will be required in order to ensure that the service is delivered and evolves to continuously meet consumer demand over the proposed 20 years of the contract, and beyond.

It is proposed that the governance of any contract(s) should include:

- Build-out milestones with claw-back mechanisms for the State for efficiencies/savings over and above those identified in any bid;
- Linking Key Performance Indicators (KPIs) with service credits to compensate the contracting authority for underperformance;
Key elements of the proposed intervention strategy

- Alignment with relevant regulatory mechanisms such as wholesale products, pricing, non-discrimination etc. (see Section 7.8); and

- Claw-back mechanisms for the State for profits from the network that exceed expectations identified in the bid.

As the contracting authority, it is envisaged that DCENR would lead, manage, enforce and be responsible for the overall management of the contract, including contract governance. The contract would be monitored and reviewed to ensure consistency with the existing and future telecommunications regulatory framework. It is envisaged that ComReg would advise the Department about alignment required with regulation. In the case that providing this advice does not fall within the day-to-day regulatory functions of ComReg, legislation may be required to facilitate such an arrangement and will be introduced if necessary in parallel with the procurement process. For example, this may include wholesale and product pricing reviews under the contract.

**7.8 KEY FEATURES OF THE WHOLESALE NETWORK**

What services can retail service providers expect from the wholesale company?

The intervention strategy envisages multiple retailers purchasing services from the wholesale network company and offering a range of high speed services to consumers. All retail service providers will have open access to the wholesale network to maximise retail competition. The terms and conditions of this access, including wholesale prices, will be monitored through the contract. A list of proposed required wholesale products which the wholesale operator would have to provide from the outset is specified in Section 5 of the Technical Report.
Key elements of the proposed intervention strategy

The cost of accessing the wholesale services provided by the infrastructure will be benchmarked against the most comparable regulated prices in the commercial areas, where possible. Should direct comparisons not be possible, the closest regulated price will be used with adjustments for relevant cost differences. These products and services are similar to those already required under the current regulatory regime.

Retailers will not be permitted to use the network to offer broadband products to consumers that fall below the minimum broadband service outlined above until deployment of the network is completed and a 30Mbps service is available to all. This is to ensure that the network is used to its maximum for high speed broadband services thereby reducing upfront and operational costs over the lifetime of the intervention. It is expected that this will reduce the level of funding required from the State. Over time, it is expected that this condition will become less relevant as the availability of high speed broadband improves. Therefore, it is proposed this condition will be removed once all consumers have access to the minimum high speed broadband specification.

What other services can the wholesale network support?

Telecommunication infrastructures are capable of delivering a wide variety of consumer services and are not limited to providing broadband only services. The network should be utilised as much as possible in order to maximise value for money and reduce the cost to the State. Therefore, the wholesale operator will be permitted to provide other wholesale services such as voice, multicast (TV), machine to machine, leased line services, as long as this is provided on an open and equal basis, subject to such services not running contrary to the NBP objectives or giving rise to a need for more funding.
Key elements of the proposed intervention strategy

How can retailers be assured of equal access to the network?

Across the world, many telecoms companies operate at both a wholesale and retail level. Where a company has significant market power, regulators impose measures to reduce the risk of the wholesale company favouring its retail arm.

As the wholesale network or networks in the intervention area are likely to operate as a monopoly in each area, it is proposed that any contract with the winning bidder(s) will include stringent conditions to ensure equal access by all operators. The conditions proposed include:

- Accounting separation between the wholesale and retail arms of any winning bidder(s);
- Marketing and branding for the company that builds out the network must be distinct and separate from its existing retail branding;
- Retailers will have equal access to the network, defined in regulatory terms as “equivalence of inputs”; and
- A suite of contractual undertakings with the winning bidder(s) covering equality of pricing, equivalence of inputs, operational key performance indicators, performance incentives for wholesale only operations, service credit deductions for non-performance.

In addition to these safeguards, the intervention strategy proposes measures to ensure that smaller retail companies can have access to the network. To this end, it is proposed that:

- The winning bidder(s) will be required to demonstrate that all retail operators can interact with the company; and
Key elements of the proposed intervention strategy

- The winning bidder(s) will be required to publish a list of retailers who have been granted access to the service, on its wholesale website.

Retail and wholesale services must be affordable

The NBP objective is that the services to be delivered must be of similar speed and quality to those available in urban areas and towns, and prices must be aligned with national prices for such services.

Further details on wholesale access and pricing are contained in Section 5 of the Technical Report.

7.9 TIME FRAMES FOR THE ROLL OUT OF THE NETWORK

Despite representing only 30% of addresses in Ireland, the intervention area currently covers 96% of the land area of the country, and covers the equivalent of 100,000km of road. Ensuring access to high-speed future-proofed broadband services in such an area therefore represents a significant logistical and financial challenge.

Notwithstanding this, intensive engagement with industry stakeholders has indicated that the network could be rolled out within 3 – 5 years of the contract award to a winning bidder(s).

The Government is determined to ensure that the network is built out as quickly as possible and at minimum cost to meet the EU Digital Agenda Target of delivering a ubiquitous 30Mbps service by 2020.
Key elements of the proposed intervention strategy

In this context, the Intervention strategy proposes the following timelines for build-out:

- 60% of addresses passed by 2018
- All addresses passed by 2020

It is anticipated that the physical build of the network will commence in 2016, once a contract with bidder(s) is in place.

The prospective bidder(s) are experts in network roll-out and each will offer different network architectures and technologies to deliver the network. Industry is best placed to determine the sequencing of the network deployment to maximise efficiencies during network build. It is proposed however to engage with the winning bidder(s) on the optimum rollout strategy, having regard to business and consumer needs, areas of particularly poor service, and areas of strong demand. These factors will need to be balanced against the most efficient network rollout and will be agreed during the procurement process.

**7.10 TIME FRAMES FOR CONNECTING PREMISES**

In order to meet consumer demand and expectations, the intervention strategy proposes to impose connection time frames on the bidder(s) that deliver the wholesale open-access network.
Key elements of the proposed intervention strategy

The minimum connection times for orders of high speed services proposed are:

- 80% within 2 weeks
- A further 5% within 4 weeks
- A further 5% within 8 weeks
- The remaining 10% within 12 weeks.

While these are the minimum suggested timeframes, it is proposed the bidder(s) will be invited to propose more demanding connection times.

As part of the governance arrangements that will be put in place, service credits will be imposed on the wholesale operator where these targets are missed.

Further details on connection time frames and service delivery are contained in the expert reports.

7.11 CONNECTING CONSUMERS - EXISTING AND NEW PREMISES

A key principal for connecting consumers is that prices are affordable. The Department is proposing to adopt the following approach vis a vis consumer connections:

- Ideally, as many premises as possible will be connected during the deployment stage. This will serve a dual purpose by lowering connection costs and stimulating demand for services.
Key elements of the proposed intervention strategy

- It is proposed that as part of the procurement process, bidders would be asked to outline their connection costs to premises. These may vary depending on whether a customer is connecting during or after deployment and could be subject to discounts for early sign up. Typically however commercial operators build connection costs into their monthly retail offerings as part of customer contracts.

- New premises will be built in the intervention area over the lifetime of the proposed contract. Furthermore there may be individual premises which are very expensive to reach. It is proposed that bidders would be asked to commit to providing high speed broadband services, on request, to all premises (new and existing). The successful bidder could be allowed to charge an excess connection charge in exceptional circumstances for the extra cost associated with connecting individual premises, depending on how far the premises is from the nearest connection point. This is the practice used in the provision of other utility services.

7.12 AVAILABILITY OF SERVICE

The NBP objective is that the network will be required to pass all residential and business premises in the intervention area, and to connect premises on request during deployment. Passing a premises means that the network is built as close as possible to premises so that the final connection to the premises is as short as possible to meet minimal service delivery times. The Government’s ambition is that 100% of premises will have access to high speed broadband and bidders will be asked to achieve this at the lowest cost to the State.
7 Key elements of the proposed intervention strategy

7.13 DEMAND MEASURES

Analysis\(^4\) shows that the stronger the demand for services, the less the cost of network build and ultimately a lower cost to the Exchequer.

Ensuring strong demand for services is therefore proposed as an important principle underpinning the intervention strategy.

It is proposed that bidders would be required to:

- show how they intend to encourage early take-up and commit to such measures in their contract(s); and
- outline how they propose to engage with communities (both local and business) on the benefits of the network and its availability in their area.
8: Public consultation process
Public consultation process

What are we consulting on?

We are seeking views on all elements of the proposed intervention strategy.

How do I make a submission?

You can make a submission in a number of ways:

1. Log onto our website at www.broadband.gov.ie There you will find our public consultation submission template. This is in pdf format. You must download the document to your local drive, complete the template, save it and email it into us at the address below.

2. You can print down your response and send it by post to the address below.

All responses to this consultation should be clearly marked: “NBP Intervention Strategy Consultation DCENR - Name of Respondent” in the subject line of the email or on the front of the envelope if you are posting it.

Responses should be sent via email and by post/courier to the addresses set out below.
Public consultation process

Format of submissions

Submissions must follow the response template. Any relevant additional information can also be attached once it is clearly referenced in the response template. Submissions should clearly set out the reasoning and supporting information in respect of views expressed. Responses should be returned via email (in a searchable format) or in hard copy format.

Should elements of your submission need to be redacted, please also submit a redacted version of your submission. The redacted (non-confidential) version must be returned with the rest of your submission and any supporting documentation.

The documentation you are submitting (over and above our submission template) as part of this consultation must be in a web optimised version (i.e. 5megs).

Timeline for submissions

This consultation will conclude at 5.00 pm on 14th September 2015.

Confidentiality

Please note that the Department may publish respondents’ submissions to this public consultation. Respondents should clearly identify material that is confidential or commercially sensitive and which may not be released and outline the reasons why this is the case. The provisions of the Freedom of Information Acts 1997 to 2014 apply. A non-confidential version of responses should be set out in a separate document and must be provided to the Department by the closing date set out herein.
Email and postal address for submissions

All responses to this consultation should be clearly marked: “NBP Intervention Strategy Consultation DCENR - Name of Respondent” and sent to:

FAO Ms Siobhan Greene
National Broadband Plan – Intervention Strategy Consultation
Telecommunications Policy & Regulation Division
Department of Communications Energy and Natural Resources
29-31 Adelaide Road
Dublin 2
Ireland

Email: nbpinterventionstrategy@dcenr.gov.ie
9: Glossary of terms
Glossary of terms

Access network
The element of infrastructure that connects individual premises or groups of premises to the network.

Address (es)
An address is a delivery point, i.e. a postal address used to enable the delivery of mail by An Post.

Backhaul
In a hierarchical telecommunications network the backhaul portion of the network comprises the intermediate links between the core network and the access network that connects to end user premises.

CBA
Cost Benefit Analysis

DCENR
The Department of Communications, Energy and Natural Resources

EC
European Commission

EIB
European Investment Bank

ERDF
European Regional Development Funding

ESRI
Economic and Social Research Institute

FTTH
Fibre to the home
**FTTP**
Fibre to the premises. Describes a network architecture where optical fibre is used to deliver connectivity right up to the end user premises.

**FWA**
Fixed wireless access. Describes a type of network architecture where the final connection to the end user premise is made with a radio link.

**IA**
Intervention area

**Intervention area**
The areas of the country which will require state intervention to bring about the deployment of high speed broadband services.

**Jitter**
The variation in the time, generally measured in milliseconds (ms), between packets arriving at a destination, which can be caused by network congestion, timing drift, or route changes. Low jitter is desirable for real-time services including voice, video and online gaming.

**KPI**
Key performance indicators. A set of quantifiable measures used to measure or compare performance.

**Latency**
The time it takes, generally measured in milliseconds (ms), for a source to send a packet of data to a receiver. The key causes of latency tend to be propagation delay, serialisation, data protocols, routeing and switching, and queuing and buffering. Low latency is desirable for real-time services including voice, video and online gaming.

**Mbps**
Megabits per second

**NBP**
National Broadband Plan
Glossary of terms

**NBPIIS**
National Broadband Plan Intervention Strategy

**NDFA**
National Development Finance Agency

**NGA**
Next generation access

**NTMA**
National Treasury Management Authority

**Open access network**
A network that allows third parties to make use of the infrastructure owner’s network assets.

**Passive**
Refers to network elements without an active electronic component. Typically comprises civil engineering infrastructure, ducts, dark fibre and street cabinets.

**PoH**
Points of handover. A network element where another network can interconnect for the purposes of ‘handing over’ network traffic from one network to another.

**PoP**
Points of presence. The point of interconnection between the access and core networks.

**PIP**
Physical infrastructure provider

**QoS**
Quality of Service. A set of standards and mechanisms for ensuring a given quality of performance of services provided over the network.
Glossary of terms

**RSP**
Retail service providers. Firms that sell retail products to end users. They do not necessarily have their own network infrastructure.

**SAG**
State Aid Guidelines. The European Commission’s document setting out guidance on the application of State Aid rules for the rapid deployment of broadband networks.

**SMEs**
Small and medium sized enterprises

**USO**
Universal service obligation

**WNP**
Wholesale network provider