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Enabling opportunities for
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NFU consultation response - Enabling opportunities for innovation: Shared access to spectrum supporting mobile technology (Ofcom consultation)

Summary

The NFU's ambition is to see full and comprehensive mobile coverage across the whole of the UK, including the rural environment where the majority of our members operate their businesses. Full connectivity is essential for driving innovation, farm diversification and the adoption of new technologies and improving farm productivity.

While the government is aware of the 'hard to reach' areas of the country and the need to achieve equity for rural businesses with those in urban areas, there is an urgent need to improve the current situation. Farmers with full mobile connectivity are more likely to invest and expand their farm businesses, become more productive and be able to take advantage of wider business opportunities. There are significant productivity gains for farmers who are better connected as well as the important aspect of improving farm safety.

Furthermore, lack of mobile coverage, which is highlighted in the 2018 NFU broadband and mobile survey described herein, can also have disproportionate impacts on rural communities. The rural population is not only located within a more dispersed geography - it is also older and hence has different service requirements, including access to skills and medical advice. More needs to be done to ensure that these older rural communities can access the whole range of digital services they need and that digital services are in place to attract young people and families back to rural areas, to pursue farming and other rural careers. Furthermore, poor communication connectivity contributes to social isolation and greater access to reliable mobile services will help mitigate the effects of this.

Whilst the NFU is very much in favour of the rollout of more extensive mobile coverage in rural areas, many sites for hosting apparatus belong to farmers who require their land to make their living. Farmers therefore require fair incomes for being site providers and assisting in achieving government's ambition of providing quality coverage in rural areas.

Introduction

The NFU represents 55,000 members in England and Wales involved in 46,000 farming businesses. In addition, we have 55,000 countryside members with an interest in the countryside and rural affairs.

Our trade association is the largest farming organisation in the UK, providing a strong and respected voice for the industry and employing hundreds of staff to support the needs of NFU members locally, nationally and internationally. We work with government departments across government, including agriculture, rural affairs, environment, energy, climate change, science, business, employment and transport issues. Our aim is to direct policy into real economic opportunities for farming, rural diversification and job creation. The NFU champions British agriculture and horticulture, to campaign for a profitable and sustainable future for our farmers and growers.

With 72 per cent of UK land area in the agricultural sector, NFU members represent the bedrock of the rural economy, with a diverse range of business interests in addition to food production. Our vision is for farming to grow and create wealth through a wide variety of goods and services for the UK economy, centred upon but not limited to food production.

Farming underpins Britain's largest manufacturing sector: food and drink. The overall contribution of agriculture to the UK economy has been estimated recently at £46.5 billion. This is spread across every part of the country, with agriculture playing a central role in rebalancing the economy. Farmers also produce renewable raw materials for the emerging bio economy, and clean energy including wind, biomass and solar power, with around 10 per cent of the nation's electricity now generated on agricultural land. Furthermore, the UK relies upon on farm businesses, as land managers, to provide a wide range of environmental goods and services.

Response to the consultation

Barriers to growth created by poor mobile connectivity.

Full digital connectivity is important for the wider UK economy, to help deliver the Industrial Strategy and to ensure businesses can thrive in rural areas. Quality mobile voice connections are essential, but also is the access to applications to enable online only regulatory services (such as Self-Assessment and Making Tax Digital) to be complied with.

The problem is not always a rural one. Coverage issues can also often be as problematic at the edge of major cities just as much as they are in wider rural areas and National Parks. Many organisations, including Defra and the Rural Payments Agency contact farmers by phone. Environmental and crop protection, animal welfare and an increasingly popular countryside used by the public for health and wellbeing are becoming more dependent on access to mobile connectivity. Life in the countryside relies on people being available by phone, to talk, to exchange data and get rapid access to the services they need.

The NFU would emphasise that it is also essential for better services to be introduced as soon as possible, given that the economic landscape for farming is changing now. Our trade with other countries, both within and increasingly outside the EU will be vital and new trading partners will expect our digital communications to be comparable and fit for purpose to compete in this global market. To illustrate this point, data from [OpenSignal](#) using data from Mobile Network Operator (MNO) performance ranks the UK in 30th place globally for mobile download speed at 19mbps. This is behind countries such as Romania, Greece and France and significantly behind the global leader South Korea (46mbps).

Farmers with superfast broadband (whether mobile or fixed) are more likely to invest and expand their farm businesses, become more productive and be able to take advantage of wider business opportunities. There are significant productivity gains for farmers who are better connected, in addition to the wider benefits of connected rural communities.

In order to best exploit new technologies, particularly those that are increasingly data driven, a high standard of rural connectivity is essential. As a result of a lack of access to a reliable mobile connection experienced by many farmers – this in turn acts as a constraint to capital investment on farm. Productivity is strongly linked to technology take-up and improved management practice. If farming is to become more competitive, then access to this essential infrastructure is paramount.

Many farmers are also looking to reinforce their businesses using diversification, which again is being encouraged by wider Government as this provides further support to the economy by providing energy and rural services. Diversification can also help mitigate the reduction and eventual elimination of Direct (farm support) Payments as outlined in the Agriculture Bill (see below). Sixty four percent of farmers hosted diversified activities in 2017. The ability to go further is being constrained by poor mobile phone coverage. It is a particular issue for renting out premises for business uses and rural tourism (such as bed and breakfasts); without coverage businesses cannot operate and tourists will not return.

Mobile connectivity results from the 2018 survey

For the past four years the NFU has undertaken its own member mobile and broadband surveys, to understand what the actual levels of mobile coverage are being experienced on farm and to highlight the benefits of improving coverage. The NFU undertook its latest survey (interviewing over 800 farmers) during the autumn of 2018. The results for mobile connectivity can be summarised as follows:-

The 2018 survey reveals that 97% of farmers surveyed own a mobile phone. Out of those who own a smartphone, 83% could access 4G on their devices, as depicted below in Figure 1. This has increased from 25% in 2015.

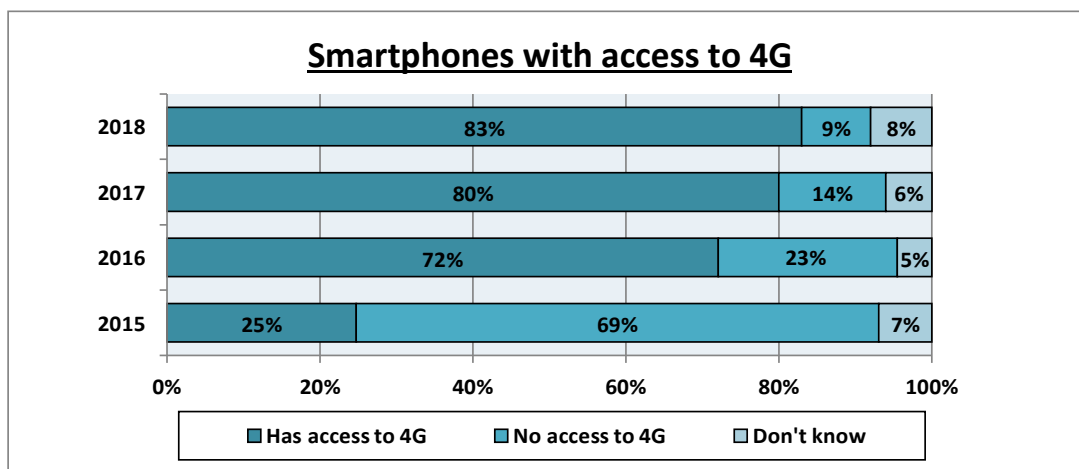


Figure 1. Graph showing the percentage of farmers whose smartphones access 4G over the survey years 2015-2018.

This year’s survey also highlights an improvement in mobile signal coverage over time. As shown in Figure 2, 42% of farmers are able to get a signal in most outdoor locations in 2018 compared to 29% in 2015.

However, Figure 2 reveals that only 17% of farmers get a reliable signal in all outdoor locations and 5% reported no reliable locations anywhere on the farm. These figures have changed little since 2015 and are a cause for concern since mobile telecommunication is essential for health and safety in a potentially hazardous industry, with farmers often working alone in remote areas.

Overall, the 2018 survey highlights areas of improvement for mobile connectivity with an increase in access and use of 4G services. Despite this, poor and unreliable mobile coverage, particularly outdoors on farm, remains a recurring constraint and improved accessibility to mobile provision is required.

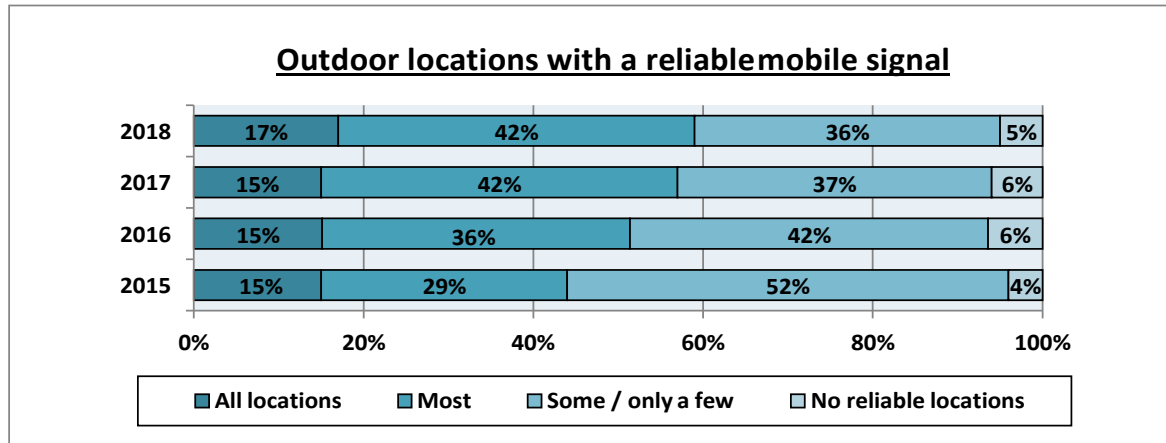


Figure 2. Graph showing the percentage of outdoor locations with a reliable mobile signal over the survey years 2015-2018.

NFU members have told us repeatedly that their main message to Government is that they wish to have the same coverage as those standards enjoyed in urban areas, so they can run productive businesses and enjoy family life. Farmers report that actual coverage varies from patchy coverage to complete lack of coverage for large tracks of farm land and country roads.

The NFU believes that all farms should have the right to access good quality and reliable mobile phone coverage. If businesses are not being offered access to the government's Superfast Service they should qualify for access to a broadband USO at a cost they can afford. The NFU believes that Government should be doing far more to improve rural connectivity. The NFU's response to the Future Telecoms Infrastructure Review is available [here](#). The NFU has called on the Government to make the "digital economy universal" so that every farming business can access mobile technology, including 4G services across the farm.

The Agriculture Bill, productivity improvements and the link to better mobile connectivity.

The Agriculture Bill (which is currently making its way through the legislative process) sets out the Government's intention to reform farm support. In particular, Direct Payments (known as Basic Payments) under Pillar 1 of the Common Agricultural Policy (CAP) will be reduced during an "Agricultural Transition" period, commencing in 2021 and with the last payments being made for the 2027 scheme year. One way of mitigating the gap caused by the removal of Direct Payments is through improved farm productivity.

As a result, the productivity and related benefits that farmers can receive from receiving full mobile connectivity is multi-faceted. Firstly farmers can optimize the use of inputs and also farmers can decrease production costs. Furthermore, the other benefits were also itemized below:-

- Save cost by effectively using inputs (and reducing unwanted outputs e.g. pollutants)

- Better monitoring of crops and avoiding crop losses through disease or adverse weather
- Monitoring and analysis of animal growth rates and animal health
- Help in optimizing water use
- Better planning of farm activities

The challenges of the use of this technology in agriculture are the cost of equipment and the need for wider and more reliable connectivity. Some examples (by no means exhaustive) of how full connectivity is needed on farm (and how it links to productivity) is illustrated in the table (Figure 3) below:

| Example | Description |
|---|--|
| Support payments | Direct payment and land stewardship subsidies now take place wholly online requiring access to these resources. |
| Taxation | Taxation returns and Self Assessment are now all online |
| Government and other services | Access to other government services, advice etc is now increasingly all online Having full connectivity helps reduced social isolation |
| Diversification | Customers and tourists now increasingly demand the use of broadband when using a farm B&B, farm shop and other facility |
| Cloud computing and data storage | Cloud storage provided efficient, inexpensive, and centralized data storage, computation, and communication to support farm management. The use of data provision in farming creates large data volumes in which fast connections are needed for storage and analysis |
| Market information | Use of Broadband for keeping up to date with farming news and how developments could impact their businesses e.g. market information / general Ag news |
| E-commerce / developing new markets | Access to the internet helps create an online identity, advertise products and services beyond the local area, present new business contacts and engage with the customer. Many accounts are now accessed online. |
| Farm safety | Accessing information on the move and to keep contact. For use in times of emergency / accidents |
| Livestock / dairy - data | Data collected from their herds to manage grazing lands for sustainability. |
| Livestock /dairy - traceability | Electronic ID (Read / Write access for farmers; Multi-species database; Tag and test schemes; Livestock data hub All require the use of broadband provision for upload, download of information and for third parties (e.g. purchaser). Requires an external central database to be accessed. |
| Livestock / dairy - Feed allocation systems/ Animal production monitoring / Animal disease monitoring | All require a good connection to be used to maximum effect and to monitor and control efficiencies and feedback initiatives |
| Poultry - sensors, feed weighing, environment monitoring | All these systems are complex and create a lot of data that needs to be uploaded and analysed |
| Arable - in field sensors and GPS systems | Precision agriculture systems, combined with data analytics, enable farmers to track and improve the productivity of their operations. Data gathered from in-field sensors is combined with satellite or aerial imagery to generate field maps, assess crop health, identify areas for conservation and develop planting and harvesting plans. Farmers use this information to direct GPS-enabled tractors to plant and fertilize every inch of the field and avoid even the slightest overlap. This saves time, decreases the amount spent on seeds, inputs and fuel and reduces wear on the equipment. |

Figure 3. Some of the productivity benefits that can be achieved from full connectivity.

Barriers to rollout

The Digital Economy Act 2017 introduced the Electronic Communications Code (ECC) which was designed to facilitate quicker and wider mobile and broadband coverage. One of the ways this was to be achieved was through changing the valuation method of sites used to host communications equipment to produce lower rents. Unfortunately some mobile operators have a very different interpretation of the legislation around

valuation compared to landowners and negotiations have stagnated. The DCMS Impact Assessment of the new method of valuing rents resulted in a 40% decrease on average. The NFU however is seeing decreases in proposed new rents on existing sites of up to 99%. In addition, the NFU is really only seeing site renewals being instigated as opposed to procurement of new sites. This seems to be defeating the overarching objective of the ECC and thus adding little comfort to our members.

There are a number of other issues that have arisen in relation to rights that operators are seeking over sites on which currently host apparatus. These mainly relate to much broader rights than listed under the Electronic Communications Code and which operators are attempting to give to themselves.

Currently there are a few cases (mainly site renewals) in the Tribunal Service system waiting to be decided in relation to valuation and other rights. It seems that operators are waiting for the outcome of these before going ahead with other sites. This means that there is very little in terms of growth of rollout and may not be for some time until parties are confident that there is evidence on which to base negotiations. These issues will need to be resolved before the market is able to go forwards.