Item: 3

Policy and Resources Committee: 19 May 2021.

Orkney Digital Strategy.

Joint Report by Chief Executive and Executive Director of Development and Infrastructure.

1. Purpose of Report

To reconsider developing a community wide digital strategy that will lead to delivery of state of the art connectivity across all of Orkney's inhabited islands to optimise equitable access to education, future employment opportunities and economic developments.

2. Recommendations

The Committee is invited to note:

2.1.

That, on 16 February 2021, when considering a community wide digital strategy, the Policy and Resources Committee recommended that the Executive Director of Development and Infrastructure should procure the services of a specialist consultant to develop a Digital Strategy for the islands that recommends a clear strategic plan to deliver a gigabit capable network.

2.2.

That, on 2 March 2021, when considering the recommendation detailed at paragraph 2.1 above, the Council resolved that development of a Digital Strategy for the islands be referred back to the Policy and Resources Committee for further consideration.

2.3.

That, despite many years of political comment from the Scottish Government, it remains unclear what the Reaching 100% programme will deliver in Orkney, although it is highly likely that, as a result of current Government funding proposals, Orkney will remain well below the next generation of broadband speeds at gigabit levels.

2.4.

That Orkney's wholesale broadband infrastructure is solely operated and utilised by the UK's largest national provider of telecommunications and therefore, while domestic consumers may contract with different market providers, these providers essentially rebadge the same infrastructure, which makes changing provider of broadband unlikely to delivery any major improvements in speed.

2.5.

That 5G technologies could offer a viable route to provide both high speed fixed wireless access and 4G services to Orkney, with trials ongoing to determine technical and financial viability.

2.6.

That the Council is part of a Scottish Government-subsidised IT network, the SWAN network, which provides connectivity to 14 premises on the islands, with the contract due to end in 2022/23, thereby creating an opportunity to investigate cost-effective alternatives that could provide faster and more reliable internet connections.

It is recommended:

2.7.

That the Executive Director of Development and Infrastructure should procure the services of a specialist consultant to develop a Digital Strategy for the islands that recommends a clear strategic plan to deliver a gigabit capable network.

2.8.

That the remit for the consultancy should focus on matters detailed in section 10.7 of this report.

2.9.

That the Executive Director of Development and Infrastructure should submit a report, to a meeting of the Committee no later than December 2021, presenting a draft Orkney digital strategy and delivery plan.

3. Background

3.1.

On 16 February 2021, when considering a community wide digital strategy, the Policy and Resources Committee recommended:

3.1.1.

That the Executive Director of Development and Infrastructure should procure the services of a specialist consultant to develop a Digital Strategy for the islands that recommends a clear strategic plan to deliver a gigabit capable network.

3.1.2.

That the remit for the consultancy should focus on the following matters:

- Network planning to deliver gigabit connectivity to 100% of Orkney.
- Assessment of the options for the Council network post SWAN and whether it could deliver both cost savings and income generation to the Council and assist the establishment of a viable network covering all of the Orkney Islands.

- Assessment of the options to provide sustainable connectivity solutions to those areas where geography and distance created physical challenges, particularly the outer islands:
  - Determine options to realise plans for delivering gigabit connectivity.
  - Determine sources of finance for connectivity solutions optimising the use of Government grants and quantify funding gaps.
  - Evaluate the extent of the ability of national solutions, for example R100, to deliver for Orkney communities.
  - Recommend a route map for delivery having assessed the above.

3.1.3.

That the Executive Director of Development and Infrastructure should submit a report, to a meeting of the Committee no later than September 2021, presenting a draft Orkney digital strategy and delivery plan.

3.2.

On 2 March 2021, when considering the recommendations detailed at section 3.1 above, the Council resolved that development of a Digital Strategy for the islands be referred back to the Policy and Resources Committee for further consideration.

4. Introduction

4.1.

The last few years have seen considerable efforts undertaken to improve connectivity in Orkney, ensuring that the benefits of high-speed broadband and mobile services are delivered to local residents, businesses and organisations.

4.2.

Given the challenges of living and working in a rural area, delivering improved connectivity across Orkney is already a high priority for the Council, to mitigate against the effects of distance and isolation, to allow businesses and the public sector to modernise, and to deliver improved quality of living including improved opportunities for remote learning and employment for residents.

4.3.

The impacts of the COVID-19 pandemic and the subsequent lockdown measures have emphasised the importance of connectivity as never before – suitable broadband and mobile coverage is essential to allow people to work from home, for children to access remote learning from their schools, for people to stay connected with loved ones and for essential services to be delivered. Those people and places where broadband coverage is inadequate or non-existent, have suffered more from disruption to daily living than those with robust connections.

4.4.

It is estimated that 35% of homes and businesses in Orkney are not connected to a network capable of delivering 30mbps or more, well above the estimate of 5% in Scotland. Areas of mainland Orkney have already benefited from the regional Digital Scotland project with Openreach, which has enabled the island to move away from an old Microwave link and instead deploy superfast broadband via the operator's Fibre-to-the-Cabinet network. But it does not reach everywhere and, other than a fibre link and cabinets in Westray, Orkney's islands have unstable connectivity with unacceptably low and unreliable speeds.

4.5.

It should be noted that 30mps should be considered to be the minimum broadband speed acceptable and in fact other countries and areas of the UK are already moving at pace to introduce gigabit speeds.

4.6.

When an internet connection runs at gigabit speed, downloads of content are up to 1,000 times faster than the experience of so many of Orkney's rural community who still suffer connections as slow as 1 megabit (Mb). This fast download capacity eliminates buffering, when programmes stutter, videos stall and quality degrades – as is the current experience of many of Orkney's community. Moreover, fibre optic internet has faster upload speeds. This addresses the poor experience of many of the community struggling to upload data – for example school learners uploading assessments and work vital to their learning, or citizens working from home trying to participate in online video meetings.

4.7.

The digital divide poses a serious challenge to inequality and social mobility in Orkney. To date neither the market nor public sector interventions have managed to bridge the gap. Instead rural areas are playing catch up, as our cities remain at least one step ahead as the market moves on to the next generation of network innovations.

4.8.

Therefore, planning for the introduction of only 30mbps over the next few years for Orkney means that Orkney will remain well behind other parts of the UK and the world which will compound current and future disadvantage.

4.9.

There are a number of UK and Scottish Government initiatives aimed at improving connectivity within the UK. The principal current programme is the Scottish Government's R100 Programme, the UK Government Gigabit Voucher Scheme and the 5G New Thinking project, of which the Council is a consortia member. In addition there are several local companies offering commercial services using fixed wireless access and satellite providers.

5. Scottish Government R100 Programme

5.1.

The Scottish Government launched the Reaching 100% programme (R100) in 2017 with the aim of having full coverage in Scotland for all premises with a minimum speed for 30 Mb. Under the original programme the network was to be complete by 2021. The contracts were tendered in three geographic lots (North, Central and South), with Orkney being in the North lot. After three years in the tendering process BT Openreach were awarded the Central and South lots as the sole bidder; however, following the award of preferred bidder status to BT in the North lot tender, a legal challenge was brought by internet service provider Gigaclear. This legal challenge was resolved in August 2020, but has resulted in delays in mobilisation of the North lot. Excluding the North lot, it is expected that the majority of Openreach's build will be completed by the end of 2023 (lot 3 by summer 2024), with almost all of this delivered using gigabit capable Fibre-to-the-Premises (FTTP) technology.

5.2.

The Lot 1 area is the largest of the Lot areas in Scotland and reflects about 100,000 premises around the Highlands and Islands, Angus, Aberdeen and Dundee. The resolution of the legal dispute launched in respect of the Lot 1 contract is positive, but it is not clear at the moment what this will mean in terms of the extent and timetable for the rollout of R100 to Orkney. It appears unlikely that there will be any further detail from the Scottish Government before Spring 2021.

5.3.

In August 2020, the Scottish Government announced the Scottish Broadband Voucher Scheme (SBVS), which will provide up to £5,000 per premise for customers to source their own solution. The website was launched for both customers and potential suppliers. Customers can find their own address on the database and the website tells them if they are eligible for a voucher. Only premises who cannot get 30Mbps download and are not part of a planned upgrade area are eligible, while the announcement also included small value vouchers (£650) for customers who are part of a planned upgrade area but require a solution sooner.

5.4.

SBVS was announced prior to the resolution of the legal dispute which delayed Lot 1. The vouchers are high value and any customer taking one up will remove themselves from the main R100 upgrades. For example, if a customer finds that they are not part of a planned upgrade they will then be able to click on alternative suppliers. In the early stages of the scheme there are likely to be very few potential suppliers – however, there could be solutions such as satellite broadband or fixed wireless access. If the customer decides to go with this then the voucher would be cashed in and the customer would get the satellite or fixed wireless access (FWA) service. In doing so, they would then remove their property from the R100 main contract rollout and not be able to get a second voucher if a FTTP scheme comes along - the customer has in effect moved too quickly and ended up with a stopgap solution and not eligible for any future assistance.

5.5.

Further details have been released by the Scottish Government on eligibility for the voucher scheme and the proposed installation of subsea fibre by BT as part of the R100 programme. Survey work is currently under way for the laying of fibre to Eday, Flotta, Hoy, Rousay, Sanday, Shapinsay and Stronsay. Weather permitting, survey vessels aim to begin detailed groundwork in May 2021, with cable laying beginning in Spring 2022. This has the potential to greatly improve broadband speeds and backhaul resilience to the islands. No further detail is available on BT's coverage plans on each of the islands nor the Orkney mainland although further detail will be released in August 2021.

5.6.

The Scottish Government has just released details at postcode level of voucher eligibility – both interim and full voucher. Where postcodes have been identified as eligible for the full voucher scheme it is understood that those premises are likely not to be part of the BT contract. Where an interim voucher is available then those properties are likely to receive an upgrade through the BT build programme, including but within an unknown timescale. Given the delays in completing the tender process it is likely that the build will be extended to 2027.

5.7.

There are over 4,000 premises identified within Orkney having no access to superfast broadband. Of those just over 3,000 are eligible for a full voucher and 1,150 for an interim voucher. Having been provided with details by postcode and mapping those properties there are a number of potentially significant concerns.

5.8.

Assuming BT intend to upgrade services only to those properties eligible for an interim voucher then access to superfast broadband in Orkney will rise from the current 65% to 75%; well short of the 100% pledged by the Scottish Government.

5.9.

The Scottish Government is assuming that the full voucher scheme will be sufficiently attractive for commercial broadband network providers to "fill in the gaps". Where there are only a small number of properties without access there may well not be a commercial justification to provide a service – leaving those properties unable to access superfast services.

5.10.

Of greatest concern is that where subsea fibre is being built to several of the islands actual coverage on those islands is only partial. There is no detail at this stage whether networks to be built on the islands will be fibre to the home or fibre to the cabinet. Similarly there appears to be no plans to improve coverage on Westray (which had a fibre link built in the previous BD (UK) funded programme).

5.11.

Highland and Islands Enterprise has no additional information beyond that contained within this report.

6. UK Government Gigabit Broadband Scheme

6.1.

The UK Government is providing up to £210 million worth of voucher funding as immediate help for people suffering from slow broadband speeds in rural areas. Vouchers worth up to £1,500 for homes and £3,500 for businesses help to cover the costs of installing gigabit broadband to people's doorsteps. The new UK Gigabit Voucher was launched on 8 April 2021 and is only available through a supplier who is registered with the scheme.

6.2.

Individuals and businesses can use vouchers to support the cost of installing new gigabit-capable connections when part of a group project. To be eligible properties must demonstrate that existing broadband speeds are less than 100Mbps; that a gigabit capable network is not likely to be built to that area commercially in the near future and that there is no government-funded contract planned or in place to improve the network already.

6.3.

Only Small or Medium size Enterprises (SME) or a Not-for-profit or charitable undertaking are eligible to qualify for a business voucher. New connection speeds must reach at least double the existing speed if the current speed is less than 50Mbps or at least 100Mbps if the current speed is more than 50Mbps.

6.4.

Anyone eligible for the Scottish Government voucher scheme and wishing to upgrade to gigabit connectivity can also apply for the gigabit voucher.

6.5.

Given the delays in the delivery of the North Lot contract and on the basis that the UK Gigabit Programme has now been launched there is a short window of opportunity for governments to work together and consider a more sustainable and cost effective solution for our islands.

7. Fixed Wireless Access

There are several companies in Orkney offering fixed wireless access services. The largest provider has built a small wireless network that concentrates on delivering connectivity to areas of Orkney not included in the Broadband UK (BDUK) roll out. The company offer a 10mb service to residents and businesses covered by their network mainly in the outer islands. There is the potential to build out this network and upgrade it to provide faster services to meet the Scottish Government target

speeds. However smaller businesses tend to need time and access to finance to invest in building a larger more robust network and this is likely to take some time. Smaller companies tend to be considered higher risk for the mainstream lenders.

8. 5G New Thinking

8.1.

The mobile world is evolving but the step into 5G will see a step change unlike any we've experienced with previous generations. The change is the ability to set up small private networks. In the long distant past, all connectivity came from a state-run monopoly. With 5G local networks in rural communities could be different.

8.2.

5G New Thinking is a Department of Digital, Culture, Media and Sport (DCMS) funded 5G test bed to be built in Orkney in 2021. The project comprises a consortia of industry, academia, small businesses and community partners and aims to better understand the challenges that face all the UK's rural areas. The Council is a member of this consortia. 5G New Thinking is tasked to provide a practical how-to guide for rural communities looking to invest in local connectivity The project is highly innovative and aims to help poorly connected communities build commercially sustainable, next-generation networks using 5G technologies.

8.3.

The trial will consider the steps a network operator needs to take, from site surveys and spectrum application to delivery. One of the principal trials that will be undertaken in Orkney is neutral hosting, in which mobile network operators are provided with access to a private network.

8.4.

If successful 5G technologies could offer a route to provide both high speed fixed wireless access and 4G services to communities where neither the market nor government interventions have been able to deliver.

9. Orkney Islands Council Network

9.1.

The Council owns and maintains a network connecting 106 premises, using approximately 80 fixed wireless radio links and approximately 200 Cisco network devices.

9.2.

The Council is part of a Scottish-government-subsidised IT network, the Scottish Wide Area Network (SWAN), which provides the Internet Access for all of the Council's network and local connectivity to 14 of the Council's 106 connected premises across Orkney. These 14 sites are in the main (but not exclusively) North Isles' Schools and Care Facilities plus the Council Headquarters at School Place.

The contract is due to end in 2022/23 and all current SWAN users have until March 2026 to migrate to a new system. The decision whether to commit to SWAN 2 needs to be made by March 2023 at the latest.

10. A Digital Strategy for Orkney

10.1.

It is clear that the Council and the wider community, need to see a significant improvement of telecom infrastructure in Orkney as soon as practicable. Even when it progresses, the R100 main procurement will still see Orkney as the most poorly served area in the UK. The recent COVID-19 lockdown demonstrated that the current broadband services are poor in many areas, particularly the outer islands and present a barrier for remote delivery of services, talent attraction and economic participation.

10.2.

The Council's ambition should be to not just catch up with average UK connectivity but to enable Gigabit broadband to all of citizens and businesses (a speed of 1 gigabit per second (1Gbps/1Gb) or more covering 100% of the islands.

10.3.

At present, these speeds are only achievable with a fixed-line fibre connection, however 5G is also theoretically capable of providing gigabit broadband.

10.4.

Rather than continue to only lobby Government for improvements to connectivity in Orkney, the Council could consider a more proactive approach and consider actions to not just try to catch up but develop a future proofed network that could be sustainable in a rural environment.

10.5.

It is therefore proposed that the Council develop a community wide Digital Strategy and development plan to consider the practical steps required now to deliver gigabit connectivity to all of Orkney.

10.6.

Given the pace of innovation in the communications industry, changes to regulation, the end of the SWAN network contract and the various public sector funded projects, the time is right to consider the best approach to delivering a future proofed network throughout Orkney that is able to meet the current and future needs of all users and operate sustainably.

10.7.

In order to deliver on this aim, it is recommended that the Council procure the services of a specialist consultant to recommend the practical steps and investment required to deliver such a network in Orkney and to establish a clear strategic plan focusing on a number of specific elements:

- Network planning to deliver gigabit connectivity to 100% of Orkney;
- Assessment of the options for the Council network post SWAN and whether it can deliver both cost savings and income generation to the Council and assist the establishment of a viable network covering all of the Orkney Islands
- Assessment of the options to provide sustainable connectivity solutions to those areas where geography and distance create physical challenges, particularly the outer islands;
  - o determine options to realise plans for delivering gigabit connectivity.
  - o determine sources of finance for connectivity solutions optimising the use of Government grants and quantify funding gaps;
  - o evaluate the extent of the ability of national solutions (e.g. R100 and Gigabit Broadband scheme) to deliver for Orkney communities.
  - o Recommend a route map for delivery having assessed the above.

11. Links to Council Plan

11.1.

The proposals in this report support and contribute to improved outcomes for communities as outlined in the Council Plan strategic priority theme of Connected Communities.

11.2.

The proposals in this report relate directly to Priority 1.8 of the Council Delivery Plan: Lobby for Superfast Broadband – delivery of interim solutions to fibre based Broadband in parallel with R100 commitments.

12. Links to Local Outcomes Improvement Plan

The proposals in this report support and contribute to improved outcomes for communities as outlined in the Local Outcomes Improvement Plan priority of Strong Communities:

13. Financial Implications

13.1.

It is estimated that the cost of undertaking the study will be £20,000.

13.2.

It is proposed that the costs be met from the Renewable Support revenue budget and grant received by the Council from DCMS as part of the 5G New Thinking trials.

14. Legal Aspects

There are no legal implications arising directly from the recommendations contained in this report.

15. Contact Officers

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