

Scottish Affairs Committee

[Oral evidence: Connectivity in Scotland: Digital connectivity, HC 166](#)

Wednesday 14 October 2026

Ordered by the House of Commons to be published on 14 October 2026.

Watch the meeting

Members present: Patricia Ferguson (Chair); Maureen Burke; Dave Doogan; Lillian Jones; Douglas Lumsden; Mr Angus MacDonald; Douglas McAllister; Kirsteen Sullivan.

Questions 130 - 188

Witnesses

I: Jonathan Freeman, Chief Strategy and Regulatory Officer, Cellnex UK; Simon Miller, Director of Public Affairs and Regional Affairs, Virgin Media O2; George Robinson, Head of Government Affairs, VodafoneThree; Alex Towers, Director of Policy and Public Affairs, BT Group.

II: Anna Gardiner, Senior Policy Adviser (Business and Property), Scottish Land & Estates; Lorna Scott, Senior Policy Manager, Climate, Land and Business, NFU Scotland.

Examination of witnesses

Witnesses: Jonathan Freeman, Simon Miller, George Robinson and Alex Towers.

Q130 **Chair:** Good morning and welcome to this meeting of the Scottish Affairs Committee, where we are looking at connectivity in Scotland. We are discussing that issue with representatives of mobile network operators and infrastructure providers. Would you mind introducing yourselves please?

Jonathan Freeman: I am chief strategy and regulatory officer at Cellnex UK. We are an infrastructure company that provides mobile phone sites to mobile operators across Europe.

Simon Miller: I am director of public and regional affairs at Virgin Media O2.

George Robinson: I am head of Government affairs at VodafoneThree, the mobile network operator that came together last year with the merger of Vodafone and Three.

Alex Towers: I am the director of policy and public affairs at BT Group, covering BT, EE and Plusnet.

Q131 **Chair:** My first question is for you all: we will start with Mr Freeman and go along the table. If someone has already answered the question, do not feel obliged to repeat it; passing is not a problem for us. Why does mobile connectivity in Scotland—particularly in rural Scotland—lag behind the rest of the UK?

Jonathan Freeman: The challenge in Scotland is fundamentally one of economics, but that is expressed via geography. Scotland contains some of the most rural and remote parts of the UK, which leads to additional costs when you are deploying infrastructure, such as the cost of getting power and fibre connectivity to the site, getting access and so forth. It is not a technical challenge; it is more one of economics, which has an impact on how viable it is to deploy sites in these areas.

Simon Miller: There is a lot more to do in Scotland in terms of improving mobile connectivity, but it is also important to recognise the progress that has been made and the foundation it gives us for further progress. Going back to the time when the shared rural network programme was signed in 2020, you could get a 4G signal from all operators in 41% of Scotland's landmass. You can now get a 4G signal across 71% of Scotland's landmass. In 2020, you could get a 4G signal from at least one operator in 80% of Scotland's landmass; you can now get that in 91%. There is more to do, but clearly that is progress.

In terms of the premises where people live and work, coverage is on a par—in some cases better—than the other home nations. The real challenge is undoubtedly in the remoter areas of Scotland: in about 9% of Scotland's landmass you still cannot get a 4G signal from any operator. As Jonathan alluded to, there are some geographical as well as economic



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challenges. We are looking to build in very remote sites; they might require a helicopter build or the use of ferries to get kit in, and they might be many miles from roads. There is the challenge of getting backhaul to those sites so that we can connect them back to the core network.

There is also the challenge of getting power to these sites: we have seen this with some shared rural network total not-spot sites. Above all we need community, landowner and planning authority consent. That has proved a challenge in the SRN TNS programme, which we may get on to in more detail. There has been real progress, but the big nut to crack is pushing coverage into those areas where there is currently little or no coverage.

George Robinson: I would echo everything that has been said. The economics are tricky in that masts have to cover more landmass with fewer people, and it is a very rugged terrain. This has meant that Scotland has lagged on geographic coverage. As part of our merger we have to invest £11 billion into coverage across the UK, and Scotland is going to benefit hugely from that. At the moment, there is 90% 4G coverage across Scotland. The 5G coverage from our network will cover the same landmass by 2034, and 99% of the population. We are doing all we can to try to fill that delta, and we think it is very important to do so. We have to make sure that we get Scotland's figures up and more representative of the rest of the UK.

Q132 **Chair:** Mr Robinson mentioned demographics. Mr Towers, would demographic reach be a better measure than coverage?

Alex Towers: It is an important measure; it has been a successful story in the past five to 10 years across the industry and with Government. We have made big progress. EE has now got up to 98% population coverage for 4G and 88% for 5G, and those figures are bigger than the geographic coverage. With 4G we are over 80% now, even for geographic coverage; 5G is a little behind because it is following on from 4G.

Q133 **Mr MacDonald:** Is that in Scotland?

Alex Towers: Yes. We are just slightly ahead of operators, but everyone is investing to catch up. We have put in around 170 new sites in the past decades. We have added 50 new sites under the Scottish Government's 4G infill programme. There has been some success through the UK and Scottish Government initiatives and working with the industry to fill in some basic coverage gaps. There is still more to do: we are building more sites—we have some on the go at the minute in Skye, the Trossachs and Islay—and other operators will be doing the same.

There is a second point to make beyond coverage. We can—and hopefully will—fix most of the issues there, even though the geography and the economics are challenging, but there are other issues that are not specific to Scotland but go right across the UK about what we do with the infrastructure we have and how far we can improve capacity and the service that people get. That will require additional investment. Some of



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the economics of the industry are challenging—I am sure we will come on to talk about this—but there is more the Government can do on things such as planning, spectrum, access to land and all the basic underpinnings of our infrastructure.

There is also a big question about resilience and response to emergency situations. I know the Committee has been looking at this in relation to subsea cables, but it is also relevant to mobile coverage now. When there is a loss of service the stakes are a lot higher than they were 10 years ago, and there is so much more now that is running across these networks that is absolutely critical to everyone's everyday lives. We would probably all say that there is an issue about how Government and industry are going to share the costs and complicated investments needed for the protective measures required, and think more energetically about that set of resilience issues in the future, because they are going to become more and more pressing.

Q134 Dave Doogan: Mr Freeman, I would like to understand whether the infrastructure—the masts—are regarded as critical national infrastructure?

Jonathan Freeman: The telecoms sector as a whole is designated as CNI. We are not a CNI operator as such now.

Dave Doogan: But the entirety of the network would be classed as CNI.

Jonathan Freeman: Yes.

Q135 Dave Doogan: Listening to what you were saying—maybe it was not you—we have heard that the challenges are spectrum, planning, and access to land. On that third point of access to land, with other CNI such as pylons, if a farmer, or anyone else, in my constituency did not want a pylon to go on their land, it would be a compulsory purchase. Why are we not compulsory purchasing for masts?

Jonathan Freeman: There has recently been a change across the UK in the way that masts are deployed, effectively through the electronic communications code. This has led to a high rate of consensual lease renewals. In Scotland we have renewed 266 leases, and that has enabled us to upgrade 750 services for the mobile operators. When we look to deploy new sites—as has been done as part of the SRN and other programmes—we have rights within the code to compel landowners to make their land available in the public interest. To date we have not had to use those extensively. For example, all the sites in the S4GI programme that we were involved in post-deployment were code agreements that were agreed consensually with landowners. Compulsory purchases are used in other critical sectors, so that could be looked at, but from our perspective the code is working well, and we are largely able to secure land rights on agreeable terms with landowners.

Q136 Dave Doogan: That is good, because compulsory purchase is a last resort. So there is no problem with access to land.



Jonathan Freeman: There is no problem from the point of view of existing infrastructure; we have renewed leases. As the other panellists will probably allude to, building new sites can be more challenging. You can get resistance to new sites from local communities or landowners, and as a result the interaction tends to be more prolonged. Where you are able to bring the community with you—as we saw in the S4GI programme—then you have a higher chance of success. We try to use the compulsion part of the ECC as a last resort, effectively where it is clearly in the public benefit and we need to compel deployment.

Q137 **Lillian Jones:** What more needs to be done by Government to increase mobile coverage in Scotland?

Jonathan Freeman: First, we need to define what good looks like. In the past, coverage was a very good metric. We could make voice calls and send text messages. As Alex has alluded to, we now live in a world where people are reliant on a much wider range of services. In the mobile market review that is under way we would like to see Government articulating a nuanced view of what good quality looks like. Government then have a role in supporting the achievement of that. If they set that standard, industry will step in. Companies such as ours are very willing to invest in new infrastructure—as we have done in other European countries where we see that demand signal—but we are going to face a challenge, particularly in Scotland. It is about putting enablers in place to help us upgrade the infrastructure. Fundamentally, in areas that are economically unviable, there is going to be a need for further interventions along the way to ensure that ultimately every community and business gets the connectivity it can rely on.

Simon Miller: The mobile market review that Jonathan alluded to is a welcome acknowledgment by the Government that the investment climate is difficult for MNOs in the UK. We are quite unusual as a sector: the share price of every MNO company working in the UK is lower now than it was 10 years ago. Prices in real terms have gone down, not up; revenues are flat and margins are low. Our capex has never been higher as a business than it is this year, but we are forecasting that both our revenue and our EBITDA will decline slightly. Growth and investment are quite challenging; the MMR is a positive step and a recognition by Government of how public policy can increase investor confidence and increase investment.

I would highlight three topics in that review. First, there is the possibility of net neutrality reform; reforming net neutrality rules will help us innovate, manage spectrum more effectively and provide bespoke services for customers that could generate additional revenue for investment in the network. Secondly, there are spectrum fees. Hundreds of millions of pounds are taken out of the sector every year in annual licence fees for mobile spectrum, and those fees are set to increase over time. The review includes an amendment of those fees, which would keep more funding in the industry for investment in infrastructure.



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Thirdly, there is spectrum itself. Data consumption is increasing; there is a huge demand for data services and it is important therefore to have a long-term clear affordable plan for releasing spectrum to operators to help cope with that increase.

We hope the review will take forward those three things—net neutrality reform, annual licence fees and spectrum—and we welcome their inclusion.

George Robinson: I do not want to drown you out, but I would mention three things that are rooted in what the Committee has been speaking about.

First, we think the code is good: a lot of hard work went into getting those code reforms, and it will help rural coverage massively. If it were unpicked or reopened, we are quite certain that would impede rural coverage, so if I have one ask, it is that the code is not reopened. It is working well.

Another side of it, as well as access, is planning reform. We want to build out our network in Scotland—we have to do that as part of our CMA commitments—but we have some fairly low-grade planning asks. We obviously do not want to build masts all over the countryside; we hit local opposition when that happens. This is about upgrading masts in certain areas and making masts on rooftops higher. Extending the permitted development rights to make that process smoother would allow us to deploy our capital and increase coverage quickly.

The third point—it is an important one—is about critical national infrastructure. Telecoms are critical national infrastructure; the Cabinet Office has designated us as such. That brings an obligation for things such as cyber-security and coverage. We understand that obligation and are happy to meet it, but it is not always matched with support from Government. This is not just about code issues; it affects us in all kinds of ways. For instance, data centres are critical national infrastructure, and they get energy support; we are getting absolutely slammed with energy costs—at VodafoneThree they are over a quarter of a billion pounds a year and rising—yet there is no support. If Government can close the gap between our obligations and the investment challenges, that will go a long way to helping Scotland and the rest of the UK. As Scotland is lagging on some metrics it will make a particularly big difference there.

Chair: We will explore those issues later in our agenda this morning.

Alex Towers: Investment is the key thing. Over the course of the 2020s BT will be investing £40 billion in digital infrastructure from fibre to mobile and all sorts of things in between. There is a lot of money going in but, as Simon was saying, the economics of the mobile part of the industry have changed. For 20 years it was fine to rely on a very competitive dynamic between operators and a globalisation of supply chains that made everything cheaper and easily available. Those dynamics have now shifted, and we are in a different world that is geopolitically challenging. The Government need to think about the industry differently.



With spectrum in particular, we could do with a road map setting out how we are going to get from where we are now to a better place for national mobile services. There are two particular bands that we think should be made available: first, 600 MHz and secondly, 3.8 GHz to 4.2 GHz. We would also like an approach to how that spectrum is taxed and licensed to help us invest more. Planning is important, and energy costs are super important across the country now—as everyone can see—but as providers of critical infrastructure and investors in critical infrastructure we get no relief from any of the levies and charges that apply. The bill for energy costs goes up inexorably; we are massive payers and that causes a real issue when we are looking at investment, so we are making the case to Government for action on that as well.

Finally I would underscore what George has said about resilience and what it means to be critical national infrastructure providers. There was an example last week when TalkTalk was about to collapse entirely: in Scotland that would have meant 200,000 customers immediately cut off without any protection. There is a question about whether there is a different way of looking at the industry and looking at regulation in the future to try to prevent such situations arising. In this instance, we were able to step in and perform a rescue, but it highlighted how important telecare systems are, not just to everyday life but to health. All the Government and other public sector services that rely on these networks are critical in keeping people safe and secure from day to day.

There are a series of questions that stem from that. On one end of the spectrum, around the subsea infrastructure, do we have the right regime of preventive measures to protect the capacity and repair it quickly, including the availability of more than one cable repair ship at any given time? On the other hand, how do we free up the investments that are needed to build resilience for both mobile and fixed networks, in terms of battery back-up, generators and satellite provision? There is an open question about whether the industry alone can manage all that is necessary, or whether there is a case for public investment to provide the level of resilience that we are going to expect in the future.

Q138 Dave Doogan: We have heard that there remain some stubborn areas of Scotland with poor coverage; they will need big-ticket items over the next five to 10 years. What is the industry going to do to close that gap? You can be as brief as you like because we have covered some of this already.

Jonathan Freeman: As we have said, there needs to be further intervention and support in those rural areas. The two programmes run to date—the S4GI programme run by the Scottish Government and the SRN programme—had different objectives. S4GI was about providing capacity and coverage into communities and local businesses, whereas SRN was more focused on geographic coverage. If we look at that stubborn—as you frame it—part, we are going to need more SRN-style interventions in those areas.



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As a company, we have built a large volume of sites across Europe and are willing to put our own private capital into that, but we need an investment signal and commitment from Government. Fundamentally, it will be very similar to what has gone before. We will need to build sites in more challenging areas, including preferential access to power to be able to upgrade power supplies where required. With a favourable planning regime we will see that gap start to close.

The other thing I would point out is that a large amount of the benefit is going to come from upgrading infrastructure, as George and others have spoken to. We are continuing that journey: we have rolled out 5G a lot faster than 4G, and that is now having an impact on the infrastructure, so we need to make it slightly bigger, slightly larger and slightly stronger. It is a combination of those two factors: continuing to accelerate upgrades to close the capacity gap and making further interventions to deal with coverage.

Simon Miller: The Government's ambition is for 5G+ to be in all populated areas by 2030, and we are working to that target, which is three years away. In due course we will map out our next steps and our ambitions beyond that, but the focus has to be on those areas where there is currently no coverage and on working hard to improve the situation in those areas.

The biggest challenge is in areas that currently have little or no coverage, rather than premises reached, which are at a high level at the moment. The priority will be getting coverage to those remoter areas.

George Robinson: There is an emerging industry regulator view on coverage. We are making good progress; it might not feel that way to some constituents, but things are moving in the right direction and hopefully in the coming months and years you should start to feel that. We are rolling out terrestrial coverage—masts on the ground or on rooftops or whatever; on planet Earth—at pace as part of our merger commitment, so that over 99% of people and nearly 90% of landmass will be covered by good-quality 5G Standalone.

The remainder is tricky for terrestrial. The economics are hard; these are very remote areas, so that is where satellite applies, and it is beginning to come on. We are partnering with a company called AST. We have already had Ofcom approve use of our spectrum for those satellites when the constellation goes live; we are hopefully testing early next year. The satellite coverage is beginning to get quite rich. It is not just a backstop; it can do things that could previously only be done by terrestrial coverage. You still absolutely need terrestrial coverage as your base, but satellite is going to be able to fill those not-spots to a good extent. That is an exciting development for the industry and something that a lot of attention and thought are going into; operators are lining up with propositions. That is what will happen with coverage.

As I said when I came to this Committee a few months ago, you've got coverage, affordability and quality. We have had a Government who have



been absolutely focused on coverage and affordability and reached those aims very well; now the attention is on how we deliver good quality so that, if you have bars on your phone, you are actually able to do what you need to do. Ofcom is doing a lot of good work on that, but it is where the priority now needs to shift.

Alex Towers: Quality is the thing. We will also get to 99% 5G+ by 2030, but that does not mean that everyone everywhere will get the best possible service they might want and need. We gave the Government a 40-point list for their mobile market review; there is no big easy lever to pull that fixes this problem for everyone, but—as we have been talking about—there are lots of small things that can be done. Satellite can be part of the answer: we will get to 99% coverage with terrestrial 5G, so it is very much for the final proportion, but it is also very helpful in terms of the resilience of the mobile network itself, in helping to back up our systems in case there is an issue with a cable or some other part of what they call the backhaul. It is an important part of the mix.

The other point that we have not mentioned, but that is relevant across the UK and Scotland, is that there are gaps around transport networks. That is particularly the case with trains, and it is a massive frustration for customers day to day. The economics do not quite stack up for individual operators to properly fix that problem. It is a question for the Government and for Network Rail in particular; they could help fix it with investment and a more imaginative approach to using the existing infrastructure that is on the railways already and resolve a problem that is massively aggravating for lots of people every day.

Q139 **Dave Doogan:** For any of you who wish to answer, to what extent has switching off the 3G network exacerbated either the coverage or the quality of provision? What discussion was had before that switch off? If it has had an effect, was that anticipated and quantified, or have we been a little surprised and wrong-footed?

Alex Towers: I do not think we were wrong-footed. We are pretty happy with the way it has gone, in fact.

Q140 **Dave Doogan:** It has not had a negative effect.

Alex Towers: Not that we can see. There were a series of transitions, and that was one of the first. We are in the middle of a transition now, from analogue to digital landlines. So 3G has happened, and 2G will happen in the next two or so years; we are currently planning that. It is a necessary part of effectively upgrading everyone's service, but 2G currently accounts for around 0.1% of the traffic across our total network, so we are fairly confident we can retire that and use the equipment and spectrum more effectively for other purposes without causing people any problems. But clearly, we need to be very careful in how we manage each of these transitions.



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George Robinson: We, and the Government, take it very seriously when retiring something that people are reliant on. We go through many stages in the process of looking at what alternative provision is in place already, so 3G was very much done on a graduated process, and the Government quite rightly asked us to update them every step of the way. As Alex says, that is now being replicated across the retirement of legacy networks. We take this incredibly seriously, and we think 3G was done in a responsible way.

Simon Miller: We were the last operator to switch off 3G, but this was literally years in the planning. In advance of switching it off, we ran—as I am sure my colleagues did—a number of regional pilots and regional switch-offs to test the impact on the network. We worked very hard to ensure that where 3G was going to be switched off, there would be capacity and coverage to pick up those who had previously used 3G. It was a very careful, incrementally planned process where we worked hand in glove—as George said—both with the Government and with local authorities.

Returning briefly to satellite, I would make one more comment: yes, it will have an increasingly important role to play, but it is important to recognise that it is already being deployed. We have used satellite to give backhaul links back to the core network for remote sites. We also launched an O2 satellite earlier this year—a satellite-to-device service that has lifted our coverage footprint up to around 95% of UK landmass. It is of particular value in bringing coverage to not-spot areas.

Q141 **Douglas Lumsden:** I want to follow up on the satellite piece. You mentioned that O2 has already rolled it out. Will that be an additional cost to consumers, or will it be used where there is no 4G or 5G coverage to allow them to use their phones as before?

Simon Miller: It is a complementary and supplementary service; there is a small charge of £3 to customers at the moment.

Q142 **Mr MacDonald:** George Robinson has had the thick end of our tongue before; the three of you have yet to have it. I represent Inverness, Skye and Wester Ross: the chances are that they are among your most difficult landmasses to cover on the west coast. I live in an area that is reasonably populated: there are 50 houses. If I want to get bank access and they send me a text, I have to run like hell down the garden, get my text, run back and enter it into the computer before it times out. That happens to me, and it happens to our whole community. We do not have mobile coverage in the reasonably sized community where I live.

I am going to read from your statistics: Scotland has roughly 80% of 4G geographic coverage compared with 90% for the UK, and for 5G, it is 48% in Scotland versus 73% of the UK. I suspect that where I live in the west highlands, it is down at 30%. There is a major crisis going on. School rolls in the west highlands have halved. Portree high school was built for 1,000 pupils, and there are only 500. Professional people are moving away, and a major reason is the lack of communications.



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We sit around here and the numbers sound great—it is “90%,” “We’re moving this,” and, “We’re going to achieve that”—but the net result is that we are seeing massive depopulation in remote Scotland because our communications are not good enough. You guys are all saying you are doing well, but I will leave this meeting thinking you are doing badly. I hate to say it, but that is the reality.

The question is, when can you get this sorted? George, you have answered this before, but there are things such as sharing masts. When we were in the Faroe Islands the head of telecoms there said, “You don’t understand; if you shared masts, the problem would be significantly resolved.”

George Robinson: I will do a quick supplement to that. Yes, we can talk about facts and figures, but if those do not reflect the lived experience, then they are not cutting through. That is very important. With regard to rural roaming, if there is no signal, there is nothing for any of us to roam to. That is where neutral host architecture can be useful, which I am sure Jonathan will expand on. We are responsible on the roaming side; we try to share our masts and our kit everywhere that it makes sense. VodafoneThree shares sites with BT because of our merger, we share kit with VMO2, and we use neutral hosts. We do an awful lot of sharing; where sharing makes sense, we try to do it, and to protect the principle of sharing in areas where there is good coverage and competition is driving that investment. We try to do it in a sophisticated way that ensures there are as few of these instances as possible. It shows the importance of connectivity. If that is a driver of depopulation, it is a huge issue and something we need to sort out.

Jonathan Freeman: Building on what George said, we absolutely respect people’s lived experience. We are a European company: the UK has one of the highest levels of sharing of any country in Europe. We have 1,200 sites in Scotland and about 2,200 MNO points of presence. There is a sharing ratio of about 1.7 there. If we look at the S4GI programme, the sharing is up at 2.5 or 2.6. You have nearly every operator on every single S4GI site that is deployed, so I do not believe this problem is due to lack of sharing. The UK telecoms industry has done a fantastic job of sharing.

For neutral hosts such as us and our other competitors in that space, this is our reason—this is our business model. We want as many companies to join as possible, including non-MNOs who host other providers. As George pointed out, we need new infrastructure to close that experiential gap. There is always more we can do, and always more we can share on, but the sharing is already pretty high. It is going to be about finding better and more efficient ways to deploy new infrastructure and bringing that service to constituents so that they get the lived experience they would hope for.

Simon Miller: We have been sharing infrastructure with Vodafone since 2012, and infrastructure sharing by all four operators was at the core of the shared rural network programme, so this has been going on for a long time. There is more now than there was five years ago; there will be more



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in five years than there is now. That is certainly the direction we need to go.

Q143 **Mr MacDonald:** My next question is on a slightly different subject: the shared rural network. How effective do you think the shared rural network and 4G infill programmes have been in addressing mobile connectivity?

Alex Towers: We are probably going to go back around the same territory. In aggregate, we would say that they have been very successful in terms of the difference made to closing those big numbers, in terms of gaps in coverage, and the fact that most of the infrastructure for the SRN and the Scottish Government's 4G infill has been of the sort that has allowed operators to share and so bring that wider benefit. That has been a positive intervention. Clearly, as in your case, there remains a percentage that is not covered; it is of no consolation to you that in aggregate it has been a success. That remains a question.

Q144 **Mr MacDonald:** Can I change my question a little? Originally, it was about landmass covered rather than population covered. I was on the Highland council planning committee, and we would get all these SRN applications that completely snarled up the whole committee. Then I got my new job. I arrived and sat down with Chris Bryant—the Minister involved at the time—and explained that we did not need masts 12 miles up a glen where nobody lived. It would be much better to put them on hills in coastal areas, where they could make a difference. Very sensibly, the Government have reduced the number of SRN masts required in remote glens, but we have not seen them being replaced in places where we think we have the demand. I do not know if you have any input on that.

Alex Towers: Looking at this transparently, the first part of the SRN programme was delivered by the industry, and it was to close mostly what we call partial not-spots. The Government were due to make an intervention with the total not-spots. You are right: sensibly they took the view that places that were literally empty most of the time might not need a new bit of infrastructure, but they also reduced the amount of funding they were going to put in. That is a change.

What we are talking about in the end is a question of potential market failure. What is the answer in a place where there may not be a competitive business case for any of us to put new infrastructure? Maybe there is a neutral host-shared bit of infrastructure that would require some public investment, for example. That remains a live question for communities that have not yet got the infrastructure they want or need.

Jonathan Freeman: As I mentioned in my earlier answer, the two programmes were very differently designed. The S4GI programme was about covering communities and businesses, while the SRN was largely about increasing geographic coverage. That is at the heart of the policy decision we have to decide on for future intervention. If you design the programme with the right objectives, you will build the associated infrastructure. As we saw with the SRN, it led to infrastructure being placed



for geographic coverage that may be important in the future for things such as agribusiness and as advanced logistics cases emerge. We understand that from your constituents' point of view, today is the pressing priority for them, not those future use cases. How they were designed as programmes and what they were designed to achieve are very different things; we always need to think at the start about the outcome we are trying to get to, because it can lead to unintended consequences.

Q145 Maureen Burke: What lessons have been learned from the roll-out of 4G in Scotland, and how you are applying these lessons to the ongoing roll-out of 5G?

Jonathan Freeman: By international standards, the UK was relatively late to roll out the 4G technology, and it took a long time to roll out. An awful lot was learned from that programme; we were one of the first countries to start the roll-out of 5G and it has accelerated more quickly. My colleagues here will no doubt speak from the network point of view. From an infrastructure point of view, what we have learned is that we need to get ahead of the curve, so we need to be upgrading the infrastructure—the physical metalwork—to make it stronger, slightly taller, slightly bigger in advance because the new equipment is much heavier, it is much larger and it has a much bigger impact. The big lesson we learned was that you need to prepare the infrastructure.

What has been more challenging is that 5G uses a lot more power, as we can perceive through operator consumption. To date we have not been able to easily get access to upgraded power, unlike many other industries across the UK and Scotland. Getting those power upgrades and getting prioritised in that queue is challenging. We can have sites that are built and have all the equipment but are still waiting for the power upgrades to switch on the 5G part. We have learned the lessons around the infrastructure side, but the new challenge now is around the power. If we can get a little more on the planning side, that will help accelerate things as well.

Simon Miller: The key learning from the shared rural network programme, which was about 4G, was that it is difficult to punch a hole in those areas of total not-spot coverage. If you judge the SRN programme by the objectives it set, it has been a success; in Scotland, as I mentioned earlier, the percentage of landmass where you can get a 4G signal from all operators went from 41% to 71%. By the end of 2024, our UK landmass coverage was at 88%—that was a key target of the SRN programme. We will all be at 90% by the end of this year, and our collective, combined coverage footprint is at 95%. That has been a success.

The key learning is how difficult it is to build in those total not-spot areas through a combination of economics, community, and landlord and planning authority consent. It is a source of some frustration that the industry invested roughly half a billion pounds in addressing partial not-spots, but the total not-spot part of the programme that was funded by the



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Government was significantly scaled back because we could not get permission to build sites in the total not-spot areas.

You can argue that it was sensible to scale it down and focus more on premises and places such as tourist destinations where more people are to be found, but it is frustrating because in that particular case, money was not the problem. A lot of that Government money went back to the Treasury because we had to admit defeat on certain sites. That challenge is a key learning.

The challenges we have with remoter sites in Scotland, we will continue to have with 5G. These are very remote sites, many miles from roads. Getting those sites in might require helicopter builds or ferry transport; getting backhaul back to the core network could be a challenge, as could getting power to the sites. We have some total not-spot sites that have been built and ready to go since last year, but we still do not have power. We are working hard with SSE to put that right and we are going to solve that issue, but it can also be a cause of delay.

George Robinson: One thing about the 5G roll-out is that we now have a lot of the masts. We are going through the building pain now; when they need to be upgraded in the future, the sites will be there, so that is good. Of our 3,500 sites in Scotland's upgrade programme, only a small proportion—250—are new. It helps not having to build all those sites as new.

How do we supplement that next? There is the satellite angle. How do we make sure satellite is done as well as possible and fills remaining gaps? There are also small cells—small boxes that you put across cities to supplement coverage where needed. How can that be done as effectively as possible? That is something that operators are doing now, but just as we have made masts easy to build, how can we make it as easy as possible to build out small cells?

There is a demographics versus landmass challenge. DCMS is talking to us all individually because it is sensitive information, but once we have built out our networks—as we have said we are now—where are those gaps left? Then we can have a sensible discussion with Government about how we fill those. Maybe that was a lesson. If we are doing areas that did not need coverage through the TNS, why did we not do areas in your constituency first, Mr MacDonald? How do we make sure that that is not replicated? A lot of this boils down to understanding that we are all doing these amazing build programmes, so where are the gaps going to be and how do we make sure they are filled in good time?

Alex Towers: As George said, the sites are mostly now built and that is a massive help. In towns and cities, all the planning issues are still massively relevant to small cells and upgrades, and any time a landlord wants to remove a site, that is a painful process with not enough time to give us a chance to find an alternative site. All those issues continue.



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The other thing I have been thinking about 5G, learning from the 4G experience, is the point about resilience, in particular with the increasing frequency of extreme weather events and climate change. There is an obvious vulnerability in major storms; that has been a particular issue in parts of Scotland and remains a vulnerability. We feel that we do not get a priority ranking in terms of who the energy operators have to attend to first when there is a power outage. We think there is more that could be done to join up the planning across telecoms and energy networks because they are so interdependent. If you are just a normal person, you clearly need both to go about your ordinary life.

Q146 Maureen Burke: You have spoken about the challenges on 5G. Do you think that there is a risk that Scotland could fall behind in the roll-out of 5G?

George Robinson: The stats show that Scotland has certainly lagged on 4G and 5G. Our roll-out programmes are absolutely focused on filling that gap. The next question we are going to have to tackle in the industry is, what is 6G and how do we make sure that we implement it as well as possible? I would also say that this is a UK issue. The stats speak for themselves that, as a country, we have been slow in 4G and 5G roll-out for various reasons, mostly economic: how do we make the economics work? We have very good affordability in the UK, but that means the investment envelope is smaller. That was the story of 4G and 5G. As Ofcom says, we are in the bottom third of OECD countries for connectivity. We are desperate to get to the top third, the top 10%. We are laser-focused on that and we are talking to Government about how to solve it.

Q147 Dave Doogan: Mr Robinson, VodafoneThree is a massive corporation with a global footprint, so how does the UK and its roll-out compare to the other markets where Vodafone operates? You say that we were a bit slow in the roll-out, mostly down to the economics. How did that differ in other countries around the world? What different approach did they take? For example, I was fortunate enough a few years ago to be on top of a mountain inside the Arctic circle at the very top of Norway, and to my great surprise there was full 5G coverage. What has it done differently that we could learn from?

George Robinson: Norway is a good example, but I would say Europe—

Dave Doogan: Norwegians would laugh when we say that Scotland is remote and has some rugged terrain.

George Robinson: The competitiveness of telecoms in Europe is very high compared with other countries. When you look at affordability, you can get a SIM for about £6 in the UK; in the US it is \$50. We do not want skyrocketing prices, but there is an understanding that 20% of the market is run by virtual network operators and that drives huge amounts of competition. I am aware that Norway is far ahead, but I am not particularly close to Norway so I cannot say exactly why that is. I am also aware that a lot of the countries in the far east are far ahead, such as Singapore, Japan



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and South Korea. South Korea is the 5G leader: it has incredible coverage, with gigabit-level speeds on mobile. How has it done that? Again, every country is different. Where a country is smaller, it is easier to cover that geographic space. Good planning rules are important; there is a huge impact if you can deploy quickly. I know our mast height rules are more stringent in comparison with other countries. In some countries, you can build pretty freely up to 50 metres. Here, it is 15 metres to 20 metres and there is protected land everywhere. Where can we make sensible changes there? Europe as a whole has competitive markets that drive very low prices, and smaller investment envelopes, but a lot of our problems come down to planning.

Q148 Chair: I do not know if any of you will be able to answer this question, but I would be interested if you can: if, at the conclusion of the shared rural network project, 9% of Scotland's landmass will be without 4G connectivity, how does that translate to the community and to people? Has work been done to identify that? If so, what are those areas?

George Robinson: It is 90% landmass, but 99% population coverage, and that is where population coverage is very useful. Obviously, for that remaining 1%, there will be some areas where it is particularly hard, but it is also about making sure that when we are saying 99%, they are getting that coverage. We are supporting the work that Ofcom is doing in making sure that when the map says you have coverage, you can use your phone. It is not just an icon on your phone, it is usable.

Chair: It does not mean that Mr MacDonald has to run down to the bottom of the garden.

George Robinson: Exactly, yes.

Alex Towers: That is a key point: 99% population coverage in terms of economic activity should deliver most of what we want. There are definitely important questions around agribusiness and so on, but if the landmass that is not covered is effectively empty mountainous terrain, then maybe it is not such a problem.

Q149 Douglas McAllister: Mr Robinson, in an earlier answer you mentioned the question of how we make the economics work. My question is to you all: to what extent is it commercially viable for you to provide 4G coverage to the remaining areas not reached by the shared rural network?

George Robinson: Our target is to make sure you are getting good coverage through 4G and then 5G and 5GSA. Some 90% of that is terrestrial, and on the remainder, we can work with the Scottish Government and neutral host providers. Satellite is the other play. It is a nascent technology, but it is getting to the point now where it can start to provide a level of coverage where you can do most of what you need to on your phone within the next coming years.

Simon Miller: I would agree with that. I would briefly return to the TNS element of the shared rural network: the number of masts envisaged under



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that scheme was very significantly reduced, and their location was moved from remote areas to more populated areas. There is a big challenge around getting community and planning authority consent. As I said, one of the frustrations we have about the TNS programme was that the money and the willingness was there to build the sites, but we could not get permission. That is a tough nut to crack. We need to keep talking with those communities and keep that dialogue very much open in making the case for connectivity, and to put ourselves in a position to meet that need and persuade these communities to take the infrastructure that is required to give them the connectivity they may want.

Q150 Douglas McAllister: Are there additional incentives that you would need to extend coverage to these areas? You said that it requires sensible discussion with Government; in an earlier answer, you also touched on relief on energy costs. Perhaps that is one of the additional incentives, but are there others?

George Robinson: To fill the gaps, in the past there have been joint initiatives with Government. As we have established, S4GI worked well, EAS worked well, and SRN went a huge amount of the way, so there is that discussion. For the remaining areas that are particularly remote, satellite will be seen as the solution, because to build out masts in these areas costs about £1 million; if only one or two people are using them a year, is that sensible if you have enough from satellite?

On energy relief, if the Government came to us and wanted to have a sensible discussion about coverage obligations for support in other areas, that is absolutely something that could happen. I know that other countries with spectrum fees will sometimes put in coverage obligations instead of charging those fees. That seems a sensible way for the Government to achieve their objectives while incentivising our business.

Q151 Douglas McAllister: Is it possible therefore that at some point in the future 100% coverage could be reached if the Government extend the coverage obligations?

Jonathan Freeman: With 100% coverage, the curve gets exponential in terms of the number of sites you would need. We are at 90% to 91% geo coverage: can we push that terrestrially to 92%, 93% or 94%? Probably, if we can get the right frameworks in place and the right enablers to deliver. I am not aware of any large country that has 100% coverage because, as I say, it gets to this exponential point where you are literally building tens of sites to serve areas, so 100% is unrealistic. Pushing terrestrial as far as we can is a good thing to do from a sovereignty and a resilience point of view, and then—as others have said—you will probably need to think about other technologies for the final part.

Simon Miller: You raise an interesting point about coverage obligations. When O2 got its 4G spectrum many years ago now, it came with a coverage obligation to reach 98% of the population; that helped not just us, but the



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whole industry. We levelled up. Coverage obligations could possibly have a future role to play.

Q152 Chair: Planning has been mentioned a number of times; I am thinking of a case in my own constituency, which is very urban. There is a controversial proposal sitting at the moment, and it does not feel as though operators have thought very carefully about where this particular installation should be located. I wonder generally—not specific to my constituency—how much work goes into deciding exactly where your infrastructure will be located? I have seen other proposals in more rural parts of the country that have seemed odd, or not the best fit for a local community. It seems to me that you would perhaps get a little further if you were to take communities with you. I do not know what your criteria is: is it commercial, or a more broadly based consideration?

Alex Towers: That it is a fair question to ask. Obviously, I cannot comment on a specific case.

Chair: No, and I am not going to ask you to.

Alex Towers: We spend a lot of time on this, and we try to think responsibly about it. I am sure we get some wrong; it always involves a complicated set of factors such as the community, engineering, cost and the network design. There are various problems with it from our point of view: principally, it is a time and money issue. You put a lot of time into the planning application, then it is a six-to-nine-month process to get an answer. In aggregate, around half to two thirds of applications get rejected. We then appeal. Most of the appeals, we win, but the amount of time that has been wasted in that process and the money spent slows the whole thing down. I do not know what the Norwegian planning system is like, but other countries definitely do this better. Some of it is just about there being more planning officers available to do the work in local authorities.

I am conscious that there is a wider fiscal set of constraints at work with lots of these things, such as energy costs and licensing, but it would make our lives a lot easier if there were more resources available to make this process quicker. In some cases, we probably get it wrong ourselves. There are some specific adjustments that could be made that would help. One is to slightly expand this category of what is permitted development and where we can put things without having to go through that process. Clearly that would then put an obligation on us to be responsible in the way we do that.

The other thing is the way that the process works when the landlord of a building where we have a site, usually with something on a roof, wants to remove our apparatus or do something different with the building. That is called a notice to quit, and in that situation we only have 18 months to find an alternative site. Given all the factors I have just laid out, that is not very long to find an alternative and go through the planning process, get it up and running, get the power and so on. We have been arguing quite strenuously for a while that doubling that length of time would make a



massive difference in avoiding the problem you get in urban environments where suddenly the signal will disappear for a while. We are messing about trying to fix that problem. Again, it is quite boring and the technical business of Government, but if all these levers were to be pulled it would make a big difference when you look at the total picture.

Q153 Mr MacDonald: I just want to challenge you about the community and planning, because that is what I do; I go around the communities and I know them really well. I guarantee that a community that does not have mobile phone signal would be desperate for it—they would be desperate. They are not against it; they may be against a site for some reason. If you had a local community liaison officer who was from the area who sat down with the community council and discussed where it would best go, I promise you that it would get rushed through. I am afraid to say that in my opinion, it is the way it is managed rather than the reality.

Simon Miller: I am happy to respond to that. That observation would not be wholly aligned with our experience on the TNS programme, as I said. In terms of where proposed sites are located, they are decided upon after extensive planning and analysis by our network engineering teams. What drives that is which sites will best suit and meet customer need. You raise an interesting point, though, about the community consultation and pre-planning application consultation that we do with local authorities. We have to make that as good and as effective as we can to ensure that as far as we can, we are acknowledging and addressing all those concerns. That is something for us to take away and learn from, absolutely.

Q154 Dave Doogan: Mr Towers, I am quite surprised to hear the notice-to-quit scenario that you have to deal with. Is this on specific sites, on buildings or on land? How does it work? In the context of the CNI, is it your ambition that this latitude that landlords have would be very much tightened up?

Alex Towers: It is on buildings in urban environments. What we would like is a longer period of time to adjust. Landlords can say to us that they have changed their approach and they do not want the site on the building any more—that is fine. It is the amount of time we have—

Q155 Dave Doogan: Do they want part of the building? But you are on the roof, so you are not interfering with the use of the building.

Alex Towers: We are on the roof but they can decide they do not want us on the roof any longer. That is their right. It is the length of time we then have to find an alternative site, in effect, that we are talking about.

Q156 Dave Doogan: They are receiving a rent, are they not?

Alex Towers: Yes.

George Robinson: It is redevelopment a lot.

Q157 Dave Doogan: It has maybe gone from commercial to residential.

Simon Miller: They might want to increase the height or redevelop it.



Q158 **Dave Doogan:** How common is that?

Jonathan Freeman: In London, in particular, as a site provider it is becoming an extremely challenging environment because you can see the development going on. There will be parts of Edinburgh and Glasgow experiencing similar activity. As Alex talks about, a longer period of time to deal with it is absolutely critical because now we have sites that go off air and literally lose the signal.

Something about a right to go back once the development has finished—we see that in other countries, where you have a right to then be reinstated on the roof—would be helpful, and could be accommodated within that development path. We manage to achieve that quite often with some developers. The sheer volume of development going on at the moment is resulting in real challenges here in London but also in other environments. Unlike other critical utilities, we do not have that right to go back. If it was a gas main you were moving or an electricity cable, it would have to be reinstated. We do not benefit from that. While that remains the case, we need that longer time period to deal with the issue and not impact end users.

Alex Towers: There is a broader point there about how telecoms now is much more similar as an essential service to some other things that Jonathan was talking about. In a parallel example, Openreach is not able to go in automatically and upgrade people's connections from an old-fashioned copper-to-fibre connection, in the way that other utilities have automatic rights of access in order to fix problems and upgrade things. That is leaving a million households with a fixed broadband connection with something suboptimal, basically. Unless they can get their landlord to agree—often they cannot get hold of them to do this—they are stuck. There is just a general question here: what kind of service are we providing and how important is it to people? We are in a different world than we were 10 years ago.

Q159 **Douglas Lumsden:** We have heard already this morning about there being 90% coverage, but as a consumer, unless I have three different SIM cards, I am not going to have 90% coverage. It is back to the point about whether there should be more sharing of infrastructure, especially in rural areas. Jonathan, I will ask you first. Do you think it should be mandatory in some rural areas that operators have to share infrastructure?

Jonathan Freeman: As we mentioned, sharing is already very high in the UK. There is no restriction on sharing. In fact, the vast majority of sites in Scotland and across the UK are owned by companies that want more sharing. Our commercial model is based on operators sharing more. Mandating is challenging, as Simon has alluded to. Each network is planned individually and therefore needs to take into account where other sites and other items are. If we move to a mandated world, it would be tricky from a network planning point of view.



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Some 70% of sites have more than one operator on them already. Companies such as ours own them. We have a business model that is based on attracting more sharers on to our sites. There is no restriction from our point of view. When more people come in, we need to be able to upgrade that infrastructure. Rather than building a new site, which may have a visual impact on communities, if we can upgrade what we have—a little stronger, a little higher—then that can have a real impact. That is the key here. It is about recognising there is a model of sharing that is working. It is a very open environment in the UK. Then we have to respect that operators need to plan their networks. As George talked about, in some areas there is a competitive advantage to be driven.

Q160 Douglas Lumsden: I will go to the operators now then. When you think about sharing, how do you decide when you will share or when you will try to keep almost a competitive advantage over anyone else?

George Robinson: First, if there is no coverage, there is no roaming to be done in the first place. As the SRN and others did, if it becomes clear that the market is not going to deliver the coverage in that area, and it should, then that is where a discussion is to be had with Government on how we can do that. The mandatory aspect of it needs to be carefully done because, talking about incentives, how do you incentivise us to build into areas? If we build into somewhere and then we have to let every other operator on it, that would weaken the incentive. But if that means we are not building in an area where we absolutely should, that is a market failure.

That is where we need to look at neutral host operators and what can be done. Certainly, those discussions are always ongoing with Government. Government will talk to us about a particular area, "Why has this X, Y or Z not got coverage?" If it then transpires that it really is just deeply uneconomical for a single operator to do it, hence the shared rural network is born, or S4GI or EAS.

Q161 Douglas Lumsden: But that is Government money really backing that up, is it not?

George Robinson: Yes.

Douglas Lumsden: As we already spoke about earlier, if there were more coverage obligations, that could force you to actually make sure that there is more sharing in place and that you work together to provide a service for our rural communities.

George Robinson: You start getting back to that question, are we serving the communities we need to or chasing a coverage goal? How are we always making sure we are doing what the country and local communities need? We always want to be laser-focused on that. Again, satellite is going to help a lot here. It is going to do some areas that are deeply uneconomical for a terrestrial mast.

Finally, we are investing a huge amount in Scotland as part of our merger. A lot of areas that do not yet have coverage will be going to 5G Standalone



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as well. A lot is being done. What I would revert to is—I know that DCMS is looking at this too—when all our build plans for this cycle are done, what is left? What is then needed to fill them? Whatever it may be, whatever solution, a lot of it boils down to that as the answer.

Q162 Douglas Lumsden: There are no regulations that stop you sharing just now because you are already doing it. It is just the actual will to do it.

Simon Miller: The economics of the industry are driving us all towards greater infrastructure sharing. It is more cost-effective, right? As I say, we have been sharing our infrastructure—

Douglas Lumsden: You do not have to do it just now. That is the thing.

Simon Miller: No, but it is happening more and more. One could argue it is a natural evolution of the market and driven by the economics of the sector. We have shared infrastructure with Vodafone since 2012, and all four MNOs share infrastructure. That was at the kernel of the shared rural network. We are going to see much more of it over time. That would be a natural progression and the direction we are moving in. To Jonathan's point, more infrastructure sharing such as that will require stronger, wider and taller masts to get the kit of three operators on.

Q163 Douglas Lumsden: Finally, your coverage is not 90%. What is your coverage for each operator?

Alex Towers: In Scotland?

Douglas Lumsden: Yes.

Alex Towers: We are at 4G for 98% of the population and 80% geographic; 5G for 88% population but only a quarter of the geographic land area at the minute. That is up a lot, clearly, because we are still building that.

Q164 Douglas Lumsden: George, do you have yours?

George Robinson: Yes, 4G at the moment is about 71%.

Simon Miller: Yes, 4G landmass is about 71%, and the population is about 99%. Our 5G+ is at about 82% of Scotland by population at the moment.

Q165 Lillian Jones: This is to each of the panel. I know that you have touched on it before but I would just like to ask the question again. What are your key asks of Government in terms of the mobile market review? What specific policy, regulatory or investment measures would most improve the business case for long-term investment in mobile connectivity?

Alex Towers: As I say, we have given 40 suggestions to the Government through that review process. Big headings would be planning reform, approach to areas of market failure—transport in particular but also any of these points we have been on about, such as very rural places that need public investment—a spectrum road map to double the amount of spectrum



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available for national mobile operators to provide these services, and to do something about the way that the spectrum is licensed and taxed effectively.

Furthermore, the capacity for us to provide different services with our 5G networks would require a slight adjustment to what they call net neutrality rules. Basically, that means us getting revenue from big over-the-top providers to increase the amount of investment we put into services for everyone else.

We would also like a reform of energy costs to ease the pressure of that increasing burden on us as providers of national infrastructure, and a set of measures around resilience and emergency supply, in effect, where we think there is more for Government and industry to do together. Those would be the highlights.

George Robinson: Yes, we see the mobile market review as broadly the same. Planning sits outside it, but England is consulting on planning reforms at the moment, which will go some way to helping us, including on the notice-to-quit issue. I would say Scotland has always been pretty good at planning. It is forward thinking and it works with us well. We want it to go a little further on permitted development rights where that is sensible. Again, it is not about building new masts where people do not want them. This is about extending the height and width in places where it makes sense. That will ease a lot of the planning burden and allow us to deploy quicker.

We would ask for anything Government can do to support our cost base. Energy is the big one, as I said—it is hundreds and hundreds of millions, and it is compounding every year. A lot of energy costs are put on businesses to incentivise them to use the network at different times. We cannot do that; we need to run all the time. Our argument to Government is that actually a lot of these non-commodity costs just do not apply to us and they should not. You should disapply them as you have done to other sectors with similar structures.

Thirdly, there is net neutrality. I know it sounds very technical, but it is about reforming old rules in a sensible way. We have a very smart 5G Standalone network now coming into play, which we spent a lot of money on. You can do a lot of very cool things with it. We want to be able to offer specific products to people that help us monetise the network. If we can monetise it, that allows us to invest more. From VodafoneThree, those are the three priorities that we have put forward to Government.

Simon Miller: We would say net neutrality reform, certainly; spectrum release and a long-term plan around that; and looking at annual licence fees for mobile spectrum. They would be the three things we would pick out from the review.

Jonathan Freeman: From an infrastructure perspective, it starts with what quality of networks do we want to deliver where? Then it is about



building a set of policy interventions around that, probably split between the enablers that others have spoken around, such as access to power and better planning rules to upgrade things.

We need to then look at where Government are planning to do things already—Alex mentioned the rail network, for example. That will undergo a massive upgrade in the shift from its operational network that is going to be built. There will be a lot of new sites built for that. Where Government are already investing in infrastructure, we should make that capable of supporting public mobile operators as well because that will leverage it. We would agree that looking at things such as annual licence fees and trying to redirect them back into investment into the network will deliver outcomes for consumers and businesses.

Q166 Maureen Burke: How effective has the electronic communications code been in supporting the delivery of mobile connectivity in Scotland?

Jonathan Freeman: It is fair to say it has been a really great success story. As we have mentioned a number of times, the changes that were put into the code moved telecoms to the world that other critical sectors have. When you are building power lines, putting in gas mains or putting roads through things, it is assessing the impact of that in the same way.

As I say, in Scotland, we have renewed 99% of all our leases consensually with landlords. What does lease renewal mean? It means that you can upgrade the infrastructure and put additional sharers on to it, and that communities can benefit from new services. We are not having to continually negotiate around that. The programme of lease renewal that we have run has meant that we can upgrade 750 services, basically, because we have the rights now to do what we need to do. It has been a really big change, probably one of many we are going to need, in starting to see telecoms as a really critical industry and putting it on a similar footing to the likes of gas, electricity and water, which have this similar regime around valuation of their use of land.

Simon Miller: Yes, I would echo that. It has helped make the roll-out and enhancement and sharing of infrastructure easier, faster and more cost-effective.

George Robinson: Just very quickly, I have one correction to the record: I said there was 70% 4G coverage in Scotland, but it is close to 80%, so I apologise. On the code, please do not unpick the code. We worked hard to get there. It is a complicated balancing act of the rights of landowners versus the roll-out of coverage. It is incumbent on us to always use the code as responsibly as we can. We always try to do that but, again, it is a bit like planning; we have over 30,000 sites, so sometimes things might not be done to the absolute highest standard. We need to make sure that it goes towards that case. The code as it stands has been very good news. Certainly, if the code went backwards, rural coverage ambitions would go backwards as well.



Alex Towers: I have nothing to add really.

Q167 **Douglas Lumsden:** Just on that, has the code led to any more conflict between operators and landowners or has it been the opposite?

Jonathan Freeman: If we look at Scotland from a Cellnex point of view, we have dealt with only one court case to renew our leases; the rest have been done consensually. There are similar stats available at an industry level about how few court cases have resulted from that. As George says, we strive to do the best we can. We renew a large number of leases. Part of our approach is to ensure that we fund landowners to be professionally and independently represented, so they get a fair deal in this process. If you look at the volume of court cases, it is very, very low. A lot of them are with a single company as opposed to individual landlords.

Q168 **Douglas Lumsden:** Is it the same picture in Scotland as the rest of the UK?

Jonathan Freeman: I can speak from only a Cellnex point of view. We have renewed 266 and only one has resulted in needing to get a court determination to resolve it. It has been largely achieved consensually.

Q169 **Douglas Lumsden:** Do you have anything else to add?

George Robinson: When you get concerns about planning or code issues and you know who the operator is, please tell us and we will work with you. We get a lot of casework already, but we are always open to more. It helps, and it closes that loop because we can then look at what has happened. If something has happened and has not followed the process, we can make sure it does. Please let us know.

Chair: That is actually our last question to this panel. Thank you all very much; it has been very, very interesting. Mr Robinson, we will be getting you frequent flyer miles. It is very helpful to hear your experience and your organisation's interest. Thank you very much for this morning; we very much appreciate it.

Examination of witnesses

Witnesses: Anna Gardiner and Lorna Scott.

Q170 **Chair:** Welcome to our second panel this morning. Could I ask you both to introduce yourselves please?

Lorna Scott: I am from NFU Scotland. I am the senior policy manager for climate, land and business for NFU Scotland.

Anna Gardiner: I am senior policy adviser for business and property at Scottish Land & Estates, representing rural business across Scotland.

Q171 **Mr MacDonald:** I would just like to disclose that Anna Gardiner's family and my family are old family friends. Anna, the Government have reduced the number of planned total not-spot masts in Scotland. What is your



understanding of this reduction? They were originally chosen to meet Government directives rather than focusing on areas that would help the local community. What is your view on how the siting of masts could be improved?

Anna Gardiner: To answer the first part there, my understanding is that the rationalisation of the number of masts was after an important review, in essence. The whole policy behind landmass was built on the premise that the previous approach, which was trying to address population, was not working fast enough. The whole principle of thinking, "Okay, let's do landmass," is completely understandable. However, the approach is probably done from a desktop situation, not taking into proper account what the landmass of Scotland actually looks like. There are some brilliant quotes around the place of the penny dropping about what the landmass actually looks like.

It then became a numbers exercise. In essence, the approach to landmass was still designed to be addressing population but as things went on, it moved across into just getting masts up to cover as much of a percentage of the land as possible: job done. The detailed surveys and things with the review then showed that actually, maybe this was not the best use of money. That was obviously all coupled with a lot of pressure from rural organisations. It is very much the case that organisations are usually at loggerheads with each other, so coming together over a point is quite a good signal that something is wrong here. The message got through. That is why the whole approach pivoted and moved towards trying to focus things much more on population need, public services, transport and so forth.

Moving on to your point about how site selection can be improved, covering land does not equal addressing connectivity needs. As I said before, the original purpose had been lost. If you take Mr Doogan's constituency, the village of Stanley is a very clear example of this. That village is in a partial not-spot, even though actually thousands of people do not have connectivity at all. They were not on the TNS programme or the PNS programme. They are still without connectivity. Stanley is not an inaccessible place. It is a hop, skip and a jump from Perth. It is relatively accessible, but it has very little connectivity. If site selection is operating such that a place such as that is not getting connectivity, there are definitely improvements that can be made.

The question should not be, where should we build a mast? It should be, how do we connect this community? If the mast approach is not working, something else has to be done. In the earlier session, Mr Robinson hit the nail on the head when he talked about the use of satellite. Satellite is being used increasingly in rural areas. You can rock up to B&Q, buy your Starlink satellite, plug it in and subscribe, and you are out of the blocks. People are taking matters into their own hands. The question is, is that correct? I have probably rabbitied on for too long.

Q172 **Mr MacDonald:** I am sure you do not know the answer to this, but my



recollection is that the shared rural network was going to cost about £500 million. It was a Scottish Conservative proposal to do the shared rural network on landmass. The current Government have changed that. I believe they have saved a great deal of money, but that money has not been reallocated to covering the empty spots. Is that your understanding or do you just not know?

Anna Gardiner: I do not know the answer to it, but I have not seen any evidence that any effort has been made to address the areas that are still lacking any form of connectivity.

Q173 **Chair:** Do you think the electronic communications code strikes the right balance between mobile operators and landowners?

Anna Gardiner: The simple answer is no. We support the underlying objective of it, which is to improve connectivity, but in essence the operator powers and rights have expanded so much. At the same time, the compensation for hosting has gone down significantly. Basically, the seesaw has tipped so far that it is impossible to suggest that there is balance.

Lorna Scott: Yes, I would agree with what Anna has just said. As she noted, our members particularly feel that the compensation has gone down significantly, but the hassle factor has not decreased in any reasonable way. These pieces of infrastructure quite rightly need to be improved and upgraded regularly, or there might be something that goes wrong and needs to be fixed. Every time that happens, there need to be engineers coming on site and coming through a farming operation, for example. There is not really much—if any—forewarning of when that is going to happen. These are businesses trying to get on with the day-to-day work, so the management issues and disruption are still there with much lower compensation. Yes, our members certainly feel that it has tipped slightly too much in favour of the operator.

Q174 **Chair:** From a landowner's point of view, how does the wayleave system actually operate?

Lorna Scott: I will let Anna go for this one.

Anna Gardiner: Probably the easiest way to describe it is when a landowner is approached, it is not a simple case of yes or no. They have to consider how the proposal affects the existing farming or forestry—whatever rural business it is that is going on in that land. They also have to do a bit of crystal ball gazing because they have to think, "Right, okay, if we do this, what does it mean for anything we might want to do in the future?" For example, you might need an access route or a cable might need to be taken up, whether by pole, fixed wire or underground. That all has massive implications on possible future forestry plantation or a renewables project.

There could be so many things on someone's, "I would quite like to explore this as a business expansion for the future" list. That is all suddenly brought



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to the table and they have to be thinking about it now. This takes a lot of careful assessment, and careful assessment takes time and usually quite a lot of professional advice—from solicitors, land agents and basically anyone who has more experience than someone who is typically more used to dealing with sheep.

It is a considerable undertaking to take on a wayleave with limited knowledge. It is one of those things that someone might have to deal with only once in their life. They might never have had experience with it before and they are put under a lot of pressure to basically provide answers fast. The challenge is that operators often approach the process as a binary exercise. They need their infrastructure in a particular location and they just want consent. They just want to get on with it. Landowners have this long-term connection to the land. They have to consider not just that piece of infrastructure but its impact on their future management of their property in perpetuity.

Q175 Chair: If we look at the code, what provisions of the code cause the greatest concerns?

Lorna Scott: It is just that significant reduction in rent. I was speaking to a member earlier this week, and he was explaining that when his mast went up at the beginning of the 2000s, he was actively helping that planning process because he knew that it was in the best interests of the community and his business. It was bringing in diversification of his income, quite frankly, and he wanted it on his farm and he was very happy to do so. He was helping the operator in the planning process and through doing that, it was much smoother than perhaps other cases have been.

Now it is not as profitable, but also the mast is shared with other operators, which is fine, but that means there are more businesses now needing access to that site, so there is more frequency of disruption. He was telling me about how they have a cable on the ground, basically, and it was called self-burying. That means that the grass was to grow over it, but that is not a safe or responsible way of actually putting that cable down. He then has to adapt all his management practices for this particular cable, even though that was not how it was originally planned.

Again, just going back to the original point, the massive reduction in rents means that the compensation for that hassle is greatly reduced. Even though in rural Scotland, of course, we really need these areas to be covered better, we also need to be aware of the fact that these are businesses and these are farmers in these rural communities still trying to operate successfully. It is just about getting that balance in a more sustainable manner so that hopefully going forward, disputes or issues are more easily resolved and goodwill comes back into it, because that has been slightly eroded over the last 10 years.

Q176 Chair: Can you quantify the change in the recompense?



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Lorna Scott: Yes. That particular farmer used to get £6,500 a year and it is now £1,500. That is obviously one very specific case.

Anna Gardiner: Just to add to Lorna's points there, the changes that were introduced by the code are collectively problematic. They all build on each other. This reduction in rent versus the greater impact is possibly the best illustration of how the imbalance looks.

There was talk in the previous panel about increased power, which is another quite good example. When you have a mast that is up in the hills somewhere, typically the power is generated by diesel generators. You can have your climate thoughts on that in itself. When you have a mast that needs more power, that means more journeys to refill the diesel. I have seen some frankly appalling images of scarred peatlands because of this repeated journey with ATVs to basically refill the fuel. It is obviously not in every situation, but when we are working in a world where we are trying to protect our peatlands and we are really moving towards a much more custodial approach to how land is managed, these things are all very important to put into the mix.

Q177 **Mr MacDonald:** To some extent, this has been covered a little, as we talked about rent reductions. Is the rent reduction that your farmer came up with is typical, Lorna?

Lorna Scott: I think so.

Q178 **Mr MacDonald:** It is 25% of what people used to get, or thereabouts?

Lorna Scott: Yes.

Q179 **Mr MacDonald:** Do you get that as well, Anna?

Anna Gardiner: Yes—in some cases it is even lower.

Q180 **Mr MacDonald:** Is there an opportunity for negotiation or are you just told what the rent is going to be?

Anna Gardiner: The approach of different operators and agents is different. Some collaborate and work very well and they typically will come to an agreement. In other situations, it is quite a difficult process. It is not necessarily just about the rent, but for example, it could be about an access agreement.

There was one case in Argyll where a farmer was approached for a new agreement—under the code rights the operators can update the agreement—and the impact of that is obviously a reduced rent, apart from anything else. The pressure that was put on this couple was really very intimidating and quite aggressive. Before they could even actually employ an agent, the legal papers had been served on them and such like. The agent then had quite a lot of work to do to essentially assist the process in order to catch up.



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A lot of pressure is put on some landowners. In particular, there seems to be an opportunistic approach by some that basically taps into them not really knowing the process. In that case, they wanted to change the access route. The farmer did not want the access route changed, or wanted it changed in a slightly different way from how they proposed it, and they were not prepared to negotiate.

This is where my point about the wayleave process is really important. The operators and their agents have to understand that farmers are not difficult for no reason. It is important to understand why they are saying, "Perhaps not that route," and give them time to actually go through that process. The operators were talking about the need for time when the shoe is on the other foot, when equipment wants to be taken down. They want more time so that they can address that. It is just the same.

Q181 Mr MacDonald: Can I just cut in because I know we are going to be pushed for time? In 2025, a survey of 500 farmers came out, and it showed that 35% of those surveyed were considering terminating their mast hosting arrangements. Are you seeing a move to them actually being terminated, or is it a threat and not a reality?

Lorna Scott: It is possibly becoming, or likely to become, more of a reality. The frustration is just quite high. On Anna's point, if farmers and crofters already working in challenging environments are raising an issue or concern about why they want an access route changed, or why they want it over here instead of there, they are not doing it to be awkward. They are doing it because it will probably directly impact how they work; it will probably come out later in the period anyway. Yes, the statistics about the folk who are trying to get out of it are probably fairly accurate. If this does not improve, and if this goodwill that we have seen previously in how this was approached is not resolved in some way, it is likely that that will take place.

Q182 Mr MacDonald: Just in short order, does the electronic communications code specify the financial relationship between the mobile operators and the landowners, or does it have nothing to do with it—does it not cover the mathematics, and that is entirely down to the mobile phone operators' offer to the landowner?

Anna Gardiner: Basically, it does not give you a mathematical formula, but it gives a broad valuation methodology. It essentially refers to "no network". If it is on agricultural land, it will base the valuation on agricultural land. Other valuation methodologies would take into account the possible other uses of that land and things such as that. That is why we are where we are, because that was not the case prior to the code.

Q183 Lillian Jones: Do you think resistance is building to hosting masts in rural Scotland? If so, why?

Lorna Scott: Yes, just from going around the houses before coming here today and speaking to members that are dealing with this. I was a farmer up in Shetland, so there are a few masts up there and we have had issues



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last year. As I have already talked about, that frustration and the hassle level are still there, and the disruption to farming operations. There is also just that lack of willingness to try to engage collaboratively early, so that we can maybe see how we could avoid some of this coming further down the track. Yes, it is likely to increase and rumble on.

Anna Gardiner: A lot of it comes down to essentially behaviours of operators and agents. I need to stress that this is not all of them. There are just inevitably one or two bad eggs who basically make things very difficult. Bad news always travels a lot faster. There is constantly going to be this, "What's in it for me? This is just so not worth it." Quite often the first thing you know about a mast is you get a letter. In that first letter you see they start shouting about code rights. They are already threatening, "If you don't let us do this, we're going to throw the book at you." That is obviously never going to be a great start to a negotiation. Yes, that is just a common-sense bad start out of the blocks.

As Lorna touched on, it is trying to get that early engagement. There were little things such as when planning consent was put in for the SRN masts, community engagement essentially involved writing to the local community council—if there was one, of course. Local community councils were then expected to respond within a fortnight, but local community councils quite rarely meet beyond once a quarter, let alone once a fortnight. When you have as many masts being put in as the shared rural network initially proposed, some community councils were being faced with literally tens and tens of planning applications. They did not have the capacity among their volunteer group to put together a comprehensive response, let alone straw poll the actual people who might be benefiting or otherwise in an area.

It is about community engagement, early landowner engagement and being transparent. When the landowner has a question, actually answer that question. If you do not know the answer, find out the answer. A lot of what I have heard is that basically very junior people are coming to site surveys and things such as that, and simply not having that information at their fingertips. That does not help the relations, and it builds a lack of trust. What are they hiding? They are probably not hiding anything; it is just that they have not been briefed properly. All of this would work a lot better.

Another thing is—I pointed this out before—time. Give the landowners time to get proper advice. If they are advised properly, things should move forward in a much cleaner way. It is also about being fair in the terms. In any agreement, you have to be fair on what the impact is.

The overriding message really is that if you have strong statutory powers, they have to be matched by strong accountability. There is no method at the moment of complaining about poor behaviours by operators or their agents. There is scope that was set out in the Product Security and Telecommunications Infrastructure Act 2022. Section 70 has not yet been



implemented. That recognised the importance of operator conduct, but it is a chocolate teapot because it essentially set up a situation where the operators would be marking their own homework. If the operators have a problem with proper accountability, that is probably a flag that there is an issue. The operators all sat here earlier today saying, "No, the code's working brilliantly." If there is no problem, they should have no fear of greater transparency, and they should have no fear of greater oversight. If they had that, it could well make a huge difference to the landowners.

Q184 **Lillian Jones:** Can I just ask what the consequences would be for Scotland's mobile connectivity if landowners withdrew from hosting infrastructure?

Anna Gardiner: That is not an option because of code rights. If things were set in a more balanced way, they probably would achieve connectivity a lot faster.

Lorna Scott: I would just agree. The panel before touched on the appeals that they are going through, the time it takes for them dealing with disputes, and the money that takes up. A lot of those issues that take up a lot of time and money could probably be resolved much earlier, much more cheaply and much faster if there was a more balanced approach to it. Actually, if there was that more balanced approach, rolling it out would be more likely to move faster.

Q185 **Douglas McAllister:** Has there been an instance already where a landowner has been forced to have a mast on their land against their will?

Anna Gardiner: There have been cases where it has gone all the way to the tribunal. It has not necessarily gone all the way, but typically it will go all the way and then get withdrawn. The thing is that more often than not, the tribunal cases relate to rents and other facts. Masts still are going ahead. Are you aware of any?

Lorna Scott: I cannot think of any. I can probably try to find out.

Q186 **Douglas McAllister:** In theory, a landowner can be forced to accept a mast, but it just has not happened as yet.

Lorna Scott: That threat with a stick is why they do not tend to go to that level. It would just be such a heavy burden on that landowner to go through that process when there is such a high threat level.

Douglas McAllister: Yes. I have heard about the threats before with pylons—the same sort of thing.

Anna Gardiner: The cases tend to be about technicalities because, as I say, they have the right to force it, so you are up against it.

Q187 **Chair:** I am presuming, therefore, that you would like to see the code changed?



Anna Gardiner: We are not arguing that the code should be fundamentally rewritten. The balance within the code needs to be addressed. It is quite clear that it is causing a lot more issues than not. That alone is probably enough to build a strong case for just reviewing that framework.

Q188 **Chair:** What would you change? How would you do that?

Anna Gardiner: The valuation process needs to reflect the full package of rights granted, and therefore, the impacts. The code needs to recognise the increased intensity of use. That increased intensity does not come without those impacts. As I mentioned before, it is also really important that the accountability factor is strengthened. It has to be made appropriate for the powers and rights set out under the code. That has to cover oversight of operator conduct. It has to include a proper complaints procedure and a regular review of whether the code is striking the right balance between infrastructure delivery and property rights.

Lorna Scott: Yes, I would agree with that. That complaints point is important. Just having that oversight of how the operators are operating and giving the people who are dealing with them some kind of safety net, as it were, would really help. Yes, I would agree with what Anna has just said.

Chair: Thank you both very much. That was very interesting. We are very grateful to you for coming to the Committee this morning. That concludes our session. Thank you very much again.