

Your response

Question	Your response
<p>Question 1: Do you agree with our proposal to make this spectrum available for fixed links? Are there other potential users of these frequencies which we have not identified?</p>	<p>Confidential? – N</p> <p>In part, increasing access to 32Ghz band is welcomed if it allows more of the 28Ghz band to be used for satellite services. Despite UK and Scottish Government intervention, there will still be residents in Orkney that will still be accessing download speeds of less than 10 Mbit/s. By freeing up more spectrum on the 28Ghz band for satellite services, we would hope to see more interest from ISPs to offer services via satellite that would cover Orkney. A key caveat to this would be the need to have assurances that residents who have no option but to use a satellite or other fixed link technology are not charged over the odds compared to residents who have access to fibre services. We would also welcome opportunities to allow interested parties to access the 32ghz band to work towards meeting our Net Zero ambitions and enable sustained investment in the renewable energy sector.</p> <p>At present BT holds the largest number of licences covering Orkney (67), with 4 other organisations holding the remaining 19 licences between them. Whilst we do not have a locus to comment on commercial factors our interest is to maximise availability of options and availability of a range of digital services for Orkney communities.</p> <p>As ever, our primary concern is that changing the access to the 32Ghz band should not lead to the detriment of the fixed links broadband options available to our residents, who already at a disadvantage compared to their UK mainland counterparts in terms of access to reliable solutions at an affordable price. For the avoidance of doubt, we do not see this opportunity as a replacement or alternative to fixed broadband – but rather an additional or interim measure for Orkney communities.</p> <p>We also welcome increased access to this spectrum as the high data rate and low latency make it suitable for IoT (Internet of Things) applications which is of increasing interest in our agricultural, aquaculture, renewable and tourism sectors. For example, automation to assist</p>

Question	Your response
	<p>in the dairy sector in Orkney and visitor management applications for our World Heritage site.</p>
<p>Question 2: Do you agree with our proposal to make this spectrum available on an Ofcom-managed basis?</p>	<p>Confidential? – Y</p> <p>We feel that the proposal for Ofcom to manage the authorisation of this spectrum would be a positive step.</p> <p>Many alternative network providers are priced out of accessing spectrum by the large MNOs who often succeed in spectrum auctions given their obvious commercial advantage over smaller network providers. If Ofcom were to manage the process of authorisation of this band, there may be potential for increased competition and opportunities for smaller alternative providers enabled to apply. The proposal to use stricter geographic boundaries may allow a more localised approach to be used, again it could increase opportunity for competition from smaller network providers who can offer fixed link solutions to residents in rural areas, where often larger companies deem such as areas as not commercially viable to install infrastructure.</p> <p>We will also welcome an Ofcom managed process if it allows users to migrate links from 26Ghz and 40Ghz which are being cleared for new 5G services. As a Council our primary concern is that our communities and businesses can access reliable access to fixed links broadband at a competitive cost comparable to the connections enjoyed by residents in more populous areas.</p>
<p>Question 3: Do you agree that 28 and 32 GHz spectrum is broadly substitutable from a fixed links perspective? If not, please explain why this is the case and provide evidence to support your views. In particular we would be interested to understand any differences between the 28 and 32 GHz bands which could make</p>	<p>Confidential? – N</p> <p>We do not wish to comment on this from a technical perspective. However, we would reiterate that we do not see this opportunity as a replacement or alternative to fixed broadband – but rather an additional or interim measure for Orkney communities.</p>

Question	Your response
<p>them more or less suitable for fixed links migrating from the 26 or 40 GHz bands.</p>	
<p>Question 4: Do you agree with our provisional proposal to make 28 MHz channels and one or more 56 MHz channels available for new fixed link assignments? If not, please explain the reasons for your view and set out any preferred alternative approach.</p>	<p>Confidential? – N</p> <p>We do not wish to comment on this from a technical perspective. However, we would reiterate that we do not see this opportunity as a replacement or alternative to fixed broadband – but rather an additional or interim measure for Orkney communities.</p>
<p>Question 5: Do you have any additional concerns or comments regarding the proposals in this consultation document?</p>	<p>Confidential? – N</p> <p>Our concerns mainly relate to:</p> <ol style="list-style-type: none"> 1. Coverage Limitations: Higher frequencies have shorter wavelengths, which means they have a limited range and can be obstructed by buildings and other obstacles, in Orkney that would most likely be undulating terrain. This can result in patchy coverage. Any solutions must be locally sited to ensure universal coverage. 2. Infrastructure Costs: Deploying infrastructure to support 32 GHz communication can be expensive. This includes the need for more base stations and advanced technology to handle the higher frequency. In areas such as Orkney, commercial providers may be put off investment in 32 GHz technology that may benefit our communities and wider economy because of these associated costs. As a local authority, given the present financial climate and the fact that we do not have a mandate or responsibility to fund infrastructure of this type, we are not in a position to fund such infrastructure without investment from commercial providers and/or Government intervention/assistance. 3. Interference: Higher frequencies like 32 GHz can be more susceptible to interference from other devices and environmental factors, potentially

Question	Your response
	<p>affecting the quality and reliability of communication.</p> <p>Given the weather in Orkney, particularly in winter we have concerns relating to the 32Ghz band and the effects that weather can have upon quality of signals;</p> <ol style="list-style-type: none"> <li data-bbox="746 555 1385 741">4. Rain Attenuation: Rain can significantly attenuate signals at higher frequencies like 32 GHz. The water droplets absorb and scatter the signal, leading to a reduction in signal strength and quality. <li data-bbox="746 768 1385 913">5. Snow and Ice: Similar to rain, snow and ice can cause signal degradation. Snowflakes and ice particles scatter the signal, increasing path loss and potentially causing higher bit error rates. <p>We would hope that proper mitigation measures would be used, such as adaptive modulation and coding, power control, and the use of multiple antennas (MIMO) to improve signal robustness. As well as proper planning and design of ground systems, including the placement of base stations and the use of weather-resistant materials, are crucial to minimize the impact of adverse weather.</p>

Please complete this form in full and return to 32GHz@ofcom.org.uk.