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Gigabit-broadband in the UK: Public funding



Summary

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Summary

As of January 2021, 36% of UK premises had a gigabit-broadband connection available, according to telecoms regulator, Ofcom. That's a connection that can support download speeds of at least 1 gigabit per second.

The Government's target is for [at least 85% of UK premises](#) to have gigabit-broadband available by 2025. This target is expected to be met by private investment covering 80% of premises and 5% covered by public funding. The Government said in August 2021 that it was "[increasingly confident](#)" that the 85% target could be exceeded.

This briefing looks at current and past government funding programmes for gigabit-broadband roll-out. These programmes follow the Government's previous publicly-funded superfast broadband programme.

How much public funding has been allocated?

The Government has promised £5 billion to subsidise the roll-out of gigabit-broadband to the 'hardest to reach' premises in the country that will not be reached by private investment (20% of the UK). This is around 5 million premises mostly in rural areas.

The funding programme is called 'Project Gigabit' and follows previous programmes that aimed to increase demand for gigabit-broadband and provided vouchers to help connect rural premises.

The Chancellor allocated £1.2 billion of the £5 billion Project Gigabit funding in the 2020 [Spending Review](#), for the years 2020–2025. The remaining £3.8 billion is reserved for future years.

The Government states that the staged funding reflects what it believes industry will be able to deliver in the hard to reach areas by 2025, alongside their commercial roll-out.

The funding deferral has been described as a "[kick in the teeth](#)" for rural [communities](#). The Commons Public Accounts Committee raised concerns in December 2020 that the Government's delayed funding and targets could [leave rural communities waiting](#) for gigabit-broadband "for years to come".

'Project Gigabit'

Project Gigabit is delivered by [Building Digital UK](#) (BDUK), part of the Department for Digital Culture Media and Sport (DCMS).

It has broadly three main parts:

- A series of procurements subsidising the roll-out of gigabit-capable broadband in specific areas. Broadband suppliers would bid for contracts to build in each area.
- A voucher scheme for residents and businesses in eligible rural areas to subsidise the cost of a new gigabit-capable connection. A [postcode-checker](#) on the Government’s voucher scheme website allows users to see if they are in an eligible area.
- Funding to connect public sector buildings (called ‘hubs’).

When and where will funding be allocated?

The procurements will take place in phases. Broadly, the first areas prioritised for procurement are those where DCMS is most confident there will not be gigabit-broadband built by commercial suppliers in the next three years, and there is known interest from commercial providers to bid for public contracts. Within that, BDUK states that premises with the lowest available broadband speeds will be prioritised where possible.

The Government published an [updated timetable](#) in August 2021 setting out estimated dates, number of premises and funding for regional contracts in England. The Government expects the first procurement, in Cumbria, to open in September 2021, with building to start in 2022. The Government has said it will publish updates quarterly.

There will be a [public review](#) on each area before a contract is put forward for procurement. The public review sets out the initial detail on which areas within each regional contract will be covered by the project, following the Government’s consultation with industry.

Project Gigabit and the devolved administrations

Project Gigabit is a UK-wide programme because telecommunications is a reserved matter.

The devolved administrations also have their own broadband roll-out projects ongoing that are building gigabit-capable connections. These are: the R100 programme in Scotland, Superfast Cymru in Wales and Project Stratum in Northern Ireland.

These projects were arranged under the UK Government’s previous funding programme, the [superfast broadband programme](#), which gave a formal role to the devolved administrations (and local authorities in England) to organise broadband roll-out in their regions.

The Government says it is working collaboratively with the devolved administrations on how funding can “complement and extend” the existing broadband programmes in each nation.

Further resources

Our [broadband data dashboard](#) allows users to explore where gigabit-broadband is available by constituency and small areas.

Our briefing, [Gigabit-broadband: Government targets and policy](#) discusses the Government's broadband targets and its policy on supporting industry to roll out gigabit-broadband.

1 Public funding for gigabit-broadband

1.1 Gigabit-broadband: what and why?

What is gigabit-broadband?

Gigabit-capable broadband is the next-generation of high-speed broadband technology. It means any technology that can deliver speeds of at least 1 gigabit per second (Gbps). 1 Gbps is equal to 1000 megabits per second (Mbps).

A download speed of 1 Gbps would allow a high-definition film to be downloaded in under one minute.

Technologies that can deliver gigabit-capable broadband include:

- full-fibre technology – where fibre optic cables run directly to each premises
- high-speed cable broadband (DOCSIS 3.1, delivered by Virgin Media) and
- potentially future 5G networks.

A [glossary of technical terms](#) is provided at the end of this briefing.

Where is gigabit-broadband available?

As of January 2021, 36% of properties had gigabit-capable broadband available according to Ofcom, the UK's telecoms regulator. ¹

The Library's [broadband data dashboard](#) allows users to explore where these are by constituency.

Why is gigabit-broadband roll-out needed?

From 2010, Government policy focused on the roll-out of superfast broadband – usually defined as download speeds of 30 megabits per second (Mbps).

Superfast broadband was available to 95% of UK premises as of January 2021 according to Ofcom. ²

¹ Ofcom, [Connected Nations update: Spring 2021](#), published 12 May 2021.

² Ofcom, [Connected Nations update: Spring 2021](#), published 12 May 2021.

Superfast broadband has been delivered to most of the country by the private sector – primarily through BT/Openreach’s Fibre-to-the-Cabinet (FTTC) network (a part-fibre, part-copper network) and Virgin Media’s cable network. The Government’s [superfast broadband programme](#) subsidised the delivery of superfast broadband infrastructure to areas not reached by the private sector.³

While superfast broadband delivered via FTTC is fast enough for most current individual/household needs, services that use a lot of data, such as online video streaming and video calls, can push the limits of a superfast broadband connection. The coronavirus pandemic has further highlighted the need for reliable and widely available high-speed digital connectivity. Although the UK has high availability of superfast broadband, around 1.5 million premises (5%) do not have access to superfast speeds.⁴

Since around 2016 Government and Ofcom policy has shifted to focus on the roll-out gigabit-capable broadband. This essentially requires new infrastructure to be built to every premises. It is a major national infrastructure project that will take years to complete.

1.2

Government policy on gigabit-broadband

Government policy on broadband is led by the Department for Digital Culture Media and Sport (DCMS). It is a UK-wide policy area because telecommunications is a reserved power.⁵

The Government’s policy is that gigabit-broadband will be built to most of the country by private investment. Private companies will decide when and where to build infrastructure based on commercial factors. The Government and Ofcom have committed to policy and regulatory reforms to promote a commercial market to build new infrastructure.

The Government’s policy is to provide funding for connections to properties that are not reached by private investment (Box 1).

This policy approach was adopted after a formal review of policy options through the [Future Telecoms Infrastructure Review](#) in 2018.⁶ The Library briefing, [Gigabit-broadband: Government targets and policy](#) covers the Government’s policy on supporting gigabit-broadband roll-out by industry.⁷

³ See section 2.5 of this briefing below. The Library briefing, [Superfast broadband in the UK](#) (SN06643, 4 March 2021) provides background information.

⁴ As of September 2020. Ofcom, [Connected Nations 2020](#), published 17 December 2020.

⁵ [Section C10 of Schedule 5 of the Scotland Act 1998](#); [Section C9 of Schedule 7A of the Wales Act 2017](#); Northern Ireland Department for the Economy, [Broadband policy context in Northern Ireland](#) and Cabinet Office, [Devolution settlement: Northern Ireland](#), 20 February 2013.

⁶ DCMS, [Future Telecommunications Infrastructure Review](#), 23 July 2018.

⁷ Commons Library Briefing, CBP 8392.

Box 1: Why is public funding required for some premises?

When broadband providers decide where to build infrastructure, they are essentially making a commercial judgement on whether it is profitable. There are a range of potential factors that will impact that judgement.¹

Rural and remote areas are typically more expensive to deliver broadband to. This is because the geography and terrain in many rural areas – such as long distances between properties and inaccessible areas – increase the cost of installing new cables. Additionally, low population densities reduce the financial returns that operators receive from customers buying services. Some broadband infrastructure providers, however, do target rural areas.⁸

Some urban or semi-urban areas might also be expensive or difficult to reach. This could be due to the structure of the existing networks (for example ‘[exchange-only lines](#)’) or how accessible the property is to building work. Of the 1.5 million premises that did not have access to superfast broadband in 2020, 42% were in urban areas.⁹

Ofcom analysis in May 2019 reported that, broadly speaking, the probability of a commercial broadband upgrade and good 3G and 4G mobile coverage is higher in urban and more affluent areas.¹⁰

Areas not reached commercially are often called ‘hard to reach’ areas – however even within these, some premises are harder or more expensive to reach than others.

How are these areas identified?

Identifying premises that are unlikely to be connected commercially requires knowing broadband providers’ plans to build infrastructure. These plans are not usually publicly available.¹¹

The National Audit Office (NAO) in October 2020 commented that this is difficult for gigabit-broadband as there are many companies building new infrastructure and there is no single map or database of current and planned broadband roll-out.¹² The Government and Ofcom are surveying broadband

⁸ For example [Gigaclear](#), [TrueSpeed](#) and [B4RN](#).

⁹ Ofcom, [Connected Nations 2020, 17 December 2020](#).

¹⁰ Based on a statistical analysis of Fibre-to-the-Cabinet upgrades and 3G/4G mobile availability. Ofcom, [Economic Geography 2019 \(PDF\)](#), 2 May 2019, page 11

¹¹ Openreach has published a [list of areas](#) where it intends to build its network, and other providers have made broader announcements. See the Library briefing [Gigabit-broadband: Government targets and policy](#) for further discussion.

¹² NAO, [Improving Broadband](#), October 2020, para 16 and 3.2-3.6.

providers to find out their plans and to inform which properties will receive funding support. This is an ongoing process, discussed further in sections 2.3.

The Government’s “outside-in” strategy for public funding

In 2018, the Government said its public funding strategy would be based on connecting the ‘hardest to reach’ premises first, starting with areas that do not have access to superfast broadband. It called this an “outside-in” strategy.¹³

The commitment to “outside-in” follows one of the main ‘lessons learned’ from the Government’s [superfast broadband funding programme](#), which began in 2010/11.¹⁴ While the superfast programme has been praised for connecting a large number of premises quickly, one criticism of the programme is that it prioritised the ‘easier to reach’ non-commercial premises first to maximise coverage and meet targets.¹⁵ As a result, the most difficult and expensive to reach premises were ‘left behind’ contributing to what the National Audit Office called a “rural divide”.¹⁶ Some properties are still waiting for superfast broadband connections.

The Government’s “outside-in” commitment for its gigabit broadband funding was [welcomed by rural stakeholders](#).¹⁷ For example, the House of Lords Committee on the Rural Economy and the Commons Environment Food and Rural Affairs Committee welcomed the commitment in 2019, although with caution about how it would be delivered in practice.¹⁸

More recently, concerns have been raised about the Government’s commitment to an “outside-in” strategy and its timeline for reaching rural and remote premises more generally, following delays to its gigabit broadband targets and funding.¹⁹

¹³ DCMS, [Future Telecoms Infrastructure Review](#), 23 July 2018, para 130.

¹⁴ The Library briefing, [Superfast broadband in the UK](#) (SN06643, 4 March 2021) provides background information.

¹⁵ NAO, [Improving Broadband](#), 16 October 2020, para 20; National Infrastructure Commission, [National Infrastructure Assessment](#), 10 July 2018; CMS Committee, [Establishing world-class connectivity throughout the UK](#), 19 July 2016, HC147 2016-17, para 33.

¹⁶ NAO, [Improving Broadband](#), 16 October 2020, para 20 and 3.17.

¹⁷ For example: Rural Services Network, [Rural welcome for Government’s digital connectivity plan](#), 25 July 2018; Country Land and Business Association, [CLA responds to DCMS announcement of £200 million for rural broadband](#), 21 May 2019; INCA, [INCA welcomes Government’s Future Telecoms Infrastructure Review](#), 23 July 2018.

¹⁸ House of Lords Committee on the Rural Economy, [Time for a strategy for the rural economy](#), Report of Session 2017–19, HL 330, 27 April 2019, para 252-254; House of Commons Environment Food and Rural Affairs Committee, [An Update on Rural Connectivity](#), 2017–19, HC 2223, 18 September 2019, para 58.

¹⁹ DCMS Committee, [Broadband and the Road to 5G](#), HC153, 2019-21, 22 December 2020, para 89; PAC, [Improving Broadband](#), HC 688, 2019-21, 8 January 2021, para 5 and para 47-48.

1.3

Government targets

In 2018, the Government first estimated that 10% of UK properties would require public funding for full-fibre broadband, at a potential cost of £3–5 billion.²⁰ At that time, the Government’s target was for nationwide full-fibre broadband to be delivered by 2033.

In July 2019, when Boris Johnson became Prime Minister, the Government moved its target forward, aiming for nationwide gigabit-broadband by 2025.²¹ The Government increased the scope of the public funding programme to 20% of premises (5 million properties) to meet this accelerated timeline.²² In September 2019 the Government [announced £5 billion](#) to support gigabit-broadband roll-out to these premises.²³

Industry stakeholders, although welcoming the Government’s ambition, were sceptical that a nationwide gigabit-broadband target could be met by 2025.²⁴ The Commons Digital Culture Media and Sport (DCMS) Committee described the target as an “unrealistic aim”.²⁵ The National Audit Office in October 2020 described the target as “very challenging” and cautioned against prioritising programme targets over other factors such as serving those properties in the greatest need first. It said that failing “manage the tension” between timeline and consumer need could risk leaving rural areas “even further behind”.²⁶

85% gigabit-broadband by 2025

In November 2020 the Government revised down its gigabit target. It now aims for at least 85% of premises to have access to gigabit-broadband by 2025.²⁷ It says this is a “minimum target, rather than a ceiling” and that the Government is working with industry to get “as close to 100% as possible by 2025”.²⁸

²⁰ DCMS, [Future Telecommunications Infrastructure Review](#), 23 July 2018

²¹ [HC Deb 663, 25 July 2019 c12486](#); [Conservative and Unionist Party Manifesto 2019](#), PM’s Office, [Queens’ Speech](#) and [background briefing notes](#), 19 December 2019.

²² NAO, [Improving Broadband](#), 16 October 2020.

²³ HM Treasury, [Chancellor announces support for post-Brexit future](#), 29 September 2019; HM Treasury, [Spending Review 2020 speech](#), 25 November 2020.

²⁴ techUK, [Connected Britain – Can reality meet the rhetoric on Fibre roll out?](#) Matthew Evans, 9 August 2019; [Broadband chiefs fire back at PM’s full-fibre internet pledge](#), Leo Kelion, *BBC News*, 3 August 2019; [Boris Johnson Splurges £5bn on UK 2025 Gigabit Broadband Target](#), Mark Jackson, *ISP Review*, 29 September 2019 [accessed 27 April 2021].

²⁵ DCMS Committee, [Broadband and the Road to 5G](#), HC153, 2019–21, 22 December 2020, page 16.

²⁶ NAO, [Improving Broadband](#), 16 October 2020.

²⁷ HM Treasury, [National Infrastructure Strategy](#), 25 November 2020.

²⁸ [Correspondence from the Secretary of State for DCMS to Chair of the DCMS Select Committee, dated 1 April 2021](#), in response to the Committee’s December 2020 report, *Broadband and the Road to 5G* (HC 153).

In the November 2020 spending review, the Chancellor allocated £1.2 billion (around a quarter) of the total £5 billion funding available, for the years 2021-2025, broken down as follows:²⁹

- 2021-22: £100 million
- 2022-23: £300 million
- 2023-24: £400 million
- 2024-25: £500 million

The remaining £3.8 billion is reserved for future years. The Government describes its programme as a “record investment” in digital that will make “the UK economy more innovative and support levelling up across the UK.”³⁰

The new 85% target is mainly due to the public funding programme taking longer than the Government originally hoped. The Government told the Commons DCMS Select Committee in April 2021 that the telecoms industry had “always been clear” that it could deliver 80% gigabit broadband coverage commercially by 2025 (subject to necessary policy reforms). The Government said it was “less clear” how quickly industry could deliver to the premises requiring public funding at the same time. Therefore, the Government is targeting a “minimum” of 85% coverage by 2025 “with an ambition to continue to work with industry to get as close to 100% as possible”.³¹ That is, the Government expects a minimum of 5% coverage to be reached by its public funding programme by 2025.

The Government explained that the staged approach to funding reflects what it believes industry can deliver in hard to reach areas by 2025. It said in February 2021 that it would “accelerate” the investment in hard to reach areas if suppliers could “increase the build in these areas alongside their commercial build plans”.³² No date has been set for connecting all properties requiring public funding.

The Government said in August 2021 that it was “[increasingly confident](#)” that the 85% target could be exceeded.³³ This follows an expansion of industry

²⁹ HM Treasury, [Spending Review 2020](#), 25 November 2020, Table C6 note 2.

³⁰ HM Treasury, [Spending Review 2020](#), 25 November 2020, para 6.86.

³¹ [Correspondence from the Secretary of State for DCMS to Chair of the DCMS Select Committee, dated 1 April 2021](#), in response to the Committee’s December 2020 report, *Broadband and the Road to 5G* (HC 153).

³² [Correspondence from the DCMS to Chair of the DCMS Select Committee dated 21 February 2021](#) in response to the Committee’s December 2020 report, *Broadband and the Road to 5G* (HC 153). Similar wording was used in response to the Public Accounts Committee, see: [Treasury Minutes: Government response to the Committee of Public Accounts on the Thirty fifth report from Session 2019-21](#), published 26 March 2021.

³³ DCMS, [Project Gigabit Delivery Plan – Summer update](#), 2 August 2021.

investment to provide coverage to a further 5 million homes since March 2021.³⁴

The Government expects there will be a small number of premises (less than 1%) that are too expensive to reach with public funding and are not included in the £5 billion funding plans (see section 2.6 below).³⁵

Stakeholder reaction

The Government's delayed timeline for its public programme has been described as a "kick in the teeth" for rural communities.³⁶ The Country Land and Business Association said it was "deeply concerned" about the delayed funding commitments.³⁷

The Commons DCMS Committee in its December 2020 report, [Broadband and the Road to 5G](#), concluded it was "difficult to see how £5 billion would be enough to meet the Government's aim of delivering gigabit broadband to the hardest-to-reach 20% of premises."³⁸ The Committee described the funding allocations to 2025 as "disappointing" saying that it undermined the Government's ambitions for premises requiring public funding to receive better connectivity at the same time as other parts of the UK. The Committee called on the Government to clearly state the "date by which it expects the remaining 15% of premises to be served with gigabit-capable broadband".³⁹

The Public Accounts Committee said in December 2020 that the funding allocations and stretched timetable had "heightened their concerns" that rural areas would be left behind and that some might "have to wait until well beyond 2025 for gigabit broadband speeds and may not even get superfast speeds before then".⁴⁰

Labour spokesperson for Digital, Chi Onwurah has criticised the Government's series of changes on its broadband policy as "either carelessness" or "deliberately misleading".⁴¹

An [article in industry news website](#) ISPreview included comments from various industry stakeholders following the 2020 Spending Review. It quoted rural

³⁴ DMCS, [Project Gigabit Delivery Plan – Summer update](#), 2 August 2021.

³⁵ NAO, [Improving Broadband](#), 16 October 2020, para 2.7, 2.9; Public Accounts Committee, [Treasury Minutes: Government response to the Committee of Public Accounts on the Thirty fifth report from Session 2019-21](#), published 26 March 2021, para 5.1.

³⁶ [Gigabit broadband: Watered-down plans a 'kick in the teeth'](#), *BBC News*, 26 November 2020; [Government's softened broadband pledge is 'kick in the teeth'](#), Matthew Field, *The Telegraph*, 25 November 2020. CLA, [Missed opportunity to boost economic growth in rural areas](#) – CLA responds to spending review, 25 November 2020.

³⁷ CLA, [Missed opportunity to boost economic growth in rural areas](#) – CLA responds to spending review, 25 November 2020.

³⁸ DCMS Committee, [Broadband and the Road to 5G](#), HC153, 2019-21, 22 December 2020, para 49.

³⁹ DCMS Committee, [Broadband and the Road to 5G](#), HC153, 2019-21, 22 December 2020, para 50.

⁴⁰ PAC, [Improving Broadband](#), HC 688, 2019-21, 8 January 2021, para 5.

⁴¹ [HC Deb 2 December 2020. cWH240](#) [Rollout of broadband in Devon and Somerset]; [HC Deb 3 December. c535](#) [Digital infrastructure, connectivity and accessibility].

fibre broadband provider Gigaclear, saying that although it was “disappointing” that only £1.2 billion had been allocated in the spending review, “affording more time to get the rules ironed out and properly in place is no bad thing.”⁴²

techUK, trade body for telecoms and digital industries, said in April 2021 that [more funding was required](#) in the years to 2025 to meet the Government’s “ambitious targets”, along with policy reforms to make building infrastructure easier.⁴³

⁴² [Government Start £5bn UK Gigabit Broadband Plan for 85%+ by 2025](#), ISPReview, Mark Jackson, 25 October 2020, accessed 30 November 2020.

⁴³ techUK, [Government announces Project Gigabit launch](#), 19 March 2021.

2 Project Gigabit

2.1 What is Project Gigabit?

The programme to deliver the £5 billion funding for hard-to-reach areas is called **Project Gigabit**. It is delivered by [Building Digital UK](#) (BDUK), part of the Department for Digital Culture Media and Sport (DCMS).

Project Gigabit has three main parts:

- A series of procurements to subsidise the roll-out of gigabit-capable broadband in specific areas. This is the main part of the programme (described further in this section below).⁴⁴
- Voucher schemes for rural areas (see section 3)
- Funding to connect public sector buildings (see section 4.2).

The Government has also provided funding through arrangements to extend contracts previously agreed under the superfast broadband programme framework (see section 2.5 and Box 2).

2.2 Project Gigabit procurements

The main part of the Project Gigabit is a series of public procurements in areas that would not otherwise receive commercial investment.

The Government will part-fund the roll-out in these areas, topping up industry investment to make the build commercially viable. Suppliers would bid for contracts to build in each area.

There are two main types of contract and procurement processes:

- Regional contracts: each expected to cover 70,000–150,000 premises across 38 proposed areas, called Lots, in England (see section 2.5 for the devolved nations). BDUK expects to have competition from more than one provider bidding for these contracts in all areas.⁴⁵ The regional

⁴⁴ The NAO explained that £4.5 billion would be allocated to the procurement programme, with the remaining funding for the demand-side schemes such as vouchers. NAO, [Improving Broadband](#), 16 October 2020.

⁴⁵ DCMS, [Project Gigabit Phase 1 Delivery Plan](#), 19 March 2021.

contracts will ultimately provide coverage for all areas of the UK with a telecoms provider appointed to every area.⁴⁶

- Local supplier contracts: smaller contracts of approximately 1,000–8,000 premises intended to be of interest to local specialist providers, where they can deliver more quickly and with better value for money than regional suppliers. These contracts will complement the regional contracts. The first local supplier procurements are being taken forward in parts of Essex and Dorset. BDUK says it is monitoring interest for further local supplier contracts it proceeds with the regional procurements.

The Government expects the first procurements to begin in Spring 2021 with building work start towards the end of 2022, according to the [indicative timetable](#) published in August 2021 (see section 2.4 below).⁴⁷

The procurement process is being managed centrally by BDUK, working with local authorities and devolved administrations. This is a change of approach compared to the Government's previous public broadband roll-out programme (the superfast programme), where procurement was managed by local bodies and the devolved Administrations (see Box 2). The National Audit Office's October 2020 report, [Improving Broadband](#), discusses this change of approach, alongside other lessons learned from the previous programme (see section 3 of the NAO's report).

The Government has explained that each local authority has a named contact in the DCMS to "look for options for increasing broadband coverage," and to help implement the Government's projects in their area.⁴⁸

Most stakeholders welcomed the Government's first Project Gigabit Delivery Plan published in March 2021 as welcome progress on the commitment to deliver gigabit broadband to hard to reach areas. Consumer group Which? however called for the Government to clarify "when these communities will actually be able to benefit from these connections".⁴⁹ The Country Land and Business Association said the Plan was "a good start" but that Government needed to maintain the roll-out at pace "until the job is complete".⁵⁰

⁴⁶ DCME, [Project Gigabit Delivery Plan – Summer Update](#), 2 August 2021, page 13.

⁴⁷ DCME, [Project Gigabit Delivery Plan – Summer Update](#), 2 August 2021.

⁴⁸ PAC, [Treasury Minutes: Government response to the Committee of Public Accounts on the Thirty fifth report from Session 2019-21](#), published 26 March 2021; [Correspondence from the DCMS to Chair of the DCMS Select Committee dated 21 February 2021](#) in response to the Committee's December 2020 report, *Broadband and the Road to 5G* (HC 153).

⁴⁹ [Plans for faster broadband aim to improve connections around the UK](#), Yvette Fletcher, Which?, 19 March 2021.

⁵⁰ CLA, [Gigabit broadband plans unveiled marks important moment in levelling up countryside](#), 19 March 2021.

Broadband providers reiterated their support for the Government's programme.⁵¹

2.3 How are areas prioritised for procurement?

The areas to receive public funds are defined by DCMS through a continuous process of engagement with industry to work out where they plan to build networks over the next three years. Those areas are then excluded along with areas where gigabit-broadband is already available.⁵² The premises remaining are those in-line to receive public funding.

Procurements are being taken forward in stages. England has been divided into areas called Lots for regional procurement.⁵³ The Lots are broadly county-sized and defined along local authority boundaries where possible.⁵⁴

Broadly, the Lots prioritised for the first new procurements (see below) are those where BDUK is most confident that it has accurate data showing there will not be gigabit-broadband built by commercial suppliers in the next three years.

Before each contract goes to procurement there will be a public consultation (called a public review) on the area to be covered by the procurement. The public review reflects the outcome of engagement with industry about areas that will not receive commercial investment. It is at this stage that more detail is first published on the specific parts within each Lot that will be covered. All public reviews are collated on GOV.UK here: [UK Gigabit Programme: public reviews](#).

The final contracts will then contain the detail on specific premises to be covered. Within that, it is up to the telecoms provider to determine how the premises are prioritised for connections. BDUK says it will encourage providers to prioritise early delivery to premises that cannot access superfast broadband.⁵⁵ BDUK will require suppliers to set out in their contract bids how premises without superfast broadband will be addressed consistently throughout the build process so that they are not all left to the end.⁵⁶

BDUK says that defining the areas for procurements will be 'dynamic' and will be adjusted to reflect industry plans that regularly change as new providers enter the market and existing ones expand their plans. Therefore, the exact details of the areas that will receive funding in later phases of the programme are not yet defined in detail. The NAO has previously highlighted that how the

⁵¹ [Gov Starts GBP5bn UK Gigabit Broadband and Voucher Schemes](#), Mark Jackson, *ISP Review*, 19 March 2021 [accessed 27 April 2021].

⁵² DCMS [Project Gigabit Phase 1 Delivery Plan](#), 19 March 2021.

⁵³ See map on page 14 of the Delivery Plan – Summer Update, 2 August 2021.

⁵⁴ DCMS [Project Gigabit Phase 1 Delivery Plan](#), 19 March 2021.

⁵⁵ DCMS, [Project Gigabit Delivery Plan – Summer Update](#), 2 August 2021, page 18.

⁵⁶ House of Commons Library correspondence with DCMS, 19 August 2021.

DMCS defines intervention areas is crucial to ensuring value for money. It said this is a complex task with potential risks, given the challenges of obtaining accurate data.⁵⁷

BDUK said it plans to regularly review its approach and adapt its programme based on the early procurements. It pledged to publish quarterly updates with the next update due in Autumn 2021.

2.4 Timeline for regional procurements in England

BDUK has set out three phases for regional procurements. Detail on the dates, number of premises and funding expected for each regional procurement is published in the [DCMS press release dated 2 August 2021](#).⁵⁸ The areas identified are similar to those [published in March 2021](#) but with more detail on dates and premises numbers. The next update is expected in Autumn 2021.

The first procurement is scheduled to start in Cumbria in September 2021. The dates, order and size for subsequent procurements are subject to change, “potentially significantly”, depending on industry plans, industry capacity and the outcome of early procurements. DCMS says that new procurements in the devolved administrations will be added as they become confirmed.⁵⁹

Each procurement is expected to run for around 9 months to ensure a “fair objective and rigorous process”.⁶⁰

Local supplier procurements may start in specific areas irrespective of the sequencing of the regional supplier procurements.⁶¹ The Dynamic Purchasing System for local suppliers launched in May 2021 and in August DCMS said that over 70 telecoms providers had registered their interest. This means that local supplier procurements can open for bidding once intervention areas are defined.⁶²

Phase 1

Phase 1 has been described as a ‘learning phase’. Locations selected are those that BDUK is confident there will be no planned commercial gigabit investment, where there is a well-resourced local authority team and known interest from broadband suppliers to bid for contracts.⁶³

⁵⁷ NAO, [Improving Broadband](#), 16 October 2020, para 16 and paras 3.2–3.6.

⁵⁸ See also the [Project Gigabit Delivery Plan – Summer Update](#) (2 August 2021), pages 16–18.

⁵⁹ DCMS, [Project Gigabit Delivery Plan – Summer Update](#), 2 August 2021, page 15.

⁶⁰ DCMS, [Project Gigabit Delivery Plan – Summer Update](#), 2 August 2021, page 19–20.

⁶¹ DCMS, [Project Gigabit Delivery Plan – Summer Update](#), 2 August 2021, page 11.

⁶² DCMS, [Project Gigabit Delivery Plan – Summer Update](#), 2 August 2021, page 11.

⁶³ DCMS, [Project Gigabit Phase 1 Delivery Plan](#), 19 March 2021.

Phase 1a (indicative procurement start dates from September 2021 to February 2022):

Cumbria

Cambridgeshire and adjacent areas

Durham, Tyneside and Tesside

Northumberland

Cornwall and Isles of Scilly

Phase 1b (indicative procurement start dates from February 2022 – May 2022):

Shropshire

Norfolk

Suffolk

Hampshire and Isle of Wight

Worcestershire

Smaller local supplier contracts in parts of Essex and Dorset are also going ahead as part of Phase 1.

Phase 2

Indicative procurement start dates are from May 2022 to November 2022:

Oxfordshire and West Berkshire

Kent

Buckinghamshire, Hertfordshire and East of Berkshire

Staffordshire

West Sussex

East Sussex

Bedfordshire, Northamptonshire and Milton Keynes

Derbyshire

Wiltshire and South Gloucestershire

Lancashire

Surrey

Leicestershire and Warwickshire

Nottinghamshire and West of Lincolnshire

West Yorkshire and parts of North Yorkshire

South Yorkshire

Future phases

Later procurements for areas for which significant commercial (or other publicly funded) gigabit-deployments are expected but which may not cover the whole area. Dates are not yet set for these areas. However, some of these areas are being considered for local supplier procurements in targeted areas:

Birmingham and the Black Country

Cheshire

Devon & Somerset

Herefordshire & Gloucestershire

Dorset (local supplier contracts being progressed in Phase 1)

Essex (local supplier contracts being progressed in Phase 1)

Lincolnshire (including NE Lincolnshire and N Lincolnshire) and East Riding

Greater London

Merseyside and Greater Manchester

Newcastle and North Tyneside

Northern North Yorkshire

Remaining projects in Scotland, Wales and Northern Ireland not incorporated into earlier phases.

For areas that will not see new procurements until later phases of the programme, the Project Gigabit Summer Update describes actions that local authorities can take to maximise efficiency of commercial build including potential for taking forward voucher projects or local supplier procurements in specific areas:

In particular, areas where Regional Supplier procurements are some way off, or there are gaps in broad commercial plans provide immediate opportunities for local teams, barrier busting measures, Local Supplier procurements, Gigahubs and the Gigabit Broadband Voucher Scheme can deliver gigabit to priority communities in a

relatively short timescale. We will work with the local teams to identify and maximise these opportunities.⁶⁴

2.5 Project Gigabit in the devolved administrations

Although telecommunications is a reserved power, each of the devolved administrations have their own publicly funding broadband roll-out programmes ongoing. These projects were procured under the Government's previous broadband funding programme, the superfast broadband programme, which gave a formal role to the devolved administrations and local authorities in England (Box 2).

The programmes are now largely delivering gigabit-capable connections.

The programmes in each nation are called:

- The Reaching 100% Programme (R100) programme in Scotland.
- The Superfast Cymru programme in Wales.
- Project Stratum in Northern Ireland.

The Library briefing: [Superfast broadband in the UK](#) covers background information for each of these projects.

Some parts of England also have ongoing superfast contracts that are still in being rolled-out (e.g. in Devon and Somerset, Lincolnshire and others).

Box 2: What is the superfast broadband programme?

The superfast broadband programme was the Government's previous public procurement programme for broadband in areas not reached by commercial investment. The programme was announced in 2010 and has supported upgraded connections to 5.5 million premises.⁶⁵ Most connections were delivered via Fibre-to-the-Cabinet (FTTC) technology, which is capable of superfast broadband speeds.

Under the superfast broadband programme, the UK Government gave funding to local bodies in England⁶⁶ and the devolved administrations, which were then responsible for leading broadband projects in their regions. Local bodies

⁶⁴ DCMS, [Project Gigabit Delivery Plan – Summer Update](#), 2 August 2021, page 12.

⁶⁵ DCMS, [Superfast Broadband Programme - State Aid Evaluation Report 2020](#), 28 January 2021.

⁶⁶ Local bodies means local authorities and/or enterprise partnerships. DCMS's [map of local broadband projects](#) provides links to the websites for each project.

and the devolved administrations were also required to contribute funding from their own budgets or other sources.

The superfast broadband programme is ongoing. Some contracts are still in delivery (the building stage) and many are reporting delays for a range of reasons.⁶⁷ Most ongoing contracts under the programme are now delivering largely gigabit-capable connections. The Government stated in March 2021 that over 325,000 premises have been given access to gigabit-capable connections through the superfast programme and that a further 500,000 are scheduled in plans for connections.⁶⁸

The Library briefing: [Superfast broadband in the UK](#) covers background information about the programme and the projects in each nation.

Initially, new Project Gigabit procurements are not expected to open in areas where there is an ongoing superfast broadband contract still in the building phase.⁶⁹

BDUK says it is working collaboratively with the devolved administrations, looking first at how to use Project Gigabit funding to complement and extend the ongoing projects in each nation. In the [Project Gigabit Summer Update](#) DCMS said it was making available up to £90 million additional funding to extend contracts awarded under the Superfast Broadband programme, mostly in the devolved nations.⁷⁰

For example, in February 2021 the Government announced that £4.5 million of Project Gigabit funding had been allocated through [an agreement with the Scottish Government](#).⁷¹ The agreement was described as a “technology flip” – it is a modification of an existing superfast broadband contract rather than a new procurement. The funding will be used to connect 5,368 homes in Central Scotland with full-fibre (FTTP) broadband. These premises would have otherwise been connected to superfast-capable Fibre-to-the-Cabinet (FTTC) technology by Openreach, under a contract with the Scottish Government through its R100 programme. The UK Government said the agreement delivers greater value for money by avoiding the need to re-visit these premises later.

⁶⁷ See the NAO’s report on [Improving Broadband](#) (16 October 2020) for further discussion of reasons for delays. The programme has also been extended to cover more premises than originally planned.

⁶⁸ Public Accounts Committee, [Treasury Minutes: Government response to the Committee of Public Accounts on the Thirty fifth report from Session 2019-21](#), published 26 March 2021, para 5.1.

⁶⁹ DCMS, [Planning for Gigabit Delivery in 2021](#) (PDF), 22 December 2020, page 15.

⁷⁰ DCMS [Project Gigabit Delivery Plan – Summer Update](#), 2 August 2021, page 10.

⁷¹ DCMS, [£4.5m to help thousands in central Scotland get gigabit speed broadband](#), 27 February 2021.

In August 2021 the Government said it is continuing to work with the Scottish Government on gigabit roll-out through the R100 programme, and that the scope of the final R100 contract will be confirmed “in the Summer”.⁷²

For **Wales**, the Government said in August 2021 that up to 234,000 premises in Wales are expected to fall within the scope of Project Gigabit.⁷³ A formal [industry engagement exercise](#) (open market review) with the Welsh Government opened in August 2021 to survey industry plans and inform a timetable for connecting these premises.

On **Northern Ireland** the Project Gigabit Summer Update pointed to the £23 million Local Full Fibre Networks contract (see section 4.1 below) that was awarded in Northern Ireland to telecoms provider Fibrus in June 2021 to connect public sector sites.⁷⁴ Fibrus has since announced an extension of its commercial roll-out to homes and businesses in Northern Ireland.

2.6 “Very hard to reach” premises

The Government expects that there will be some “very hard to reach” premises that are too expensive to connect with public funding on “current value-for-money metrics”.⁷⁵

The £5 billion Project Gigabit funding commitment does not include the cost of reaching these premises. The Government said it will “seek additional funding” and “explore all possible options” for improving broadband at these premises.⁷⁶ It also said it expects the number of premises in this category to fall as other ongoing programmes continue, such as the voucher schemes described below.⁷⁷

In response to a parliamentary question in April 2021, the Government stated that “less than 0.3% of the country or less than 100,000 premises” are likely to be in such very hard to reach areas.⁷⁸ This is less than the 1% of properties the Government had previously estimated would fall into this category.⁷⁹

On 18 March 2021, the Government opened a [Call for Evidence](#) on the challenges and approaches to delivering improved connectivity in these ‘very

⁷² DCMS, [Project Gigabit Delivery Plan – Summer Update](#), 2 August 2021, page 22.

⁷³ DCMS, [Project Gigabit Delivery Plan – Summer Update](#), 2 August 2021, page 22.

⁷⁴ Northern Ireland Executive Department of Finance, [FFNI Consortium Awards Fibrus £23 million Contract to Deliver Next Generation Connectivity](#), accessed 31 August 2021.

⁷⁵ NAO, [Improving Broadband](#), 16 October 2020, para 2.7, 2.9.

⁷⁶ Public Accounts Committee, [Treasury Minutes: Government response to the Committee of Public Accounts on the Thirty fifth report from Session 2019-21](#), published 26 March 2021, para 5.1; DCMS, [Project Gigabit Phase 1 Delivery Plan](#) 19 March 2021.

⁷⁷ DCMS, [Project Gigabit Phase 1 Delivery Plan: Very hard to reach premises](#) 19 March 2021.

⁷⁸ [PQ 180575, 19 April 2021](#).

⁷⁹ NAO, [Improving Broadband](#), 16 October 2020, para 2.7, 2.9; DCMS, Planning for Gigabit

hard to reach' areas in order to develop more understanding about these areas.

In August 2021 the Government launched the [Fibre in the Water](#) competition.⁸⁰ The competition will award £4 million R&D funding to trial installing fibre cables via water mains pipes to connect very rural premises to broadband and/or mobile services. The aim is to enable these normally very hard to reach premises to be connected at lower cost by reducing engineering work, while also helping to detect leaks in water pipes.

⁸⁰ DCMS, [Broadband rollout trial to target hard-to-reach homes through UK's water pipes](#), 9 August 2021; DCMS Guidance, [Fibre in Water: Improving access to advanced broadband and mobile services via drinking water mains](#), 9 August 2021.

3 Broadband voucher schemes

3.1 UK Gigabit Voucher scheme

For full details and eligibility conditions see DCMS's [Gigabit Voucher Scheme website](#).

The UK Gigabit Voucher scheme allows residents and small and medium-sized businesses (SMEs) in eligible rural areas to apply for vouchers towards the cost of a new gigabit-capable connection. Vouchers can only be claimed as part of a group project involving two or more premises.

Voucher projects are now intended to address specific gaps in coverage not otherwise met by industry or other public-funded programmes.⁸¹ A [postcode checker on the Gigabit Voucher Website](#) allows users to check whether their premises is in an eligible area. These are rural areas⁸² where:

- Existing broadband speeds are less than 100 Mbps.
- a gigabit-capable network is not likely to be built to that area commercially in the near future; and
- there is no government-funded contract planned or in place to improve the network.

Projects are also subject to BDUK “commercial and value for money” assessments.⁸³

SME's can apply for up to £3,500 and residents up to £1,500 per premises. Additional top-up funding is available in some areas (see below).

The scheme is supplier-led, which means that residents and businesses must approach a registered supplier interested in building in their area, who then applies for the vouchers on their behalf.

The voucher scheme opened on 8 April 2021 with up to £210 million of public funds allocated. It follows two similar previous voucher schemes that have now closed (see below). The previous voucher schemes were open to a wider set of premises.

⁸¹ DCMS, [Project Gigabit Delivery Plan – Summer Update](#), 2 August 2021, page 23.

⁸² Based on standard statistical classifications used in each nation. See the [links on the gigabit voucher website](#) for more information [accessed 31 August 2021].

⁸³ DMCS, Gigabit voucher Scheme: [Who is eligible?](#) [accessed 31 August 2021].

Additional funding is available in some areas

English local authorities

Some local authorities in England have provided additional funding to top-up the Government's vouchers. This funding could be drawn, for example, from their own budgets or from previous superfast broadband programme funding.

The extra funding available differs in each area. A [list of areas with top-up funding available](#) is provided in the DCMS press release dated 2 August 2021.⁸⁴

More information is provided through each local authority, or the broadband delivery body in each area.⁸⁵

Wales

The Welsh Government has provided additional funding to top-up vouchers issued through the gigabit voucher schemes in Wales. An additional £3,500 per rural business and up to £1,500 per residential premises is available. This means that in Wales, eligible rural SMEs can claim up to a total of £7,000 per businesses and £3,000 per residential premises (as part of a group project).⁸⁶

Scottish Broadband Voucher Scheme

The Scottish Government has a separate [voucher scheme](#) that provides:

- A voucher worth up to £5,000 to help deliver a permanent broadband connection to those properties for which there is no roll-out of superfast broadband [30 Mbps] planned.
- A voucher worth up to £400 to help deliver an interim connection to those properties for which there is roll-out of superfast broadband planned, but not until after the end of 2021. Properties in more difficult-to-reach locations may be eligible for an additional subsidy of £250.⁸⁷

The Scottish Government's [online postcode checker](#) allows residents to see if they are eligible. In some cases, rural premises may be able to combine the Scottish Government funding with the UK Government rural gigabit voucher scheme described above; suppliers would take this into account automatically.

⁸⁴ DCMS, [Two million rural homes and businesses to benefit in £5 billion broadband upgrade](#), 2 August 2021.

⁸⁵ The local broadband delivery body may led be the local authority or a local enterprise partnership. See DCMS's [map of local broadband projects](#) defined under the superfast broadband project.

⁸⁶ DCMS and Welsh Government, [UK and Welsh governments team up on big broadband boost for rural Wales](#), 24 June 2020.

⁸⁷ Digital Scotland, [Voucher scheme](#) [accessed 1 December 2020]. See also: Scottish Government, [Delivering R100](#), 18 August 2020.

For further information about the Scottish Government's broadband programme, see the Scottish Parliament Information Centre (SPICe) article: [Connecting R100 – making broadband progress](#), 5 October 2020.

3.2

Previous voucher schemes

Rural gigabit voucher scheme (RGVS, closed 31 March 2021)

The rural gigabit voucher scheme allowed residents and SMEs in rural areas that couldn't access ultrafast broadband speeds to claim vouchers towards the cost of a gigabit-capable connection.

Rural areas were defined based on standard classifications used in each nation.⁸⁸ SME's could claim up to £3,500 and residents up to £1,500 (per premises) as part of a group project.

The scheme was part of the Rural Gigabit Connectivity (RCG) Programme (see section 4.2 below). On 16 October 2020, the Government said the programme had issued vouchers to the value of £33.5 million.⁸⁹

Box 3: Where has voucher funding been allocated?

The Government reported that as of 31 March 2021, its voucher schemes had supported 41,300 connections worth around £84 million.⁹⁰ This figure is for both the rural gigabit voucher scheme (RGVS) and gigabit broadband voucher scheme (GBVS).

A [breakdown of voucher funding](#) provided by region, local authority and constituency as of 31 March 2021 has been deposited in the House Libraries.⁹¹ The Government said it would provide updates on a quarterly basis.

An interactive map of [where vouchers have been allocated](#) is available on the gigabit broadband voucher website.

⁸⁸ DCMS, [Gigabit broadband voucher scheme website: who is eligible?](#) [accessed 1 December 2020]. See also the [Gigabit Broadband Voucher Scheme Terms and Conditions](#), 8 September 2020.

⁸⁹ This figure does not include additional local authority or devolved Administration funding. Source: [PQ 100989, 16 October 2020](#).

⁹⁰ [Deposited paper DEP2021-0373](#) [Gigabit Broadband Voucher Scheme].

⁹¹ [Deposited paper DEP2021-0373](#) [Gigabit Broadband Voucher Scheme].

Gigabit broadband voucher scheme (GBVS, closed May 2020)

The Gigabit Broadband Voucher Scheme (GBVS) allowed eligible SMEs UK-wide to claim up to £2,500 against the cost of installing a gigabit capable connection, either individually or as a group. Residents could claim up to £500 as part of a group project that included businesses. This scheme was not restricted to rural areas – businesses in urban areas could also be eligible.

The scheme closed to applications in May 2020 having used up the funds allocated. It formed part of the Local Full Fibre Networks programme (section 4.1 below).

3.3

Community Fibre Partnerships

Communities not reached by commercial and public-funded broadband programmes may consider developing a community-led project to bring fibre to their area – often called community fibre partnerships.⁹²

There is no government support specifically for community fibre schemes. The voucher schemes explained above, if available in the area, could be pooled together to provide funding for community programmes.

Communities may consider a range of technologies and financing options, including buying into existing rollouts (either commercial or publicly funded); developing bespoke solutions; or building community owned and operated infrastructure.

DCMS has published [guidance](#) for communities including a set of [case studies](#). The case studies show several different funding and ownership models and include “major lesson(s) learnt” from each project.

Some schemes are led by companies, for example, Broadband for the Rural North (B4RN) or Openreach.⁹³

⁹² DCMS, [Guidance Community-led broadband schemes](#), 21 October 2016; [accessed 15 April 2021].

⁹³ Openreach, [Community fibre partnerships](#), FAQs, [accessed 15 April 2021].

4 Previous programmes funding gigabit-broadband

Previous government programmes have funded gigabit-broadband on a smaller scale. These aimed to stimulate demand for gigabit-broadband as well as test policy options for delivering funding, such as voucher schemes and connections to public sector ‘hub’ sites.

This section looks at these earlier initiatives and where funding under them was allocated. Most of these programmes have now closed, however, there often isn’t a clear end-date as project delivery is ongoing in many cases.

The previous programmes included here amount to £887 million investment.⁹⁴

In addition, the government has provided business rates relief to new fibre infrastructure built in England for five years from April 2017.⁹⁵ The superfast broadband programme has also delivered some gigabit-capable connections with public funding (see Box 2).

4.1 Local Full Fibre Networks (LFFN) programme

The Local Full Fibre Networks (LFFN) programme aimed to stimulate demand for full-fibre networks. It was launched under Theresa May’s Government and comprised a £287 million investment.⁹⁶

The programme included:

- The [LFFN Challenge Fund](#) (£190 million, now closed), which awarded grants to local public sector bodies on a competitive basis. It aimed to support full-fibre infrastructure projects with the potential to attract further commercial investment in the area.⁹⁷ A summary of areas receiving funding is provided below.

⁹⁴ This calculation includes: £287 million for the LFFN programme, £200 million for the RGC programme and £400 million for the DIIF.

⁹⁵ [Telecommunications Infrastructure \(Relief from Non-Domestic Rates\) Act 2018](#). See the Library briefing, [Gigabit-broadband: Government targets and policy \(CBP8392\)](#).

⁹⁶ House of Commons Library correspondence with DCMS, 3 June 2019. The £287 million comprises: £200 million from the National Productivity Investment Fund (£190 LFFN Challenge Fund and £10 million trial project); £67 million gigabit broadband voucher scheme; and £11.1 million for the Trans-Pennine Initiative.

⁹⁷ DCMS, [Revised Guidance for the Local Full Fibre Networks Challenge Fund](#), August 2018.

- The Gigabit Broadband Voucher Scheme (£67 million, now closed) – see section 3.2 above.
- The [Trans-Pennine Initiative](#), which is a joint project between the LFFN and 5G Testbeds and Trials Programme “to investigate the potential of using the rail network to enhance connectivity for rail passengers and the population more generally.”⁹⁸ It is supported by £11.1 million funding.⁹⁹

LFFN Challenge Fund

Funding under the LFFN Challenge Fund was awarded in three waves:

1. Wave 1 funded trial projects, for example [six trial projects](#) in different areas were announced in September 2017.¹⁰⁰ In February 2019, DCMS published a [list of rural schools to be connected](#) under a pilot project to test the ‘hub’ approach later used in the Rural Gigabit Connectivity Programme (see below).¹⁰¹
2. Wave 2 provided £95 million to 13 local projects in the following areas:

Armagh City, Banbridge & Craigavon; Highlands; Cardiff; Manchester; North Yorkshire (Nynet); Coventry, Solihull & Warwickshire (CSW); Wolverhampton; London; Mid Sussex; Portsmouth; Cambridgeshire; Belfast and Blackpool.¹⁰²
3. Wave 3 projects, funded by the remaining £95 million in the Challenge Fund, include projects in the following areas:

Suffolk Council (£5.9m);¹⁰³ Plymouth (£3.0m);¹⁰⁴ Herts and Essex (£2.1m); Colchester (£3.5m); Rutland (£2.0m); Isle of Wight (£0.8m); Shetland Islands (£2.0m); Norfolk (£8.0m); South Essex (£4.5m);

⁹⁸ DCMS, [Trans Pennine Initiative Trial: Call for Information](#), updated 30 January 2019 [accessed 3 June 2019].

⁹⁹ House of Commons Library correspondence with DCMS, 3 June 2019. Originally the Trans-Pennine project included the construction of physical masts to support 5G and was funded by approximately £22 million; this was later reduced to £11 million as parts of the project were dropped. For information about changes to the TPI project, see DCMS, [Trans Pennine Initiative Trial: Call for Information](#), updated 30 January 2019 [accessed 3 June 2019]

¹⁰⁰ DCMS, [Local Full Fibre Networks Challenge Fund Guidance](#), 22 November 2017 [accessed 1 June 2019]; DCMS and HM Treasury, [Six areas to pilot UK's fastest broadband as part of £200 million project](#), 3 September 2017.

¹⁰¹ DCMS, [More than 100 rural schools to get gigabit speed broadband](#), 26 February 2019 [accessed 15 March 2019]. House of Commons Library correspondence with DCMS (3 June 2019) confirmed this was part of Wave 1 of the LFFN programme.

¹⁰² DCMS, Guidance: [Local Full Fibre Networks Programme](#), 13 March 2018.

¹⁰³ HM Treasury, [Autumn Budget 2018](#), 29 October 2018, para 4.13.

¹⁰⁴ Plymouth County Council Newsroom, [Ultra-fast broadband coming to Plymouth](#), 26 March 2019 [accessed 3 June 2019].

North Wales (£8.0m); Stoke-on-Trent (£9.2m); Northern Ireland (£15.0m).¹⁰⁵

4.2 Rural Gigabit Connectivity (RGC) Programme

The Government described the Rural Gigabit Connectivity (RGC) Programme as the “first step” in the process of providing funding for full-fibre in rural areas. It ran for two-years (ending March 2021), with £200 million allocated.¹⁰⁶

The RGC Programme had two parts:

- A voucher scheme for rural residents and businesses to support the cost of installing a gigabit capable connection that has now closed (see section 3.1); and
- A trial programme to connect rural public sector buildings such as schools and hospitals (‘hubs’) to a gigabit capable connection. The hub approach will continue under Project Gigabit.

The Government described the benefits of the “hub” approach as being two-fold: first to provide an improved public service and secondly, the surrounding area might then become viable for commercial investment, because the cost to connect decreases if fibre is already in the area.¹⁰⁷

The RGC Programme team initially worked with the Department for Education and the Department of Health and Social Care as strategic partner organisations.¹⁰⁸ The Government [announced the first 31 primary schools](#) to be connected under the programme in May 2019.¹⁰⁹

Further information including how local authorities can express an interest in becoming a strategic partner under the programme is in the [RCG Programme guide](#).

In August 2021 DCMS said that the LFFN and Rural Gigabit Connectivity programmes had funded 1,109 rural public sector sites of which 414 had been connected.¹¹⁰

¹⁰⁵ HM Treasury, [Spring Statement 2019: Written Ministerial Statement](#), 13 March 2019, page 2 includes a list of 9 projects funded under Wave 3 of the LFFN.

¹⁰⁶ The £200 million was drawn from the National Productivity Investment Fund (NPIF). HM Treasury, [Budget 2018](#), 29 October 2018, para 4.13.

¹⁰⁷ DCMS, [RGC Programme Key Information](#), 29 May 2019, [accessed 30 May 2019].

¹⁰⁸ DCMS, [RGC Programme Key Information](#), 29 May 2019, [accessed 30 May 2019].

¹⁰⁹ DCMS, [£200 million rollout of full fibre broadband begins](#), 19 May 2019

¹¹⁰ DCMS, [Project Gigabit Delivery Plan – Summer update](#), 2 August 2021, page 24.

Public sector buildings and Project Gigabit

The Government has allocated an [additional £110 million of Project Gigabit funding](#) to continue the Hub approach. It said that it aimed to connect “up to 7,000” rural public sector buildings such as GP surgeries, and libraries to gigabit broadband. It stated that the DCMS “continues to engage with local bodies and government departments to identify suitable projects” and that it expected the first of these to be progressed in summer 2021.¹¹¹

In the [Project Gigabit Phase 1 Delivery Plan](#) (March 2021) the Government provided further details of how procurement to public sector hubs would continue to support the national roll-out of gigabit-broadband:

We have set up a Dynamic Purchasing System (RM6095) with Crown Commercial Services for Gigabit-Capable Connectivity and now have 41 suppliers fully registered. Local authorities and devolved administrations are procuring services from the DPS, working with the supplier market to reduce barriers for the commercial sector to deliver gigabit services to the hardest to reach areas.

We expect many other government departments and authorities to participate in regional procurements, with 100-200+ hubs sites expected in each regional procurement. As well as facilitating greater delivery of public services online, we estimate these hub sites will have c.30 premises passed with little incremental cost and c.200 addressable premises within 250-300 metres and so provide a platform for suppliers to extend connectivity in these local communities.

The hubs programme remains highly active, with over £50m of future work in the pipeline including Oxfordshire, Dorset, Leicestershire and Lincolnshire due to commence their procurements imminently, with estimated funding value c.£12m.¹¹²

4.3

Digital Infrastructure Investment Fund

The Government announced the Digital Infrastructure Investment Fund (the DIIF)¹¹³ in the [March 2016 Budget](#). It aimed to support the roll out of ultrafast broadband (speeds greater than 100 Mbps) by increasing the amount of capital available for investment.¹¹⁴

¹¹¹ DCMS, [Government launches new £5bn ‘Project Gigabit’](#), 20 April 2021.

¹¹² DCMS, [Project Gigabit Phase 1 Delivery Plan: Public Sector Hubs](#), 19 March 2021.

¹¹³ Referred to in the Budget 2016 as a Broadband Investment Fund but has since been renamed as the Digital Infrastructure Investment Fund – this has been confirmed in House of Commons Library correspondence with DCMS as the same fund.

¹¹⁴ HM Treasury, [Broadband Investment Fund: request for proposals](#), 16 June 2016 [accessed on 17 June 2016].

The [Autumn Statement 2016](#) confirmed £400 million of Government investment in the Fund for new fibre networks over the next four years, which the Government expected to be matched by private finance.¹¹⁵

The Government [launched the fund](#) in July 2017. It was expected to release “over £1 billion” for industry:

The fund, which is expected to more than double the government’s £400 million investment, and unlock over £1 billion of capital in the sector, will be managed and invested on a commercial basis by private sector partners, generating a commercial return for the government. It will ignite interest from private finance to invest in the sector, resulting in more alternative providers entering and expanding in the market.¹¹⁶

Investments from the fund have included £35 million [in Wightfibre](#) (towards building a full-fibre broadband network across the Isle of Wight)¹¹⁷ and an £18 million [investment in Community Fibre](#) (a business aiming to provide full-fibre broadband to social and private housing estates in London).¹¹⁸ Further [case studies](#) are provided.¹¹⁹

¹¹⁵ HM Treasury, [Autumn Statement 2016](#), 23 November 2017, paragraph 4.7 Digital communications. The £400 million is not listed as a new policy cost in the HM Government, [Autumn Statement 2016 policy decisions](#), Table B.2 (Treasury scorecard of policy decisions). The press release launching the fund in July 2017, stated that the £400 million investment was “in addition to” the National Productivity Investment Fund (HM Treasury, [Billion pound connectivity boost to make buffering a thing of the past](#), 3 July 2017).

¹¹⁶ HM Treasury, [Billion pound connectivity boost to make buffering a thing of the past](#), 3 July 2017, accessed 31 August 2018.

¹¹⁷ Wightfibre, [Major Investment And New Jobs As Wightfibre Announces “Gigabit Island”](#), Zoe Heyett, 8 November 2019.

¹¹⁸ Amber Infrastructure Group, [Community Fibre receives backing from NDIE](#), 23 April 2018, accessed 31 August 2018; [London FTTH Broadband ISP Community Fibre Raises Extra £25m](#), Mark Jackson, *ISP Review*, 23 April 2018; [Community Fibre raises cash to connect social housing](#), Nic Fildes, *Financial Times*, 23 April 2018 (subscription only).

¹¹⁹ Amber Infrastructure Group, [Case studies](#), accessed 27 April 2021.

5

Glossary

Broadband speeds

Megabits and megabytes

Megabits (Mb) and megabytes (MB) are both units for expressing a quantity or amount of data. 8 megabits (Mb) is equal to 1 megabyte (MB); 8 gigabits is equal to 1 gigabyte (GB). Bits tend to be used as the unit for broadband speeds, bytes tend to be used as the units for data storage capacity.

Upload and download speeds

Broadband speeds are expressed as the amount of data downloaded or uploaded per second, usually in megabits per second (Mbps). Upload and download speeds are also called the bandwidth.

Download speeds refer to how long it takes for data to transfer from the internet to your computer or device. Upload speeds refer to how long it takes for data to transfer from your device to the internet.

Most typical internet activities, such as browsing websites and checking emails require higher download speeds than upload speeds. Therefore, most internet connections have higher download speeds than upload speeds. Reasonable upload speeds are necessary for applications such as video calling and uploading large files to social media. A “symmetric” connection is one that delivers the same upload and download speed.

More information about typical broadband speeds and what you can do with them is provided in the Library briefing paper: [Superfast broadband coverage in the UK](#) (SN06643).

Upload and download speeds available are determined by the technology used to provide the connection (see below) as well as other factors in the property, such as how devices are set up. See Ofcom’s webpage: [Practical tips for improving your broadband speed](#).

Decent broadband

Ofcom and the UK Government define “decent” broadband as a connection capable of delivering a download speed of at least 10 Mbps and an upload speed of at least 1 Mbps.¹²⁰

This is the specification for the Universal Service Obligation (USO) for broadband. For more information, see the [Library briefing paper on the USO \(CBP8146\)](#).

Superfast broadband

Superfast broadband does not have a single definition. Ofcom defines superfast broadband as download speeds greater than 30 Mbps.

The UK Government’s targets for superfast broadband coverage were based on a definition of download speeds above 24 Mbps.

For more information about superfast broadband in the UK, see the Library briefing paper: [Superfast broadband coverage in the UK \(SN06643\)](#).

Ultrafast broadband

Ultrafast broadband does not have a single definition. The UK Government define it as download speeds of 100 Mbps and higher, whereas Ofcom define it as download speeds greater than 300 Mbps.

Ultrafast broadband can be delivered by technologies such as cable broadband, G-fast and full-fibre.

Ofcom reported that ultrafast broadband (300 Mbps) was available to 59% of UK premises as of September 2020.¹²¹

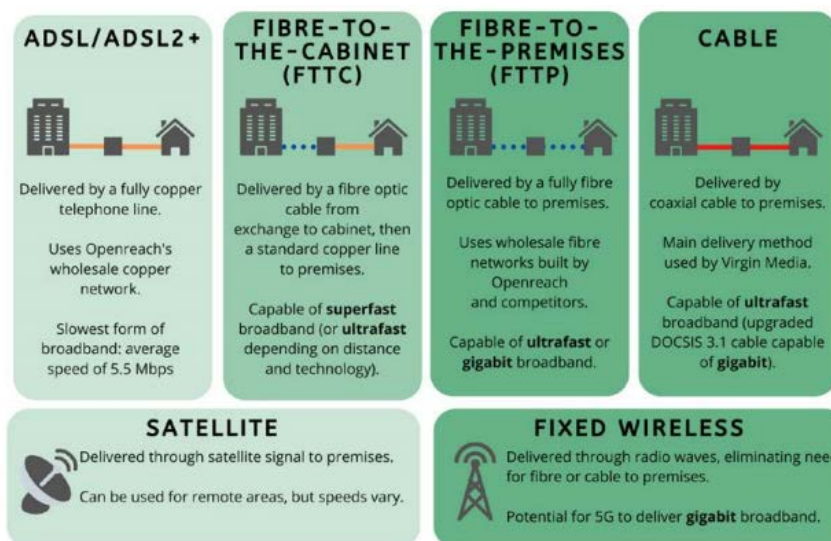
Gigabit-capable connection

The UK Government defines a gigabit capable connection as one that can support speeds of 1 gigabit per second (Gbps). 1 Gbps is equal to 1000 Mbps.

¹²⁰ Ofcom, [Connected Nations 2017](#), December 2017.

¹²¹ Ofcom, [Connected Nations 2020](#), 17 December 2020.

Broadband technologies



Source: DCMS Committee, [Broadband and the Road to 5G](#), HC153, 2019-21, 22 December 2020.

ADSL

ADSL (asymmetric digital subscriber line) technology delivers broadband using copper telephone lines. The connection speed will depend on which type of ADSL is being used; and the quality and length of the line from the telephone exchange to the premises. The further away from the telephone exchange, the slower the connection.

Fibre optic cable

Fibre optic cables are made of glass or plastic. They transmit data using light. Fibre optic cables can transmit more data with faster speeds and significantly less signal loss with distance compared to copper wires.

Fibre to the Cabinet (FTTC)

Fibre to the Cabinet (FTTC) is the main technology used for superfast broadband roll-out in the UK. FTTC connections use fibre optic cables to carry the signal from the exchange to street cabinets and then existing copper telephone lines are used from the cabinet to premises.

FTTC technology can provide download speeds of up to around 80 Mbps. However, the maximum speed that a premises can receive reduces the further away it is from a cabinet. Superfast speeds (above 24 Mbps) available up to approximately 1000 metres from the cabinet.

For more information, see the POST briefing on [Telecommunications Infrastructure](#) (24 March 2017).

Cable Broadband (Hybrid Fibre Coaxial (HFC))

Most cable broadband in the UK is provided by Virgin Media. Cable networks use a combination of fibre optic cables to street cabinets and high-grade coaxial cables (which are also used for cable TV) from the cabinets to premises.

Co-axial cables experience less signal loss over distance compared to copper wires. The latest standard DOCSIS3.1 is capable of download speeds of around 1 Gbps (1000 Mbps).

Full-fibre (Fibre to the Premises, FTTP)

In a full-fibre connection, a fibre optic cable runs from the exchange directly to the premises or home. Full-fibre connections can provide download and upload speeds in excess of 1 Gbps (1000 Mbps). Full-fibre is also called Fibre-to-the-Premises (FTTP) or Fibre-to-the-Home (FTTH).

Fixed-wireless, WiFi and mobile broadband

Fixed-wireless, WiFi and mobile broadband are all ways of connecting wirelessly to the internet. They use radio waves to transmit signals rather than cables as described for the technologies above. Fixed-wireless, WiFi and mobile broadband differ by the radio wave frequencies, signalling and receiver technology and infrastructure used. They are suited to different purposes and areas and are operated by different providers.

Wi-Fi is short-range wireless broadband used in a home or localised setting. A Wi-Fi router converts a fixed/wired broadband connection into a wireless signal that Wi-Fi enabled devices (laptops, tablets, mobiles) can connect to. It uses specific frequency bands with short ranges that do not require a licence for use.

Fixed wireless broadband networks can be used as a solution for rural broadband in areas where cables are difficult to build. There are a few different technologies available for delivering fixed wireless access, including mobile broadband technology.¹²² Fixed wireless networks are usually operated by a specific network provider in a localised area, such as a rural village or town centre. Depending on the number of users, wireless networks may be capable of delivering superfast broadband speeds.

Mobile broadband: usually means internet access provided wirelessly through a mobile network (2G, 3G, 4G and 5G). Mobile base stations are arranged in a 'cellular' format so that a user can move between different base stations and remain connected to a single network. Users must subscribe to a mobile network to gain access.

¹²² Ofcom, [Mobile and wireless broadband](#), accessed 20 February 2019.

5G

5G is the next generation of wireless networks. 5G is expected to support fast download speeds and near instant response times, with the capacity to support many devices operating at the same time. 5G is expected to offer advantages beyond mobile broadband, supporting a wide array of internet connected devices and services, for example, from healthcare to manufacturing.

For more information, see the Library briefing paper on [5G](#) (CBP7883).

Satellite broadband

Satellite broadband is an option for those who live in rural areas where traditional fixed-line broadband services aren't available. It uses a satellite dish to provide access to broadband services. The main advantage of satellite broadband is that it can be provided virtually anywhere in the world, as long as there is a clear line of sight to the satellite (south for the UK). Limitations of satellites include longer response time (latency) and lower data capacity (bandwidth), although technologies are improving.

Next-Generation Access (NGA) Broadband


The EU uses the terminology “next-generation access” (NGA) broadband. The EU defines NGA broadband to be networks that consist wholly or in part of optical fibre cables that are capable of delivering broadband with enhanced characteristics compared to already existing copper networks.

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