



Going the last mile: How can broadband reach the final 10%?

A Discussion Paper by Daniel Heery and Douglas White

Contents

1. Forward	1
2. Introduction	1
3. Background and Aims	2
4. Challenges	3
5. The American Experience	3
6. Reaching the final 10% – An Intermediary Approach	5
6.1. Public Sector Intermediaries	
6.2. Social Enterprise Intermediaries	
6.3. Private Sector Intermediaries	
7. Reaching the final 10% - Types of Funding	8
8. Reaching the final 10% - Process	10
9. Advantages and risks	11
10. Conclusions – Meeting the Challenges	13



The text of this work is licensed under the Creative Commons Attribution-ShareAlike 3.0 Unported License. To view a copy of this license visit, <http://creativecommons.org/licenses/by-sa/3.0/> or send a letter to Creative Commons, 444 Castro Street, Suite 900, Mountain View, California, 94041, USA.

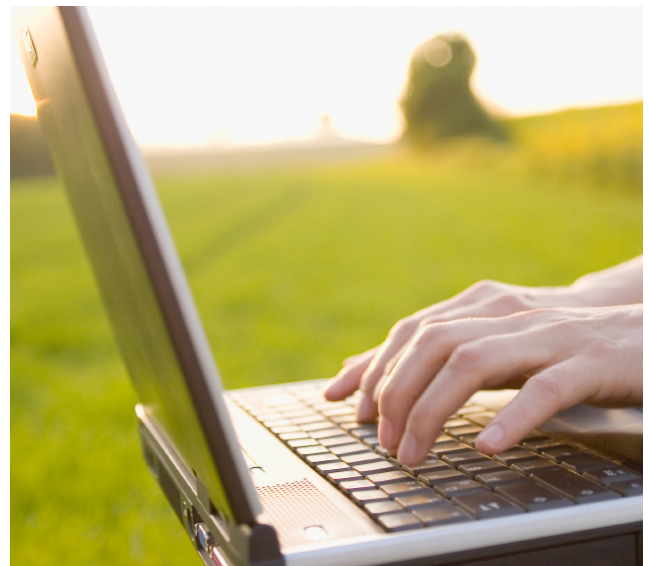
1. Forward

The internet is now an essential part of our everyday lives and 80% of households in the UK have a connection at home¹. Connectivity offers a significant opportunity to erode significantly many of the economic and social challenges traditionally faced by remote communities, and the demand for broadband services in rural areas often outstrips many urban locations. However, the task of connecting properties to Next Generation Access (NGA) is much greater in rural areas due to the lower population densities and the more demanding geography and topography – the combination of which makes the commercial business case for investment much more challenging.

Policy makers have long recognised the risk that technical and economic barriers will prevent people and businesses in rural areas from accessing new digital services that city dwellers take for granted, thereby resulting in economic loss and the risk of social and digital exclusion.

¹ <http://www.ons.gov.uk/ons/rel/rdit2/internet-access---households-and-individuals/2012/stb-internet-access--households-and-individuals--2012.html>

However, there are growing numbers of alternative operators, including community enterprise initiatives, which can demonstrate that tailored approaches at local level are able to deliver fast and reliable broadband to those rural areas. The aim of this discussion paper is to consider how future public investment in this area can be organised in order to achieve the best possible outcomes for the ‘final 10%’ of rural communities who are most likely to be left behind in the roll out of NGA.



2. Introduction

In 2012, the Carnegie UK Trust and the Plunkett Foundation published a joint report ‘Rural Broadband – Reframing the Debate’. In this report Carnegie and Plunkett argued that rural communities which are unlikely to receive a commercial broadband service need to be given more support and resources in order to develop their own, community-led broadband solutions.

The Community Broadband Network (CBN) is a consortium of experienced UK-based business and technology experts who specialise in broadband

projects. CBN has worked with communities and councils to deliver innovative broadband solutions since 2004, focusing on economic, rural, social exclusion and digital inclusion aspects of broadband access. For the past five years, CBN has been active in the debate about next generation broadband through links with government departments, the Broadband Stakeholder Group (BSG), Ofcom and recently Broadband Delivery UK (BDUK). CBN also organises regular conferences and events on Next Generation Access and has been instrumental in the creation of the successful NextGen events.

3. Background and Aims

The UK Government has set an ambitious target for the UK to have the ‘*best superfast broadband in Europe by 2015*’², and has committed more than £800 million during this Parliament to develop the country’s broadband infrastructure. More than £500 million of this funding was allocated to improve the availability of broadband in rural areas. This is UK-wide funding, but the devolved governments are primarily responsible for how funding is spent in their jurisdiction, and have added their own resources to the amounts they have been allocated. In England, the UK Government identified a correlation between localism and supporting grassroots broadband initiatives. One of the challenges of working at a very local level is the high degree of management and co-ordination required to manage a large number of projects. The policy response has been to channel funding through County Councils.

To avoid each local authority and devolved government having to conduct their own procurement process / state aid applications a UK framework was established, and two companies – BT and Fujitsu – have become approved suppliers. However, as governments and local authorities tender for their local contracts some are unlikely to have a choice of provider if only one of the two approved suppliers chooses to bid. The lack of competition has potentially weakened negotiating positions with providers and made it less likely that the current investment will reach 100% of UK properties (in March 2012 superfast broadband was available to approximately 60% of households in the UK from BT & Virgin³). It appears likely that the funding will enable services to be delivered to around of 90% of properties, but the remaining 10% will need additional intervention. The scale of this challenge is illustrated in Northumberland, where the final

10% of households are spread across 60% of the County’s geographical area⁴.

The UK Government has now earmarked an additional £300 million for broadband activity, to be spent after 2015. This investment is extremely welcome, and represents a significant opportunity to finally eradicate the digital divide between rural and urban areas. This discussion paper identifies alternative ways of investing this new funding, and in particular examines how the funding can be used to:

1. Maximise the number of households in the final 10% with access to a superfast broadband connection
2. Promote a community-enterprise approach to the delivery of rural broadband
3. Provide greater infrastructure competition
4. Attract additional investment from new funding sources
5. Keep management costs of the funding to a minimum

⁴ <http://www.inorthumberland.org.uk/>

² <https://www.gov.uk/government/publications/britains-superfast-broadband-future>

³ Ofcom http://stakeholders.ofcom.org.uk/binaries/research/cmr/cmr12/UK_5.pdf



Courtesy of Cybermoor Ltd

4. Challenges

Some of the key challenges faced in meeting these aims are:

- Financing NGA deployments – new entrants to the broadband market, including community enterprises, need to access long-term loans to design, build and operate NGA networks but a financing gap exists as many conventional providers of this necessary long-term finance are unlikely to support NGA projects until they are essentially ‘de-risked’ – i.e. beyond the initial construction and deployment stage.
- The areas which will not be covered by the current round of BDUK / local authority funding are relatively fluid. The location of the final 10% is evolving as providers’ roll out plans change, according to available

technologies, take-up and potential competition. This is a highly challenging environment for rural communities considering developing their own broadband network.

- The final 10% is a marginal environment to build sustainable broadband networks – if it was profitable then operators would already be delivering services.



Courtesy of Cyberrmoor Ltd

5. The American Experience

In considering how to address these challenges it is worth analysing the situation in the United States. The US government provides loans to local communications operators and there are currently 880 companies deploying Fibre to the Home of which around 600 are independents (co-operatives and SMEs)⁵. These operate at local level and are profitable - 97% have less than 10,000 subscribers.

There are several examples from the US of successful state interventions in the telecommunications market, with public investment stimulating community activity and supporting multiple small and medium sized businesses in rural areas⁶:

- Historically, the national telecommunications provider (AT&T) used the profits it made from long-distance calls to subsidise services in remote rural areas, by distributing funds to smaller, usually rural, operators. This cross-subsidy later became more explicit with the creation of the universal service fund programme, and in 2011 this programme was adapted to a new Connect America Fund, with a \$4.5 billion annual budget, focusing on broadband roll out.
- The Rural Utilities Service (RUS), part of the Department of Agriculture, has offered loans to infrastructure providers, including telecoms operators, for many years to help them deliver services in rural areas. The RUS currently has a loan portfolio of \$5.2 billion for telecoms projects, and manages \$2.5 billion in grants.

⁵ <http://www.ftthcouncil.org/p/bl/et/blogid=3&blogaid=6>

⁶ Heather Burnett Gold, President FTTH Council Americas – Support for Rural Broadband in the United States

- As part of the American Recovery and Reinvestment Act (ARRA) 2009 two new programmes were created to provide broadband in rural areas. The Broadband Initiatives Programme provides a mixture of grants and loans worth \$3.5 billion and is managed by the Rural Utilities Service. Nearly 300 communities have so far been supported to receive Fibre to the Home – although a number of environmental, technological and regulatory challenges have had to be overcome during the implementation phase. The Broadband Technology Opportunities Programme has provided \$3.7 billion of funding, focusing on ‘middle mile access’ broadband mapping, and projects with a digital inclusion slant, including activities in libraries and other community hubs. The funding has also helped to stimulate the broadband industry, and encouraged communities to build networks with the support of private enterprises.
- There are several case studies of local telecommunications co-operatives delivering a range of digital services in rural areas. One example is the Highland Telephone Cooperative (HTC)⁷ which was formed in the 1950s to meet the need for a phone service

in rural Virginia, which the market had been unable to provide. There are now 28,000 members who access broadband services and digital TV. HTC is currently building a new network which will deliver fibre optic broadband to all homes, businesses and schools in the area, supported by a \$16.5 million grant and a \$49.9 million loan from the Broadband Initiative Programme described above.

Overall, the experience from the USA shows that:

- Small rural co-operatives can deliver fibre based Next Generation Access if backed by government with the right mix of loans and grants.
- Public sector intervention in this market can work at a significant scale – which means that it can also work in the UK.
- Local, community-led broadband initiatives can offer sustainable, tailored technical solutions which are not always viable for the larger operators.
- Rural operators have been providing fixed line services since midway through the last century, so they already had some capabilities in place to use the new funding.
- A mature municipal bond market has channelled local savings into fibre projects.

⁷ <http://www.htcnet.org/index.html>



6. Reaching the final 10% – An Intermediary Approach

If the UK Government were to invest part of its post 2015 £300 million investment in an alternative model to its existing framework, then how might this be done?

An effective approach could be to use specialist investment intermediaries, which would find the right mix of loan / equity / grant funding for each local project and then manage the finance and relationship with the project (monitoring, making payments etc). Such an approach could open up new opportunities for community organisations to access finance to develop new NGA projects themselves or in partnership with existing operators. This model has been used successfully by the Department of Health to support new Social Enterprises providing Health and Social Care services and create a competitive environment in the health care sector, while the government has also launched Big Society Capital – a fund which intermediaries can access to then lend or invest money to social enterprises.

The benefits of this type of intermediary approach are that it:

- Meets needs at a very local level – as intermediaries can provide tailored support to different projects operating in remote, isolated locations.
- Builds on experience of delivering support in other sectors.
- Allows community groups to leverage in other sources of finance, including from the community themselves.
- Captures the economic ‘externalities’ and societal benefits that internet access delivers but which cannot necessarily be monetised in the form of a householder’s typical monthly broadband bill.

- Provides access to appropriate financing (most mainstream lenders would not offer a term beyond 5 years for these infrastructure projects which may take 10-15 years to pay back. Social enterprise investors also tend to focus on loans which are less than 5 years).

Each local project will clearly have its own drivers and would therefore require different types of intermediary organisation to support it. For example, where the projects have a strong commercial focus, communities may prefer to seek finance from an intermediary that wants a quick financial return. Where social objectives are more important, such as connecting families to reduce digital exclusion, intermediaries which recognise social value may be more important. The personalities driving projects will also be important – for example if local business people are driving a project, they may be more comfortable raising loans instead of grants.

As such we believe that there could be three main types of intermediary organisation – social enterprise, public sector, and private sector – required to meet the varying needs of different projects. Examples of each of these types of intermediary are discussed below.

6.1. Public Sector Intermediaries

Local authorities have a key interest in the delivery of NGA capacity in rural areas, given the shift to ‘digital by default’ in the delivery of public services, and given the stimulus that NGA can deliver to local business activity, inward investment and job creation. Innovative local authorities are already investing public money in broadband and infrastructure projects, and their active role could be extended to include the development of alternative financing models such as Tax Increment Financing (TIF) and the Community Infrastructure Levy (CIL). The public sector is the principal vehicle for capturing the

various economic ‘externalities’ available in an NGA environment, and it could be empowered to play a proactive role in identifying, screening and facilitating broadband projects.

Some examples of this type of public intermediary approach are described below:

- **iNorthumberland Loan Fund**⁸. The loan scheme is operated by the County Council and is primarily designed to encourage inward investment and economic growth in Northumberland, by offering loans to companies and organisations offering digital services to businesses and local communities in remote rural areas. As well as assessing the financial viability of any proposed application, the Fund also assesses applicants in relation to the economic and social impact that they intend to deliver for the region.
- **LEP Growing Places Fund**⁹. This fund is provided by the Department of Communities and Local Government to the 38 Local Enterprise Partnerships (LEPs) in England. The LEPs then decide how to spend this money in their area, supported by local authorities, with the primary focus on boosting economic growth by improving the local infrastructure. The intention behind the funding is to make it easier for projects to get started, as there is a secure financial basis, and to ensure early returns on the investment for the local community.
- **North West Fund**. This fund is a £170 million investment provided by the European Regional Development Fund and the European Investment Bank (EIB) as part of the European Commission’s Joint European Resources for Micro to Medium Enterprises Initiative (the JEREMIE programme). It is managed by North West Business Finance Limited, a private sector company, and is

designed to offer debt and equity funding to SMEs in north-west England. The Fund’s initial investment period runs until the end of 2015, with a realisation period to 2022. Key outcomes the Fund is expected to deliver include: support for 800 businesses; the creation or safeguarding of 14,000 jobs and an additional £300 million to the region’s gross value added.

- **Rural Community Broadband Fund**¹⁰. A wide range of community-led projects as well as a number of local authorities, on behalf of their communities, have applied to the £20m Rural Community Broadband Fund a programme that is delivered as part of the Rural Development Programme for England (RDPE). The RCBF is funded by Defra and BDUK and offers grants to local remote rural communities to deploy superfast broadband in their area. This investment is extremely welcome and a number of communities will undoubtedly benefit from it. However, the complexities of the fund have deterred some groups from accessing support and the match funding criteria have made it difficult for some projects which could not secure the 50% required. Scaling up the fund could provide greater incentive for groups to engage, but the proportion of match funding required may need to be reduced and the application process simplified.

6.2. Social Enterprise Intermediaries

In areas where the social impact of NGA will be greater than the economic impact (e.g. access to government services online) then projects will need a funding package which reflects this. Social enterprise intermediaries can offer this added dimension to these investments. They are used to working with businesses which generate social value but which have difficulty securing finance through the banking system.

Some examples of a social enterprise intermediary approach are described below:

⁸ <http://www.northumberlandgazette.co.uk/news/local-news/leading-the-way-again-on-superfast-broadband-1-5454226>

⁹ <https://www.gov.uk/government/news/500-million-fund-to-unlock-the-potential-for-economic-growth>

¹⁰ <http://rdpenetwork.defra.gov.uk/funding-sources/rural-community-broadband-fund>

- **The Social Investment Business (TSIB)** offers a mix of funding to civil society organisations, including both loans and grants and tailored business support. It has managed funding to more than 1,000 organisations, with amounts ranging from less than £5,000 to nearly £7 million. TSIB focuses on tangible projects, supporting them towards a more enterprising approach and encouraging innovation. It has invested more than £100 million for the Department of Health in various health and social care projects¹¹.
- **Big Issue Invest** offers funding to social enterprises, charities, and businesses with a social goal. They can provide funding from £50,000 to £1 million in the form of loans, participation loans (where repayment is linked to the future performance of the enterprise) and equity. They do not provide grants. Their investments have focused on what they call 'transformational social enterprises', such as Jamie Oliver's Fifteen, 4Children, Cool2Care, Barnardos, HCT, Pathfinder Healthcare Developments, SCA Healthcare, Turning Point, and War Child. Last year they merged with TSELF which has regional offices and has financed a wide range of community organisations.

6.3. Private Sector Intermediaries

Private sector intermediaries can leverage in additional finance and can have a clear view on an exit strategy which benefits more commercially attractive projects. In particular, when appealing to private investors, Financial Service Authority regulations require detailed scrutiny of business plans by intermediaries. This aims to reduce the risks on private investors. Additionally, attractive tax incentives exist like the Enterprise Investment Scheme (EIS) and Seed EIS that enable tax rebates of up to 50% on investments.

Some examples of private sector intermediaries

include Broadway Partners, which has launched an EIS Fund to provide investors with the chance to access a spread of tax efficient investments in businesses providing superfast broadband services to rural communities, initially targeting three projects for the first round of investment:

- **Cotswolds** www.cotswoldsbroadband.co.uk – Cotswolds Broadband anticipates capital costs of £5.8m for developing a superfast broadband service in area that has a high density of small businesses and significant numbers of homeworkers and 'microbusinesses'.
- **North Dorset** www.northdorsetbroadband.co.uk - The project is aiming to deliver a fibre optic broadband service to more than 2,000 homes and nearly 200 businesses, in an 8-mile stretch between Blandford Forum and Sturminster Newton. Initial funding of £4.1m is required.
- **South Devon** www.southhamsbroadband.co.uk – At a cost of £1 million the project aims to provide superfast broadband to Thurstlestone and Hope Cove, an area with a high number of holiday homes and hotels. An active community team are playing a key role in the project.



¹¹ <http://www.tsrb.ac.uk/LinkClick.aspx?fileticket=dllSde27qNA%3d&tabid=757>

7. Reaching the final 10% - Types of Funding

Regardless of the type of intermediary organisation offering support to local projects, it must be recognised that supplying the final 10% (i.e. 2.5 million households) with NGA services of an equivalent level to those available in urban areas will cost several billion pounds. As outlined in the introduction, this cost is unlikely to be met through normal market forces, and it cannot realistically be funded by the public sector through a conventional 'gap-funding' mechanism.

However, we should not accept that the final 10% must endure a poorer digital infrastructure than the rest of the country, given the significant benefits that digital technology can offer the most remote communities. Therefore, one of the key aims of further public investment in this area must be to generate a significant 'multiplier effect', stimulating parallel investment from the private sector. However, traditional match-funding approaches often present significant challenges for communities wishing to develop local broadband services. A different approach is therefore likely to be required. One option would be for public funding interventions to be designed in such a way as to attract investment from multiple sources – for example personal savings, institutional pensions and insurance funds, and industry – all of whom have a clear capacity and willingness to invest, given the right conditions. This would represent a shift from grant funding to co-investment, which could be effective in generating a positive response to the market, reducing State Aid burdens, and helping to secure the type of long-term financial support needed by new entrants, including community enterprises.

We suggest that, working through the types of intermediary organisation described above, additional public funding to support broadband deployment in the final 10% could offer a mix

of loans, equity and grants depending on the location, cost, social impact and technology used in the project:

- **Loan Funding** – Where commercial loans are available, for example at an interest rate of 4%, the intermediary organisations could make loans of 1% and the aid would be the difference (3%). Under *de minimis*¹² ruling this could support a loan of £450,000 for a couple of years as a network is built out. Loans have been used to support NGA roll out in Europe. For example, last year the European Investment Bank lent more than a £100 million, supported by a similar investment from the commercial banking sector, to a company to expand its fibre network to across 50 additional areas in the Netherlands. The loans will be used to construct a high-speed Fibre to the Home network, with download speeds of up to 1Gb/s.
- **Equity** – Programmes like the Social Enterprise Investment Fund (SEIF) looked at providing equity support as part of its £100 million investment. It could form a part of investments through community shares¹³ in marginal projects which have a long-term payback. The B4RN project has raised

¹² State Aid is a term for financial support that a publicly-funded body or public body grants towards funding a project.

¹³ <http://www.communityshares.org.uk/>





approximately £750K¹⁴ through community shares so far. This would allow the funding interventions to be managed on a long-term basis.

- Grants – Awarding grants to projects would help in de-risking them for private sector and community investors. This could provide an opportunity for funds to be matched at source with contributions from organisations like Big Society Capital. In some very remote communities, it will be hard to make a commercial return on investment in fibre optic cables. Grant funding would not provide the same returns to the government that loan or equity funding would.

The type of funding required for each project would clearly depend on the business case for investment:

- Marginal Business Case – in cases where the potential financial returns are very low (sparsely populated area, long way from existing fibre), there is a case for a higher proportion of equity / grant funding and less loan funding. It is likely that revenues will be relatively low and short term loan funding would be difficult to repay.

- Average Business Case – in places where the business case is modest, such as villages which are relatively densely populated, but a long way from existing fibre point of presence, then the returns would be better than the last scenario. However, conventional loan funding may not be available so a mix of equity and soft loans funding could be offered to get a project off the ground.
- Good Business Case – some business parks and areas with high densities of business are currently underserved by NGA and in these areas there is a potential to generate a rapid return on investment. In these cases a loan would be sufficient to deliver services.

While there may be some issues around state aid, some of the mechanisms proposed have been successfully used elsewhere in Europe. The intermediaries would be advised on how state aid issues could be most effectively managed, but there are good examples from schemes around Europe. The JEREMIE¹⁵ and JESSICA funds offer a toolbox of financial instruments (www.eib.org/products/jeremie) to SMEs covering: guarantees; co-guarantees and counter-guarantees; equity guarantees; micro-loans; export-credit insurance; securitisation; venture capital; business angel matching funds; and investment in technology transfer funds.

¹⁵ Joint European Resources for Micro to Medium Enterprises. It is a joint initiative of the European Commission and the EIB Group, mainly through the European Investment Fund.

¹⁴ Presentation at Rural Workshop: FTTH in the UK - A Detailed Analysis
<http://www.ftthcouncil.eu/ftth-conference/programme/workshops>

8. Reaching the final 10% - Process

The challenges of providing Next Generation Access are extremely local – they vary from street to street and even from home to home, so it is essential that solutions are properly tailored. At the same time, there needs to be economies of scale to ensure that the management costs of the UK Government's further investment in this area do not become excessive. Under the intermediary approach described above there would clearly be an administration charge levied by each of the intermediary fund managers. At this stage it is difficult to quantify what this charge would be, as it would depend on the amount of support that projects would require in the run up to applying to an intermediary and the amount of monitoring and support required after the project has started. A first step to developing a better understanding of these costs could be a feasibility study of the number of potential projects, their investment readiness and how they would operate.

The process for developing an intermediary model in order to achieve the right balance between cost-effectiveness and tailored support would be likely to include the following steps:

1. **Intermediaries selected.** BDUK could select 6 intermediaries who would offer a range of different financial products to local projects. Using information on projects built up from the RCBF, it would be possible to stratify the types of projects in the market and identify which sources of funding would be most suitable. A lead partner would co-ordinate the intermediaries and convene a finance board which would select projects for funding.
2. **Intermediaries bid for funds as they need them.** Intermediaries could bid for funds to invest in and then manage these funds on behalf of BDUK. They would set out their plans, experience and capabilities in how they would manage the funding allocated to them.
3. **Applicants apply to intermediaries for finance.** The different intermediaries would reflect the different characteristics of the projects – in areas where the projects are most viable, loan funding with a relatively short return on investment may be the best solution. Commercial operators would likely be more comfortable applying for this type of finance. In areas where the service is focused more on digital inclusion and the returns are likely to be more marginal, a mix of equity, grants and long term loans is likely to be the best solution. Other intermediaries with experience of working with social enterprises would be more useful here. In places where there is a poor return on financial investment, there would be greater social returns as it would allow remote communities to benefit from improved public services.
4. **Intermediaries allocate finance and monitor projects.** Once a project has been supported, intermediaries would monitor progress and report back to BDUK on progress. Intermediaries which are successfully supporting projects could draw down more funds.
5. **Projects are completed.** As soon as the projects begin to trade and generate revenue, the intermediary begins collecting interest and managing the investments on behalf of the UK Government.

This approach could also be used in the devolved jurisdictions, as the £300 million will be UK-wide funding. The biggest challenges are arguably in Scotland where the geography and topography is the most demanding and communities are more

widely dispersed. Scotland has already begun to adopt a form of intermediary model, with the establishment of Community Broadband Scotland (CBS) to manage a community broadband 'seed fund' and provide online, telephone and face-to-face support to local projects. The Carnegie UK Trust is part of the Project Advisory Group for CBS. The Welsh Government will contract with BT to deliver FTTC broadband to most parts of Wales and the remaining areas which will not be upgraded will need to use alternative technologies. The broadband voucher scheme finishes at the end of March and the Welsh Government are currently looking at how they manage interventions in areas which will not benefit from the main roll out. They could

potentially use Welsh financial intermediaries to manage investments in Next Generation Access projects. Since Northern Ireland invested extensively in superfast broadband roll out, Ofcom¹⁶ estimates that 95% of premises are now capable of receiving a service. The Department of Enterprise, Trade and Investment is supporting projects to provide services in areas with poor connectivity and went out to consultation in autumn 2012 to identify areas which are still experiencing slow speeds.

¹⁶ <http://media.ofcom.org.uk/2012/11/16/faster-download-speeds-for-internet-users-in-northern-ireland/>

9. Advantages and Risks

We believe the advantages of the intermediary model and mixed funding approach described above include:

- UK Government sees a financial and social return on investment. Social enterprise investment intermediaries work with applicants and specialists to measure the social return on investment.¹⁷
- Local ownership of assets helps to drive take up and the development of new services and complements activities in Community Rights programme supported by the Department of Communities and Local Government.
- Local and regional projects help to build capacity and skills developing new jobs in the sector.
- Support to a wider range of rural businesses, in addition to broadband suppliers.
- Opens up the potential for co-funding from the private sector and other lenders like Big Society Capital.

- Allows the government to make local interventions and provide support without the need for significant investment in additional staff.
- Improves the competitive environment for business – stimulating new business opportunities.
- Risk is spread across a number of operators and projects so none is 'too big to fail'.

We recognise however, that there are also a number of risks attached to the described approach. These include:

- Failure to invest. Some loan funds in the past have failed to invest as projects have not emerged which meet the requirements. This could be mitigated by selecting intermediaries with robust plans and making fund management charges contingent on investments – i.e. no investment, no fee.
- Projects fail to deliver. There are likely to be some projects which do not deliver as expected – but these projects will have

¹⁷ <http://www.thesroinetwork.org/>

created assets (such as fibre networks) which will have real value. Structuring contracts with 'step in' clauses could allow new operators to be appointed if partners do not meet the terms agreed (this model works well with privately funded community assets such as wind turbines). BT is using Shetland Telecom's infrastructure to deliver services, demonstrating that other operators can use rural fibre networks.

- Projects cannot raise the match funding. Match funding of 50% has been necessary for RCBF but the £300 million which has been earmarked is UK Government (rather than European) money, which provides greater flexibility. If match funding requirements were similar to the BDUK framework – where some projects only have to raise 11% of the match funding, this would lower barriers to accessing the finance. However, the intermediary model also offers opportunities to attract a wide range of different funding – including private sector investment, investment from different parts of public sector, and from local communities themselves.
- Industry capacity – are small independent operators capable of playing a leading role connecting 2.5 million challenging homes? The fact that the BDUK Framework procurement process initially attracted 12 consortia of interested bidders suggests that there is a desire in the industry to rise to the challenge. Niche operators such as Gigaclear are already carving out sustainable businesses but there would be a need for companies to meet the challenge. There is evidence from the Welsh Government's broadband voucher scheme that companies do increase their capacity to meet the new opportunities available. Meanwhile, BT relies on an ecosystem of subcontractors to carry out work from digging trenches to fibre splicing and some of these contractors may be interested in working with other NGA projects. Operators

would be able to engage these contractors to work with them on projects. The construction element (e.g. trenching) is a big part of any fibre project and there is plenty of evidence that the construction industry has spare capacity to carry out this work. Projects could focus on employing local people to carry out the construction work and create a number of new jobs.

- Can communities develop the projects to connect 2.5 million challenging homes? More than 50 projects submitted detailed registers of interest to the Rural Community Broadband Fund and were then invited to make applications to the fund. This demonstrates that there is an appetite amongst communities which would arguably increase as lack of access persists in the final 10%. Communities are becoming increasingly skilled at managing local services and the UK Government is already supporting communities which want to take over local services through DCLG's Community Right to Build and Community Right to Challenge initiatives.



Courtesy of Calix

10. Conclusions – Meeting the Challenges

Reaching the final 10% of rural households is technically and financially challenging and the discussion paper has outlined some ideas that have worked in other policy areas and other countries to meet these challenges. We do not claim to have identified the solution – but we hope that the ideas presented here will spark discussion and debate about how the needs of communities in the final 10% can best be met.

The summary below describes the key points from the discussion paper about how the challenges of delivering NGA to these communities could be overcome:

1. Financing NGA deployments – new entrants need to access long term loans to design, build and operate NGA networks.
 - The use of financial intermediaries can deliver the right mix of investment for communities to build their networks.
 - Provision of long term loans, currently not provided by the market can stimulate the growth of NGA networks.
2. The areas which will not be covered by the current round of BDUK / local authority funding are relatively fluid.
 - Approaches which have successfully been used to date to roll-out superfast broadband will not be as straightforward for the remaining 10% of properties.
 - A more tailored approach will be required – using innovative technology and finance to meet hyperlocal challenges.
 - If communities could secure social investment (loans and equity) it would

accelerate the roll-out of NGA by increasing the viability of schemes for both communities and operators.

- These schemes could then take place regardless of there being some overbuild by other operators, providing they delivered a long term infrastructure.
3. The final 10% is a marginal environment to build sustainable broadband networks – if it was profitable then operators would already be delivering services.
 - Rural communities can play a vital role overcoming these challenges by working in partnership with operators to secure finance, drive demand and build the networks.
 - Social investment can open up this potential and provide a long-term return to the government.
 - The approaches here can help share the risk of delivering NGA to these communities between all parties, including government.

We welcome the views of UK and devolved governments, the public sector, industry, funders, and local communities on these issues.

This report was written by Daniel Heery, Director, Community Broadband Network and Douglas White, Senior Policy Officer, Carnegie UK Trust

March 2013

Community Broadband Network supports, promotes and develops community-owned broadband schemes. We have helped more than 100 projects directly and connect 200 project promoters throughout Great Britain. We develop strategic thinking in Next Generation services and architectures and work with partners to deliver advanced and exciting community services. CBN works with communities, local authorities and NGOs, both in the UK and internationally, to help develop community-focused, sustainable broadband networks. We bring together some of the UK's top experts in telecommunications strategy, business development, technical implementation, and social ownership and mutual structures.

Community Broadband Network Limited
FAB Services
Enterprise House
Manchester Science Park, Lloyd Street North
Manchester M15 4EN

Phone: 0845 456 2466
Email: info@broadband-uk.coop

The Carnegie UK Trust works to improve the lives of people throughout the UK and Ireland, by changing minds through influencing policy, and by changing lives through innovative practice and partnership work. The Carnegie UK Trust was established by Scots-American philanthropist Andrew Carnegie in 1913 and we are delighted to be celebrating our centenary in 2013. Please see our website for further information on our centenary plans.

Andrew Carnegie House
Pittencrieff Street
Dunfermline
KY12 8AW

Tel: +44 (0)1383 721445
Fax: +44 (0)1383 749799
Email: info@carnegieuk.org
www.carnegieuktrust.org.uk

ISBN 978-1-909447-00-



9 781909 447004



CHANGING MINDS • CHANGING LIVES 1913 – 2013
Carnegie United Kingdom Trust
Scottish charity SC 012799 operating in the UK and Ireland
Incorporated by Royal Charter 1917

