

# **North Isles Community Broadband Scheme**

## **FAQs**

### **Q. Where did the idea for this Community Broadband scheme come from?**

The idea came out of discussions between Unst Local Development Officer, Verona Shaw, and Fetlar Development Worker, Robert Thomson. While discussing issues relating to their own areas they sought advice from Shetland Telecom and Shetland Broadband. A collaboration to help all of the North Isles communities appeared the most effective way of solving the issue of poor broadband service. After discussions with the various local Community Councils and Development Companies, it was agreed to take the idea forward to a community engagement stage.

### **Q. What is broadband speed?**

Every page, image and video on the web comes to your home device as small pieces of data, or packets. Broadband speed is a measure of how fast these packets move on the network and is measured in Megabits per second, abbreviated Mbps. Historically the download speed in Mbps, is the one quoted when comparing speeds. *\*(<http://www.fcc.gov/guides/broadband-service-home-consumers-guide>)*

### **Q. What is the difference between download and upload speed?**

The download speed is the speed of getting information from the web to your computer, and upload speed is the reverse – the speed of moving information from your computer to the web. \*

### **Q. How can I check my broadband speeds?**

By using a website such as [www.speedtest.net](http://www.speedtest.net) . A small programme on the website will test the speed of your connection. Simply go to the webpage and once the page has fully loaded click on the “**begin test**” button. It will take around a minute to give you the results.

### **Q. What is the current average broadband speed in the UK?**

It is currently around 17Mbps and increasing monthly. This is significantly more than the best speed BT can offer anywhere in the North Isles and over 30 times faster than many people are currently getting!

### **Q. What is the EU’s target for broadband speed?**

They had aimed to have everyone on at least 2Mbps by 2013. But the targets are now that all customers have at least 30Mbps by 2020 and that 50% of customers have 100Mbps or more by the same date.

### **Q. What is fibre optic broadband?**

Fibre optic technology converts electrical signals carrying data to light and sends the light through very narrow transparent glass fibres. The main advantage to fibre data transmissions is the speed at which it travels. Fibre optic broadband speeds far exceed current DSL (Digital Subscriber Lines) or cable modem speeds. The actual speeds users experience is dependent on many factors, including proximity to the service provider, and how the connection is configured. Fibre optic technology is more expensive than other broadband delivery methods. The various kinds of fibre optic technology available depend on how far the fibre is installed. Fibre to the Home (FTTH) runs the fibre all the way to the customer's home or business. Fibre to the Cabinet (FTTC) runs fibre to a neighbourhood, where pre-existing copper telephone lines deliver broadband service to the customer's home or business. \*

### **Q. What is wireless broadband?**

Wireless broadband uses a radio link between the user's location and the service provider's facility. In many ways it is similar to the Wi-Fi networks in people’s houses or provided at various locations. It however works on different frequencies and requires larger aerials, as it has to cover much longer distances than the few tens of metres that Wi-Fi does. It is relatively quick and inexpensive to install in comparison with other options, but does require periodic replacement of the outdoor aerials. Current systems can easily provide the speeds required for next generation broadband (currently classed as 30 Mbps+). However it is not as easily upgradeable as fibre and does have higher on-going maintenance costs. The SIC have successfully piloted wireless systems in both Vidlin and Fetlar which have proved very reliable. BT does not currently offer this type of broadband on its networks.

**Q. How is broadband internet provided across the North Isles at the moment?**

BT currently use two different solutions. In some of the small exchanges e.g. Uyeasound and West Sandwick they use "Exchange Activate." This provides a limited number of connections at a "fixed" speed of 0.5Mbps. In others they use ADSL which allows variable speeds of up to 8 Mbps for those near enough the exchange (normally under 1.5km); customers further away will get progressively slower speeds until at about 7-8km they will not get anything.

For backhaul i.e. linking up various exchanges and linking back to the mainland, BT seem to use a number of technologies including microwave links, copper wire and some fibre links. However these are only observations as BT do not normally share details of their network infrastructure and from past experience we would not be able to access any of their network to deliver the community scheme in any case.

**Q. What is the North Isles Community Broadband Scheme proposing?**

That we install a community owned fibre-optic network in the North Isles. This would link to the existing fibre connection at Sullom Voe via a gigabit wireless link across Yell Sound. The fibre would run north through Yell and Unst, again using gigabit wireless links across Bluemull Sound to Unst and Fetlar. In general, the fibre would be following the main roads with options for side roads. In Fetlar, fibre would be run across the island, probably to link initially with the existing wireless network, while fibre was laid into homes. As far as possible we are aiming to get fibre connections into every home, however some places may prove challenging in which case wireless could be used. Scheme members will be encouraged to help lay the fibre to keep costs down. Simple attachments can be used on tractors to put in the cables quite quickly.

**Q. Do I really need a faster service?**

Yes, because as telecommunications and the internet develops at an ever increasing rate, many services will be delivered increasingly online such as healthcare and consultations, social care, education and training, business and legal services etc. Even if you are happy with receiving up to 6Mbps presently this speed (around a third of the UK average) will not allow you to access and operate online services efficiently in one or two years' time; never mind in five or ten years time as services will be tailored to national average speeds, which are going up monthly as the rest of the country increasingly benefits from extremely fast fibre connections.

**Q. Will BT not provide this anyway?**

The intention of the Government's Step Change Programme is to have next generation broadband (30Mbps+) accessible to all households in the UK by 2020 – much of this will be delivered by BT. BT own the copper-wire network on Shetland and will install some faster broadband services likely to areas that are more densely populated. The problem is that even if the exchanges are upgraded, and can provide faster broadband, many people connecting from distances that are over 1 – 1.5km from the exchange, will not be able to access the broadband due to the limitations of the copper infrastructure. In fact some people who are further away will get a worse service than they currently do! BT have not indicated when and what areas of Shetland will receive these upgrades or improvements.

**Q. What are the advantages of the community broadband scheme?**

- 1) Everyone across the North Isles will have the opportunity to access a next generation broadband service (+30Mbps) if they wish.
- 2) This is a long term solution with as far as possible a fibre-optic backhaul installation.
- 3) The community will have complete control and management of the scheme from planning to installation, and aftercare. Some elements may be contracted out.
- 4) The scheme offers flexible options for end user installation and services bought, to include a range of monthly packages, possibly including telephone and entertainment.
- 5) With the full backing of the community and secured funds, this scheme could be installed in a much shorter timescale and would offer a much better solution to the whole community than the national Step Change Programme is likely to. (This programme has no confirmed timescales for the North Isles to date. They are only surveying next year.)
- 6) Fibre-optic broadband is the most technologically advanced solution for providing a faster, more reliable and easily upgradeable service at affordable rates.

**Q. Is the technology available now?**

Yes, it is available to be supplied within Shetland and if funding was secured could be installed within 6-9 months.

**Q. How will the end user connection work?**

For most, installing a fibre connection to their premises will be the best option but for others a fixed wireless solution may be the best option at least in the short term. A community wireless network could be installed to service certain areas where it is not currently viable to install fibre to the premises. However we will be trying to get fibre to as many homes as possible. A range of monthly packages including broadband access and potentially other services will be available to end users. It is likely that a deal would be done with an ISP (Internet Service Provider) to provide these. Custom packages would be available to business with specific needs.

**Q. What services will the community scheme provide?**

As well as broadband there will probably be an option to include a calls package, potentially removing the need for and costs of a BT telephone line. There may also be options for providing cable entertainment services but we are still researching this.

**Q. If I didn't have a BT line what would happen in a power cut situation, could I still make calls?**

Yes as long as the system is properly designed. You would need to have a separate battery back up to power the phone at your premises. A commercially available UPS (Uninterrupted Power Supply) solution would cost roughly the equivalent of 3 months line rental.

**Q. What will the community scheme cost?**

Accurate costings will not be available until a lot more detailed work has been done, however taking line rental into account, we would hope that costs will be comparable with most major commercial companies fibre based packages. The more people who join the scheme the cheaper the costs will be.

**Q. Can Community Broadband Scotland help us?**

Yes, they have a Start Up Fund that supports innovative solutions for communities receiving less than 2Mbps and that are not identified to receive faster broadband from the national Step Change programme. We have been speaking with an advisor from CBS, who is due to visit the North Isles soon and we have registered our enquiry project with their Fund.

**Q. Are there examples of other communities providing and managing their own broadband schemes?**

Yes, the Broadband for the Rural North project in Lancashire - <http://b4rn.org.uk/> - is a good example of a community providing and managing their own fibre to the home network. This shows how local people donated their time, skills, labour, resources etc. in order to install fibre-optic broadband to areas that receive less than 0.5Mbps (like us) and they operate a share scheme to part-finance this.

Residents in Applecross, in the west Highlands, have benefited from funding from Community Broadband Scotland to install a wireless broadband solution meaning customers are now likely to get speeds of up to 6Mbps. The equipment used means that should serving exchanges be upgraded to superfast speeds, the network will be able to carry next generation speeds of 30Mbps or more.

Our proposal will draw on advice and experience from community projects such as these.

**Q. What are the next steps for progressing this community broadband scheme?**

- to evidence there is sufficient support from the communities.
- to research the facts and status of our current and potential service infrastructure.
- to disseminate this information to everyone across the North Isles and set up steering groups on each Isle.
- to work through the three stages of the CBS Start Up Fund and provide the relevant information, surveys, options and business plan.
- to secure funding to continue this community consultation and engagement.

**Q. How can I express my support for this North Isles Community Scheme?**

- 1) Visit [www.ni4cb.com](http://www.ni4cb.com) and complete the short questionnaire providing your speeds, email and postcode for verification.
- 2) Join the local steering group to help spread this information across the communities and develop the proposal further.
- 3) Contact Verona Shaw, Unst Partnership, or Robert Thomson, Fetlar Developments Ltd (see below) with any questions.