

DCMS
100 Parliament Street
London
SW1A 2BQ

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Cc: FTIR@culture.gov.uk

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Response to Department for Digital, Culture, Media and Sport: Future Telecoms Infrastructure Review - Call for Evidence

Introduction

As the UK's largest rural Fibre-to-the-Premises (FTTP) network operator, Gigaclear welcomes the opportunity to respond to DCMS's call for inputs concerning the 'Future Telecoms Infrastructure Review'.

The UK's Digital Strategy set out the Government's commitment to delivering 'world-class digital connectivity' that is ultrafast, future proof and delivering full fibre speeds to as many households as possible.¹

We share the Government's ambition to bring full fibre to all areas of the UK. As a rural FTTP operator, we are committed to delivering on the most difficult part of that ambition – bringing full fibre to the UK's most remote, rural locations.

Given our shared commitment and ambition, we want to best equip Government to encourage further investment in full fibre connectivity.

To do this, we explore the impact that the current market structure has upon FTTP investment, along with setting out our own model for financing FTTP delivery. In doing so, we highlight how the risk of BT Openreach ✂ targeting commercially unviable network upgrades to areas where alternative operators are scheduled to deliver FTTP networks can undermine the business case for FTTP delivery.

To address this issue, we propose that where alternative network operators are successful in securing state aid for delivering new infrastructure, BT Openreach is denied from upgrading its network within the relevant intervention area for between 2 and 3 years.

Q1: What is the existing UK telecoms market structure and policy framework able to deliver?

- *When will it deliver, and how certain can we be that it will fulfil the Government's ambitions for full fibre networks and 5G deployment?*
- *What will this mean for roll-out of these technologies and for competitive models in different geographic locations?*

Fixed Broadband Market Structure

¹ <https://www.gov.uk/government/publications/uk-digital-strategy/1-connectivity-building-world-class-digital-infrastructure-for-the-uk>

As the UK's national incumbent, BT Openreach provides fixed connectivity to c99% of UK households. Much of this is delivered through variants of ADSL and VDSL technology. Both of which rely on copper wiring to reach customer premises, so suffer from diminishing service quality over long distances. Whilst other wholesale network operators have developed to offer alternative connectivity to Openreach infrastructure, much of this competition has emerged in densely populated urban areas. For the majority of UK households, BT Openreach remains the only available broadband infrastructure provider.

In Ofcom's current wholesale local access market review, this dominance is acknowledged and BT Openreach is designated as having 'Significant Market Power' in this market. Pricing, quality of service and open access requirements are then proposed as measures to deter BT Openreach from anti-competitive activity.

This is in stark contrast to the retail level, where multiple scale Internet Service Providers (ISPs), operate over the network infrastructure described above.

FTTP Penetration

The above market structure goes some way to explaining the UK's comparatively low levels of premises served by FTTP. Whilst FTTP delivery has seen an upwards swing in 2017, the total for premises passed still stands at c3% of UK households.² Whereas the average FTTP penetration across the EU28 stands at 9.4%, with Sweden and Spain enjoying a penetration rate above 40%.³

Part of the reason for the UK's poor FTTP penetration is due to BT's historical stance of choosing to upgrade or 'sweat' its pre-existing copper infrastructure to deliver faster speeds through VDSL2 and G.fast technologies, as opposed to investing in FTTP connectivity. As the national incumbent and with little wholesale level competition – this decision enabled improvement in bandwidth without the extra costs associated with delivering new full fibre.⁴

However, BT has recently altered its wholesale access strategy and has allocated capital to deliver 2 million FTTP connections by 2020, with ambitions to increase this to 10 million FTTP connections by 2025.

Further FTTP coverage is expected to be provided through alternative operators. This includes City Fibre and Vodafone's partnership to deliver FTTP in selected UK cities, Virgin Media's Project Lightning and Gigaclear's own plans. Together with substantial investment in other full fibre providers such as Hyperoptic, capital investment in FTTP delivery has no doubt increased.

Regarding the geography of delivery, almost all of the operators listed above have prioritised the delivery of FTTP in urban areas, due to more premises in densely populated areas. Gigaclear is an exception in this case, as it plans to exclusively deliver FTTP in rural locations. The vast majority of future FTTP delivery will then be in urban areas.

² <https://www.ofcom.org.uk/research-and-data/multi-sector-research/infrastructure-research/connected-nations-2017>

³ http://ftthcouncil.eu/documents/PressReleases/2017/PR20170215_FTTHranking_panorama_award.pdf

⁴The National Infrastructure Commission estimates that FTTP delivery is 30% more expensive than G.fast over a 30 year period: <https://www.nic.org.uk/wp-content/uploads/Cost-analysis.pdf>

However, it is vital to stress that this expansion in delivery is still an industry aspiration, as opposed to reality. Success in securing capital is only the first step in expanding the UK's FTTP footprint.⁵ ✗.

BT Openreach has stated its ambition to deliver 10 million FTTP connections by 2025, yet this faces substantial hurdles. Meanwhile multiple other operators have expressed plans to increase the scale of FTTP delivery on their respective networks, albeit on a substantially smaller scale to that of Openreach. 10 million UK households being served with FTTP connections by 2025 may then be a reasonable estimate for the industry as a whole.

Summary

In line with the above, the current market structure will deliver an FTTP footprint of c10 Million premises ✗. If the government's ambition is to accept up to 10 million premises receiving full fibre connections almost exclusively in urban areas by 2025, then the above market structure is suitable, assuming that the complexity of BT's customer migration from copper-based infrastructure to FTTP can be overcome.

It is worth noting that this will likely result in missing the Government's intended date of 2022 for delivering 10 million FTTP connections, as set out in the Conservative Manifesto⁶. The emphasis upon urban delivery will also result in exacerbating, rather than addressing, the urban/rural digital divide.

Q2: What barriers exist to *long term* investment in the UK telecoms market (beyond work underway by the Local Full Fibre Networks programme to stimulate demand and by the Barrier Busting Taskforce to reduce build costs)?

- *What effect do existing revenue streams have on investment plans?*
- *What effect do visibility and predictability of returns have on investment plans?*
- *What is the effect of current infrastructure deployment models?*
- *What is the impact of the existing relationship between wholesale and retail markets?*

Wholesale and Retail Market Structure

As detailed in our submission to Ofcom's consultation concerning competition in superfast and ultrafast broadband, BT Openreach has both incentive and capability to price wholesale access products at levels to undermine investment in alternative FTTP network operators, as well as to strategically upgrade commercially unviable areas to undermine the business case for alternative network delivery. Regarding the later point, this is done through marginally improving the quality of service provided, so that consumers are less likely to change to the alternative network operator at the retail level once the network has been delivered.

The threat of such activity is to a level that risks undermining planned network expansion, ✗. However, within this consultation, Ofcom did not explore the risk of BT Openreach deliberately targeting network upgrades to areas where alternative operators are scheduled to deliver FTTP networks.⁷

⁵ Substantial barriers still restrict the speed and scale of delivering full fibre networks. We have expressed these concerns to DCMS's Barrier Busting team.

⁶ <https://www.conservatives.com/manifesto>

⁷ https://www.ofcom.org.uk/data/assets/pdf_file/0021/108381/consultation-wla-competition-superfast-ultrafast-broadband.pdf paragraph 3.4

Such activity would undermine the business case for roll out in that area, as the upgrading of current BT Openreach lines prior to the alternative network going live would reduce the expected rate of take up on the alternative network, thereby deterring investment and descopeing the area from build plans. ✂, the business case for delivery of FTTP in rural areas is based upon a critical level of expected take up, in order to secure investment for further delivery. Activity that reduces the propensity for customers to take up the new service will then undermine investor confidence ✂.

Yet Ofcom does not propose a remedy to this concern, as the remainder of the consultation discusses how to address the risk of regionally targeted price reductions at a wholesale level.

In response, we provided evidence of where BT appears to have ‘reprioritised’ defined regions in its network upgrade plan following Gigaclear committing to deliver new FTTP infrastructure in that area. This risk appears to be highest where BT have failed to secure a BDUK tender and then utilise commercially funded build to undermine the planned delivery of the competitor that has secured the tender.

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Recommendations to address this issue are set out in response to Q4.

Infrastructure Deployment Models

The largest proportion of the cost of network deployment is the civil works required, so operators continually seek to drive down associated costs in this area. This has resulted in rapid innovation in delivery methods, such as the development of ‘mole ploughing’ and ‘narrow trenching’ techniques. These delivery mechanisms deploy infrastructure at a significantly improved rate to that of conventional manual digging, resulting in less time being taken on the roads, therefore reducing costs and limiting consequential congestion. The Specification for the Reinstatement of Openings in Highways 2010 (SROH)⁸ lists these methods as approved deployment measures (as well as setting out the specification required for their use).

Unfortunately, multiple highways authorities restrict the use of such techniques. To do this, they often designate roads as unfit for these techniques, even when there is little or no evidence to support this assessment. Network operators are forced to accept this decision and have no means to appeal or challenge. Whilst the Depart for Transport (DfT), has written to authorities in England clarifying that where narrow-trenching is compliant with the SROH it should be permitted as a delivery method⁹, individual highways officers continue to have full discretion to designate all roads within their jurisdiction as unsuitable for modern delivery methods.

To exacerbate this issue, lead times and restrictions for traffic management schemes (TTROs) vary substantially between authorities, and the required notice times are often significantly longer than the advance periods under noticing or permit schemes, creating different timetables for works in different areas. Local authorities can also request road closures over lane closures, in order to increase the notice time and potential council income or to deter works altogether, through passed on Temporary Traffic Regulation Order (TTRO) costs – where local authorities are obliged to procure advertisement in local publications in order to raise awareness of upcoming highways activity.

We have evidenced these concerns to the DCMS barrier busting team and look forward to working with them to find practical solutions to enabling the most effective delivery models.

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⁸ https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/11042/sroh.pdf

⁹ <https://www.gov.uk/government/publications/the-digital-communications-infrastructure-strategy>

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Q4: The Government wants to consider all market models that will facilitate the next generation of technologies.

- a) **What different market models might work in the UK in the longer term, and what risks and opportunities do they present?**
- **What consequences could different market structures, including ones which support longer pay-back periods, have on the investment environment, competition and outcomes for consumers?**
 - **How might these vary in different geographic areas of the UK, including urban and rural areas?**
 - **Over what timescale could market models be changed, and what policy conditions would be necessary to enable this?**
 - **Are the current arrangements for BT legal separation working effectively?**

As detailed in our response to question 2, the most significant risk associated with scale FTTP delivery in rural areas is a reduction in the propensity for customers to join the network, as this will delay expected revenue uplift and deter future investment.

Whilst low levels of penetration can be caused by multiple factors, the national incumbent has both incentive and capability to act in a manner that leverages its incumbency to reduce take up on the alternative network by upgrading infrastructure in a defined region ahead of rollout of the alternative network.

✂, the risk of such 'strategic upgrading' is greatest where network rollout is supported by state aid, which requires the designation of properties to be broadly determined prior to the selection of the successful network operator. In scenarios where BT bids for such schemes (such as through the BDUK programme) and is ultimately unsuccessful, BT is at that point well informed to broadly establish where the successful applicant intends to rollout to.

The delivery process ✂, often require[s] two to three years before works are complete, depending upon the size of the intervention area. There is then a large window within which BT can act to undermine competition and choose to commercially fund upgrades to the relevant area.

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To address this risk, we ask that Government consider that where non-incumbent network operators are successful in securing state aid for network upgrades, BT Openreach is denied from upgrading its infrastructure within the relevant intervention area for up to the following three years.

This would grant the non-incumbent a short period to commence delivery of FTTP within the intervention area. To ensure effective delivery, the alternative operator could be granted this protection only if network delivery is timely and meets pre-defined coverage requirements. This would ensure that the alternative network is incentivised to upgrade infrastructure quickly and that the 'upgrade freeze' placed upon the incumbent does not result in an absence of any broadband infrastructure upgrades over the two to three-year period.

Such an intervention places no undue burden upon BT Openreach, as to require state aid to deliver broadband infrastructure to a defined area indicates that commercially funded roll out alone would not be viable. Should BT Openreach then be unsuccessful in acquiring the BDUK contract, it should then have no commercial basis for seeking to upgrade infrastructure in the area. The only purpose would then be to leverage incumbency and strategically undermine the business case of the alternative network looking to rollout their infrastructure in that area. This intervention then only targets activity that leverages incumbency to undermine effective competition. It is then a proportionate means to addressing a barrier to further investment.

b) What should Government consider when assessing the potential for migration from copper to full fibre networks?

- **Over what time period could migration occur?**
- **What phases might migration be required to go through?**
- **What would be the pros and cons for markets and competition?**
- **What would the implications be for different groups of consumers?**

Full fibre connectivity has substantially lower operational costs when compared to copper-based connections. This is because fibre cable does not carry electronic charge, so fibre lines are significantly less susceptible to attenuation and water damage. Significant efficiencies can then be made if copper networks can be 'switched off' and instead both voice and data services are served by a single fibre connection. This would free up funding currently allocated to copper network maintenance to be reinvested in further fibre delivery.

As the pace of FTTP rollout varies substantially across the UK, the 'switching off' of copper networks should then progress on a region by region basis. Whilst the transfer from PSTN to IP will be technically complex given the prevalence of PSTN usage, there are communities within the UK where FTTP connectivity already is ubiquitous. Once Ofcom has published the recommendations of its All-IP working group in Spring 2018, Government is then well placed to identify trial areas where the operational benefits of a copper switch off can be realised quickly.

5: The Government wants to achieve its digital infrastructure goals at the least additional cost. How should new digital infrastructure be paid for?

- **Are consumers (residential and business) willing and able to pay for new digital infrastructure, given its expected benefits?**
- **What could incentivise investors and shareholders to make long-term investment decisions in telecoms infrastructure?**
- **What is the potential role of government in stimulating demand or otherwise de-risking new infrastructure investment?**

As described in our response to question 4, we propose that a short-term activity freeze is placed upon the incumbent where state aid supported contracts are awarded to an alternative operator to that of the incumbent. This then restricts BT Openreach from deliberately upgrading commercially unviable infrastructure purely to reduce the propensity of customers moving to the new network.

Such a policy would not require any capital funding from the Government and yet would provide the confidence required to facilitate increased investment in full fibre delivery through alternative network operators.