

Implementing the Broadband Universal Service Obligation

Request for expressions of interest in serving as
Universal Service Provider for broadband

CALL FOR EXPRESSIONS OF INTEREST:

Publication Date: 19 June 2018

Closing Date for Responses: 20 August 2018

About this document

In March 2018, the Government introduced legislation for a broadband universal service obligation (“USO”), which will give eligible homes and businesses the right to request a decent broadband connection.

Ofcom is now responsible for the implementation of the USO. This document sets out our objectives and explains how we will designate Universal Service Provider(s) to deliver these broadband connections. It also calls on interested bodies to come forward as prospective Universal Service Provider(s) and explains the likely obligations they will have to meet, and how they can expect to be compensated.

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1. Summary

- 1.1 Digital communications have become ever more intrinsic to the lives of people throughout the UK. This means decent reliable broadband is now an essential service, and it needs to be available to the whole of the UK – including both urban and rural communities. While the number of people unable to access decent broadband is decreasing,¹ at the start of 2018 around 900,000 premises, or 3% of properties, in the UK could not get a broadband connection that met a typical household’s needs.
- 1.2 With significant improvements to superfast broadband availability, including publicly-funded rollout schemes, and more companies rolling out faster and more reliable full-fibre networks, this number is set to fall further in the coming years. Ofcom has put in place reforms to encourage investment in modern, full-fibre connections and it is vital that all broadband providers, including BT, continue to extend their network infrastructures to ensure that more consumers are able to access the broadband they need.

The Government’s Universal Service Obligation (USO)

- 1.3 To help homes and businesses which cannot get decent broadband, the Government introduced secondary legislation in March 2018 setting the requirements for a universal service obligation (“USO”). The USO is intended to act as a safety net to prevent social and digital exclusion, regardless of where people live or work.
- 1.4 The USO will give consumers and businesses the right to request a broadband connection capable of delivering download speeds of at least 10 Mbit/s and upload speeds of at least 1 Mbit/s. These speeds are sufficient to allow several people in the same house to browse the internet, make video calls or watch HD movies. While this minimum speed is likely to ensure that consumers can use the digital communications they need today, it may have to increase over time to meet rising consumer expectations and demands.
- 1.5 To receive a broadband connection under the USO, consumers must meet the eligibility criteria set out in the legislation. Consumers will only be eligible where:
 - a broadband connection that meets or exceeds the USO specification is not available (from any provider) at their premises or will not be provided by a publicly-funded rollout scheme in the next year; and
 - where the cost of building a USO connection is up to £3,400. Consumers and businesses will be connected if they are willing to pay any costs over this limit.
- 1.6 The USO provides consumers with the right to request a connection. It is not a broadband rollout programme and it could take time for each connection to be built or upgraded to premises that request it.

¹ There were 1.1 million premises that did not have access to broadband connections of 10 Mbit/s download and 1 Mbit/s upload sync speeds in May 2017.

- 1.7 It now falls to Ofcom to implement the USO. There are many aspects of the USO which have been specified in the legislation, but there are specific implementation issues which Ofcom will decide. In particular, Ofcom will need to:
- designate one or more Universal Service Providers to deliver the service;
 - establish the obligations that Universal Service Provider(s) must meet to deliver the scheme in accordance with the legislation; and
 - determine how the costs incurred by a Universal Service Provider may be compensated.
- 1.8 This consultation is focused on understanding which providers wish to be considered as a potential Universal Service Provider and what their implementation plans would be so that we can consider who would be best placed to deliver the USO.

Objectives for implementing the USO and our approach to designation

- 1.9 In implementing the USO, our primary objectives are:
- to deliver the USO as quickly as possible, so consumers benefit as soon as possible;
 - to ensure any designated provider can deliver services that meet the USO specifications; and
 - to ensure the cost of delivery, and therefore impact on industry and consumers, is minimised.
- 1.10 Interested providers will have the opportunity to put themselves forward through a transparent process open to all, to ensure the most capable and efficient provider(s) are designated.
- 1.11 We have considered several options for how the designation process might work. We believe that the most effective way to deliver the USO as quickly as possible is for operators to express their interest in delivering the scheme, either on a national or regional basis. We will then designate provider(s) that are best placed to deliver the USO.
- 1.12 We considered the option of designating Universal Service Provider(s) by running a formal competitive process, such as an auction. However, for this process to be effective there would need to be sufficient competition between providers to drive bids down to their efficient cost. Based on our discussions with providers and the structure of existing broadband network infrastructure, there is insufficient interest in delivering the USO on a national basis, or in the same geographic areas, to run an effective competitive process.
- 1.13 However, there does appear to be some interest from providers to deliver USO connections in different areas of the UK. We are keen to ensure that providers have the opportunity to deliver the USO, particularly those who have already contributed to the rollout of broadband on a local basis. We will consider whether different Universal Service Provider(s) could be designated in different areas of the UK, or whether a national designation of a single Universal Service Provider(s) may better meet our objectives.

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- 1.14 To find out which providers we could designate and where in the UK, we are inviting interested parties to respond with expressions of interest setting out:
- the geographic areas they would be interested in serving;
 - their approach to delivering the USO, and the services they propose to offer; and
 - their capacity to deliver the USO.
- 1.15 Any designated Universal Service Provider(s) will be subject to specific obligations they will have to meet in delivering the USO. Our current thinking on these issues is set out in this document to assist interested providers in preparing their responses.

Next steps

- 1.16 We will consult in September 2018 on procedural regulations setting out how we propose to designate Universal Service Provider(s) once we have considered responses to this document. We anticipate making designation regulations later this year.
- 1.17 We will also be putting forward proposals for who should be designated as the Universal Service Provider(s) and the Universal Service Conditions to which they should comply later this year. We expect to make our final decisions by Summer 2019, after which consumers will be able to make requests for connections.

Document structure

- 1.18 The rest of this document is structured as follows:
- Section 2 sets out the context and purpose of the USO;
 - Section 3 outlines the obligations to which a Universal Service Provider is likely to be subject under the USO, and how any funding arrangements may be expected to operate;
 - Section 4 sets out the approach to designation which we propose to follow; and
 - Section 5 sets out the information we require from interested providers to inform our assessment.
- 1.19 In addition, Annexes 1 and 2 set out how to respond to this document, Annex 3 contains a link to our *Connected Nations Update: Spring 2018* data by local authority, Annex 4 contains a summary of publicly-funded broadband rollout schemes currently in operation, and Annex 5 provides a glossary of terms.

2. Context and purpose of the USO

Government's decision on the USO and Ofcom's role

Government's decision to introduce a USO

- 2.1 The Government stated its intention to introduce a USO for broadband in November 2015. The decision to introduce a USO acknowledges the growing importance of broadband as an essential service, in line with other basic services such as water and electricity. It forms part of the Government's UK Digital Strategy commitment to ensure the UK has 'world-class connectivity'.²
- 2.2 In March 2016 the Government asked Ofcom to provide technical advice on several aspects of the USO, including the speed of the service, likely demand, and the potential costs of delivery. We published our technical advice in December 2016 setting out several options available to Government.³ We published a further update on cost estimates in July 2017.⁴
- 2.3 Following this technical advice, the Government consulted on the design of the USO in July 2017.⁵ Alongside this, BT made a voluntary offer to roll out 10 Mbit/s services to 99% of UK premises by 2020.⁶ In December 2017, the Government announced it would not take forward BT's voluntary offer and would instead be pursuing a regulatory USO in order to provide consumers and businesses with a legally enforceable right to request a connection.⁷

Government's USO specification

- 2.4 In March 2018, the Government issued secondary legislation ("the Order")⁸ to introduce a USO for broadband connections. The USO will apply to the whole of the UK and is intended to help fill the gap left by existing broadband rollout programmes (including both commercial and publicly funded programmes). It will act as a safety net for hard to reach

² Department for Digital, Culture Media and Sport, *A new broadband Universal Service Obligation: Government's response to consultation on design*

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/695121/USO_consultation_government_response_28_March.pdf

³ Ofcom, *Achieving decent broadband connectivity for everyone: Technical advice to UK Government on broadband universal service*, https://www.ofcom.org.uk/data/assets/pdf_file/0028/95581/final-report.pdf

⁴ Ofcom, *Technical advice on a broadband USO: Updated cost estimates*

https://www.ofcom.org.uk/data/assets/pdf_file/0015/105342/Technical-advice-on-a-broadband-USO-Updated-cost-estimates.pdf

⁵ <https://www.gov.uk/government/consultations/broadband-universal-service-obligation-consultation-on-design>

⁶ <http://www.bbc.co.uk/news/technology-40751449>

⁷ Government press release, 20 December 2017 <https://www.gov.uk/government/news/high-speed-broadband-to-become-a-legal-right>

⁸ The Electronic Communications (Universal Service) (Broadband) Order came into force on 23 April 2018 <http://www.legislation.gov.uk/uksi/2018/445/contents/made>

premises in the UK and will provide these consumers with a right to request a decent broadband connection. The Order sets the following technical specification for the USO:

Technical specification of the USO

The Order states that: “affordable broadband connections and services must be provided throughout the United Kingdom with all the following characteristics -

- a) download sync speed of at least 10 megabits per second;⁹
- b) an upload sync speed of at least 1 megabit per second;
- c) a contention ratio of no higher than 50:1;¹⁰
- d) latency which is capable of allowing the end-user to make and receive voice calls over the connection effectively;¹¹
- e) the capability to allow data usage of at least 100 gigabytes per month.”

2.5 The legislation also sets out eligibility criteria for requesting a connection under the USO.

Eligibility for the USO

The legislation states that premises will be eligible to request a USO connection in the following circumstances:

- a) where a broadband connection that meets the USO specification is not already available;
- b) where such a connection will not be provided by a publicly-funded rollout scheme in the next year (see Annex 4 for further information on existing rollout schemes); and
- c) where the cost of connection is less than £3,400. Where the costs are higher than this amount, consumers and businesses will be able to receive the service if they pay any costs over £3,400.

Ofcom’s role in implementing the USO

2.6 It now falls to Ofcom to implement the USO. Whilst the Order sets out many of the parameters for the USO, particularly in respect of the technical specifications and eligibility criteria, there are specific implementation issues which are for Ofcom to decide, including:

- designating the Universal Service Provider(s) that will deliver the service;

⁹ The modem sync speed is the maximum speed achievable between a consumer’s premises and their internet service provider’s network.

¹⁰ The degree to which bandwidth is shared between different end-users at the same network node. When more end-users share the same bandwidth within a network this can lead to a slowdown in performance.

¹¹ The round-trip delay in the transmission of data (the time it takes for a single packet of data to travel from an end-user’s device to a third-party server and back again. The figure is most commonly measured in milliseconds, and a connection with low latency will feel more responsive for simple tasks like web browsing. The Government has set out that, in terms of latency, a medium response time means an end to end latency of no more than 200ms for speech applications. As such, we would require the access connection provided under the USO to provide latency below 200ms.

- establishing the obligations that the Universal Service Provider(s) will need to comply with;
- determining how the costs incurred by a Universal Service Provider may be compensated i.e. consideration of whether there is an unfair net cost burden and the operation of any industry fund.

Number of premises that could benefit from the USO

- 2.7 The number of premises that cannot receive a 10 Mbit/s download and 1 Mbit/s upload broadband service (either from their existing provider or from alternative suppliers) has fallen in recent years, from 6% in 2016¹² to 3% by January 2018. This improvement is largely due to commercial and publicly-funded rollout programmes to deliver superfast broadband (which we define as 30 Mbit/s download speeds or higher), which is now available to 93% of UK premises.¹³
- 2.8 However, this still leaves around 900,000 premises that cannot currently receive broadband that meets the USO specification. There is a greater proportion of these premises in Northern Ireland, Scotland and Wales, principally because these nations are more rural than England.
- 2.9 The table below shows our estimates for the number of premises unable to access services with a download sync speed of 10 Mbit/s and an upload sync speed of 1 Mbit/s, and Figure 1 shows the distribution of these premises across the UK.

¹² See Figure 2 of Ofcom's *Connected Nations 2017* report

https://www.ofcom.org.uk/_data/assets/pdf_file/0024/108843/summary-report-connected-nations-2017.pdf

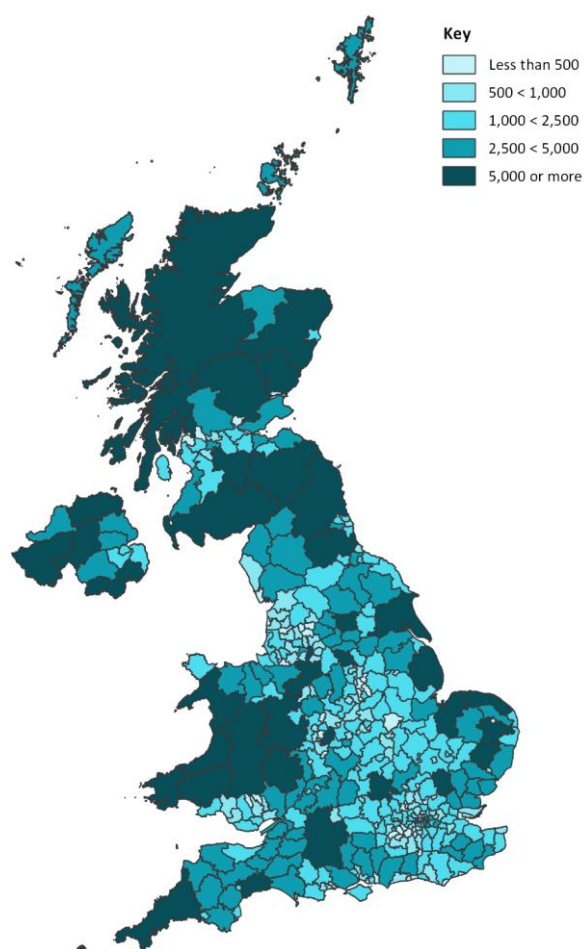
¹³ As of January 2018. See Ofcom's *Connected Nations Update: Spring 2018* report, page 9.

<https://www.ofcom.org.uk/research-and-data/multi-sector-research/infrastructure-research/connected-nations-update-spring-2018>

Table 1: Premises unable to receive 10 Mbit/s download and 1 Mbit/s upload sync speeds, as of January 2018¹⁴

	UK	England	Northern Ireland	Scotland	Wales
Percentage of premises	3%	3%	7%	5%	4%
Number of premises	925,000	677,000	51,000	134,000	63,000

Figure 1: Number of premises unable to receive 10 Mbit/s download and 1 Mbit/s upload sync speed by local authority,¹⁵ as of January 2018



Source: Connected Nations, data as at 1 January 2018

¹⁴ Figures rounded to the nearest thousand. See Section 2 of [Connected Nations Update: Spring 2018](#).

¹⁵ To district and unitary level.

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- 2.10 As further network infrastructure rollout will continue over the next few years, under both commercial and publicly funded schemes, we expect the number of eligible premises to fall further by the time that consumers are able to request a service under the USO. In our December 2016 technical advice to Government, we estimated that the number of USO eligible premises could be around 600,000 by the early 2020s.¹⁶
- 2.11 The designation of a Universal Service Provider does not result in an exclusive right to build network infrastructure in the areas in which they are designated. Should other providers extend rollout to deliver services that meet or exceed the USO specification, the premises covered will no longer be eligible for a USO connection, since services will be available from alternative providers.
- 2.12 In addition, as set out above, the Order states that premises will not be eligible for a USO connection if they are included in a publicly funded broadband rollout plan within the next 12 months. More information on the interaction between the USO and publicly funded rollout plans is included in Annex 4.

¹⁶ See Figure 4.4 of our December 2016 [Technical Advice to Government](#).

3. Being a universal service provider – obligations and funding

- 3.1 This section sets out our current thinking on the obligations which will be placed on Universal Service Providers. It also sets out how the costs incurred by a Universal Service Provider(s) may be compensated.

Obligations on universal service providers

- 3.2 The core obligation to provide USO connections is set out in the Order. We will implement the Order by designating Universal Service Provider(s) and imposing binding Universal Service Conditions on them. The obligations placed on a Universal Service Provider will require the delivery of USO services directly to end-users, and so any designated Universal Service Provider must be able to directly retail to consumers.
- 3.3 We are still considering the detail of the obligations which will be placed on Universal Service Provider(s) and will consult on the detail of the Universal Service Conditions by the end of the year. However, we recognise that it is important for prospective Universal Service Providers to have some clarity on our likely approach. This section therefore sets out more detail on the Universal Service Conditions which we expect to impose.

Requirement to meet reasonable requests for a USO connection

- 3.4 As set out in the previous section, the Order sets out that a connection which meets the technical specification of the USO, must be provided to premises on request where the following eligibility criteria apply:
- there is no available broadband connection which matches the technical specification set out in Section 2;
 - there are no publicly funded broadband rollout plans which will cover those premises within the period of one year beginning from the request date; and
 - a connection will cost no more than £3,400 to install. Should the cost of a connection exceed this threshold, a USO connection must be provided where the consumer is willing to pay any additional costs over that amount.
- 3.5 Any Universal Service Provider will therefore need to satisfy themselves that the eligibility criteria are met. We set out below how we would expect the Universal Service Provider(s) to conduct their checking of eligibility criteria, including how quickly the provider(s) should inform consumers of the outcome.

Checking whether a premises is a residence or a place of business

- 3.6 Once the Universal Service Provider has received a USO request from a consumer, it will need to check whether the premises is at a fixed location which is a residence or a place of

business. The Government's consultation response is clear that second homes are included.¹⁷

- 3.7 If the premises is a residence or a place of business the Universal Service Provider will be obliged to consider whether it meets the remaining criteria.

Checking broadband availability at each requested location

- 3.8 If the premises is a residence or a place of business, the Universal Service Provider will need to establish whether there is already a broadband connection serving that premises that meets the specification set out in the Order.
- 3.9 The Universal Service Provider will be able to use its own address-level network information and information published in Ofcom's Connected Nations reports to establish what broadband connection, if any, is already available at that location. That information will enable the Universal Service Provider to determine whether the available connection meets the technical specification set out in the Order.

Checking whether the location is due to be covered by a publicly-funded programme

- 3.10 If there is no broadband connection or the connection available does not meet the technical specification of the Order, the Universal Service Provider will need to check whether such a connection will become available as a result of a publicly-funded programme within the period of one year from the request date.
- 3.11 We will use our information gathering powers to request delivery plans from publicly funded programmes and share that information with the Universal Service Provider on a regular basis to ensure this element of the process can be completed as swiftly as possible. The Universal Service Provider will therefore be able to check particular premises against that information to determine eligibility.

Checking whether the premises fall within the cost threshold of £3,400

- 3.12 The Universal Service Provider will need to assess whether the cost of providing a connection falls below the £3,400 threshold. In determining what the cost of provision will be, the Universal Service Provider will need to decide upon the appropriate technology to deliver a connection meeting the USO specification.
- 3.13 The Government has not specified technologies that can be used to deliver the USO. Each Universal Service Provider will therefore be free to decide how to provide a USO connection or service to the consumer in the most efficient way, both in terms of the technology deployed and who delivers that technology (i.e. through the purchase of wholesale products if appropriate). However:
- any Universal Service Provider will be required to ensure their choice of technology, and the specific implementation of that technology, meet the technical requirements

¹⁷ DCMS, [A new broadband Universal Service Obligation: Government's response to consultation on design](#), page 31.

- and can deliver connections to all eligible premises within the timeframes specified in the Universal Service Conditions; and
- if a Universal Service Provider is seeking compensation for providing USO services, they will need to demonstrate that the costs incurred in providing the USO connection were efficient.
- 3.14 The Order requires us to ensure that, when assessing the cost of providing a connection, the Universal Service Provider(s) take due account of the extent to which any costs can be shared by multiple locations. Where network infrastructure can be shared, build costs should therefore be shared between premises to determine whether the cost of provision to an individual premises would fall below £3,400.
- 3.15 We have been considering how the Universal Service Provider should approach calculating costs that can be shared between multiple premises. We think that the most effective means of taking this into account is for the Universal Service Provider to assess the number of premises which could share the infrastructure based on a forecast of take-up of network infrastructure.
- 3.16 For example, if a cabinet served 100 premises and the cost of deploying Fibre-to-the-Cabinet (FTTC) was £100,000, an assumed take-up of 70% would mean that the cost of upgrading that cabinet would be £1,429 for each premise. Using a forecast level of take-up to assess the cost of connecting each premises would reduce the potential for delay in delivering connections to consumers and incentivise the Universal Service Provider to begin and drive network infrastructure build earlier than using actual demand. In contrast, aggregating requests over a given timeframe (e.g. 6 months) to determine actual demand would result in a delay before the Universal Service Provider could begin building connections. This would not meet our objective of providing connections and services to consumers as quickly as possible.
- 3.17 We will gather more information from stakeholders on the appropriate forecast level of take-up, including in response to this document, and will consult on this in our next consultation.

Informing consumers of the outcome

- 3.18 The Universal Service Provider should make it as simple as possible for consumers to request a USO connection and consumers should be informed whether they are eligible as soon as possible. We therefore intend to specify a timeframe for eligibility to be confirmed. Our current view is that 20 working days would be an appropriate and proportionate period.
- 3.19 If the request is declined because the premises does not meet one or more of the eligibility criteria specified in the Order, the Universal Service Provider should be required to clearly explain the reason for its refusal to each affected consumer. If a request is declined because the costs of connecting the premises exceeds £3,400, the consumer should be given the option of funding any excess construction costs. If the consumer agrees to pay

the excess costs, the Universal Service Provider is required to proceed with the network infrastructure build.

Delivering the USO to eligible consumers

- 3.20 We recognise that there are trade-offs between ensuring the USO is delivered as quickly as possible and ensuring that the cost of delivery is minimised. We also recognise that the Universal Service Provider may receive numerous requests, in different locations, at the same time. This is most likely to be the case when consumers are first able to request a USO connection. There may be trade-offs between delivering a greater number of USO connections quickly, if the Universal Service Provider focuses initial build in lower cost areas, and the speed of delivering connections to those hardest to reach premises, who could end up waiting longer for services even if they request them first.
- 3.21 We will set out clear timescales for delivering USO connections in the Universal Service Conditions, namely a maximum period from the request date within which the eligible connection must be provided. The Order states that, for the purpose of eligibility, the cut-off point for coverage by a publicly-funded programme is one year from the request date. This suggests that the maximum time that consumers should have to wait to receive a connection is one year from the request date. However, a shorter timeframe would be preferable if it does not result in disproportionate costs being incurred. We will consult on a proposed timeframe by the end of the year.

Pricing requirements

- 3.22 The Order sets out that the Universal Service Provider must offer USO connections and services at prices that are “(a) affordable; and (b) uniform throughout the United Kingdom, unless OFCOM has determined that there is clear justification for not doing so”. As prices must be uniform, a Universal Service Provider must also offer connections and services on its own network at the same price no matter where in the UK a customer is located i.e. the Universal Service Provider must ensure that its USO customers pay no more for equivalent services than its customers in another part of the country.¹⁸

Complaints handling

- 3.23 Consumers should be entitled to raise complaints regarding the USO, for instance if requests for connection are rejected or there are delays to the delivery of services. We will include an obligation in the Universal Service Conditions requiring the Universal Service Provider(s) to establish and comply with procedures for the handling of complaints specific to the USO, including referrals to an appropriate dispute resolution body whose decisions would be binding.

¹⁸ DCMS, [A new broadband Universal Service Obligation: Government's response to consultation on design](#), page 50.

Reporting requirements

- 3.24 We must include in the Universal Service Conditions a requirement for the Universal Service Provider(s) to publish information about their compliance with the conditions. As a minimum these must be framed by reference to the parameters set out in the Universal Service Directive.¹⁹ The minimum parameters are: 1) supply time for initial connection; 2) fault rate per access line; and 3) fault repair time. In line with the existing telephony universal service obligations, we propose requiring the reporting of this information publicly every six months.
- 3.25 We also consider that the Universal Service Provider(s) should report on delivery of the USO to enable further monitoring, such as on the number of requests declined, the number of orders accepted, and the number of orders delivered to customers.

Funding the universal service

- 3.26 The framework for how USO funding should work is set out in the Universal Services Directive and implemented under the Communications Act 2003. It operates on the principle that the USO should be cost neutral for the Universal Service Provider(s) i.e. the Universal Service Provider(s) should not have a cost advantage or disadvantage from delivering the USO. The Universal Services Directive establishes the following key funding principles:
- a) only the net cost of providing the USO can be compensated;
 - b) for a net cost to be compensated, Ofcom must decide that it is an unfair burden on the Universal Service Provider(s);
 - c) if an unfair net cost burden exists, Ofcom is required to set up an industry fund to compensate the Universal Service Provider(s) for that unfair burden;
 - d) compensation from an industry fund occurs retrospectively and may only cover the unfair burden which has been incurred i.e. the Universal Service Provider(s) must bear the upfront costs of delivering the USO and cannot be provided with funds in advance of network infrastructure deployment.

Assessment of net costs

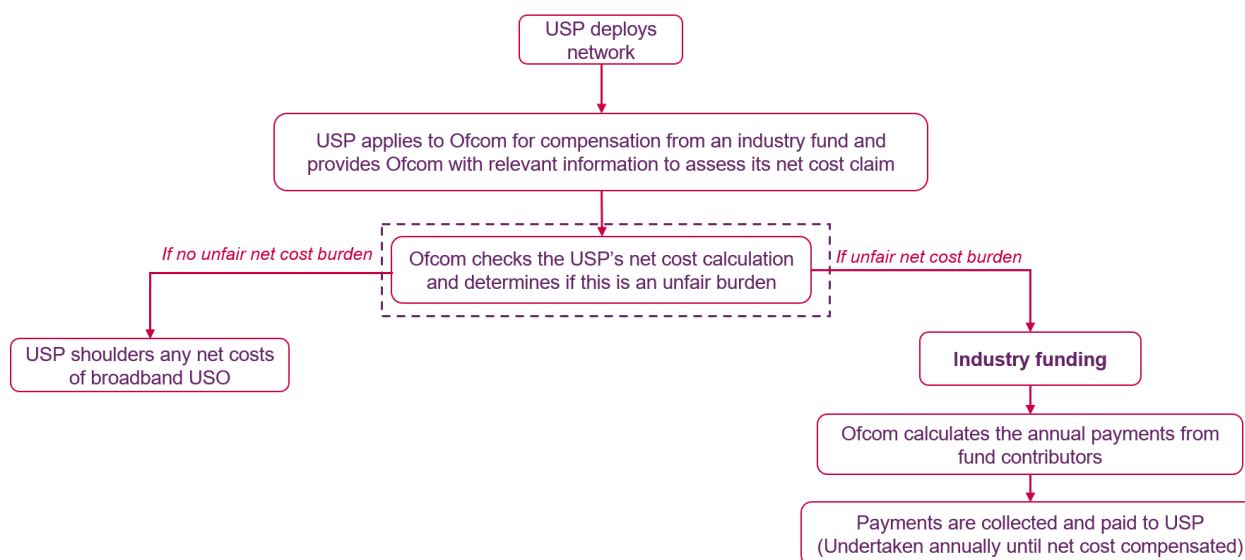
- 3.27 The Universal Service Directive makes clear that only the net costs (i.e. net of any direct and indirect benefits) associated with the provision of the USO can be compensated. It is the responsibility of the Universal Service Provider(s) in the first instance to submit a calculation of its net costs to Ofcom and explain why it considers such net costs amount to an unfair burden. They will also need to demonstrate that the costs incurred in providing

¹⁹ 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 as amended by Directive 2009/136/EC <https://eur-lex.europa.eu/legal-content/EN/ALL/?uri=celex%3A32002L0022>

connections to meet the technical specification of the USO (set out in Section 2) were efficient. We would then review the net cost calculation (including conducting an audit of the costs) and consider whether this represented an unfair burden on the Universal Service Provider.

3.28 The diagram below sets out an indicative process for making a decision on compensation for any unfair burden.

Figure 2: How the broadband USO would be funded



Basis of the Net Cost Calculation

3.29 The Universal Services Directive states that:

“the net cost of the universal service obligations is to be calculated as the difference between the net cost for a designated undertaking of operating with the universal service obligations and operating without the universal service obligations.”²⁰

3.30 To determine this value, we calculate the direct costs, direct benefits and indirect benefits of the USO, and then subtract the combined benefits from the costs:

- **Direct costs** - these are the incremental costs to the Universal Service Provider(s) caused by delivering the USO that the Universal Service Provider(s) would have avoided had there been no USO. The bulk of these costs are likely to be related to building or upgrading a network infrastructure to serve requests for USO connections. There will also be ongoing costs associated with operating this network. In addition, the Universal Service Provider(s) may incur costs directly associated with making eligible consumers aware of the USO service (i.e. marketing and advertising).
- **Direct benefits** - these are the incremental benefits as a direct consequence of building and upgrading the network infrastructure to comply with the USO. Direct benefits will

²⁰ Annex IV [Universal Service Directive](#).

include revenues from any customers who switch to the Universal Service Provider(s) to receive a USO connection, customers that take up broadband for the first time as a result of the USO and/or revenues from existing broadband customers who, as a consequence of the network infrastructure upgrade to deliver the USO, choose to take up a higher priced broadband product.

- **Indirect benefits** – these are benefits that do not have a direct causal link to the USO network infrastructure build and upgrade but are nonetheless a consequence of being designated a Universal Service Provider(s). For example, enhancements to the provider’s brand as a consequence of being designated a Universal Service Provider.

Net costs are only compensated if they are unfair

- 3.31 If we determine that providing the USO results in a net cost, we will decide whether the net cost represents an unfair burden on the Universal Service Provider(s). Only if we decide that it represents an unfair burden will any compensation be available.
- 3.32 We intend to follow objective criteria to determine the threshold for what constitutes an unfair burden. In deciding upon appropriate criteria, we will take account of the Universal Service Provider’s ability to bear the net cost, including the financial impact on them and their ability to compete.

Compensation may be available retrospectively from an industry fund

- 3.33 Any unfair net cost burden on the Universal Service Provider(s) may only be compensated retrospectively and no funding is made available upfront for network infrastructure investment. This differs from publicly-funded broadband rollout schemes, which receive funding upfront. There will therefore be a delay between the Universal Service Provider(s) incurring upfront capital expenditure to build USO connections and any payments first being made to the Universal Service Provider(s).
- 3.34 If there is an unfair net cost burden, we would establish an industry fund to compensate the Universal Service Provider(s),²¹ including deciding which operators should contribute to it, in accordance with the principles of transparency, least market distortion, non-discrimination and proportionality, as required by the European and UK legislation.
- 3.35 Providers should be aware that it may not be appropriate to fully compensate the Universal Service Provider(s) for an unfair net cost immediately after assessing a claim, for instance if the net cost is very large or if there is still significant uncertainty about the size of the direct benefits that may accrue in future years. In such circumstances, it is possible that payments from the industry fund to the Universal Service Provider(s) may be spread over several years. We have not, at this stage, reached any view on whether this is

²¹ The Universal Service Directive gives Member States three options for funding any unfair net cost burden on the Universal Service Providers(s) - public funding, an industry fund, or a combination of the two. Given the continued pressures on public funding, and the substantial broadband infrastructure investments to date and committed in future (see Annex 4), the Government has stated that the USO should be funded by the industry. DCMS, [A new broadband Universal Service Obligation: Government’s response to consultation on design](#), Section 9.

appropriate. Any such assessment will depend upon the circumstances, but it is important for providers to be aware of this possibility when considering whether to express interest in designation.

USO areas will remain open to competition

- 3.36 USO areas will remain open to competition. The USO does not give Universal Service Providers an exclusive right to build network in the areas in which they are designated, and commercial rollout by other providers is possible at any point.
- 3.37 In addition, once a consumer has a contract with a Universal Service Provider, their relationship will be one of a normal customer's relationship with their retail provider. As soon as a customer with a connection built under the USO fulfils any minimum contract obligations, or is willing to pay an early termination charge to exit a contract early, they will be free to switch to any alternative providers offering services in their area.

4. Designating a universal service provider

Our objectives on implementing the USO

- 4.1 When implementing the USO our approach must, above all, serve the interests of consumers. Therefore, our primary objectives are:
- to deliver the USO as quickly as possible, so consumers benefit as soon as possible;
 - to ensure any designated provider can deliver services that meet the USO specifications; and
 - to ensure the cost of delivery, and therefore impact on industry and consumers, are minimised.

Our objectives on designation

- 4.2 The designation framework is set out in European and UK legislation. Under the Universal Service Directive, Member States may designate one or more operators to deliver all or part of the universal service. The Universal Service Directive sets out that, in doing so, Member States must use an *“efficient, objective, transparent and non-discriminatory designation mechanism whereby no undertaking is a priori excluded from being designated”*.
- 4.3 Further clarity is provided in the recitals to the Universal Service Directive where it is stated that:
- “In accordance with the principle of subsidiarity, it is for Member States to decide on the basis of objective criteria which undertakings have universal service obligations for the purposes of this Directive, where appropriate taking into account the ability and the willingness of undertakings to accept all or part of the universal service obligations.”²²*
- 4.4 That recital goes on to set out that *“universal service obligations could in some cases be allocated to operators demonstrating the most cost-effective means of delivering access and services, including by competitive or comparative selection procedures”*.
- 4.5 The provisions of the Universal Service Directive are replicated in the Communications Act 2003 which entrusts Ofcom with the responsibility for designation. Under section 66, we will need to set out procedures for designation in regulations before proceeding to a formal notification designating particular provider(s) and imposing universal service obligations on them. We have considered what designation procedure may be appropriate in light of our principal objectives for the implementation of the USO. In doing so, we are mindful of the obligations in the legislation and have sought to ensure that the method chosen:

²² Recital 14 [Universal Service Directive](#).

- provides opportunities for providers to participate through an open process; and
- ensures that the most capable and efficient provider is designated.

Our approach to designation

4.6 The Universal Service Directive requires that we conduct an open and transparent process that does not exclude providers from participating. To this end, we have identified several processes by which a Universal Service Provider(s) might be chosen for designation, including:

- directly designating the Universal Service Provider(s): we would assess potential Universal Service Provider(s) against our overall objectives to determine which provider(s) to designate, and on what basis; or
- a competitive tender process such as an auction: providers would submit bids on the costs to deliver the USO. The lowest cost bidder would then be designated.

Designating Universal Service Provider(s) through a direct designation approach

4.7 We consider that a direct designation approach will allow the USO to be implemented quickly whilst at the same time ensuring that the process is open to all providers that may be interested in being designated. Through a direct designation approach, we will select and designate a provider based on the outcome of our own objective and transparent analysis. We will assess interested providers' abilities to meet the Universal Service Provider(s) obligations and their plans for delivering the USO against our overall objectives: to ensure the USO is delivered as quickly as possible; the USO specification is met; and that the cost of delivery is minimised. Once we have decided which provider(s) to designate, we will consult on proposed designations before issuing a formal notice of designation.

4.8 We have also considered whether running a competitive tender process would meet our objectives on timeliness and efficiency. In principle, an effective competitive tender process could reveal the efficient costs of delivering the USO and if so would reveal the most efficient provider and minimise the compensation necessary to deliver the USO. However, for this process to be effective there would need to be sufficient competition between providers to drive bids down to their efficient cost.

4.9 In the case of the USO this would be difficult as it involves building new connections in areas where commercial investment is not viable. There are few alternative providers to BT with existing networks in the areas likely to require USO connections and the alternative networks that are in place are largely in different geographic areas. Our current view, based on discussions with providers and the structure of existing broadband networks, is that it is unlikely there would be sufficient competition in the same geographic areas to reveal the efficient costs of delivering the USO and produce an effective auction outcome.

- 4.10 A competitive tender is also likely to take longer to conduct; and we have not been able to identify any countervailing benefits. Therefore, we think that a competitive tender process is less likely to meet our principal objectives than an open direct designation process.
- 4.11 To ensure that we allow all interested providers an opportunity to participate in the process, and to ensure we can make a full assessment of which would be the most efficient and capable Universal Service Provider(s), we are inviting expressions of interest in delivering the USO. The information we are requesting is set out in Section 5.

We are open to designating on a national or sub-national basis

- 4.12 Existing UK network infrastructure means that the majority of USO eligible premises²³ will be connected to BT's copper network or will be in areas where BT's network is present, except in Hull, where KCOM has an extensive presence.²⁴ These two providers are therefore able to incrementally expand and upgrade existing network infrastructure more easily than alternative providers. Designating BT and KCOM as Universal Service Providers for the broadband USO may therefore be the quickest and most efficient means of ensuring that consumers are able to request USO services at the earliest opportunity. In addition, designating BT and KCOM on a national basis may also simplify the process for consumers (as they will not need to check which Universal Service Provider serves their area) and enable more efficient delivery of the USO due to economies of scale.
- 4.13 However, we recognise that alternative providers which operate networks on a national or sub-national scale may be able to deliver the USO more quickly or more efficiently than BT or KCOM, and should not be excluded from consideration. Without assessing whether there is interest in delivering the USO from alternative providers, and how they would approach this, we cannot make a full assessment of which providers would be the most appropriate to designate. We are therefore keen to understand whether there is interest in delivering the USO from any alternative providers (i.e. other than BT and KCOM) and whether this is on a national or sub-national basis.

Sub-national designation based on local authorities

- 4.14 We have considered what the smallest local area appropriate for designation might be. If an area is too small, there is a risk of fragmentation of the USO, consumer confusion and administrative inefficiency.
- 4.15 Our view is that a single local authority area is the smallest geographic unit which might be appropriate for a separate designation.²⁵ Local authority boundaries have the advantage of

²³ See paragraphs 3.4 on eligibility criteria for a USO connection.

²⁴ For historic reasons, KCOM has by far the most extensive telecoms network in the Hull area. Hull is counted as a separate market to the rest of the UK in our market reviews.

²⁵ There are different levels of local authority in different parts of the UK. By local authority we mean the ONS definition of local authority districts, of which there are 391 in the UK. Information about different levels of councils in the UK is available here <https://www.gov.uk/understand-how-your-council-works>. A map of council areas in the UK is available at

being established, clear and already well understood by consumers and businesses who might request the USO. They are also the smallest unit that has been used to define the boundaries of previous publicly-funded local broadband interventions.²⁶ However, even this area may be too small if there are very few premises which are eligible for the USO. Where a local authority currently contains fewer than 5,000 premises which would be eligible for a USO connection,²⁷ we would expect Universal Service Provider(s) to cover groups of adjoining local authorities where the combined number of eligible premises exceeds this threshold. A list of the number of premises eligible for a USO connection by each local authority can be found in our published *Connected Nations Update: Spring 2018* data, a link to which is included in Annex 3.²⁸

- 4.16 In addition, we would also encourage proposals which deliver economies of scale. For instance, it is our expectation that providers wishing to cover the less challenging geographic areas, such as urban centres, should group these with neighbouring local authorities which have more challenging geographies.
- 4.17 We believe that this approach strikes the right balance between giving providers whose networks may be localised the opportunity to participate in delivering the USO on a sub-national basis, while avoiding the potential inefficiencies and administrative complexity associated with designation on a smaller geographic scale.

the Office for National Statistics website [http://geoportal1-
ons.opendata.arcgis.com/datasets/6df8fba849ba4226a8ec935752c5f195](http://geoportal1-
ons.opendata.arcgis.com/datasets/6df8fba849ba4226a8ec935752c5f195), along with information about the hierarchy of areas relating to national and local government in the UK.
<https://www.ons.gov.uk/methodology/geography/ukgeographies/administrativegeography>.

²⁶ A map of local broadband projects supported by BDUK is available here:

<https://www.google.com/maps/d/viewer?msa=0&mid=1LRA98FE4h14sm3nUm--elc5Rg3w&ll=53.83956381239401%2C-2.8042599999999993&z=6>.

²⁷ Based on our *Connected Nations Update: Spring 2018* data.

²⁸ This link can also be accessed [here](#).

5. Assessing the suitability of prospective universal service providers

Call for expressions of interest

- 5.1 In order to determine which provider(s) to designate as the Universal Service Provider(s) and on what geographic basis, we are inviting interested providers to respond with expressions of interest setting out:
- a) the geographic areas they would be interested in serving;
 - b) their approach to delivering the USO, and the services they propose to offer; and
 - c) their capacity to deliver the USO.
- 5.2 Interested providers should respond to this document with the information set out below. We have set out in Section 3 our current thinking on the obligations a Universal Service Provider(s) would have to meet in delivering the USO, which should inform interested providers' responses to this document.

Information required from prospective Universal Service Providers

Geographic Areas

- 5.3 Please provide information on which geographic areas you are interested in being designated as the Universal Service Provider. If you are interested in providing the USO on a sub-national basis, please specify the regional areas – based on local authority boundaries – where you are interested in being the Universal Service Provider.
- 5.4 Our *Connected Nations Update: Spring 2018* data contains a list of local authorities and the number of premises in each of these areas that cannot receive services that deliver 10 Mbit/s download and 1 Mbit/s upload sync speeds. A link to this data can be found in Annex 3 of this document.²⁹

Delivery of the USO

Checking that premises are eligible to receive a USO connection

- 5.5 A Universal Service Provider may receive numerous requests, in different geographic areas, at the same time. This may particularly be the case when consumers are first able to request a USO connection.

²⁹ This link can also be accessed [here](#).

- 5.6 We are keen to understand how you would manage requests for USO connections and assess which premises are eligible for connections. Please provide any information relevant to your assessment of whether a premises:
- falls within the definition of eligible premises (fixed location which is a residence or place of business);
 - does not (and could not) already access a connection that meets the USO specification;
 - would not be covered by a publicly-funded broadband rollout programme in the 12 months from the request being made; and
 - would cost under £3,400 to provide a USO connection, taking account of the extent to which the cost of providing a connection could be shared between multiple locations.
- 5.7 In particular, we are interested in understanding your approach to modelling take-up, sequencing requests and how quickly you will be able to respond to requests from consumers. Where possible please support your response with experience from previous network infrastructure deployments.

Technology and network build

- 5.8 We are interested in understanding how you would approach designing and delivering the USO in areas in which you are designated, including:
- which technologies you would use to deliver the USO in the areas you have identified and how you would ensure they meet the technical specification in all cases;
 - what the main steps and timeframes are to provide a connection (including both network infrastructure build and customer connection phases) using the technologies you are likely to deploy, including any information which affects these timeframes;
 - how your resourcing needs and costs might change in order to provide connections at a faster rate.
- 5.9 Where possible please support your response with experience from previous network infrastructure deployments.

Quality of Service

- 5.10 We expect that premises connected under the USO will receive the same quality of service levels as premises elsewhere in the UK. We would also expect prospective Universal Service Providers to meet the standards of the automatic compensation industry scheme.³⁰ We would therefore be interested to know what quality of service levels (e.g. repair lead times) you would offer were you to be designated as the Universal Service Provider.

³⁰ <https://www.ofcom.org.uk/consultations-and-statements/category-1/automatic-compensation>

Pricing of USO connections and services

- 5.11 The Order includes requirements for USO connections and ongoing charges to be priced affordably and uniformly. Please provide information on the services you would expect to offer to premises connected under the USO and how you intend to price connection and ongoing charges.

Complaints handling procedures

- 5.12 Universal Service Provider(s) will have to manage complaints specific to the USO, for instance relating to eligibility disputes, the time taken to build network infrastructure or the quality of the connections and services. We are interested to know how you would handle the potential increase in complaints numbers as a result of USO specific complaints, and what procedures you would intend to follow to resolve these complaints.

Financial and governance arrangements

Corporate structure and management

- 5.13 Please provide evidence to demonstrate that you have the expertise, capacity and experience to be able to effectively deliver the USO in the geographic areas that you have expressed an interest in.

Sources of funding

- 5.14 Please provide evidence to demonstrate your ability to effectively finance the delivery of the USO in the geographic areas that you have expressed an interest in, recognising that there will be a lag between network infrastructure build and any cost recovery.

Next steps

- 5.15 This call for expressions of interest will be open for 9 weeks and will close on 20 August 2018. For information on how to respond to this document please see [Annex 1](#).
- 5.16 We will consult in September 2018 on procedural regulations setting out how we propose to designate Universal Service Provider(s) once we have considered responses to this document. We anticipate making designation regulations later this year.
- 5.17 We will also be putting forward proposals for who should be designated as the Universal Service Provider(s) and the Universal Service Conditions to which they should comply later this year. We expect to make our final decisions by Summer 2019, after which consumers will be able to make requests for connections.

A1. Responding to this document

How to respond

- A1.1 Ofcom would like to receive views and comments on the issues raised in this document, by 5pm on 20 August 2018.
- A1.2 You can download a response form from <https://www.ofcom.org.uk/consultations-and-statements/category-2/implementing-broadband-uso>. You can return this by email or post to the address provided in the response form.
- A1.3 If your response is a large file, or has supporting charts, tables or other data, please email it to Broadband.USO@ofcom.org.uk, as an attachment in Microsoft Word format, together with the cover sheet (<https://www.ofcom.org.uk/consultations-and-statements/consultation-response-coversheet>).
- A1.4 Responses may alternatively be posted to the address below, marked with the title of the consultation:
- Jack Gaches
Ofcom
Riverside House
2A Southwark Bridge Road
London SE1 9HA
- A1.5 We welcome responses in formats other than print, for example an audio recording or a British Sign Language video. To respond in BSL:
- Send us a recording of you signing your response. This should be no longer than 5 minutes. Suitable file formats are DVDs, wmv or QuickTime files. Or
 - Upload a video of you signing your response directly to YouTube (or another hosting site) and send us the link.
- A1.6 We will publish a transcript of any audio or video responses we receive (unless your response is confidential)
- A1.7 We do not need a paper copy of your response as well as an electronic version. We will acknowledge receipt if your response is submitted via the online web form, but not otherwise.
- A1.8 You do not have to answer all the questions in the document if you do not have a view; a short response on just one point is fine. We also welcome joint responses.
- A1.9 If you want to discuss the issues and questions raised in this document, please contact Jack Gaches on 020 7783 4254, or by email to Broadband.USO@ofcom.org.uk.

Confidentiality

- A1.10 In the interests of transparency and good regulatory practice, and because we believe it is important that everyone who is interested in an issue can see other respondents' views, we usually publish all responses on our website, www.ofcom.org.uk, as soon as we receive them.
- A1.11 If you think your response should be kept confidential, please specify which part(s) this applies to, and explain why. Please send any confidential sections as a separate annex. If you want your name, address, other contact details or job title to remain confidential, please provide them only in the cover sheet, so that we don't have to edit your response.
- A1.12 If someone asks us to keep part or all of a response confidential, we will treat this request seriously and try to respect it. But sometimes we will need to publish all responses, including those that are marked as confidential, in order to meet legal obligations.
- A1.13 Please also note that copyright and all other intellectual property in responses will be assumed to be licensed to Ofcom to use. Ofcom's intellectual property rights are explained further at <https://www.ofcom.org.uk/about-ofcom/website/terms-of-use>.

Next steps

- A1.14 We intend to consult fully on our approach to implementing the broadband USO later in 2018.
- A1.15 If you wish, you can register to receive mail updates alerting you to new Ofcom publications; for more details please see <https://www.ofcom.org.uk/about-ofcom/latest/email-updates>

A2. Response coversheet

BASIC DETAILS

Document title:

To (Ofcom contact):

Name of respondent:

Representing (self or organisation/s):

Address (if not received by email):

CONFIDENTIALITY

Please tick below what part of your response you consider is confidential, giving your reasons why

Nothing

Name/contact details/job title

Whole response

Organisation

Part of the response

If there is no separate annex, which parts? _____

If you want part of your response, your name or your organisation not to be published, can Ofcom still publish a reference to the contents of your response (including, for any confidential parts, a general summary that does not disclose the specific information or enable you to be identified)?

DECLARATION

I confirm that the correspondence supplied with this cover sheet is a formal consultation response that Ofcom can publish. However, in supplying this response, I understand that Ofcom may need to publish all responses, including those which are marked as confidential, in order to meet legal obligations. If I have sent my response by email, Ofcom can disregard any standard e-mail text about not disclosing email contents and attachments.

Ofcom seeks to publish responses on receipt. If your response is non-confidential (in whole or in part), and you would prefer us to publish your response only once the consultation has ended, please tick here.

Name

Signed (if hard copy)

A3. Fixed broadband numbers by local authority area

https://www.ofcom.org.uk/_data/assets/file/0025/113569/Fixed-Local-Authority-Area-201801.csv

A4. Publicly-funded rollout programmes

- A4.1 Premises that are connected to a service that meets the USO specification or above, or can obtain such a connection from an existing network, will not be eligible for a connection through the USO. The Order also states that premises will not be eligible for a USO connection if they are included in a publicly funded broadband rollout plan within the next 12 months.
- A4.2 There are several ongoing publicly-funded rollout programmes expanding access to broadband services across the UK, which are summarised below.³¹ We will also follow the development of any future publicly-funded programmes closely to understand how these would interact with the USO.

Broadband Delivery UK (“BDUK”)

- A4.3 BDUK is part of the Department for Digital, Culture, Media and Sport, and is delivering download speeds of at least 24 Mbit/s³² across the UK. By March 2018, BDUK had made 24 Mbit/s broadband available to over 4.8 million premises, with net grants from DCMS totalling around £600 million.³³ BDUK has already helped the Government achieve its aim of 24 Mbit/s coverage for 95% of the UK,³⁴ and estimates that by 2020 this coverage will be extended to at least a further 2% of UK homes and businesses.³⁵

Reaching 100% programme (R100) in Scotland

- A4.4 The Scottish Government’s Reaching 100% programme (R100), which has public funding of £600 million committed to its initial phase, aims to extend access to broadband services of at least 30 Mbit/s services across all of Scotland by the end of 2021, building on the achievements of the Digital Scotland Superfast Broadband programme. The procurement process for this initial phase of R100 is ongoing.

Rollout in Wales

- A4.5 The Welsh Government expects to announce the successful bidders for the successor project to Superfast Cymru in early summer 2018, having invited the market to present solutions in three lots with an emphasis on rural delivery, business prioritisation and ultrafast services. Deployment work is anticipated to commence shortly after that. The Welsh Government has committed to invest more than £90 million to deliver 30 Mbit/s services to over 80,000 premises.

³¹ We are discussing with the relevant bodies how the USO could interact with these publicly-funded schemes and will continue to do so during the implementation period.

³² The Government defines superfast broadband as connection speeds of 24 Mbit/s.

³³ <https://www.gov.uk/government/collections/broadband-performance-indicators>

³⁴ This was achieved in December 2017.

³⁵ DCMS, [A new broadband Universal Service Obligation: Government’s response to consultation on design](#), page 7.

Northern Ireland's Programme for Government

A4.6 Northern Ireland's draft Programme for Government has a target to improve access to broadband services with download speeds of at least 30 Mbit/s. The £150 million broadband funding under the Confidence and Supply Agreement with the UK Government offers the Department for the Economy the potential to build on achievements to date.³⁶ This includes the Department for the Economy's Superfast Rollout Programme, which is due to complete in June 2018, has brought services of at least 24 Mbit/s to around 42,000 additional premises.

³⁶ <http://www.bbc.co.uk/news/uk-northern-ireland-43884209>

A5. Glossary

Access network An electronic communications network which connects end-users to a service provider; running from the end-user's premises to a local access node and supporting the provision of access-based services. It is sometimes referred to as the 'local loop' or the 'last mile'.

Bandwidth The maximum amount of data that can be transmitted along a channel.

BDUK Broadband Delivery UK

Broadband A service or connection generally defined as being 'always on', providing a bandwidth greater than narrowband.

Broadband speed The speed at which data are transmitted over a broadband connection, usually measured in megabits per second (Mbit/s).

Core network The central part of any network aggregating traffic from multiple backhaul and access networks.

Contention ratio The degree to which bandwidth is shared between different end-users at the same network node. When more end-users share the same bandwidth within a network this can lead to a slowdown in performance.

Connection charge The fee a broadband provider charges customers when it installs a new line to connect their premises to its network, or the fee a broadband provider charges customers when it takes over the fixed broadband line serving their premises. This fee is often waived or reduced if customers also take up certain retail broadband packages with the provider.

Decent broadband A broadband connect that enables full and effective social and economic participation in a digital society, which we currently define as a line capable of delivering 10 Mbit/s download speeds and 1 Mbit/s upload speeds.

Download speed Also downlink or downstream speed. Rate of data transmission from a network operator's access node to a customer, typically measured in Megabits per second (Mbit/s).

DCMS Department for Digital, Culture, Media and Sport.

Exchange The local telephone exchange is the building where all consumers' copper telephone lines are connected to enable telephone calls to be switched, and where network equipment is installed which enables consumers' data traffic to be routed via an operator's core network to its destination.

Fixed broadband Broadband delivered over a fixed line to the customer's premises.

Latency The time it takes a single packet of data to travel from a user's PC to a third-party server and back again. The figure is most commonly measured in milliseconds, and a connection with low latency will feel more responsive for simple tasks like web browsing.

Mbit/s Megabits per second. A unit measuring the bit-rate.

Net cost The cost of providing the broadband USO less any direct and indirect benefits.

Reasonable cost threshold (RCT) A cost threshold that could be applied to prospective USO connections, beyond which the Universal Service Provider(s) would not have an obligation to supply a connection. The USO would be provided where requests are 'reasonable'. For some households the cost of providing a USO connection may be so high that the request is considered unreasonable.

Superfast broadband The next generation of faster broadband services, which delivers headline download speeds of greater than 30 Mbit/s. The BDUK Programme defines superfast broadband as broadband services which deliver download speeds of greater than 24 Mbit/s.

Sync speed The modem sync speed is the maximum speed achievable between a consumer's premises and their internet service provider's network.

Universal Service Directive European Parliament and Council Directive (EC) 2002/22 (OJ L108, 24.4.2002) on universal service and users' rights relating to electronic communications networks and services.

USO Universal Service Obligation

The Order The Electronic Communications (Universal Service) (Broadband) Order which came into force on 23 April 2018

Upload speed Also uplink or upstream speed. Rate of data transmission from a customer's connection to a network operator's access node, typically measured in Megabits per second (Mbit/s).