

Written evidence submitted by Ewan Sutherland

Introduction

1. The extension and improvement of access to the Internet have been policy issues for HMG for decades. Inquiries have been conducted by committees of both Houses, and debates held in both chambers and also in Westminster Hall.
2. The National Infrastructure Commission (NIC) recommended “nationwide full fibre broadband by 2033”.¹ Its second Assessment is expected in 2023.
3. HMG, in its Future Telecoms Infrastructure Review, set targets of 15 million premises to be connected to full fibre by 2025 and nationwide coverage to be achieved by 2033.²
4. In a delayed response to the NIC, HMG restated its budget of £5 billion to support UK-wide roll-out of Gigabit-capable broadband, explaining:

The government is working with industry to target a minimum of 85% gigabit capable coverage by 2025, but will seek to accelerate roll-out further to get as close to 100% as possible.³

Since its expectation was that commercial coverage by 2025 would be 80 per cent, HMG has been planning only to support provision to a further 5 per cent of properties. Nonetheless, it insisted it was implementing an “ambitious programme of work to remove barriers to broadband deployment and maximise coverage in the hardest to reach areas of the country”.

5. Retail market developments have been tracked by the Office of Communications (OFCOM) in its regular reports.⁴ It is also overseeing universal service provision, based on the Digital Economy Act, though on a very small scale and offering only a very modest speed.⁵
6. In its 35th Report, the Public Accounts Committee found that HMG could not deliver on the pledge it had made in the 2019 general election, that of delivering universal Gigabit capable broadband.⁶
7. Boris Johnson had initially promised universal fibre to the home (FTTH) by 2025, but the Chancellor had subsequently modified this to Gigabit-capable, then in response to the 35th Report the coverage

¹ NIC (2018). *National Infrastructure Assessment: an assessment of the United Kingdom's infrastructure needs to 2050 and beyond*. <https://nic.org.uk/studies-reports/national-infrastructure-assessment/>

² Department for Digital, Culture, Media & Sport (2018). *Future Telecoms Infrastructure Review*. <https://www.gov.uk/government/publications/future-telecoms-infrastructure-review>

³ HM Treasury (2020). *National Infrastructure Strategy*. CP 329.

⁴ <https://www.ofcom.org.uk/research-and-data/multi-sector-research/cmr>

⁵ <https://www.legislation.gov.uk/ukpga/2017/30/contents>

⁶ House of Commons, Public Accounts Committee, *Improving Broadband*, Thirty-Fifth Report of Session 2019-21, HC 688.

was reduced to 85 per cent of premises. Although HMG lacked a detailed plan for delivery of even the revised target, ministers continued to express effervescent enthusiasm about what they branded Project Gigabit.

8. The Labour Party had advocated free broadband from a direct state provider, British Broadband,⁷ a position it restated at its 2021 Conference. Other political parties in the 2019 general election referred to superfast or FTTC broadband.

9. One problem created by HMG is that it introduced delays in the deployment of broadband as a result of its adoption of a policy to exclude certain brands of equipment from commercial networks.⁸ The previous Secretary of State conceded there were consequential delays and increased costs for 5G, including its use for fixed wireless access (FWA).⁹ Nominally the forbidden manufacturers are those designated high risk vendors (HRVs), but are exclusively Chinese.

10. Huawei has a strong position in the global market for the supply of FTTH equipment and was an important supplier of DSL and FTTH equipment to operators in the United Kingdom. HMG has yet to provide a realistic estimate of the delays and the extra costs incurred by its policy of desinification of fixed broadband networks.

11. The Telecommunications Security Bill is presently completing its final stages in the House of Commons, which is considering amendments made by the House of Lords.¹⁰

12. One of the challenges for HMG has been the continuing technological advances, as the potential speed of broadband has been increased with the deployment of more fibre in the network. Initially this was fibre in the backbone, then to the local exchange, next to street cabinets and finally to buildings. There are constraints on the available speed arising from the devices on the ends of the cables into homes, typically operators provide only 1 Gbps on residential fibre connections, though the fibre could work at very much higher speeds. One consequence is that some fixed wireless access (FWA) services, including some using 5G technologies, can offer faster speeds than FTTH and should certainly be classed as Gigabit-capable.

13. The decision taken in 2004 by the then newly created OFCOM to launch its strategic review, which led to the creation of Openreach, appeared reasonable. However it created contingencies that were to prove unexpectedly persistent. Openreach gained a remarkably strong position in the market, with little prospect of change. As the PAC has noted, the BDUK Superfast programme had the effect of further entrenching Openreach. However, with the arrival of a surprisingly large number of new infrastructure providers laying their own fibre optic cables the prospects for infrastructure competition improved greatly. One condition for its growth and sustainability is that the state aid provided through Project Gigabit does not distort competition.

14. In time the Competition and Markets Authority (CMA) is likely to have to address consolidation of the FTTH market. The present number and scale of providers seems implausible in the face of network

⁷ Ewan Sutherland (2020). "Why should broadband be free? Promises and rhetoric in the United Kingdom general election of 2019", *Digital Policy, Regulation and Governance*, 22 (5/6) 413-435. <https://doi.org/10.1108/DPRG-12-2019-0106>

⁸ DCMS (2019). *UK telecoms supply chain review report*. CP 158.

⁹ Hansard, Volume 678, cols 1375-1394 (14 July 2020).

¹⁰ <https://bills.parliament.uk/bills/2806>

economics. It will be important for CMA to ensure that any consolidation does not significantly diminish competition in what may be relatively small geographical markets.

15. While the provision of the ‘clawback’ clause was a sensible measure in the BDUK vendor contracts it raised the level of accounting complexity. Money returned from vendors was re-used to extend the superfast coverage making it very difficult to work out how much aid was being provided and how much subsidy went into each line. It became even more complex when money clawed back from FTTC was repurposed for FTTH.

16. The next section addresses issues from Project Gigabit. It is followed by a short analysis of OneWeb. Then there is an examination of the work of devolved administrations. Finally, conclusions are drawn.

Project Gigabit

17. What is presently designated as Project Gigabit is the result of a number of ideas and interventions by a succession of ministers.

18. The initial problem had become evident when the United Kingdom was found to have a place close to the bottom of fibre broadband rankings compiled by the European Union and the OECD, in contrast to the relatively good position it had with the much slower speeds of superfast or FTTC broadband.

19. Philip Hammond, the then Chancellor, launched the first scheme for full-fibre broadband.

20. Boris Johnson as a candidate for the leadership of the Conservative Party denounced as “laughably unambitious” the 2033 target, which he brought forward to 2025. Shortly after becoming Prime Minister he backtracked on this promise in favour of Gigabit-capable broadband. Gigabit includes both FTTH and DOCSIS 3.1.¹¹ Following the 35th report the target was reduced from 100 to 85 per cent of properties. From the outset, it had been unclear that the Prime Minister or HMG had a detailed plan to deliver on these promises and even today there is limited coherence, despite some very useful initiatives.

21. The project subtitle is “building fast reliable broadband for everyone in the UK”. This might not survive review by the Advertising Standards Authority (ASA), were it subject to its rules.

22. HMG has committed the sum of £5 billion for fibre-based broadband. This figure has been frequently repeated with a variety of tenses, though only £1.2 billion seems to have been activated and even that may not yet have been spent.

23. In October 2021, HMG updated its delivery plan.¹² Once again it boasted of the £5 billion spending which it claimed to have invested. This remains an aspiration, with no published plans for the outstanding £3.8 billion.

24. HMG claims this is “delivering the biggest broadband rollout in UK history”, which would only be true if it surpasses the 95 per cent coverage of superfast broadband.

¹¹ <https://www.cablelabs.com/technologies/docsis-3-1>

¹² DCMS (2021, October 29). *Project Gigabit Delivery Plan Autumn Update*
<https://www.gov.uk/government/publications/project-gigabit-delivery-plan-autumn-update>

25. The achievement of the original goal of universal FTTH remains remarkably uncertain. While HMG is aiming for 85 per cent Gigabit coverage by 2025, it insists it “can push further towards 100% coverage.” However, there is no indication of the likely cost or the time required to reach the last 15 per cent, nor an assessment of the economic benefits.

26. HMG asserts that commercial deployments will amount to 80 per cent of premises, based on an array of operators deploying networks on different scales (see Table 1). While this is not an impossible outcome, it is far from clear how the figure of 80 per cent was arrived at or whether, in the absence of a sensitivity analysis, it is a robust estimate.

Table 1 Commitments by commercial operators to deploy Gigabit-capable networks¹³

<i>Operator</i>	<i>Gigabit-capable lines</i>	<i>Comments</i>
Openreach	25,000,000	By late 2020s, with a weekly addition of over 40,000 premises
Virgin Media O2	7,000,000 - 10,000,000	Upgrade its hybrid fibre/copper network to FTTH
CityFibre	8,000,000	-
Axione Fibre	-	Raised £300 million to fund FTTH networks
Gigaclear	175,000	-
Netomnia	50,000	-
Fibrus	58,000	-
Full Fibre	-	15,000 additional lines per month

27. Not unreasonably, HMG wants to leave the operators sufficient time to deploy networks and to provide further support to allow them to push towards greater availability and coverage. While it asserts that no one should be left behind it is very difficult to understand when the more remote and thus most expensive locations might be reached. The pressure to deliver by 2025 calls for fine judgements, often on relatively small geographical areas, on when to provide state aid and when to hold back to allow the market to work.

28. The Local Government Association (LGA) made a reasonable complaint in its submission to the previous inquiry, in that no justification has been offered for switching from working through local bodies to procurement by central government. As the LGA and others noted, local government has important roles in planning and in issuing permits for street works, which could help ensure the rapid pace of delivery. Given the development of expertise in local authorities for superfast broadband it seems foolish not to use it for Project Gigabit.

29. The different patterns in the various parts of the United Kingdom should have made it possible to draw out the lessons about the different organisations engaged in providing state aid for broadband and to identify best practice. The exclusion of local government needs a justification, other than political expediency. It is difficult to believe it is a good idea only for England.

¹³ Compiled from the DCMS Autumn Update.

OneWeb

30. HMG invested £500,000,000 in a bankrupt satellite operator with a surprisingly complex ownership structure.¹⁴ The other major investor was the Indian firm Bharti.

31. At that time OneWeb had launched 74 of 648 planned low earth orbit (LEO) satellites it needed to provide broadband Internet at speeds of up to 50 Mbps, far short of the Gigabit speeds advocated by HMG and the Prime Minister.

32. The UK Space Agency had reportedly warned that converting OneWeb to a global positioning system (GPS) would be inaccurate and susceptible to jamming and anti-satellite weapons. The apparent need for a UK-based or sovereign GPS was a consequence of Brexit, which had meant the UK was no longer allowed to participate in Galileo. *The Guardian* suggested the UK was buying the “wrong satellites”.

33. Although OneWeb was based in London, with spectrum licensed by OFCOM, there were ten closely linked corporations that had filed for Chapter 11 bankruptcy not in the United Kingdom but in the Southern District of New York (SDNY). Apparently OneWeb had run out of funds. Acquisition of OneWeb would be subject to a national security review by the Committee for Foreign Investment in the United States (CFIUS).

34. OneWeb is unpopular with astronomers since, like other low earth orbiting (LEO) constellations, it creates large amounts of optical noise.

35. While OneWeb may well give the United Kingdom a sovereign satellite capability, it seems highly unlikely to be able to contribute to Gigabit Britain.

Devolved administrations

36. The legislation that devolved powers to administrations and legislatures reserved telecommunications and Internet access to Westminster and Whitehall. Nonetheless, all three have been heavily involved in channelling state aid, some of it from HMG, for broadband in order to promote economic growth and geographical equity.

37. In Northern Ireland responsibility for state aid for broadband has been with the Department for the Economy. Local government has very limited scope with most powers being exercised by the NI Executive or the Secretary of State. There have been four schemes:

- Next Generation Broadband
- Northern Ireland Broadband Improvement Programme (NIBIP)
- Superfast Rollout Programme, Phase 2
- Project Stratum

38. Stratum was partly the result of additional money made available to the NI Executive as part of the confidence and supply agreement between the Conservative Party and the Democratic Unionist Party (DUP).¹⁵

¹⁴ Peggy Hollinger (2020, November 22). UK government buys chunk of bankrupt Starlink competitor, OneWeb, *Ars Technica*. <https://arstechnica.com/tech-policy/2020/11/1724845/>

39. The Northern Ireland Audit Office was very critical of the various schemes.¹⁶ It broadly followed the arguments of the NAO, concerned at the confidentiality clauses and the lack of insight into the real costs of Openreach as the sole provider.

40. While the Scotland Act is unequivocal in reserving Internet access to HMG,¹⁷ a succession of Scottish Ministers have adopted policies and targets for faster and more extensive availability and greater adoption of the Internet.¹⁸ These were often vague and none was delivered.

41. The Superfast Broadband scheme was rebranded as Digital Scotland Superfast Broadband Programme (DSSB), using funds from the European Union and HM Treasury, both dedicated broadband monies and some of its direct grant. Unlike HMG it did not operate through local government, with the schemes administered by two enterprise agencies.

42. In the 2016 election the Scottish National Party promised universal superfast or FTTC broadband by 2020 when that parliament was due to end. The parliamentary session was extended to 2021, purportedly to avoid a clash with a UK general election, but Scottish Ministers failed to deliver even with an extra year. A further delay arose in the case of the Highlands and Islands tender, because of a legal challenge made by a losing bidder. This was settled out of court for an undisclosed sum.

43. It is unclear whether the delays in Scotland are the same as those that resulted in BDUK running several years behind schedule or whether there are different reasons.

44. Scottish Ministers adopted a policy of Reaching 100% (R100) without an impact assessment or even a costing exercise. Admittedly, their only tool is to pay out state aid, since legislation and policy are reserved matters. Their attempt at local initiatives, through the Community Broadband Scotland (CBS) had to be abandoned, since it proved too difficult to develop a workable business model and to ensure continuity of staff.

45. There has been only limited oversight by the Scottish Parliament, with the relevant committee having limited resources and expected to oversee a wide range of issues.¹⁹ Despite the devolution of additional powers in successive Scotland Acts, there has been no increase in resources for committees. Most of the work of the relevant committee has been on the business of Scottish Ministers, with no independent inquiries.

46. One risk arising from the largesse of Scottish Ministers is that it is likely to have driven out private investment, since operators have incentives to hold back from deployment until they receive a handout. A second risk is that by relying on a single provider, Openreach, its commercial position has been greatly strengthened in Scotland.

¹⁵ <https://www.gov.uk/government/publications/conservative-and-dup-agreement-and-uk-government-financial-support-for-northern-ireland/agreement-between-the-conservative-and-unionist-party-and-the-democratic-unionist-party-on-support-for-the-government-in-parliament>

¹⁶ Northern Ireland Audit Office (2021). *Broadband investment in Northern Ireland*.

<https://www.niauditoffice.gov.uk/publications/broadband-investment-northern-ireland>

¹⁷ See section C 10 of schedule 5 of the Scotland Act 1998. The Act was amended by Scotland Acts of 2012 and 2016, but not that provision.

¹⁸ Ewan Sutherland (2017). Broadband in Scotland: broader, faster, poorer, remoter. *Fraser of Allander Economic Commentary*, 41 (1) 93-119.

¹⁹ Ewan Sutherland (2021). Accountability and the Scottish Parliament: Telecommunications policy. *PSA21 - Annual Conference of the Political Studies Association*, 29-31 March 2021, Belfast.

47. The Welsh Government implemented the £425 million Superfast Cymru programme, part-funded through the European Regional Development Fund (ERDF), which helped address the weak productivity of the Welsh economy. The present scheme is Superfast Cymru Phase 3.²⁰

48. To support the adoption of broadband, there is the Superfast Broadband Business Exploitation (SFBBE) project, which was funded by the EU and the Welsh Government.^{21,22} This sought to assist small and medium-sized enterprises (SMEs) adopt new technologies and while there has been widespread adoption of basic services, there have been obstacles in the adoption of more advanced services, such as the Internet of Things (IoT). SFBBE was supported by the development of an annual Digital Maturity Survey of Welsh SMEs to help inform policymakers. While the availability of superfast and Gigabit broadband is clearly necessary it is not sufficient for SMEs, which need support and training in order to incorporate advanced technologies into their businesses. Such an approach would be worth encouraging elsewhere.

49. Coordination between HMG and the devolved administrations is supposedly conducted through the Joint Ministerial Committee (JMC). However, there has been remarkably little evidence of activity by the JMC on broadband. Instead, ministers appear to prefer bilateral negotiations, with some instances of ministers in devolved administrations making public complaints about their need for more funding.

50. Given the importance of these negotiations it is essential that there is a public record that can be examined by Parliament and by the devolved legislatures. That record is also essential to gather the lessons being learned from across the United Kingdom, for example, whether the involvement of local authorities is beneficial and whether support mechanisms are necessary for adoption of the latest technologies by SMEs.

51. There is surprisingly little documentation from HMG to explain why it devolved the provision of state aid for broadband and no analysis of its successes and failures.

Conclusion

52. The complexities of achieving universal fibre to the home or even the somewhat broader Gigabit-capable broadband target were poorly understood by the politicians coining the phrases. Even today they do not have detailed plans, only money and a number of ideas, so that it is unclear when the targets might be delivered, particularly those premises beyond 85 per cent and the most especially the difficult last few per cent. It seems highly unlikely that the outstanding £3.8 billion will be sufficient to deliver the target.

53. The *de facto* if not *de jure* devolution of state aid funding for broadband deployment has created an oversight vacuum, with money being disbursed by a number of administrations but with very limited evidence of parliamentary oversight and none of inter-parliamentary coordination. The Thirty-Fifth Report, while purportedly about the United Kingdom, is really about England, raising questions about

²⁰ <https://gov.wales/broadband-in-wales>

²¹ Alena Stern, Andrew Campbell, and Jean-Charles Zurawicki (2021). *Lessons from Superfast Cymru for broadband access in the United States*. Washington DC: Urban Institute.

²² Dylan Henderson, Max Munday and Annette Roberts (2021). The regional consequences of new digital infrastructure: can Welsh SMEs gain an edge from access and adoption of superfast broadband? *National Institute Economic Review* 255 (1) 42-55. doi:10.1017/nie.2020.48

who is overseeing spending in the devolved nations and whether the lessons being learned in one are being taken up in the others.

54. Given the potential benefits of involving local authorities, English mayoralities and devolved legislatures in the oversight of broadband deployment one option would be to create a unitary body. If representatives of the UK Parliament, the devolved legislatures and all local authorities could meet then it would be possible to ensure that all concerns were raised and all issues addressed.

55. HMG has made much of its levelling up agenda,²³ with HM Treasury having provided £4.8 billion in funds for initiatives.²⁴ Given the complexities of the involvement of the devolved administrations and legislatures and the English mayoralities the same issues arise. HMG and Parliament need to consider how best to coordinate and to ensure that lessons are learned.

56. The decision by HMG to involve local authorities in superfast broadband was not followed by the devolved administrations. This deprived many local authorities of the opportunity to be involved in decision making on an important topic. It would be helpful if the lessons from these natural experiments could be set out clearly, so that if, as the LGA argues, there are benefits then the devolved administrations can evaluate them, even if they decide not to follow the example.

57. HMG has created a number of consultative bodies, notably the Broadband Stakeholder Group and the Digital Economy Council. However, it is unclear whether they are making useful contributions to the expansion of access to Gigabit-capable broadband.

November 2021

²³ <https://www.gov.uk/government/collections/new-levelling-up-and-community-investments>

²⁴ HM Treasury, Ministry of Housing, Communities & Local Government, Department for Transport (2021) *Levelling Up Fund Fund: Prospectus*.
<https://www.gov.uk/government/publications/levelling-up-fund-prospectus>