From:	R M Crorie
To:	callforevidence
Subject:	Call for evidence
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In connection with your review into access to cash, and the "call for evidence" that is open until 30 September 2018, we would like to call your attention to the fact that large areas of rural Scotland have no access to the Internet whatsoever, neither by physical connection - due to the distance limitation of the obsolete technology (ADSLMax) which is the only option available in such areas - nor via mobile data connections. For example, on the Isle of Skye, until recently there were no 3G or 4G cellular radio (mobile phone) masts, and the only reason why some 4G masts are now erected or being erected is the huge public subsidies now being offered by the UK Government Home Ofice because these are needed to provide the new Emergency Communications Network (ECN), the well-overdue replacement for the Airwave trunked digital radio system which is presently in use by all emergency services.

Bizarrely, not a penny of public funding is available for community broadband networks: the National Broadband Scheme 2016 only provides grants for communities to engage commercial providers to build and operate broadband networks on a profit-making basis. What the Government continues to ignore is the fact that if commercial providers do not believe that there is sufficient revenue to be derived from operating such networks, the capital subsidies on offer do not provide any incentive whatsoever to build these. Hence, the most rural areas, with sparse populations living far from existing ultrafast "back haul" connections to the Internet, have no realistic prospect in the foreseeable future of obtaining adequate broadband connectivity.

The attached Press release was issued by North Skye Broadband in January of this year... hopefully, it is self-explanatory, but you are most welcome to contact me to clarify any questions that you might have.

In short, our message is that rural areas such as ours will remain cash-based economies for years to come, yet the very justifications for bank branch closures across the country - the digital economy and on-line banking - are beyond the grasp of many of our communities because of the ever-growing "Digital Divide". We speak here of the "second Clearances" that are taking place in respect of employment, economic, and social changes, driven by that digital divide, and losing our banks and access to cash is simply accelerating the destructive consequences... you will already be aware of the protests against proposed closures of Royal Bank of Scotland branches across the country, but for communities without adequate digital connectivity, the protesters' concerns ought to be heeded.

Regards,

(Mr) Robin M. Crorie
Member of, and Secretary to, the Society's Management Committee

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North Skye Broadband is forced to abandon rural ultrafast FTTP broadband scheme due to R100

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It is with huge regret that North Skye Broadband, a "not for profit" community organisation set up in 2015 to provide ultrafast broadband services to homes and businesses in communities across North Skye where no commercial provider has any plans whatsoever to do so, must today announce that it has been forced to abandon its "fibre to the premises" *("FTTP")* pilot/demonstrator project – intended to provide ultrafast fibre-based broadband connections to around fifty premises in the Glendale area of Skye – as a direct consequence of the Scottish Government's "R100" initiative.

Last summer, after nearly 2 years of abortive efforts to secure funding for an ultrafast FTTP network covering north Skye, NSB withdrew its State Aid Application to Community Broadband Scotland *("CBS")* because it became clear that community broadband schemes are ineligible for State Aid funding. Neither the Scottish Government's broadband policy nor the National Broadband Scheme 2016 makes any provision to support an affordable, community-owned, future-proof and resilient ultrafast broadband network such as already exists elsewhere in the UK. At the suggestion of CBS, NSB instead decided to proceed with a pilot/demonstrator project to serve around fifty premises in the Glendale area of North Skye, funded by CBS with *de minimis* funding of €200,000. There have been significant challenges, including the lack of adequate back-haul from the Dunvegan BT exchange, and the costs of laying fibre from Dunvegan to the first premises served: both of these were successfully addressed. An update on progress with the pilot/demonstrator was sent to CBS and Highlands and Islands Enterprise *("HIE")* on 16 January 2018, but on 21 January, a response from CBS/HIE stated that:
"Scottish Government is committed to broadband infrastructure delivery through its R100 programme. As a result of state aid requirements, it is not possible to publicly fund any project outwith this programme. The procurement has started and companies are preparing tenders based on the intervention area. Until this procurement process is concluded and the potential extent of deployment from this initial procurement is confirmed, it is not possible to publicly fund any broadband infrastructure project."

Whilst NSB is well aware of the Scottish Government's R100 programme, the Society having stated publicly in July 2017 (on withdrawing its application to CBS for State Aid) that R100 will fail to provide an adequate broadband solution to the needs of the most fragile rural Highland communities, there has been no indication by CBS until this time that *de minimis* funding is no longer available.

The CBS response gives no indication of any date when an application for *de minimis* funding to deliver the pilot project might be considered. Funding for planning and development of project work to deliver ultrafast FTTP broadband for North Skye was granted by HIE in late 2015 for 12 months but no further funding was made available, despite a request for this in early 2017. Consequently NSB now has insufficient funds to continue in any meaningful way.

As has been made clear by NSB, the R100 programme – being based on the National Broadband Scheme 2016 – is designed solely to provide public funds to subsidise private sector investment in telecommunications networks. It does not provide, and never has provided, funding for community-operated networks, where the business case for rural broadband is fragile, and the profit element required by private sector operators is sufficient to make that business case unviable. Hence, R100 is unlikely to deliver ultrafast broadband to anyone, aiming only to deliver superfast broadband using VDSL2 and, if requested, by offering vouchers for satellite connections. At £3894 per premise, the R100 funding for the Highlands in Lot 1 of the ITT is on a par with NSB's expected FTTP costs: in previous negotiations with CBS, NSB was told that a similar level of grant for its original project (~800 premises) was not viable. It is somewhat galling to see that amount now being offered as a substantial subsidy to privately-owned "for profit" companies, when NSB – a community benefit society – is forbidden by the terms of the R100 procurement from even applying.

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R100 will never deliver the future-proof broadband solutions needed in rural communities in the way that (for example) New Zealand has achieved over the last seven years through investment by its government. It is particularly ironic that NSB's project to demonstrate ultrafast FTTP in a rural context (when R100 will only offer superfast broadband via very expensive satellite connections to the most remote Highland communities) should be halted in the same week that Sky TV announced its strategic move away from using satellite dishes to an optical fibre-based Internet service instead.

Together, the Aberdeen Western Peripheral Route and the Inverness and Highland City-Region Deal, which claims to position Inverness and the Highlands as a region of digital opportunity, are costing taxpayers almost £1 billion. Although the provision of real digital opportunity in North Skye would cost less than 0.05% of that sum, current UK and Scottish Government broadband policy provides no opportunity for NSB to access any funding whatsoever. The pace of commercial investment in urban retail networks by private sector operators continues to increase, and announcements such as that by Virgin *(i.e. that their entry-level domestic superfast broadband product is now 100Mbps)* demonstrate that the rural "Digital Divide" will not only continue to exist but will also continue to widen considerably.

Community broadband initiatives are consistently isolated and unsupported, and rural communities are further disempowered and disadvantaged both strategically and economically, not least because neither the Government nor Ofcom is prepared to admit that the incumbent supplier has failed to deliver anything but its own agenda. Worse still, the UK keeps repeating its failed broadband initiatives, hoping each time for a different result. More and more public funds are being thrown at private sector suppliers in a game of diminishing returns as far as rural broadband is concerned, when the real answer – community and private sector partnerships, such as North Skye Broadband – is an obvious new paradigm to deliver what is urgently needed to build a secure and viable future for populations in rural areas facing the multiple challenges of failing roads, health care, housing and infrastructure. However, there is a growing feeling in rural areas that community solutions are not only unsupported but, given the number of years for which this flawed policy approach has existed, they are actually being intentionally squeezed out.

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Notes for Editors (general):

- In July 2017, NSB became aware that not-for-profit community-operated schemes are ineligible for funding under the Department for Culture, Media and Sport's "National Broadband Scheme 2016", and consequently it was unable to continue with its original intention, i.e. to deliver ultrafast FTTP broadband to around 800 homes and businesses across North Skye. That was a project for which a business plan had been developed, indicating that the project would cost about £7m in total and, using State Aid and commercial borrowing, with a 30% take-up rate NSB could achieve positive operational cash flow after four years whilst continuing to pay down its borrowings over the term.

- VDSL2 is a wholly unsuitable technology for sparse Highland communities as it can only deliver a superfast connection within 1km from the street cabinet. Satellite broadband is extremely expensive to install and operate, monthly quotas are relatively small, and data connections have very high latency, making them wholly unsuitable for voice over IP ("VOIP"), increasingly being used by businesses.

- The annual operating costs alone for the "Connected Communities" wireless broadband scheme in the Western Isles in 2016/17 exceeded £670,000 – despite having claimed for many years that it had a "sustainable business plan". This network was built entirely using public funds, and is now operated at public expense by a private sector consultancy firm: NSB understands that this scheme will never generate sufficient revenue to provide funding for "technology refresh" and this was one significant reason why wireless-based technology was rejected by NSB for the core network in its initial project design.

- In November 2011, the New Zealand government formally divested the national telecommunications operator, New Zealand Telecom, of its responsibilities and gave these to a 100% state-owned private sector company, Crown Fibre Holdings, under the leadership of Graham Mitchell as its chief executive. At that time, it was one of a group of the 35 OECD countries with almost no FTTP whatsoever. By June 2015, it was 14th, with FTTP available to over 40% of households, and it is on track to become 8th, with FTTP available to over 80% of households, by the end of 2019. By the end of 2016, fibre coverage of the NZ population had increased from 0% to 62%, and FTTP connections to schools from <10% to 99.7%.

- Specific questions in letters addressed to Mr Fergus Ewing MSP, Cabinet Secretary for the Rural Economy and Connectivity, about NSB's funding, its proposed projects, and the likelihood that R100 will fail to address the needs of rural communities for adequate broadband connectivity have either not been answered or have received a stock "boilerplate" response from the Connectivity, Economy and Participation Division of the Scottish Government's Digital Directorate.

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- NSB remains of the view that the present emphasis on VDSL2 *(fibre to the cabinet)* by BT Telecommunications PLC as the incumbent UK national telecommunications provider is driven solely by its desire to leverage revenue from the country's ageing copper infrastructure – it is only natural that a private sector company should operate solely for the benefit of its shareholders. However, the view that BT has made a fundamental mistake by not prioritising FTTP is supported by the substantial increase in investment in building optical fibre networks by smaller providers of telecommunications services in many areas across the UK, including *(for example)* across the Isle of Wight. Of course, such private sector investment is not occurring where there is complete market failure in rural areas such as on Skye and in other parts of the Scottish Highlands. Whilst explicitly noting here that NSB is expressing no view whatsoever on the merits of EU membership or otherwise, it is relevant to note in the present context that in 2016, the German Federal Minister of Transport and Digital Infrastructure, Alexander Dobrindt, expressed his opinion that in the EU *"...[State] financial support must only be given for the roll-out of glass fibre [optical] networks"*.

Notes for Editors (technical):

- Due to the sparse nature of the populations served, and the relative costs of laying core fibre and service drops, NSB's original project and the Glendale pilot/demonstrator project were designed to be "full fibre", i.e. not the "budget option" GPON, using optical transceivers on switches at each Point of Presence rated to provide 1Gbps connections to each of the premises passed, and 10Gbps transceivers for links between PoPs, similar to the specifications adopted by Broadband for the Rural North *("B4RN")*, another community benefit society based in Melling, near Carnforth, Lancashire, England. B4RN, a not-for-profit provider, currently has around 3,400 customers each paying £30/month plus VAT for a 1Gbps symmetrical FTTP broadband service exclusively in rural areas across Lancashire and Cumbria. There is already evidence of business investment and inward relocation to the B4RN service area as a direct consequence of the connectivity that it offers.

- The BT-HIE Seg1.15 undersea optical fibre cable to Carnan (South Uist) connects Dunvegan exchange with the Western Isles. Despite the State Aid awarded to BT to lay that cable, only 400Mbps of capacity was available at Dunvegan to NSB – less than half the capacity of the 1Gbps connection that the Society planned to provide to each of its customers. In addition, the absence of any NGA Aggregation Node within 5 miles of Dunvegan meant that Openreach's "Excess Construction Costs" *("ECCs")* were in excess of £28,000 despite NSB's equipment being less than 200m from the exchange and from a VDSL2 cabinet which was also installed with State Aid.

- Support from the Society's private sector technology partner meant that these ECCs of £28,000 to provide 400Mbs over a 1Gbps EAD circuit, plus a potential build cost of £75,000 to lay fibre by roadside verge from Dunvegan to the first connected premises, could be avoided through the use of an alternate back-haul connection via multiple bonded VDSL2 circuits to the Society's PoP, connected to customers via a submarine cable under Loch Dunvegan, licenced by Crown Estate Scotland.

- As one element of the original project, NSB commissioned consultancy work to develop a "variable value" voucher scheme that complied with EU rules on State Aid, whereby potential customers of competing broadband providers could "spend" a State-provided voucher with the provider of their choice from all those enrolled for that scheme: a specified number of the first vouchers committed to any such provider would have a higher value than the remainder, and any one of those providers could declare that they had received sufficient commitment from potential customers to formally commit to providing their network. Other scheme rules, including *(for example)* claw-back provisions, would still apply. This would greatly reduce the commercial risk of committing to the capital costs of such a network and thereby increase the participation by potential providers. However, it is of course not a remedy for complete market failure, as is the case for most of Skye, and would have therefore have strengthened the ability of a community network operator to secure investment, which of course was the objective of NSB in commissioning the work. Disappointingly, consideration of such a scheme was summarily rejected by DCMS for unstated reasons, thus strengthening NSB's view that rural broadband is not a priority for government, and that the Digital Divide continues to widen.

- NSB planned to install and operate an ultrafast FTTP service whereby its private sector strategic technology partner undertook the initial network build, day-to-day network management, call management, and monthly billing at an agreed per customer rate. Installation of service drop fibres and CPE *(customer premises equipment)* would have been undertaken by suitably-trained local electricians. Ownership of the network, re-investment of operating surpluses, and the legal benefit of free wayleaves would have remained with NSB.