

Executive Summary

I live on a farm in East Sussex and, like all of my neighbours, currently receive a broadband speed of between 0.5Mbps and 1.5Mbps. This is not sufficient to carry out everyday tasks that most people would regard as integral to their life.

Despite the Government trumpeting the success of the Rural Broadband initiative it has failed to provide any benefit in my neighbourhood, and there are currently no plans at all to improve broadband speeds to homes or businesses like mine. Ironically the one thing the Rural Broadband programme has not done is improve rural broadband. My house is not in the back-of-beyond or in a “hard-to-reach” area. It is 2 miles from the nearest large town and just over an hour by train from central London.

Government policy in this area has actually made the situation for people who live in rural areas much worse not better. The Rural Broadband programme has **widened the digital divide** by prioritising giving superfast broadband to people who already had access to fast broadband while doing nothing for those who cannot even access basic broadband. Furthermore it has fragmented the “last 5%” and in doing so made it totally uneconomic for other operators than BT to seek to serve a particular geographic area.

Like commercial operators, the Government has chosen to prioritise improving broadband to the **easiest-to-reach first** (most of whom already have access to fast broadband). This is a baffling decision. Instead the Government should see its role as helping those who are least able to access basic broadband service, which means prioritising its budget on those with the lowest existing broadband speed and who are the hardest-to-reach.

The current **universal service obligation** of 28.8kpbs, which is still officially considered by Ofcom to be “functional internet access” is so archaic it is laughable. The 2Mbps “universal service commitment” by Government is meaningless since it has no teeth and has been repeatedly delayed. Broadband should be seen as a vital utility with full access to a proper functional speed to all.

BT is behaving like a monopolist, most focused on protecting its line rental revenue, maximising pricing despite poor service, and minimising capital expenditure, it therefore has little incentive to serve the needs of customers in rural areas.

In summary there are four key recommendations that need to come out of this review:

- 1) **Implement a Universal Service Obligation** on the monopoly providers of network infrastructure (ie BT). This should start at 10Mbps but by 2020 should reach 24Mbps and with a clear intention to raise it to 100Mbps shortly thereafter. This would drive increased long-term investment in the industry
- 2) **Reprioritise any further Government subsidies** to those with the lowest existing broadband speed before any further subsidy is spent on those already with good broadband speeds
- 3) **Break-up BT** into a utility provider (Openreach) with a single-minded focus on investing in the UK's broadband infrastructure and a separate consumer arm.
- 4) Force Openreach to offer **free access** to the network, cabinets, ducts and poles in rural areas (which were paid for by the taxpayer) to allow other providers to compete to provide FTTP at reasonable prices.

Background

I live on a farm in East Sussex and, like all of my neighbours, currently receive a broadband speed of between 0.5Mbps and 1.5Mbps. The Government's rural broadband project has already completed its roll-out to my local exchange and cabinets, but I have been told that I live too far from the cabinet to be able to receive any improvement in speed from the deployment of fibre.

East Sussex County Council have no plans to improve the broadband speeds in my neighbourhood and indeed, despite having poured taxpayers money into upgrading the broadband speeds for those who already had access to fast broadband, have suggested that they do not view it as being in taxpayers' interests to subsidise the deployment of other technologies to help those who cannot even get basic broadband.

The Government likes to describe the last 5% who cannot access superfast broadband as "hard-to-reach" or "remote". This is entirely misleading since we are not in a remote location – I live 2 miles as the crow flies from the nearest large town which is on a major A-road and just over an hour by train from central London. There is nothing hard about reaching our home. The technology is available; the demand is there; the problem is entirely one of making the money available under the right regulatory structure.

Broadband is now a vital utility

The speeds I receive are not sufficient to carry out everyday tasks that most people would regard as integral to their life. Many websites don't work at speeds of less than 2Mbps; graphics and videos which are a core part of most websites aren't designed to work with slow connections; it is becoming increasingly difficult to access television programmes through new delivery mechanisms such as iplayer, Netflix, amazon, and BT itself; businesses can't interact with Government in order to fill in tax returns or rural payment forms. PCs won't work without a fast connection since many software products are now being designed that are only available for download (not on disk), that require continual updates from the internet, and/or store much of their data such as help files on-line rather than locally. Banks, utilities, and other service providers often give better deals for customer that use on-line services. Even a new mobile phone requires software downloads to work properly that can take 24 hours to download on a slow connection. There is almost no aspect of modern life that can be carried out without access to a functional broadband connection. Infuriatingly the Government appears to have fallen for its own propaganda and has been spending taxpayers' money advertising its superfast broadband programme when most people in my area can't access it!

I would support the analysis in the Ofcom consultation paper that suggests that 10Mbps is the minimum necessary. However this will very quickly become obsolete in the same way that the 28k functional internet access previously set by Ofcom is now obsolete. Therefore there needs to be a clear upgrade path that ensures all homes and businesses have access to an increasing minimum level of service in the future.

The Digital Divide is Growing

The continual slippage of the basic broadband target, while money is poured into the superfast programme has made the digital divide even wider – a risk highlighted by the Rural Affairs Committee in 2013:

“While we support the Government’s efforts under the Rural Broadband Programme we have concerns that the chosen approach may increase the digital divide further. In pushing for increasing speeds the Government must not lose sight of those who currently lack access to broadband or whose access is below the 2Mbps threshold considered by the Government necessary for an adequate internet service.

The Universal Service Commitment of 2Mbps is a big step forward for households and businesses currently with no or slow broadband. This part of the rural broadband programme is crucial and it should not be undermined by the ambition to roll out superfast broadband to those who already enjoy an adequate service. It must be the priority, particularly if there is a risk of funding not stretching as far as originally hoped.”
House of Commons Rural Affairs Committee report July 2013

Unfortunately the Government appears to have ignored this and made exactly the error that the Rural Affairs Committee warned of.

This means the digital divide is growing every day given that the majority of people in this country can access ever faster broadband. Announcements that BT and Virgin are focusing on rolling out broadband of 100Mbps or even 1000Mbps crowds out coverage of how to help customers get 2Mbps. Providing ultra-fast speeds is a much more glamorous objective than resolving everyday issues for rural customers, and so we are becoming the forgotten last 5%. The digital divide will continue to widen as website designers, government bodies, and companies introduce new services and websites that make use of the faster speeds available to most consumers, while continually forgetting that there are a significant minority of customers who cannot access functional broadband.

Failure of the Rural Broadband programme

The Rural Broadband programme was launched in 2010 specifically to address these issues:

“Rural and remote areas of the country should benefit from this infrastructure upgrade at the same time as more populated areas, ensuring that an acceptable level of broadband is delivered to those parts of the country that are currently excluded”
Britain’s Superfast Broadband Future 2010

This created a lot of anticipation in rural areas as the programme gradually got underway, budgets were allocated and contracts awarded. In East Sussex the Council announced that everyone, both homes and businesses, would get access to superfast technology by 2014, with priority given to rural areas:

“I also want to ensure that our rural areas and other parts of the county that could be hard to reach - where many of our small businesses are located - will be on the priority list for this upgrade.”
Peter Jones, leader of East Sussex County Council 2011

The Rural Broadband roll-out finally reached our local exchange in Robertsbridge in 2014, but only then did ESCC explain that none of the properties in our rural neighbourhood would receive any upgrade to broadband speed from the roll-out. The only properties to benefit are those in the town of Robertsbridge and the village of John’s Cross – all of these properties already had access to fast broadband. Prioritising urban and suburban premises over rural properties in this way is the exact opposite of the commitment made by ESCC and the Government. Furthermore repeated discussions with the ESCC since that time have

exposed that they have no firm plans or timetable to address the problem of rural broadband. It is not clear whether this failure of ESCC is a result of incompetence or deliberately misleading their constituents.

It is apparent that central Government is also gradually realising that the Rural Broadband Programme has completely failed to deliver on its original objectives and address the issue of rural broadband speeds – demonstrated by the fact that this project has now been quietly renamed the “Superfast Broadband programme”. The one thing that the Rural Broadband programme has not delivered is an improvement to rural broadband speeds.

Wrong Technology

A significant reason for the failure of the project has been the selection of a technology for the rural broadband programme VDSL which is actually **slower** than the current ADSL technology over distances more than a few hundred meters. Selecting this technology allowed BT and the government to boast about a tiny fraction of customers that can receive speeds of up to 80Mbps if they live within a few meters of the cabinet. However the price of turning up the speed to those customers, is that the signal fizzles out much more quickly than ADSL for everyone else. To select a technology for use in rural areas that doesn't work more than a few hundred meters from cabinet is rank incompetence (or possibly deliberate on behalf of BT in order to extract yet more subsidies once it became clear that this technology doesn't work in rural areas).

The Ofcom consultation document appears to confirm that BT forgot that there were large parts of the UK that have dispersed population who live more than a few hundred meters from their cabinet:

“BT's focus on fibre-to-the-cabinet in the UK is enabled by relatively short copper loops between telecoms cabinets and consumer premises which mean that superfast broadband speeds can be delivered over short copper lines using the VDSL technology.”

Ofcom Consultation Document

This statement makes it look like Ofcom has also fallen into the same trap since it assumes that there are in fact “relatively short copper loops” between cabinets and consumer premises, when in rural areas these can run to several miles and don't work with VDSL.

BDUK deliberately chose to invest in a future-proof technology by subsidising the laying of fibre to the telecoms cabinets which could be extended to connect to homes to provide the superfast service. However unfortunately they never allocated the budget or developed the plan for the second step of extending the cable, and so there is no means for those who live more than a few hundred meters from the cabinet to use or connect to those fibre cables. The result is that BDUK / BT have built a **very expensive bridge to nowhere**. This makes it all the more frustrating for those of us in rural areas – we have superfast fibre cables within reach, and yet we are not able to use them.

The selection of this technology also means that the people who have benefited the most from the superfast roll-out are those closest to the cabinet who are also the people who already had the fastest broadband service. Whereas those that have the slowest current service because they live further away from the cabinet get no benefit from the roll-out. To focus a Government subsidy programme on those least in need of an upgrade while ignoring those most in need seems a perverse prioritisation. A key recommendation from this

consultation should therefore be that the Government must reprioritise any further subsidy for broadband to those with the slowest speeds first.

Repeated failure to deliver on the minimum service commitment

The previous Labour Government set a target of delivering a minimum universal service commitment of 2Mbps by 2012.

However when the Coalition Government came to power in 2010, Jeremy Hunt, the culture secretary, said that it was not practical to meet the previous government's target of universal broadband coverage by 2012 because the Government had not put the funding in place to deliver this. Instead, Hunt set a new commitment of 2015 for every home in Britain to have at least a 2Mbps connection.

“we remain committed to ensuring virtually all homes will have access to a minimum level of service of 2Mbps by 2015”

Britain's Superfast Broadband Future 2010

Ironically he then proceeded to make exactly the same mistake as his predecessors by failing to put in place the funding or a programme to actually deliver on this commitment, and so this target has now slipped again to 2016.

The Ofcom consultation paper also falls into the same trap in paragraph 1.28 when it says that “The BDUK scheme will provide a basic 2Mbps service to all by 2016.” (my emphasis). BDUK do indeed state 2Mbps as an objective but then have no programme in place to actually achieve it since their three programmes are only the Superfast Broadband Programme, the Superconnected Cities Programme, and the Mobile Infrastructure Programme. Since the Rural Broadband programme was renamed The Superfast programme it has been entirely focused on upgrading people who already have fast broadband to superfast broadband, and does not mention any plans to deliver the basic broadband commitment.

It is as if the Government and BDUK believe **the basic broadband problem will suddenly magically resolve itself** if they repeat the objective enough times.

Meanwhile every mention of the Government's investment in broadband focuses on the superfast broadband objective of delivering a 24Mbps connection to 95% of UK premises rather than on the basic broadband commitment. This has the effect of focusing all the effort and investment on the former at the expense of the latter even if this has meant prioritising upgrading people who may have already had a 20Mbps connection to superfast, above those who currently have a 0.5Mbps connection.

Even more worryingly, it seems as if the Government instead of making investments to deliver on the 2Mbps fixed internet commitment may fall back on a voucher scheme for satellite internet. As discussed below satellite internet cannot be considered a suitable replacement for a fixed wired solution, and this view has been repeated by BDUK many times in the past. If the Government were to claim to have delivered on this target using satellite internet it would be highly cynical.

This demonstrates that a “universal service commitment” is a completely meaningless objective with no teeth, and needs to be replaced with a hard, legal, universal service obligation.

Technologies

One of the reasons given for the failure of the Rural Broadband programme is that there is no BT-approved technology to fill the gap left by the limited reach of Fibre-to-the-cabinet “FTTC”. The obvious long-term solution would be Fibre-to-the-premises “FTTP”, however BT would like to extract very large amounts of money for FTTP since it views this as premium solution for those wanting, and willing to pay for, very high speeds. This is very different from the path taken by the rest of Europe where most countries are investing in FTTP solutions to deliver much greater speeds, and which threaten to leave the UK way behind in their wake. For the UK to have only 1% FTTP deployment when Spain and Sweden have already delivered 58%, and to be 25th out of the EU28 countries is a national embarrassment and threatens to hold back the UK economy in the future.

There is also an intermediate solution called Fibre-to-the-remote-node or FTTrN (or a similar technology called Fibre-to-the-distribution point FTTdp) which brings the fibre cable from the cabinet to a telephone pole near a group of houses leaving copper for only the last 100 or so metres into the homes. This would be a perfect solution to the problem of rural broadband, however we understand from ESCC that BT does not favour this because of the cost of needing a power supply for the equipment on the pole.

The Government appears to be moving towards promoting satellite internet for rural premises, however this is totally inappropriate. In my frustration at being unable to get a fixed broadband service, I have also subscribed to satellite internet with an advertised speed of 20Mbps. In practice this service is actually slower than a 0.5Mbps fixed broadband service due to the issue of latency – the time it takes for the signal to reach the satellite from the home, bounce back down to earth to the internet, and then to return back via the satellite again. In addition the satellite service is much more expensive than fixed broadband and comes with severe restrictions on volume of data, that make it fairly unusable.

The consultation is also looking at the problems of mobile phone coverage in rural areas. Unfortunately mobile broadband is not a solution to rural broadband issues, since we are not able to pick up a good mobile phone signal indoors in my neighbourhood either.

BT Openreach is a monopoly utility, behaves like one and should be regulated as one

The previous Ofcom strategy for broadband was about encouraging competition at a local level through local-loop unbundling. However the market has now moved on and the investment in fibre in rural areas is unlikely to be made by more than a single provider given the economics, as evidenced by the fact that BT won all the local contracts. It has to be recognised that this now means that BT Openreach is a monopoly – there are no other providers of broadband infrastructure outside the major cities.

Indeed the BDUK programme has made it even less economic for other competitors to break into this market and serve customers’ needs. My neighbours and I have spoken to a number of other providers offering wireless broadband or fibre broadband on a local basis but because the BDUK programme has picked off the bulk of the customers in nearby towns who could have joined this group and has fragmented the remaining people trying to access broadband, this would not be economic for them.

The only route for customers in rural areas to receive a basic broadband service of more than 2MB is FTTP on demand. However BT has recently more than doubled the price of its Fibre-on-demand service to take it from exorbitant to astronomical – and appears to be

seeking to get paid four times over for the service: firstly by the subsidy already received from BDUK for the installation of the cabinet and fibre backhaul, secondly from the installation charge to the property (for 2km this now costs £7,350 incl VAT up from £4,200 in 2014, a 75% price increase in one year and compares to the price of 2km of fibre optic cable of about £177 on-line), thirdly by a further fixed installation charge (£900, a 50% increase since last year), and lastly in ongoing rental charges of £1,426 for a minimum 3 year contract up an incredible 160% since 2014). These prices are just the wholesale price charged by Openreach to the ISP which is likely to at least double it. This compares to the prices paid by customers who can access fibre with BT of a £35 installation fee and annual rental of £117 – **effectively BT is abusing its dominant position by charging a price 24 times greater than the equivalent to customers who have more choice.** This level of price discrimination should not be tolerated and BT should be subject to a universal service obligation.

Given that the taxpayer has already paid for the cabinet and the fibre backhaul, we should also be given totally free access (ie no installation fee and no additional rental than that charged to other customers) to connect into this infrastructure, and to use BT's poles and ducts. This would allow other commercial operators to offer FTTP and create competition for BT.

The service quality of Openreach is abysmal. On many occasions I have had to call them out to repair the line when I have lost my broadband connection completely due to the gradual deterioration of the copper cables. You are not allowed to speak to Openreach directly and so communication is made very difficult from the start. Every time you call, you have to go through a voice-recognition menu system that doesn't understand the long tortuous history of the broken line, they refuse to accept that the fault is ever on the BT line (the customer's own equipment is always blamed first), and usually the wrong engineer is sent out multiple times who proceeds to say that it needs a different type of engineer. I am very worried that at some stage BT will just refuse to mend the line at all, pointing to the current USO of only 28Kbps.

BT incentives are misaligned with those of consumers and the Government. One of the problems with the BDUK programme is that it is in BT's interest to select the most expensive solution that delivers the least service improvement, thus leaving room to reap further subsidies in the future when each phase of subsidy fails to deliver a significant improvement. The Government is not qualified to select between different technical solutions, but BT has an incentive to select the wrong technology. For example BT has a huge incentive to resist rolling out FTTP since this would mean there would no longer be a need for customers to pay for fixed phone line rental which is a key source of Openreach's profits.

The poor service, high prices, and lack of capital investment are all characteristic of a monopoly provider where there is no incentive to compete. BT Group is too focused on pouring money into sports television and other consumer offerings (ironically not available to customers in rural areas because of their lack of investment). This points to an urgent need to break BT in two, to allow much greater focus by Openreach on delivering a quality broadband service to the whole country and enable much tighter regulation to ensure that it doesn't continue to abuse its dominant position.

The time has come for a Universal Service Obligation

As the consultation paper points out, the time has come to impose a universal service obligation. For all the reasons described above, it will never be economic to expect the market, or specifically the BT monopoly, to make the investment for the last 5% without

regulation. Furthermore, as demonstrated by the failure of the Rural Broadband programme and the Universal Service Commitment, the Government cannot be relied upon to resolve these issues. Despite this few people would deny that it is in the public interest that all parts of the UK can gain access to what is now a vital utility. This requires a long-term investment programme paid for by all broadband subscribers.

The Universal Service Obligation works very effectively in other utility industries (including fixed phone lines) and should be implemented here with a starting point of 10Mbps and must be delivered using fixed or wireless technologies, not satellite. To provide certainty to BT and enable long-range planning with future-proof solutions the USO should not stop there – it should be increased over time to reach 24Mbps by 2020, and then 100Mbps shortly thereafter. This would lead to increased investment by BT Openreach and would allow the whole of the UK to start to catch up with Europe.

Summary and Recommendations

In summary there are at least four key recommendations that need to come out of this review:

- 1) **Implement a Universal Service Obligation** on the monopoly providers of network infrastructure (ie BT). This should start at 10Mbps but by 2020 should reach 24Mbps and with a clear intention to raise it to 100Mbps shortly thereafter. This would drive increased long-term investment in the industry
- 2) **Reprioritise any further Government subsidies** to those with the lowest existing broadband speed before any further subsidy is spent on those with already good broadband speeds
- 3) **Break-up BT** into a utility provider (Openreach) with a single-minded focus on investing in the UK's broadband infrastructure and a separate consumer arm.
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