

# Public Accounts Committee

## Oral evidence: Public chargepoints for electric vehicles, HC 512

Monday 20 January 2025

Ordered by the House of Commons to be published on 20 January 2025.

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Members present: Sir Geoffrey Clifton-Brown (Chair); Mr Clive Betts; Nesil Caliskan; Peter Fortune; Rachel Gilmour; Chris Kane; Sarah Olney; Rebecca Paul.

Gareth Davies, Comptroller and Auditor General, National Audit Office, Jonny Mood, Director, National Audit Office, and Marius Gallaher, Alternate Treasury Officer of Accounts, HM Treasury, were in attendance.

Questions 1-102

### Witnesses

**I:** Jo Shanmugalingam, Second Permanent Secretary, Department for Transport, Richard Bruce CBE, Director, Office for Zero Emission Vehicles, Department for Transport, and Nick Shaw, Deputy Director, Joint Head of the Office for Zero Emission Vehicles, Department for Transport.



Report by the Comptroller and Auditor General  
Public chargepoints for electric vehicles (HC 379)

Examination of witnesses

Witnesses: Jo Shanmugalingam, Richard Bruce CBE and Nick Shaw.

Q1 **Chair:** A warm welcome to Jo Shanmugalingam, the Second Permanent Secretary at the Department for Transport since May 2023—I think you have been before the Committee before.

**Jo Shanmugalingam:** I have, yes.

**Chair:** On your left, my right, is Nick Shaw, the Joint Head of the Office for Zero Emission Vehicles in the Department. He has been Joint Head of OZEV since July 2022—but I think this is your first appearance before the Committee, Mr Shaw. Is that right?

**Nick Shaw:** It is, yes.

**Chair:** A special warm welcome to you. We are not as fearsome as our reputation, but we can have teeth if we need them.

Finally, but by no means least, is Richard Bruce, Director of Transport Decarbonisation at the Office for Zero Emission Vehicles. A warm welcome to all three of you.

Welcome to the Public Accounts Committee on Monday 20 January 2025. The UK's domestic transport sector accounted for almost 30% of greenhouse gas emissions in 2023. To tackle this, the Government committed to phasing out new petrol and diesel cars by 2030, with all new cars and vans sold being zero emission from 2035, which is just 10 years away. Critical to meeting that target is the adequate availability and reliability of chargepoints for electric vehicles, so that drivers can have confidence in the journeys that they take. The Government appear to be on track to meet the minimum of 300,000 chargepoints that the Department estimated were needed by 2030, although questions have been asked about the geographical disparities in the availability of EV chargepoints across the UK, with London and the south-east having 44% of all public chargepoints, whereas rural areas have only 15%. The accessibility of public chargepoints for disabled use is another key issue, which the Government must address to increase the uptake of electric vehicles, as well as ensuring that sufficient funds are available to local authorities to install public charging infrastructure.

We will question our witnesses on all those issues, but before we get into that, Second Permanent Secretary, I have a question—very much at short notice, I am afraid, so I do not know what you will be able to tell me. Given the short notice, I am perfectly happy, if you cannot tell me anything, for you to write to me. The only thing I would add is: please may we have all the information? The question is this: in relation to the



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HS2 bat tunnel, can you give us the most up-to-date total cost, including the cost for the joint venture, EKFB, the land purchasing cost, the Highways England fee and any others?

**Jo Shanmugalingam:** I do not have that information with me today, but we will certainly write to you. I know you want the information really quickly, so we will get back to you as soon as we possibly can.

Q2 **Chair:** We would appreciate that because our Report on HS2 is pending—

**Jo Shanmugalingam:** Your Report from the pre-Christmas hearing? Understood.

**Chair:** Depending on your answer, we would like to get something in on that.

**Jo Shanmugalingam:** Understood. We will come back to you.

**Chair:** That is really helpful. Thank you very much.

Q3 **Sarah Olney:** I think this is a question for Mr Shaw. Among the written evidence that we have had is evidence submitted by the National Fire Chiefs Council. It reflects a conversation I had last year with the head of my local fire station in Richmond about electric vehicle fires. I was really alarmed by what I was told. We had recently had an electric vehicle fire that took, I think, three days to put out and a firefighter had to be with it the whole time. There are specific risks associated with electric vehicle fires, which have been very much highlighted by this written evidence, so I am interested to know what your team are doing about electric vehicle fires, ensuring that the fire service has the resources it needs, and the specific issue raised in this evidence about the vast amount of water, which then becomes contaminated, needed to put out electric vehicle fires. What arrangements are being made to deal with the waste water?

**Jo Shanmugalingam:** Richard is probably best placed to answer on the fires, if that is all right.

**Richard Bruce:** I am very happy to try to answer that, and if we cannot give you all the detail now, we will be happy to write and follow up. The first point to make is that there is no evidence that we can see that electric vehicles have any higher propensity to burst into flames than combustion engine vehicles.

Q4 **Sarah Olney:** The issue is more that when they do, the impact is much greater than from petrol or diesel vehicle fires.

**Richard Bruce:** Yes, it is a different sort of fire which requires different techniques to put out. We have been working with the fire brigades about the best technique—working out a handbook for how to deal with particular EV fires and what the best techniques are. Some fire brigades are developing their own techniques involving containers they put the vehicle into to take it away, but there is not a standard approach yet. I think it is quite right that they try to agree the best practice, so why don't



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we give you chapter and verse on this issue in writing? I think that is probably a better way of doing it.

**Sarah Olney:** I would welcome that; thank you.

**Chair:** That is very helpful; thank you very much. We now turn to Nesil Caliskan, please.

Q5 **Nesil Caliskan:** Thank you for joining us. My first question is about local authorities. I understand that, as of October 2024, about £240 million had been spent to support the delivery of electric vehicle points, and local authorities are at the forefront of seeing those be delivered in communities. My question is about procurement and frameworks that may or may not exist. I understand that there are challenges with frameworks; there were efforts to create a framework, but because of competition law, the frameworks that councils would seek to use were not appropriate. Might you be able to provide us with an update on that and any details on where we are with possible frameworks?

**Jo Shanmugalingam:** Absolutely. I will start and then Nick will be able to add further detail. The first thing to say is that we have really learned the lessons of the previous scheme, the on-road chargepoint scheme, and the previous work of the NAO and this Committee in 2021, which reminded us of the importance of working with local authorities on the design of the scheme—we are really seeing that. We welcomed the NAO's assessment of how the local electric vehicle infrastructure scheme has been designed and is rolling out, and the absolute importance of this being something that local authorities can work with, because they best understand the needs of their communities. On procurement, the local authorities are the contracting authorities: ultimately, the judgments are for them to make; but again, one of the lessons we learned is that we can provide support on guidance and template documents.

A particular issue arose, as you say, in that a number of local authorities decided they needed to change the approach they were going to take, and that has meant some delays, but I think all now have a route to market. Nick, is there anything you want to add?

**Nick Shaw:** Jo is entirely right. All projects have a route to market; I think that is the position as of now. The issue that we saw last year has dissipated somewhat. A number were planning to use frameworks, as you describe. A particular framework provider got legal advice for themselves that their framework was not in line with procurement regulations, and they took the decision to take that product off the market. What we did for those local authorities that were looking to use that sort of framework, or use that framework in particular, was provide lots of short-term advice about the different routes to market they could take using more open procurement. Also, over time, we have looked to try to replicate some of the benefits of using a framework, providing that kind of template documentation and really helping local authorities through this.

Q6 **Nesil Caliskan:** That was going to be my second question. What sort of



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support are you providing to local authorities? When we look at a map of where electric vehicles have been delivered, I do not think it is a coincidence that a lot of them are in the south of the country, particularly in London, where there is sometimes a pan-London approach and support from mayoral authorities, for instance. For other, smaller local authorities, that support, particularly around procurement, could be a challenge. I welcome what you have said, but I do not know if you want to add anything more about the support.

**Jo Shanmugalingam:** We agree that the distribution of public chargepoints is not even across the country at the moment. It really reflects two different market forces. One is where private chargepoint operators have seen that investment opportunity and chosen to go, often in areas where there are higher numbers of electric vehicles at the moment. The second is local authorities that have, with either Government funding or their own, chosen to install public chargepoints themselves. Again, the lesson we learned, reflecting on the previous work of this Committee, was to change our approach with the local electric vehicle infrastructure scheme to make it available to all local authorities and to allocate funding not by competition, but on the assessment of their needs and their progress with chargepoints. That was one of the core lessons.

Q7 **Nesil Caliskan:** Sometimes it is not about the allocation of money: it is about local authorities' ability to navigate what are often complicated procurement processes.

**Jo Shanmugalingam:** Absolutely. Nick can add more, but we have done things in terms of providing funding to local authorities and a support body to ensure that all local authorities are able to develop and implement their strategies.

**Nick Shaw:** That's right. On top of capital funding, we have provided capability funding, which is precisely for resource and staff in those areas. That capability funding can be spent on legal advice or procurement advice; it does not necessarily have to be just for strategy and policies. We have really seen the benefit of that, and we are really pleased that every single local authority is engaged with the programme.

Q8 **Nesil Caliskan:** Thank you. May I also ask you about projected timelines for any planning policy legislative changes? The infrastructure costs of the projects are often quite considerable, and there have been recommendations previously that legislative changes might help. Do you have any thoughts on that?

**Jo Shanmugalingam:** We were able to announce on 24 December a number of changes to ease the barriers to planning, such as changes to permitted development, changes to the process and being able to use Street Manager and some wider work on grid connections, precisely to make it as easy as possible for both private chargepoint operators and the locally funded public chargepoints to get into use.

Q9 **Nesil Caliskan:** I think some of my colleagues might pick that up. Finally, in terms of the market and providers, is it a competitive market? If we



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were to look at the £240 million that has been spent, is that reflected in the spend? By that, I mean: has it just gone to two providers, or does it reflect a competitive market, if it is indeed the case that it is a competitive market?

**Richard Bruce:** It is a fiercely competitive market. There is a broader chargepoint market, and there is specific investment in on-street charging infrastructure through the LEVI fund. We are seeing that the subsidy per chargepoint coming in from those bids is far lower than we might have expected. It is also far lower than we originally had when we ran the original grant schemes, when we were giving out £x per chargepoint, because there is much more competition now.

There are quite a lot of bids, and the reason for that is the way those procurements work. They often give an operator some degree of exclusivity for a period of time, so they are worth quite a lot to those operators. That makes it economically attractive for them to invest and put a number of chargepoints out there. They are very competitive.

Q10 **Nesil Caliskan:** It is very competitive, so if we look at the spend of public money, is it reflected across a competitive market and not concentrated in the hands of one or two providers? You may not know the answer.

**Nick Shaw:** We have looked historically at previous schemes, such as the previous on-street residential chargepoint scheme, and there was a spread across several companies in that regard. Under the local EV infrastructure fund, the first few of those tenders are out to market, so there are about a dozen out there at the moment. The first few are appointing suppliers. We will see about that as that information comes through, but as Richard says, there is any number of companies out there at the moment that might want to get involved.

Q11 **Nesil Caliskan:** Certainly in the early days there was a concern that there was a monopoly from providers, but it sounds as though that has moved on.

**Jo Shanmugalingam:** Yes, and I think it is fair to say—I am sure that we will come back to this and other issues during the sitting—that ensuring there is a competitive market that works for consumers in the long term is a real priority for us. That has meant some delays in some of our programmes to ensure not just that there is benefit now, but that this is a market that serves consumers for the decades ahead.

Q12 **Mr Betts:** There is a target: we need to have 300,000 public charging points by 2030 to achieve the Government's policy of phasing out new diesel and petrol cars by that date. Are we certain that that figure of 300,000 is the correct one?

**Jo Shanmugalingam:** I think you will see from the Report that there is still considerable uncertainty in the projected number of chargepoints. That uncertainty is reducing. The NAO published our latest data, which narrows and reduces the range, but there is still a wide range. The minimum number that we project we need is 300,000; there is good progress and we are pleased to be on track with that.



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The sorts of factors affecting projections include technological changes in the vehicle batteries and the charging. It is also a lot about consumer preference and habit. That is what has really driven the reduction in the range over the last couple of years. It is something that we continue to monitor on an ongoing basis, because it is uncertain at the moment.

**Q13 Mr Betts:** If the Government were to change their 2030 target for phasing out new diesel and petrol cars, would that have a significant impact on your estimates?

**Jo Shanmugalingam:** As the Government said in the consultation we published on Christmas eve, what is important for everyone here is providing confidence: confidence to the investors in chargepoints to roll it out, and confidence to consumers and drivers that they will have access to the chargepoints they need. From our point of view, the more confidence we can give to drivers and to chargepoint operators, the better.

**Richard Bruce:** The existence of clear phase-out dates itself triggered billions of pounds of private sector investment in charging infrastructure—£6 billion out to 2030—which led to this competitive landscape, because people could see that by this point in time there would be a known number of vehicles on the road that would need charging. It has been really helpful in that sense.

The figures are 100% new zero-emission vehicles by 2035 and 80% by 2030. Those numbers are not changing with the consultation that has recently been launched. It is more about the minority of vehicles that are left on the road from 2030 to 2035 that are not EV. What technology should be allowed then? What sort of hybridisation should be permitted? For the charging sector, it is the 80% and the 100% that have really driven the investment and give great certainty.

**Q14 Mr Betts:** What happens if you find that more chargepoints are needed? Would it be an easy job to expand the number beyond 300,000?

**Jo Shanmugalingam:** From the rate of take-up of the low-power on-street charging and the really good progress in rapid charging, I think you can see that the market is responding. We publish official statistics quarterly on a disaggregated regional basis, so it is something that we keep under review. It is a huge challenge, but so far so good.

**Q15 Mr Betts:** If the number of chargepoints required proves to be higher than currently forecast, do you think the market will respond without any need for further Government intervention?

**Jo Shanmugalingam:** At the moment, I think three quarters of public chargepoints are entirely privately funded, so there is work for us to do to make it as easy as possible—the planning changes we mentioned before. Our approach is also to focus Government's efforts, be that regulatory or funding, on those areas where there is market failure and we need to act. That is the approach you will continue to see.

**Q16 Mr Betts:** But you are confident that both the market and Government can respond quickly enough if the number needed proves to be greater.





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**Jo Shanmugalingam:** Yes, I think we have the granularity of reporting on what is going on and confidence in how it is progressing, but it is a big challenge and we need to continue to stay focused on it.

**Richard Bruce:** There is a broader point on how many chargepoints are needed. There are almost two different charging infrastructures. There is what you need people to be confident in so that they can buy an EV, and there is what they will actually use; they are actually quite different. People want to see lots and lots of chargepoints out there, so they can think about owning an electric vehicle. What they will actually use is probably quite different, because if they have off-street parking, they will charge at home the vast majority of the time; they will not be using public charging that often.

There is a balance to be struck with targets and numbers, and it is all in flux at the moment. The technology is in flux in terms of how good and how cheap batteries are becoming, and the behaviour of consumers is also in flux, because we are not yet sure how often they will charge publicly.

Q17 **Chair:** To add to Mr Betts's question, is the market that you are seeking one like the petrol stations? Clearly, in areas of high demand, you will get more charging points, but the demand will dictate how many charging points you want in one particular area. You are not in any way, through your planning loosening, going to dictate how many charging points there should be in any one area. That is up to the market. Is that correct?

**Jo Shanmugalingam:** We would consider it our responsibility to make sure that drivers are able to charge, just as drivers today are able to access the fuel they need. That is why we monitor what we call the cold spots on the strategic road network. They are reducing, but we are focused on monitoring that and working with local authorities to make sure they have the right strategies for the make-up of the housing mix in their particular areas. I am sure there will continue to be need for Government intervention in some places but, broadly, we see that this is a very attractive market for investors, which is what is driving the roll-out to date.

Q18 **Chair:** Others will be coming on to the issue of geographical spread, but basically, just to be clear, there will be no restriction by Government on the number of charging points in any particular area.

**Jo Shanmugalingam:** I do not foresee us restricting the numbers.

**Chair:** None at all. Okay, fair enough.

Q19 **Chris Kane:** Can I go into the geographic spread a little bit, please? A well-functioning network will need charging points spread out everywhere, so across the UK and within the regions of the UK—it is not just regional spread; it is within the regions themselves. I think you started to touch on this when Nesil asked a question earlier, but could you go into a little more detail on how you will ensure a good spread of charging points across the country? I am also interested in the concept of a well-functioning network. What does that look like?





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**Jo Shanmugalingam:** As I said, we completely agree that today, there is not an even spread across the country. Obviously, the data you are seeing at the moment is before any impact of the LEVI programme. We currently have 70,000 public chargepoints UK-wide. LEVI will add more than 100,000 in England alone, so it is a very material change. The way it has been designed—going to all local authorities, with funding assessed by need—will make a big difference there.

I think the point about looking within regions is really interesting, and you are absolutely right. You are able to look at need at quite a local level. In rural areas, 86% of houses have off-street parking; for urban areas and cities, that figure is 45%. You could have a village with a lot of terraced housing that needs more public charging points than a suburban community in a city with a lot of off-street parking.

That goes back to why we felt it was important to work through local authorities, and we are pleased with the progress. Along with their other highways powers—parking, planning—they are able to look at the right approach for their community. Separately, there is the work with the strategic road network, where again, as you see in the Report, we are monitoring cold spots and working with motorway service areas to make sure that provision is in place for en-route charging for a long journey, as opposed to regular, week in week out charging for journeys you might do closer to home.

**Q20 Chris Kane:** I am the MP for Stirling, so I am going to talk about Scotland, although I know we are here more to talk about England. When I look at figure 4 in the Report and see the figure for Scotland of 103 per 100,000, I know that in my constituency it is 208 per 100,000, and that there is a massive range within that figure. When I try to imagine what Scotland would look like if I broke that down, I suspect it would look very good along the A9 but not the same everywhere else. I suspect my colleagues would agree that that is the picture across the UK.

Using the strategic road network is fine, but you need to get to the strategic road network and then get to your destination at the end. This morning, I was reading an email from Mark, one of my constituents in Balfron, about a trip he took from Stirling to Whitby. He said that he had to hire a petrol car, because although an electric car was fine for the strategic road network, the bit getting from Balfron to it and then the bit getting from the strategic road network at the other end would give him problems. How will you ensure that chargepoints are not just focused on the strategic road network, but spread in a way that gives people confidence in the technology?

**Richard Bruce:** For EV owners, there are two sorts of charging. There is overnight charging—typically at home and ideally on cheap, off-peak electricity—and then there is the ability to stop en route if making a long journey. That is the best offer for an EV driver today: “Can I plug in at night when my battery is low, wake up in the morning and it is 100%, and if I am driving more than 200 miles, is there somewhere on the route I can stop at a quick, high-powered charger to add electricity to my car so I



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can complete my journey?" That is what we focus on with interventions from Government: giving people who do not have driveways somewhere locally they can charge overnight, and then looking at where the cold spots are in the strategic road network and what the offer is at motorway service areas.

The sheer number of chargepoints for other purposes—in supermarket and other car parks and at hotels—does not have a huge bearing on the adoption of EVs. If people can charge overnight, and if they can stop when doing a long journey, those are the two key drivers of EV adoption. That is why targets are very different, because in an area with lots of off-street parking, they do not need many on-street chargers; if there is good provision of high-powered chargers on major roads, they are basically okay. It is the areas with lots of on-street parking and not much off-street parking for charging that need the focus. That can be very different within one county, let alone across the entire country. Being able to say, "You need this number here," is quite challenging.

**Q21 Chris Kane:** In terms of the number of 300,000 or greater, you are going to have to determine what is a suitable number of chargepoints for rural areas, to give that confidence in the network. You could quite easily achieve the 300,000 in the London area alone, if you were going by areas of early adoption. You could get to the point where you have some incredibly hot spots and some incredibly cold spots. What are you going to do to ensure that you know how to heat up the cold areas appropriately?

**Jo Shanmugalingam:** The LEVI funding is going to every local authority, and the formula is based on population, the level of off-street parking and the number of chargepoints today, but with an uplift for rurality and deprivation to ensure that it is targeted at need and the progress to date. The 15% of public chargepoints in rural areas mentioned in the NAO Report is, on one measure, what you would expect at this point: on the same definition, 17% of the population of England live in rural areas and, as I said before, with a higher proportion of off-street parking. It is about the interventions we have through LEVI and our work on the strategic road network, and then the monitoring we do every quarter on a constituency level and looking at the urban-rural split, so that we are continually keeping it under review.

**Richard Bruce:** It is worth adding that if you talk to a chargepoint company, they are looking to maximise utilisation of their equipment when they roll it out. That is not going to be in cities like London; it is going to be in areas where there is high car dependency and people drive a very long way. It is actually more likely that they will get much better usage and therefore much more revenue in market towns and rural areas than in towns and cities, because there you have got public transport alternatives and people do not use their car all the time, and when they do, they do not drive very far. If you are car dependent and drive a long way, you will need to put more electricity in your car, so it is a much better return. It is not necessarily true today, but ultimately, when the entire fleet of cars in the UK is zero emission, areas like market towns will have the highest utilisation relative to cities.



**Q22 Chris Kane:** In my local authority, the chap who does this is David Hopper, and he is really on top of his brief, but not all local authorities are created equal, so how will you ensure that they have the wherewithal to push this out on an even spread? I imagine—and I can see this from looking at the different numbers per 100,000 in Scotland—that you are going to get different authorities taking different approaches. A lot of that is going to be to do with how much the individuals who are there are buying into this and pushing it forward.

**Jo Shanmugalingam:** Absolutely, and it is one of the things we are really pleased about with how the LEVI scheme is working so far. I might ask Nick to explain.

**Nick Shaw:** Yes, I think you are entirely right. We saw through the previous on-street residential scheme that several councils turned up time and again because of really good local officers, and that meant really good roll-out. There is a reason that Coventry has really good roll-out of chargers, and it is down to a number of very good officers in that area. You are entirely right about that.

We are trying to instigate that level of interest and support everywhere, and we are funding it. We are funding staff in local authorities. We are up to just shy of a couple of hundred people in local authorities across England in roles that are there to do local charging and to look at charging across the piece. They are a cohort; they can learn from each other, and we also provide them with bespoke training, which has been a real success of the scheme to date. It has increased the level of knowledge and interest in local authorities.

**Q23 Chris Kane:** I notice when I look at this from an English perspective, as a Scottish MP, that the approach taken in England is different from the approach taken in Scotland. I say with a wry smile that the problems and challenges that come from our constituents seem very similar, regardless of the approach. What are you learning from the home nations? How are you ensuring that best practice is a shared endeavour from an internal UK perspective? There are also some exciting things happening around the world, because this is an issue we are dealing with worldwide, so how are you ensuring that we are learning best practice from around the world as well?

**Jo Shanmugalingam:** There is lots to learn across the four nations. We speak to Transport Scotland and the equivalents frequently.

**Richard Bruce:** Yes, we have a very good relationship with the devolved Administrations on what they are doing. We share what we are doing and they share what they are doing. If I remember correctly, Scotland has a fantastic ratio of rapid chargers per head. I think it is second only to the south-east of England, and it is way ahead of London.

**Q24 Chris Kane:** I will interrupt, because when you say "Scotland", you almost certainly mean the A9 or the corridor between Glasgow and Edinburgh. It is a problem I see when I look at the map. I am learning this from a regional perspective in England: the areas you are talking about are so big



that sometimes it masks variations within regions. My plea to the UK Parliament generally is that when you see a map of Scotland, it is really important to realise the differences, which are sometimes starker than in regions in England because the geography is so much bigger.

**Richard Bruce:** I have done a lot of driving in Scotland and I entirely agree with that; it takes a long time to get to some places around the islands on the left. With things like the cold spot analysis we are doing, which is mainly focused on England, we are looking at sharing that with the devolved Governments to look at where the cold spots are in Wales, Scotland and Northern Ireland. Then we can identify why there is not a market solution for certain stretches of road, where drivers are left worrying whether they can make it to the end of their journey, and then what intervention is required to fill the cold spot.

Q25 **Chris Kane:** So you can give me an assurance that you are talking to each other and there is an international conversation going on as well.

**Richard Bruce:** Yes.

**Jo Shanmugalingam:** Absolutely.

Q26 **Chair:** Ms Shanmugalingam, can I challenge your assertion that the only measure we should be considering is the number of chargepoints per head? I represent an area that gets a lot of tourists. In fact, many of my communities double in the summer. Looking at the heat map in figure 8, for a lot of the coastline of our country, which gets a lot of tourism, it does not even show the local A roads, and I suspect that a very high percentage do not have sufficient chargepoints. What are you going to do to make sure that there are sufficient chargepoints in the rural areas of this country so that we do not get a two-tier system?

**Jo Shanmugalingam:** You are absolutely right. As an exec team we were in Cornwall earlier in the year thinking about the particular challenges for it as a peninsula tourist destination. The LEVI scheme gives a more equitable distribution of funding than the competition basis before it. Richard or Nick may have more to add on that. We think that it is for local authorities to take a view about what is right, because, as you say, it is essential for the confidence of tourists and local economies that people know they are going to be able to charge when they get to their destination.

**Nick Shaw:** First, you are entirely right, and it is something we spend our time thinking about. One point is the commercial factor. If lots of people are travelling to those places, it makes sense for charging companies to put chargers where people will need to charge. That will particularly be the case when people have driven a long way to get there. As such, the market should react and look to do that. Nevertheless, that does not necessarily mean that companies will always put chargers exactly where they are needed. Seasonality comes into that as well. I am repeating Jo slightly, but the input of local authorities on where those precise actions are is really why local authorities should be driving this on a strategy-wide basis.



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**Richard Bruce:** To be fair, we look at all the proposals from every local authority across the country, and we are seeing tourist influxes reflected in where they are planning to put chargers—which car parks they are using—and in the power of the chargers. It is not all low-powered chargers; there might be high-powered chargers for tourists as well. It is being reflected. There is a mixed approach by local authorities across the country, and some are more or less ambitious in their approach, but lots are thinking about the context: who comes to areas, why they come, where they park and where they are going to stay. They are thinking about it.

Q27 **Chair:** If we get towards 2030 and we are not seeing an equitable distribution, are you open to more Government intervention in areas where there are distinct cool spots?

**Jo Shanmugalingam:** Ultimately that will be a question for Ministers and a future spending review, but I can assure you that we regularly monitor precisely to make sure that from a national Government point of view we have that overview. If issues of concern were emerging, particularly once we get to the end of the roll-out of the LEVI programme and we can see the difference that has made and, at a minimum level, give drivers and the chargepoint industry confidence, then of course—that is why we are monitoring the information.

Q28 **Sarah Olney:** Ms Shanmugalingam, we have talked a bit about the gaps in the chargepoint infrastructure. What are the remaining significant challenges to overcoming those? What are the biggest issues you are dealing with in order to fill in the gaps?

**Jo Shanmugalingam:** In terms of the distribution of chargepoints?

**Sarah Olney:** Yes.

**Jo Shanmugalingam:** Getting the LEVI scheme to successful completion—the funding now with local authorities and supporting them with the roll-out. We were pleased to be able to confirm, following the NAO Report, continuation of the capability funding to support that investment in electric vehicle infrastructure officers that Nick mentioned. The rapid charging network, as you can see from the Report, is progressing much faster than we had thought, so that is encouraging, and the cold spots are reducing, but they are still there.

Q29 **Sarah Olney:** What is the challenge in addressing the remaining cold spots?

**Jo Shanmugalingam:** There are particular issues about motorway service areas that I am sure we will come to. On the strategic road network more generally, where there is inherently flexibility in where chargepoint operators seek to invest, at the moment we are working with them generally on issues to make it as easy as possible for them to install these hubs, but we continue to monitor. We are seeing those cold spots reducing quarter by quarter. If particular areas became of concern, that is something we would look at at that point.



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**Richard Bruce:** The chargepoint companies are basically looking to try to secure the best possible spots that are still available on the strategic road network. That is why there has been a speedy reduction in those cold spots: they are thinking about where they can put a rapid hub, get a cheap grid connection and service people. That is why it is decreasing so quickly. The question for us is: after that process has happened, are there very hard-to-connect areas of strategic importance in terms of the journeys people make that might need some assistance in terms of getting an offer in—for example, national parks, or places that are very remote, so there is not enough electricity there? But it is moving so quickly that, as soon as we identify one set of cold spots, the next month they have disappeared. There has been a doubling in the number of rapid hubs in a year because there is so much investment going in. It is a very dynamic situation. We need to talk to the chargepoint companies about geographical areas where it might be really hard and think about whether we need to intervene there.

Q30 **Sarah Olney:** Talking about that continued investment, the Department is currently consulting on changes to the zero emission vehicles mandate. Looking at the written evidence, ChargeUK, the body for companies providing charging, is very concerned that the result of that consultation means you are going to scale back the mandate, but I know there is pressure from motor vehicle manufacturers to scale it back, because they are struggling to meet the mandate in accordance with the demand from the market. The demand for new electric vehicles perhaps is not quite where the mandate would like them to be. Can you comment on that consultation process, Ms Shanmugalingam?

**Jo Shanmugalingam:** If you do not mind, Richard will be able to give you the full details of exactly what is in there.

**Richard Bruce:** Yes, I am happy to do that. There are two things about the consultation worth noting. One is that it does reflect some concerns that some car companies have had, but it is very clear that there is no change to the phase-out dates, and there is no change to the trajectory of the mandate, which has these percentages: 22% last year, 28% this year, 80% in 2030, and eventually 100% in 2035. We really, really want to give certainty to both the car industry and the chargepoint industry about the uptake of EVs over time.

When the mandate was designed, it was after literally years of negotiation with the car industry about what flexibility they needed to achieve it. There is lots of stuff baked into it, and they do not actually have to hit the headline percentage to become compliant and not pay a fine. Different car companies are in different places on their journey towards zero emission vehicles. Some have lots of hybrid technology; some are going to come along with lots and lots of zero emission vehicles in the next few years. The flexibilities reflect that. The question is whether the current suite of flexibilities—borrowing from the future, overachieving on your non-zero emission cars—is still the correct suite of flexibilities, but the headline trajectory will not be changing, because we want to give the certainty.





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Q31 **Sarah Olney:** So what you are saying is that even if you make changes to the ZEV mandate, you do not see that impacting the investment levels for charging infrastructure.

**Richard Bruce:** Not significantly, no.

Q32 **Sarah Olney:** Thank you. VAT is another area of significant public interest. Obviously, if you are charging at home on your driveway, you are paying a reduced level of VAT on that electricity, but for public chargepoints you are paying the 20% rate. That creates a significant inequality, depending on whether you are charging at home or charging in public. Does the Department have any proposals to address that?

**Jo Shanmugalingam:** You will understand that that is a matter for the Treasury, as part of the overall tax position.

Q33 **Sarah Olney:** Of course. Have you been making representations to the Treasury on this point?

**Jo Shanmugalingam:** We are doing a number of things. It is fair to say that the operating costs of an electric vehicle compare very favourably in all circumstances to petrol or diesel, from maintenance to fuel, but you are right—

Q34 **Sarah Olney:** There is still a big disparity.

**Jo Shanmugalingam:** There are disparities. There are a number of things we are doing as part of the planning changes we announced just before Christmas. That included new guidance to local authorities about how they can consider applications for gullies, so that you can, considering all users of footways, safely take a charging cable across a pavement. That means that if you have parking outside your house, but not off-street, you can take advantage of that. It goes back to the discussion before about—

Q35 **Sarah Olney:** I am just going to stop you there. As a representative of a constituency with a lot of on-street parking, I can tell you that that is not going to address the issue, because it is quite rare that you get to park directly outside your own home.

**Jo Shanmugalingam:** I think it is probably different in different communities across the country. There will be a number of communities where people are frequently able to park outside their house, but not with off-street parking.

Q36 **Sarah Olney:** But the disparity will still remain.

**Jo Shanmugalingam:** Yes, the disparity in VAT will remain. But it goes back to the changes we were talking about before and the importance of competition in the market, as well as the work we have done to introduce standardised pricing information so that consumers are able to compare the cost of the different public chargepoint offers, and therefore drive competition.

**Richard Bruce:** I will make a couple of points. VAT is not the only driver of the difference in cost between home charging and commercial charging



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on the street, because providers have to recoup the cost of their investment.

We are seeing EV charging become commercially attractive to people. Providers might offer discounted rates of charging. You can see rates as low as 20p per kWh sometimes, which is almost the same as a non-off-peak domestic rate, to encourage people to park at certain places and charge there.

The other issue is that as this market matures, there are cheaper and cheaper tariffs available to consumers for doing things like ceding control over when their vehicle charges, which you can do on-street or at home, and, ultimately, vehicle to grid, where you are giving power back from the EV to the grid, which will give you an even cheaper tariff. We want to make sure—this is one of the reasons we have the LEVI fund—that people can make the most of those services by getting the cheapest possible tariff, irrespective of where they are charging. People can basically cede control and, in due course, do vehicle to grid which is much harder to do with rapid charging. Low-power overnight charging gives the opportunity to have these much cheaper tariffs. That is starting to come as the market matures.

**Q37 Chair:** Just to follow up Ms Olney's question, Mr Bruce, there is clearly a significant difference between the cost of on-street and off-street charging, of which VAT is a significant distortive driver. That is also discriminatory, because those from disadvantaged communities—if they are able to have, or they have to have, a car for their work—are more likely to have to charge their cars on on-street chargers. This is a serious issue. I think Ms Olney's question is, are you really pointing this out to the Treasury to have a serious look at?

**Jo Shanmugalingam:** We absolutely hear what you say. Tax matters are for the Treasury. However, we can make sure that wherever somebody is charging, we do what we can to make the market work, so that it is as cheap as possible, whatever the form. The Treasury will look at the tax implications.

**Richard Bruce:** Lots of other people are making that point to the Treasury.

**Q38 Chair:** The issue of day and night meters is interesting. I have not seen many chargepoints that have actually started to adopt that. It makes eminent sense from the grid's point of view. Is there anything that you, in Government, are doing to encourage that?

**Richard Bruce:** One of the things is transparency on pricing to make sure that the charging companies make clear what it costs when. Some of them already do offer an off-peak rate that is different to their peak rate. You are seeing it not just in overnight charging; some of the rapid chargers try and encourage people to come at quieter times, with different rates at different times. So it will come, and it is starting to appear.



**Jo Shanmugalingam:** Richard, am I right that, a couple of years ago, we required that all home chargers are smart-enabled so that the 70% of homes with off-street parking can benefit from those tariffs?

**Richard Bruce:** Yes.

Q39 **Chair:** On that, is there any move to all new houses having to have chargers installed?

**Jo Shanmugalingam:** That is a requirement.

**Nick Shaw:** That is a requirement.

Q40 **Chris Kane:** If there was 100% take-up of EVs in this country, what proportion of properties would have off-street parking versus on-street parking? I imagine that that is something that we could get a broadbrush look at, but do you then break down the take-up so that you get a sense of what is happening in areas with on-street parking where you can park outside your house versus areas, in town centres, where you cannot? Are you getting a sense of the type of property, how people are engaging with this and how that breaks down in the figures?

**Jo Shanmugalingam:** I think your question lies behind all of the scenario modelling, which is set out in the NAO Report. We know that 70% of homes have off-street parking, and the current assessment is that about 80% of charging needs are likely to be met off-street. The reason for the uncertainty we talked about earlier is changing habits, and our research programme aims to make sure we have the best understanding of not only the technological changes but consumer habits and consumer choice.

Q41 **Chris Kane:** I get that you were talking about off-street parking, but we heard that there are differences in on-street parking. When you talk about properties that you cannot park outside, in my head, straightaway, that is a town centre street with terraced houses, whereas I live on an estate in my constituency where there is not a lot of off-street parking but it is quiet, so you can get parked outside your house. Within that on-street, there are multiple variations. Are you tracking that?

**Nick Shaw:** Yes, there are definitions. I am afraid that I cannot remember the precise source, but we have Government statistics that separate adequate on-street parking from inadequate on-street parking. You can segment the data in that way, so you can start to look at things such as the gullies that we mentioned before. They will not be a solution for every house that has on-street parking, but there is another segment of the population who might be able to access home tariffs, in addition to those with off-street parking.

**Richard Bruce:** On that point, we were surprised by the number of households that might be able to routinely park outside their house, on the street. Taking a London prism, it never, ever happens, but in lots of areas where there is more plentiful residential parking on the street, it is actually quite common. Given typical mileages and typical charging patterns, you probably only need to park outside your house once a week to be able to charge your car. That might mean that quite a significant



portion of the 30% without off-street parking can access those much cheaper rates and the convenience of having a home charger.

**Q42 Mr Betts:** Coming back to the LEVI scheme, do you know when all the money in it will be spent?

**Nick Shaw:** We have provided quite a lot of funding to local authorities. From the start of the scheme, they have known their allocation of funding, which enabled them to make plans. On receiving those plans, we tested them and we have gone back to quite a few of the local authorities to work through iterations. At the point that we are content for them to go to tender, we provide the funding. A lot of them are working through those invitations to tender now—they are working through their procurement documentation. Once they are at the relevant point and we have had a look at them, we will provide the funding. The intention, in the main case, is to have everything out to local authorities by the end of this financial year. It is then for them to tender and to work with private suppliers after that.

**Q43 Mr Betts:** When will the money be spent by?

**Nick Shaw:** It will be spent, in terms of being with the local authorities, by the end of this financial year.

**Mr Betts:** No, actually spent.

**Nick Shaw:** That will be over a period of time that depends on the individual contracts that the local authorities will set up with their suppliers, and various milestones within them.

**Q44 Mr Betts:** Okay, but you are providing money to local authorities to deliver a Government objective. The objective is to have the chargers there for people to use. Do you not have an assessment as to when the money will have been spent and the chargers will actually be there?

**Nick Shaw:** We see each individual local authority as different and they each have different plans. We expect the majority of chargers to be going in starting now, and then over the next two to four years. Some local authorities are doing phased approaches, where they are doing one phase and then considering their second phase after that, which might be on a slightly longer timeline. I think the majority will be between now and two to four years.

**Richard Bruce:** On that point, there is a question not just about capability within local authorities, but also within the industry. If we dolloped out all the money in one big go and did one enormous procurement, you would probably get sub-optimal procurements by local authorities. It is better to phase the delivery of those chargepoints and procurements into lots over a period of time, as many of them have done, to make sure that you get chargepoints appearing on the streets, rather than having a big procurement, which might squeeze the ability of industry to deliver it.

**Q45 Mr Betts:** Have you not asked local authorities what their plans are likely



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to mean for the actual phasing in of new charging points?

**Nick Shaw:** We do manage that and look at it very closely. Each month we look at what local authorities are telling us about their plans for procurement and when they plan to go out. We are keen not to artificially try and shuffle those into an order, because there can be any number of reasons why dates for procurement move around. To date, all we think we would do is artificially delay some local authorities going out. But we do keep close eye on it, and if we start to see things bunching up, we always have the option of talking to local authorities around what else is likely to appear at that time.

**Jo Shanmugalingam:** Nick, am I right that we share that information with local authorities so that they can see an indicative pipeline of procurements between them, and they can make judgments for themselves?

**Nick Shaw:** We share that with local authorities.

Q46 **Mr Betts:** Will all that money be spent by 2030?

**Nick Shaw:** Well, it depends on the individual bits of the contract. If you have a final payment once the last chargepoint goes in, in an area that is putting in thousands and thousands, some of them will be really significant and will take longer than five years. The vast majority will be well ahead of that point.

Q47 **Mr Betts:** Isn't 300,000 chargepoints by 2030 part of the objective? Surely the money is designed to achieve that, so shouldn't it be spent by 2030?

**Nick Shaw:** I am in danger of repeating myself. I think that the vast majority will have been spent by then. Some projects are longer term than that. Where local authorities are seeing huge amounts—more than they have ever done previously—it is right that they have a sensible installation scheme that they can meet.

**Jo Shanmugalingam:** To go back to the point we discussed before, at the moment three quarters of the public chargepoints are privately financed. What we are doing here is trying to lift the base level everywhere, in part to inspire confidence for further private investment.

Q48 **Mr Betts:** Are you certain that the money available for the LEVI scheme is sufficient to deliver the necessary chargepoints?

**Nick Shaw:** We are confident it is sufficient to deliver more than 100,000 chargepoints. As Jo mentioned earlier, we will have to look, in two or three years' time, at how progress is going. If we are still seeing cold spots, there is a choice for future Ministers in spending reviews over any action that is taken.

**Jo Shanmugalingam:** Nick, is it worth briefly explaining how this has been structured in terms of subsidy, or going to the market and seeing how many can be provided?



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**Nick Shaw:** It comes down to the point that each allocation has gone to a local authority. They know what they are asking for, so they are putting that money to the market and looking for the private investment that can go alongside, and testing what levels of provision can be provided by the market.

Q49 **Mr Betts:** Right. It might be that, once local authorities put more projects out to tender, the money available is not sufficient.

**Nick Shaw:** I think it will be sufficient to raise the levels of provision significantly in all places. Whether that is the final piece of public funding that ever goes on local charging, we will have to see.

Q50 **Mr Betts:** When will you know that by?

**Nick Shaw:** We will be looking at it throughout the lifetime of the scheme's roll-out. Over the next couple of years, we will have a good sense of the likely levels of roll-out that are occurring and likely to occur, and whether there remain areas that are underserved.

Q51 **Mr Betts:** Have you learned any lessons from this exercise that you might want to apply to other aspects of the programme?

**Nick Shaw:** Gosh, lots. First, the importance of the capability funding and of resourcing the local authorities. Provision of that at the earliest possible stage is important. The resource money almost needs to come before the capital—they need to be working through the plans before the capital is available. One of the reasons we have extended resource funding into the next financial year is to continue to support that.

Having worked on previous schemes, the allocation has really worked. Every single local authority has engaged with the scheme. Less than half of eligible local authorities engaged with the previous scheme when it was a demand-led, turn-up-with-an-application piece. Learning from that is something we will take forward. We will go to each local authority and say, "Here is your allocation. Give us an application for it," as opposed to saying, "Give us an application, and then we will do the allocation."

**Jo Shanmugalingam:** Thinking back to your hearing on local highways maintenance before Christmas, there are lots of really positive lessons we can learn for the Department's work more generally, and what we do in any number of other areas with local authorities, from what has worked with LEVI, in terms of supporting local authorities, supporting capability and training, and sharing best practice.

Q52 **Peter Fortune:** To build on that, once the LEVI funding comes to an end, what plans, if any, are there to provide ongoing support?

**Jo Shanmugalingam:** That will be a question for the spending review, in terms of future funding. Further funding has been announced by the Chancellor for the financial year we are coming into. We will want to learn the lessons and see how LEVI and our other interventions are progressing.

Q53 **Peter Fortune:** There are no current plans in place; it is just a matter of





waiting for that review?

**Jo Shanmugalingam:** Yes, but inherently it is a matter for the spending review—any capital budgets from 2026-27 onwards.

**Peter Fortune:** Sorry, I came into the meeting a bit late, so you may have touched on this, and I apologise, Chair, if that is the case. We have been talking about supporting local authorities with delivery. What sort of things are you doing specifically to support local authorities and to adapt to different needs? I was interested to hear Chris talk about his beloved Scotland and the size of it, and the number perhaps giving a twisted view of it. We have the same sort of thing in London. Richard talked about London being a built-up area, but a lot of where I represent, in Bromley and Biggin Hill, is not. I have researchers now trying to work out how many driveways we have. We have quite a lot of proper off-street parking—old, traditional driveways—which is very different from somewhere like Tower Hamlets or Lewisham, so it is about recognising those differences.

**Jo Shanmugalingam:** You can see in the constituency data at a London level that the provision today is very different, but it is likely in the future—

**Nick Shaw:** In terms of support, we provide resource funding to local authorities, which enables them to hire staff to work on these areas. They can also use that funding for procurement resource, legal resource—basically anything sensible that is within the realms of increasing provision of charging infrastructure. We have had a real impact to date. The feedback we get from industry is that there is a more recognisable conversation they can have with authorities, whereas, previously, this might have been a small part of someone's job alongside a lot of other things.

We have also provided bespoke training for those individuals, and we also set them up as a cohort between themselves, so they can learn from each other. Those that are further ahead and into several rounds of having rolled out infrastructure can really help those that are doing it for the first time.

Q54 **Peter Fortune:** I guess what I am driving at—excuse the pun—is that there is no one-size-fits-all approach to this. Local authorities are being spoken to, and there are bespoke models being prepared.

**Jo Shanmugalingam:** I would think about it in two different ways. There is a universal offer of support and the sharing of best practice, but we have learned the lessons—as identified by the NAO—from our previous work, and recognise that local authorities are the right people to look at the strategies for their area. We can then support them in delivering that strategy. It is fair to say, going back to the previous questions about procurement size, that some are choosing to work together where that makes sense in terms of the geography and going to market. It is about helping local authorities to establish the right strategy for their communities.



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Q55 **Peter Fortune:** Are there any bumps in the road—sorry, I will stop now—with the local authority White Paper and some of the changes that are coming along? Will that affect any delivery or roll-out?

**Nick Shaw:** The devolution White Paper sets out lots of areas. We are working really closely with the colleagues who are leading that, and we will ensure that that work fits together.

Q56 **Peter Fortune:** That may cause some delay in the programme, as there is an ontological view of what the local authorities are and where their boundaries are.

**Jo Shanmugalingam:** I do not think it will change the tier at which we are allocating the funding through this programme.

**Nick Shaw:** Because the current funding is due to roll out—as it will—that should not be affected by the forthcoming devolutions. One of the things we will have to think about for any future area or funding will be the level of devolution at that point.

**Richard Bruce:** The money will all be grouped into 78 different LEVI projects, so we expect those to pertain, whatever happens under devolution in the future.

**Peter Fortune:** Chair, for the record, I love Scotland as well—I do not want to be misrepresented.

Q57 **Sarah Olney:** Thinking about the chargepoint gaps along major A roads, which particular A roads do you think are currently the worst culprits for a lack of chargepoints?

**Richard Bruce:** We could send you the updated data if you like; I think there are some areas in the east of England and the south-west. It also depends on your criteria. When we initially did this work, we looked at how far away someone would be from one rapid chargepoint on these roads, and there were very few cold spots. We wondered if that was a compelling offer to a prospective EV driver, and decided it was not, so now we are looking at six rapid chargers in a hub, which is much more compelling. There are now more cold spots using that criteria, so the map looks slightly worse, but they are being deployed so quickly and it is a dynamic situation.

Q58 **Sarah Olney:** You say they are being deployed so quickly, and a lot of that is due to private investment, but are there areas of the country that are particularly lacking or lack the ability to attract that investment?

**Richard Bruce:** To be perfectly honest, it is premature to say. There are areas where—if you look at the ratios per head and that sort of stuff, the north-east, in absolute numbers, does not look great, but if you look at its rapid charging ratio in terms of population, it is not too bad. There are at least five English regions that all have very similar numbers of rapid chargers already. The south-east is, it is fair to say, ahead, but Scotland is ahead of London, London is in the pack and the north-east does not look great.



So there are areas that need developing, but the other point to land is that there are teams of people in chargepoint companies whose entire job is to work out where there are gaps that they can invest in, secure that real-estate on a juicy road and make money from people on long journeys. We can do the analysis and see how it is changing over time, but it is not yet clear that there is somewhere that the Government absolutely need to intervene because there is a perennial cold spot that is not being filled quickly.

**Jo Shanmugalingam:** As Richard mentioned, one of the areas that we keep an eye on, and you can see it from the map, is national parks—and other similar areas—where you might not have those grid connections. That includes the A30, going over the top of Dartmoor, and the A66, coming through the lakes. That is an interesting question that we need to keep under review as we continue to see the cold spots reducing.

Q59 **Sarah Olney:** Are you currently confident that the private sector investment out there is sufficient to fill in the remaining cold spots, and do you expect to see the strategic road network fully charged—if that is the right phrase—at some point in the near future?

**Richard Bruce:** It is probably slightly too early to tell. Maybe over the next year or so, because of the rate of deployment, it will be clear if there are genuine areas and locations where there is not enough power, but the advantage that the strategic road network has over the motorway networks is that it is not stuck with one key location. A motorway service area is where it is and cannot be moved, but, along a strategic road, if there are a variety of different spots where you might be able to get power and put in some chargepoints, you can do that. There is far more granularity there, and far more choice for the chargepoint companies.

Q60 **Chair:** To follow on from Ms Olney's questions, I am looking at figure 8, which I think she alluded to. Ms Shanmugalingam, whether or not you have started this, you are about to do a major road scheme on the A66, which I believe you mentioned. Where you have a major road scheme, are you considering how to provide more charging points? I have a major road scheme in my patch on the A417—the missing Air Balloon section—and not a single chargepoint will be delivered there out of that £500 million, so it does seem that there may be a bit of a disconnect.

**Jo Shanmugalingam:** Richard, do you want to talk about our work with National Highways more generally?

**Richard Bruce:** Yes. Our delivery partner on the work we are doing at the motorway service areas is National Highways. It is getting hold of expertise about how rapid charging works, working with grid connections, chargepoint companies and the motorway service areas. It is generally not the one deploying charging infrastructure; that is all market led.

We have looked a lot at particular motorway service areas and what Government intervention might be needed there, and that is more about supporting grid connections rather than deploying chargepoints. National Highways has done some work on, for example, rolling out battery packs



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at remote locations. If you have a big battery, that enables you to have a smaller connection and allows you to charge a number of EVs at a peak, without needing to have a much bigger connection to the grid. Although it is delivering that expertise, it is not itself rolling out charging infrastructure at this stage.

**Q61 Chris Kane:** I will ask a question about distribution and cold spots. I am reminded that, when I used to take family trips with my parents in the car, we always stopped at Killington Lake services coming down the M6. Stopping there almost became a habit because that is when the car would be running out of petrol. I am at Tebay, which is a couple further on—that shows you how engines have changed.

On where the cold spots are, does human behaviour and how they interact with them count? You can have an area that is not cold—it is hot—but it gets a reputation as always being busy. Does that factor into your thinking when it comes to the distribution of hot and cold? Some areas will become more popular, and it will be based on the length of a strategic journey. The length of time between someone needing the toilet, for example, will also determine what stops a journey as much as when the car is running out of energy.

It feels like a very complicated picture, and it is not the same as mobile phone coverage. You just need coverage, but this has more complications. Can you talk about that and your strategic thinking?

**Richard Bruce:** That is a really interesting question and point. Let us separate what is happening at motorway service areas from the cold spot analysis. The cold spot analysis says, “Is there anywhere on the whole strategic road network, away from the motorways, where, if you were getting low on a charge, you are not that close to a hub of rapid chargers to feel that you can stop and recharge?” Our criteria for that has been around 16 miles, which is about 10% of the battery capacity of a typical van. That is quite a tough bar. So it is basically 16 miles and six chargers nearby, and that has exposed the gaps in provision.

For motorway service areas, people traditionally think, “I stop at this one. I can’t see any chargepoint at this one and therefore I can’t buy an electric vehicle.” Interestingly, at the junction, if you drive off for a minute, there might be 30 just off the motorway, but people are quite habituated into the MSAs they stop at.

Primarily, we are interested in what the offer is for consumers. Motorway service areas are the shop window of long-distance charging, because that is where people typically stop. They do not want to drive off the motorway. There is something about making sure that the offer that they perceive fits into their habituated driving. When they do that long journey, they stop at Tebay, which hasn’t got much electricity but has a battery pack coming in quite soon, and Killington Lake, which might be subject to our pilot funding.



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There is lots of interest in making sure that we have a standard offer at the MSAs. Some of them have 20 or sometimes even 30 chargepoints sitting there, because they have available electricity. There is a bit of a lottery about how much power is available at those locations, because those locations are fixed.

- Q62 **Chris Kane:** On the motorway network approach, certainly in Scotland, we have the strategic thing going up the middle. If we think of Cornwall not having that motorway provision, the behavioural approaches will come into play in the road network you are looking at. Are you confident that that human behaviour and the anxiety about chargers is being addressed in your planning, not just the gap?

**Jo Shanmugalingam:** All our work on route charging is about making sure that there is confidence in the visible offer. Obviously, the private chargepoint operators are commercially incentivised to see where there is additional demand and where people are habitually stopping, and to make sure they focus their efforts and investment there. It is our job to make sure that there is consistent confidence right the way across the country. Also, through our public attitudes tracker, we monitor consumer sentiment and what issues are causing concern to current EV and non-EV drivers and how that changes over time. That helps us identify how much range anxiety remains an issue or whether we are making a dent in that as a cause of concern.

**Chris Kane:** Will you excuse one last follow-up? If we look at the way Royal Mail works—

**Chair:** I think we must keep going. After Clive, we will have a five-minute comfort break. I do not know whether you have been warned about that—

**Peter Fortune:** Range anxiety.

- Q63 **Mr Betts:** I will try not to let my questions go on too long then. The name “motorway service stations” implies that people can get services there, but for owners of electric vehicles, that has not been the case at many of them. Why did you not hit your target of getting the six ultra-rapid chargepoints at every motorway service area by 2023?

**Jo Shanmugalingam:** The last Government rightly set this ambition. It is effectively a challenge to industry. We believe, again, that six was the minimum number of rapid charging hubs that we needed at motorway service areas to give that confidence to current EV drivers and prospective ones. It has been hard. As Richard said, we cannot move motorway service areas. In some places, there is the question of how you get the grid connection capacity. As the NAO Report rightly said, the planning system was not designed with chargepoint operators in mind. We are learning a lot in all aspects of this roll-out about how to adapt and work with the planning system to support chargepoint operators.

There has been a bit more progress since the NAO Report. The latest data we have from industry, from 1 January, shows that 80 of the 114 have the six chargers, whereas 100 expect to have met the challenge by this



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summer and all but four by the end of 2026. But it absolutely has been a complicated challenge and one we continue to work with them on very closely.

**Richard Bruce:** Generally, the six by '23 was, if I am honest, a fairly arbitrary number about what is a decent offer for people by a certain deadline, but it was a challenge to the sector to say, "We really need you to help us work on this." I think there probably was a degree of naiveté in that about how long it would take, how easy or not it is to get grid connections upgraded in some of these locations and get the power there, and the cost. The landscape we are in today is completely different from the one we were in when that was first set. The average number of chargers at motorway services I think is eight, but there are these locations that are very, very tough to get enough power to at a cost that is not prohibitive. That is the challenge we face.

Q64 **Mr Betts:** Is the fundamental problem the grid or planning?

**Richard Bruce:** It is the power. If you had the power at those locations, they would have the chargepoints there now.

Q65 **Mr Betts:** Shouldn't that have been thought about at the beginning, before the commitment was made?

**Jo Shanmugalingam:** As the Report says, we have learned about it. As Richard said, this was an ambition set to industry, setting out what we thought was the minimum. One of the things we have found most useful, as Government, is bringing together the chargepoint operators, Ofgem and the motorway service areas—organisations who have not had to work together before—and looking at what we can do to share best practice and make it as easy as possible to enable grid upgrades where they are needed.

Q66 **Mr Betts:** Can you define what availability of an ultra-rapid charging point is?

**Jo Shanmugalingam:** In terms of how much it is available for use?

**Mr Betts:** How fast it is expected to charge a vehicle.

**Richard Bruce:** Typically, we talk about over 150 kW as an ultra-rapid charger. The term is actually quite unhelpful, I have to say. Rapid, non-rapid and fast are very confusing, and it is better to think of high power. It used to be that anything above 50 kW was called a rapid charger, but no one really makes those any more. They are being phased out and replaced by these ones that charge at great power. That means that for certain cars, and most new cars, you can charge at great speed. For the fastest charging cars, you can add maybe 150 miles in 15 minutes, so it is getting much more like a petrol experience, rather than having to sit by the side of the road for 40 minutes or an hour. That is why ultra-rapids are very much the way forward.

Q67 **Mr Betts:** How far do you check whether the charging points that you are getting at the service stations actually do what they say on the tin, in





terms of the speed that they charge at? I declare my interest as an owner of two electric vehicles. It is incredibly frustrating when you see, "This is an ultra-rapid charging point" and you get there and it is not; it does something like half the amount it is supposed to do. You have planned to go and have a cup of coffee and do a 15-minute stop, and you are there for 45 minutes.

**Richard Bruce:** The rate of charging depends on a couple of things. One is the capacity of the car to take charging. With some of them, especially older EVs, the power that they can take is capped. They might be capped at less than 100 kW. The other point is that it is a bit like pouring water into a cup. When you first start pouring, it goes in really quite quickly, and as you get near the top, you have to slow down. When we talk about the peak power, that does not mean that they will be at that power for the entire duration. It might be that they do 150 kW for a period of time, and then it will come down to 50, 30, 20 towards the end. Not all cars are the same in terms of how they communicate with the chargers. It depends on the chargepoint, the interface with the car and the capability of the car.

Q68 **Mr Betts:** And it depends on the power. Even when you have got these motorway service charging points—ultra-rapid ones, apparently—the capacity of the grid is not always sufficient, is it, to deliver what should be delivered at any one time?

**Richard Bruce:** It should be in those locations.

Q69 **Mr Betts:** You go along, and you find you have got six or eight charging points. You are there with a couple of cars, and you are charging fine. Within 10 minutes, a number of other cars come along, and the charging rate drops. There is a problem with capacity—

**Richard Bruce:** Throttling down the charging, because of the demand, which implies that there is a constraint on electricity supply at that location because there is not enough power there—that can happen in certain locations. There is a question about whether it is better to have the ability to charge a larger number of vehicles at a reasonable speed, or to have fewer vehicles charging at a very high speed. They have obviously taken the decision to go for the latter.

Q70 **Mr Betts:** These ultra-rapid charging points that are supposed to be available at every motorway service station often are not ultra-rapid, are they? That is the reality. Do you do any checking of them, or do you just say, "Oh, they've put them in—that's it. We're okay."?

**Richard Bruce:** EV consumers are a very critical bunch. They report back to the chargepoint operators: "This one's out of date", "This one's not working" or "I did not get anywhere near enough out of that". There is live feedback. When a network gets a reputation of not delivering its quoted power or being unreliable, that is something that they need to act on commercially, because those reputations are quite important now.

Q71 **Mr Betts:** Where are we with the rapid charging fund? Is it going to be delivered now? We had a few problems with it, didn't we?



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**Jo Shanmugalingam:** As with many of the other things we have been talking about, this is something where there has been more complexity, including with, as you said, grid connections and how we have worked with motorway service areas. It has taken us more time than we wanted. We are looking at it at the moment. We hope to have more news to share shortly.

In the meantime, I think you can see, including in the data from 1 January, that good progress has been made. We have been able to work with other public authorities, including with Ofgem on its green recovery scheme and with National Highways on its battery pilot. Part of what we are learning is that Government money is not always going to be the answer to the problem. A lot of what we can do is about breaking down the barriers to make it a sensible and investable proposition.

Q72 **Mr Betts:** It has been five years, and it hasn't started, has it?

**Jo Shanmugalingam:** No, the scheme is not up and running yet. It has taken time.

**Mr Betts:** Five years seems an awful long time.

**Jo Shanmugalingam:** It has been five years since the ambition was first announced.

**Richard Bruce:** When it was first conceived, it was a very different world. There was generally one motorway service area charger. There was an exclusive arrangement there. There were only 200,000 or so EVs on UK roads. There wasn't the absolute certainty on phase-out dates.

Where we are today is completely different. There is much more appetite for private investment in charging infrastructure, particularly at MSAs. They are seen as the crown jewels of charging locations because you have his large throughput of people having to put a lot of electricity in their vehicles. You are seeing lots and lots of private investment coming in. Macquarie announced 650 chargers at motorway service areas; that is all private money. Everything has moved on.

Also, the rules around how you get a good upgrade and who pays have also changed. When we first started working on the rapid charging fund, we were in a world where we had an electricity system that was basically designed around managing down the cost of a stable system, whereas now we are talking about really expanding the electricity system to cope with electrifying transport generally and possibly heating and other things as well. The regulations and the structures in place for coping with those upgrades to the grid and funding them are now very different. We have helped that work with Ofgem, thinking about how you pay for bigger connections and what proportion of the costs gets socialised and how much has to be paid for by individual companies. It is a very different landscape, which is why the original conception of how it is going to work is probably not how it is going to work in the future.

Q73 **Chair:** I have a couple of follow-up questions on the issue of motorway



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charging stations, Mr Bruce. Paragraph 12, page 10 of the NAO Report makes it clear that the Department has an ambition to have either rapid or ultra-rapid chargers at 100 of those motorway service station areas by the end of this year. Is that correct, and will that be met?

**Richard Bruce:** We rely on the information we get back from the motorway service areas. They are now forecasting—

**Jo Shanmugalingam:** By the summer.

**Richard Bruce:** By the summer.

Q74 **Chair:** Great. I am concerned about the 14 other ones that are not going to meet that target, because surely it would be a huge boost to EV users if you could say that every single motorway service station in this country had a rapid or ultra-rapid charging point.

**Richard Bruce:** I entirely agree with that last statement.

Q75 **Chair:** So what are you doing about those 14?

**Richard Bruce:** We have to work with the motorway service areas. Part of the issue is their capability, capacity and appetite to put these things in place. We cannot force them to put in place this investment, especially because the 14 are the ones that are very remote and for which it would be a very, very expensive connection. We need to work with them, Ofgem and the local DNOs—the distribution network operators—on how to get the electricity there in the most cost-effective way. They are the really tricky ones. We entirely agree with your statement about the offer and needing to get all of them to have a good provision, and it is a matter of priority for us.

**Jo Shanmugalingam:** As I said, all but four expect to have met the six by the end of next year. It is a dwindling number of really difficult cases, but as Richard said, we totally agree that it would be very good to be able to say that to the driving public.

Q76 **Mr Betts:** Why did you come to the figure of six for the required number? One of the other great frustrations is that, if you get there, and find they are full, that 10-minute or quarter-of-an-hour cup of coffee becomes an hour-and-a-half cup of coffee.

**Richard Bruce:** I would not want to pretend that there is a very scientific underpinning for the six. We are all EV drivers, and you are—if you knew that there was a number at a location, where would you feel confident stopping? It is definitely more than one. Is it six? We are looking now at what the best offer for the future is. It might be a much bigger number. It depends on the location and what else is nearby. It was very much a message to the MSAs to say, “Please think about this. You need to have a minimum provision that is good, which is more than one—a rusting one that is out of order half the time.” That was the idea.

**Chair:** I will call a five-minute break. It is 16.50 now; if we could all be back in our seats by 16.55, that would be fantastic. Thank you all for your



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contributions.

*Sitting suspended.*

*On resuming—*

**Q77 Peter Fortune:** I want to pick up on the conversation earlier about being able to locate charging points. Have any conversations been had by commercial developers and, I guess, local authorities with car manufacturers—especially manufacturers of sat-navs and in-house navigation systems—so that cars are pre-loaded with both the locations, so that people can find them, and the type of charging device? Occasionally—not to whinge like Mr Betts, but as an EV driver as well—sometimes you pull up at a charging point and the thing does not fit, or you have to join a club, and it is very frustrating. What conversations have been had?

**Jo Shanmugalingam:** As the Committee will be aware from the Report, we put through regulations in 2023, I think, to address some of these consumer issues and to make information available. Open data requirements came in from November last year. We expect to see—but we will watch the market—any number of companies looking to aggregate and provide that data, as they do with other transport information, to make exactly that sort of information available. Richard, do you want to talk about the conversations more generally?

**Richard Bruce:** One of the bits of information that will be in that open data list is the type of chargepoint, its power rating and all that sort of stuff. We expect to see that stuff, but already—presumably you have used Zapmap—there is data out there that shows you where the chargepoints are and whether they are occupied or out of order. That should become much more universal as this open data gets picked up by other providers—much like bus information. Now, apps like Citymapper pick up data about bus timings and that sort of stuff. There will be third-party providers scraping this data off chargepoint companies, and it should be made available to car companies as well.

**Q78 Peter Fortune:** That was my question: how is the information provided? So when a new one goes in, an external company will be scraping the information and feeding it back to the manufacturers, who should upload it to the sat-nav.

**Richard Bruce:** Yes.

**Q79 Chair:** Ms Shanmugalingam, we have talked about planning and about grid connections. What are the other barriers to rolling out more charging points?

**Jo Shanmugalingam:** The other main thing—I do not know whether you want to come on to it now, Chair—is making sure that chargepoints are accessible for everybody. People have different needs. You will be aware from the Report that we have established a new PAS standard about accessibility of chargepoints. We think it was the first in the world to be developed, but we were clear from the start that we will be learning



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whether it works, so we committed immediately to reviewing it. That is going on now with the British Standards Institution. It is really important that all drivers are able to access the chargepoint network. That is something we continue to see evolve, and we will want to watch it very closely.

**Q80 Chair:** Tesla was one of the earlier installers of specialist charging points, but they are only available for Tesla cars. Is it your aim in regulations that all new charging points should be universally available for all cars?

**Jo Shanmugalingam:** All the data in the Report is about publicly available chargepoints, so it excludes any closed networks provided by particular operators. The work I mentioned was about how, physically, it is possible to access different chargepoints. It is not something we have mandated at the moment; it is a standard we have set out and we will see how the chargepoint industry is able to work with that, or if we need to make further changes.

**Richard Bruce:** On Tesla, a large number of its sites are now open access and available to other EV drivers as well—not all of them, but a large number of them are.

**Q81 Chair:** That is helpful, thank you. I declare an interest as a chartered surveyor. I know how the grid works, and if you want a new grid connection, it can take years in some areas. You will also be competing with the Government's other aim of producing more houses. What conversations are you having with the grid about having to be flexible in providing your charging point providers with extra installations?

**Jo Shanmugalingam:** The net zero transition generally—electrification of further sources of power—does mean that the Government have committed to look at, and work through Ofgem on, how to speed up the grid connection process. There are different elements of the transition. Most of the issues that affect chargepoint operators are about local connection to the distribution network, but obviously the overall capacity needs to be there in the transition network.

**Richard Bruce:** That is fair. We distinguish between the high-voltage connection and the low-voltage one. A lot of the day-to-day challenges on connecting EV charging go to the distribution network and being in a queue, as you say, alongside other local developments. I think what the chargepoint companies want is a consistent approach by the DNOs—the local distribution network operators, which are in charge of that process. That is not always the case at the moment, to be honest. It is getting better, but you will have different processes and different times that it takes to get connections and to get quotes.

There are also issues around standing charges. There was an issue about whether people were aware of what the charge would be once they were connected, which is related to the size of the connection. You want to future-proof your location, so you get a fat connection, but then your standing charge is commensurately high. All that sort of stuff is being worked through. In the long term, there will be issues around the high-



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voltage network—the ones on the pylons—and getting enough power to key locations, especially those in remote areas, and to specific areas, like Dover port, where we will have to charge lots and lots of HGV trucks in the future. We will need a lot of electricity to get to Dover. In the short term, we are very focused on distribution. Do you have anything to add to that, Nick?

**Nick Shaw:** Only that what you have described is entirely right. We have done a piece of work with chargepoint companies and the Energy Networks Association, which represents the distribution network operators, on the specific grid connection challenges that chargepoint companies see. Again, as we talked about earlier, these are lots of interactions between bits of the world that have not really done that before, and they are ever increasing as more and more chargepoints are being connected. That work looked at things like the kind of forms that need to be provided to get a grid connection—are they suitable for this kind of connection? If you know that a grid connection is going to be very difficult in a location, or cost a lot of money, what alternatives can a DNO provide to enable a smaller connection or a connection in a slightly different place? It is trying to help those companies work together so that they do less and less unnecessary back and forth, and the process is smoother. We are working with Ofgem on the implementation of that.

Q82 **Chris Kane:** I want to move on to the user experience of chargepoints, and improving that experience, with specific reference to the work that you have already done to identify some of the problems and put in place regulations to address them, which is welcome. Now you have them, how will you make sure that they are working as you intend them to? How will you keep an eye on that?

**Jo Shanmugalingam:** It is worth explaining the regulations. They come into force in three tranches, which will affect what we are able to review and when. First, the price transparency—as we talked about earlier, it is really important for consumers to be able to see that on a consistent basis and therefore drive their expectations—came into force in November '23. November '24 saw the open data requirements that Richard mentioned, contactless payment for existing rapid chargers and all new chargers above 8 kW, free 24/7 helplines, and, really importantly, going to the Committee's interest, a requirement for 99% annual average reliability across a chargepoint operator's network, which will be enforced by the Office for Product Safety and Standards. Then, in November next year, we will see roaming at all public chargepoints. Although those were 2023 regulations, we needed a period of time for the industry to prepare for implementation. We are just in the foothills of seeing the impact, which we will keep under review, not least through the public attitudes work that we do to monitor consumer sentiment and consumer concerns about electric vehicles.

Q83 **Chris Kane:** How are you going to ensure that within that overall 99% upkeep, you do not get areas of poor reliability? It could be 99% in one area, but there could be other areas that are very badly affected. How are you going to make sure that from the whole network perspective, there





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are not local areas of poor reliability?

**Jo Shanmugalingam:** It is 99% for each chargepoint operator. There are some exemptions that they can apply for, for planned maintenance, or if a flood in a particular area meant that the chargepoints were not available. It is fair to say that we think it will be a pretty exacting standard and in order to meet it, you could not have much variability across your network. Again, we will see the impact that it has.

**Richard Bruce:** I think the EV community will be quick to identify those networks that are falling below the standard of 99% and feed that back to the OPSS. Systems are being created in order to enable that to happen, and we will be monitoring it. We will be monitoring the data, which has to be made open as well. The operators will be held to account by the court of public opinion, to some extent.

Q84 **Chris Kane:** To remind myself, I was reading an email from one of my constituents, Gemma, in the village of Thornhill. What I got from the email is just how well informed people are. If you have got an EV, you have a level of knowledge of the problems and how they compare with other areas. The users will be key to helping you develop the regulations, so how will you keep track of new consumer concerns that will emerge and change as we all go on this journey together?

**Jo Shanmugalingam:** Are you able to talk about the behavioural research, Richard?

**Richard Bruce:** That is an interesting question. To digress momentarily, for the early EV adopters, it was a bit of a new frontier for people. They were very interested in and excited by the technology, and that sort of stuff. Actually, we want to get beyond that. A car is a car is a car, and the fact that it is powered by electricity should be largely irrelevant. We do not want users just to be nerds who are really interested; we want them to be people who drive cars and can access energy when they want to access it. That is why the regulations are in place to require that the things are working, and that you can rock up and pay with a bank card—you don't need to join an app, you don't need to join a club, you don't need a smart card; you can just use it, and it is as close to a hydrocarbon experience as possible.

We are monitoring sentiment about EV adoption all the time. At least 90% of EV adopters will never go back to a combustion vehicle; that is what the research shows, from a variety of different sources. What we are very interested and focused on—it is worth remembering that this is about carbon, and about driving decarbonisation of the transport sector—is the non-EV drivers, and giving them the most compelling offer from the EV infrastructure so that it is no longer a barrier to adoption. That has started to tip down slightly, but it is still out there. People perceive it as a huge barrier to owning an EV, and our mission is basically to remove that as a barrier.

Q85 **Chris Kane:** As you say, you have a high standard of user and they have a high standard of expectations, which can be very useful at this stage



because we can iron out problems reasonably early in the technology journey. Are there any other ways that you are improving that experience? Is there anything you want to add to give us a sense of how you are making sure that you have a happy amount of drivers out there?

**Richard Bruce:** Only the accessibility point that we talked about earlier—making sure that this is not an exclusive experience for the able-bodied and that there is a recognition that there will be a variety of people using this infrastructure, and trying to ensure that it is open and available to all. That is why we helped to develop the standard. Through the LEVI programme, we are encouraging every local authority to think about who is going to access their chargepoints, and whether a proportion of them can be accessible and meet the standard.

Q86 **Chris Kane:** Can I ask specifically about slow chargers? How are you going to make sure that the reliability of slower chargepoints is maintained?

**Richard Bruce:** It is the same percentage irrespective of the power.

Q87 **Chris Kane:** Okay. I think you picked up on drivers with disabilities. Can I get an assurance—you almost gave me one—that you are embedding that accessibility, no matter the disability? It is not all one disability; it is multiple disabilities that can manifest themselves in different ways. Are you embedding that accessibility challenge into the regulations?

**Jo Shanmugalingam:** It is guidance we have published, or a standard we have developed with Motability and the British Standards Institution, working with a number of groups. As I said, we think it is the first in the world. I am not sure if we know yet whether others have followed suit. As the NAO identified, there are questions at the moment about how people know whether they have complied. That is one of the things that we are learning. That is why we announced at the outset that we would be doing this review really very quickly after the introduction of the guidance, because it is so important. As Richard said, we are also asking local authorities to consider how they are taking accessibility into account in their LEVI processes.

The other side of it is making sure that vehicles are available for different people's needs, hence the work, through the ZEV mandate, to give additional credits for the sale of wheelchair-accessible vehicles and to not penalise hydrocarbon wheelchair-accessible vehicles sold over the next few years, while this transition is in place. There are additional challenges in adapting some cars to meet the needs of all people, and we do not want to do anything that means that people do not have access to the vehicles that they need.

Q88 **Chris Kane:** If you are looking at accessibility for people with wheelchairs, it is sometimes not just the charger itself, but the area immediately surrounding the charger.

**Jo Shanmugalingam:** Exactly.

**Chris Kane:** Somebody might have reversed a van too close to a

chargepoint, or somebody might have put something in the road. We all hear stories of wheelchair users having experiences that we are horrified by. Enforcing probably needs an even clearer lens. I just seek assurance that I am unlikely to read again of a foreseeable problem that may end up in another report.

**Jo Shanmugalingam:** We are very focused on those physical attributes, such as kerb height, that are part of the standard. I am sure we will need to do further work, but we start by reviewing the impact of the standard that we already have in place.

Q89 **Sarah Olney:** We talked previously about the impact that the disparity in VAT will have on consumers, dependent on whether they are charging at home or at a public chargepoint. What will you be doing, Mr Bruce, to monitor the different levels of charges being paid by different groups of chargers?

**Richard Bruce:** That is a very interesting question. We look quite regularly at the different prices charged for EV charging, by network. There are a load of consumer bodies out there gathering this data and looking at it. You have league tables of the price per kilowatt-hour of charging. Typically, rapid charging is much more expensive; on-street charging is less expensive. The issue for us is that 50p per kWh is sort of the threshold. If you are paying more than that, then you are probably paying more than you would pay for petrol or diesel; if you are paying less than that, it is definitely cheaper. If you are mixing and matching your charging—

Q90 **Sarah Olney:** Sorry to interrupt, but over time the comparison with petrol is going to fall away—I assume that is the goal, because you will want EVs to be the default option—and the comparison will be between different ways of charging. Not every way of charging is going to be available to every consumer; there will, perhaps, be groups who will only be able to access public charging, rather than at-home charging. How will you model how the differential prices impact different groups?

**Richard Bruce:** That is an interesting question. In the LEVI arrangement that we are putting in place, lots of local authorities—correct me if I am wrong, Nick—are looking at the ability of chargepoint companies to change prices without telling the local authority. Some of them have revenue share arrangements, so the local authorities will have a very keen interest in those on-street chargers—which is where most of the overnight charging will take place for certain groups—and what the pricing regimes are, whether they change rapidly over time and whether anyone is being exploited. Across the system as a whole, we will be looking at the average cost of charging, network by network.

Q91 **Sarah Olney:** But not necessarily user group by user group. For example, somebody who lives in an apartment block in my constituency—not exactly the middle of the city but nevertheless a city location—will face different access to different types of charging than someone with a semi-detached home with a driveway. Will you be modelling the costs—perhaps



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the average cost per year—for those different sorts of people?

**Richard Bruce:** Yes. To reassure you, we model that now. At one extreme, you do all your charging overnight on a driveway; at the other extreme, you do all your charging with rapid charging on the public network. They are very different and, in between, there are different mixes of how you get energy into your vehicle.

Q92 **Sarah Olney:** Do you accept that different demographic groups are going to be over-represented in those different—

**Richard Bruce:** Potentially, yes. To be clear, just as the regional distribution of charging infrastructure is definitely an issue today but will probably change over time, the different offer you face, depending on whether you have off-street parking or not, is a challenge. It is probably the single biggest challenge to the EV transition in the UK, because you cannot have a situation where a certain portion of society has much cheaper mobility than another portion of society. We are very aware of that.

Q93 **Sarah Olney:** Are you monitoring it?

**Richard Bruce:** Yes.

Q94 **Sarah Olney:** And you are monitoring it by demographic group. You tell me that you are monitoring what the different networks are offering, but are you monitoring how different groups of people are impacted?

**Richard Bruce:** Not explicitly, I don't think. People who do not have off-street parking will be charging publicly, and some of them—

Q95 **Sarah Olney:** Do you accept that there are certain demographic groups that are much less likely to have off-street parking?

**Richard Bruce:** Yes. What we have not done is made the leap, "In this group will be these demographics." We have not made that leap, but you certainly could, and we could do that in the future.

**Sarah Olney:** You could do that in the future?

**Richard Bruce:** Yes.

**Nick Shaw:** One of the things we are looking at when we are looking at things like gullies is that precise point around the level of income versus the level of off-street parking, and there is the relationship that you would expect there. We have looked at it in those scenarios.

Q96 **Sarah Olney:** Currently, if you have a petrol car, regardless of what kind of house you live in, the petrol will cost the same—it does not cost the same in every place, but everyone who goes to that particular petrol station will be paying the same—but in the future, you will have quite a big price differential depending on what kind of home you live in. My first question is, are you monitoring that? My second question was going to be, what will you do about it? But I am not sure that you are monitoring it.



**Jo Shanmugalingam:** More generally, it goes back to the issues of competition that we have talked about. You will see that the Competition and Markets Authority, just as it has been very focused on the retail fuel supply for a number of years, is already very focused on chargepoint operations, particularly at motorway service areas. It is one of the reasons why we have taken our time with the rapid charging fund, to make sure that, as I said earlier, these are markets set up for the long term and in the best interests of consumers. There is a role for us in making sure that these are competitive markets, where the forces of competition make prices as low as possible for all consumers, and the best offer for consumers.

Q97 **Sarah Olney:** The competition will potentially lower prices for certain types of charging, but if you cannot access that charging and you are stuck on the higher pricing model for charging, then competition will not make any difference.

**Jo Shanmugalingam:** You are right. Competition can reduce costs in respect of categories—

**Sarah Olney:** Within that segment of charging.

**Jo Shanmugalingam:** Yes, and about choices. Nick mentioned the work we are doing on gullies and making sure that more people—albeit not necessarily in Richmond, but in communities where people can reliably park outside their house—can access home charging tariffs safely for people using footways. We are concerned to make sure there are not trip hazards and other issues that you looked at in your local roads maintenance inquiry.

Q98 **Chair:** Ms Shanmugalingam, can I sweep up in a couple of areas? I make no apology for coming back to the grid, because the whole of this subject is dependent on it. Can I take you to page 32 of the Report and to paragraphs 2.26 to 2.28? Paragraph 2.26 makes the pretty stark comment: “The government recognises that the process to receive electricity grid connections is no longer fit for purpose.” There is clearly a big problem with the grid. Paragraph 2.28 says: “In 2023, the Department for Energy Security & Net Zero and Ofgem put in place a Connections Action Plan.” I presume and would hope that your Department is feeding into that.

**Jo Shanmugalingam:** The first thing I would say—Richard and Nick will be more expert on the specifics—is that the Office for Zero Emission Vehicles is a joint unit between the Department for Transport and the Department for Energy Security and Net Zero, for exactly those reasons. What we are doing is making the electricity and transport systems completely interconnected. Since the very beginning, or for a decade, this has been a joint unit.

**Richard Bruce:** I meet my counterpart from DESNZ regulatory, and we talk about the role of transport electrification and how it should not be forgotten. Although a lot of the focus in DESNZ has been on the transmission network and the 14-year tail to get a new connection from a



solar farm or a wind farm, we are always saying, "Yes, but we need to focus on the short-term distribution connections, which are actually really important. We need to get those sorted and get that timescale shrunk in order to be able to meet our enormously taxing carbon budgets requirements." So we do talk to them regularly and we are very plugged in—no pun intended—to that work, and we have done our own work specifically, which Nick talked about.

Q99 **Chair:** I hear the ambition and I agree with it, but paragraph 2.28 says that "a new connections process is planned to be implemented in 2025." It goes on to say that "further improvements" will be made through reviewing "the connections process. To date, there have been improvements in the rate at which connections are made, but the connections queue is still growing." Back to my point earlier, you are competing with housing development, solar farms and all these other people that need grid connections, yet you will not be able to roll out your programme fully, particularly these new service stations, unless you can get these grid connections. Clearly, if it is to be done in time, these grid connections need to be a year or two rather than many years, as happens at the moment.

**Jo Shanmugalingam:** We accept that this is a full-Government challenge. Given the role of transport—and road transport in particular—in carbon emissions, this is something we are doing for the whole of Government, not just from a transport point of view. It is something on which we continue to work, officially and politically, very closely with DESNZ. It is a very difficult issue. There are big challenges here. As Richard said earlier, electric vehicles will also offer opportunity to the grid in terms of balancing and potentially reducing peak requirements through this distributed network of batteries connected through smart connections, but it is a challenge that we will work very closely with DESNZ on for years to come, and there are barriers we will need to work together on year by year to make this work as well as possible.

Q100 **Chair:** I understand that the Government have written to all permanent secretaries—presumably you were included—about how they could cut out bureaucracy in their Departments. Can I take you to figure 9 on page 33 and ask you about two specific items to do with traffic regulation orders? The table states: "Dedicated parking bays for electric vehicles require a Traffic Regulation Order," and states that the "DfT is introducing a digital system with a standardised process which will reduce the application time to a couple of weeks." How are you getting on with that?

**Nick Shaw:** It is in beta testing, so a number of local authorities are already on the platform. I do not have data in front of me on when it will head towards full roll-out, but it is being tested with a significant number of local authorities at the moment.

Q101 **Chair:** It should not take too long. Going on, the table says: "DfT is also carrying out a review to remove the need for Traffic Regulation Orders for chargepoints, though this could take until 2026 to implement." I am not quite sure why it needs to take two years to implement a fairly simple





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change like that.

**Nick Shaw:** I think there are future decisions for Ministers in that position. Removing the need for traffic regulation orders is taking away some opportunities that a local authority might have to make a decision in that regard. In different bits of local areas there might be a need for a particular EV bay or not, and the desire to have one depends on the level of parking provision. If you are trying to put chargers on the street, you want to put them in front of someone's house. If someone always parks in front of their house and they do not have an EV, they might say, "I'm not having a charger in front of my house with a parking bay that says I can never park in front of it again, because I'm never going to get one." Local authorities are dealing with those kinds of challenges, so the TROs can be a useful tool.

Q102 **Chair:** With great respect, Mr Shaw, if MHCLG can do it on planning and permitted developments, which has exactly the same arguments, why can you not do it on road traffic orders?

**Nick Shaw:** There are future decisions to be made on that. We are really pleased with the work we have done on planning, and that will have a great impact. There will be any number of barriers we come across as we build up a greater level of these, and traffic regulation orders is on that list.

**Jo Shanmugalingam:** The changes I mentioned earlier directly address other points in the right-hand column of the table, such as the streetworks process and extending permitted development rights. We are pleased to have been able to make progress on that since the NAO published this Report.

**Chair:** Unless Committee members have any other questions, can I thank you, Ms Shanmugalingam, and your fellow witnesses very much? It has been an interesting session. We will be publishing an uncorrected version of the transcript in the next few days and our Report will follow in the next few weeks.