

Transport Committee

Oral evidence: [Zero emission vehicles and road pricing](#), HC 1106

Wednesday 28 April 2021

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Members present: Huw Merriman (Chair); Mr Ben Bradshaw; Ruth Cadbury; Lilian Greenwood; Robert Langan; Chris Loder; Karl McCartney; Grahame Morris; Gavin Newlands; Greg Smith.

Questions 1–86

Witnesses

I: Ed Birkett, Senior Research Fellow in Energy and Environment, Policy Exchange; Caterina Brandmayr, Head of Climate Policy, Green Alliance; and Sarah Owen-Vandersluis, Head of Public Sector Mobility and Trade Lead Partner, KPMG.

II: Professor Philip Booth, Director, Vinson Centre, University of Buckingham and Senior Academic Fellow, Institute of Economic Affairs; Eamonn Ives, Head of Energy and Environment Policy, Centre for Policy Studies; Edward Leigh, Chair, Smarter Cambridge Transport; and Claire Haigh, Founder and Chief Executive Officer, Greener Transport Solutions.

Written evidence from witnesses:

- [Policy Exchange](#)
- [Green Alliance](#)
- [Institute of Economic Affairs](#)
- [Centre for Policy Studies](#)
- [Smarter Cambridge Transport](#)
- [Greener Transport Solutions](#)



Examination of witnesses

Witnesses: Ed Birkett, Caterina Brandmayr and Sarah Owen-Vandersluis.

Q1 Chair: This is the Transport Select Committee's very first evidence session on zero emission vehicles and road pricing. The Government have announced their ambition to phase out the sale of petrol and diesel cars and vans by 2030. This inquiry will look at the infrastructure that is in place to allow the take-up of electric vehicles to occur; what more work needs to be done by Government and agencies; and whether the resultant funding decrease from taxes linked to petrol and diesel usage will lead to a new form of charging, such as road pricing.

We have a lot to get through this morning. We are delighted that we have a panel of academics and thinkers who can share their ideas with us. They will be covering the subject of zero emission vehicles and their roll-out. I ask the first panel to introduce themselves.

Caterina Brandmayr: Good morning, I am Caterina Brandmayr, head of climate policy at Green Alliance, which is an independent think-tank and charity focused on achieving ambitious leadership for the environment.

Sarah Owen-Vandersluis: I am Sarah Owen-Vandersluis, a partner with KPMG. I lead on the future of the mobility business, which looks at electric vehicles, autonomous vehicles and mobility as a service, as well as the disruptions and transitions required for all of those.

Ed Birkett: I am Ed Birkett, a senior research fellow in the energy and environment team at the think-tank Policy Exchange.

Q2 Chair: Good morning to all three of you. This is a pressing area and a novel one in terms of what needs to be done by 2030. We will go in reverse order, starting with Ed. What will be the main barrier to increasing consumer uptake of zero emission vehicles?

Ed Birkett: There are two main things that we need to focus on. The first is ensuring the supply of EVs at an affordable cost. The second is ensuring a comprehensive network of publicly available charge points, which will be useful for those who do not have access to charging at home and those who need to charge when they are making longer journeys.

Q3 Chair: Thanks, Ed. The same opening question for Sarah.

Sarah Owen-Vandersluis: I agree with Ed on those two core issues. There is a lot to unpack underneath each of them. Under the charge point piece, we need to look at grid connectivity, upgrades and the serious challenges around those. I would also focus on how we can create a sustainable second-hand market for EVs, which will be critical to industrial roll-out and equity, to be honest. There are some pretty critical issues around battery recycling and the tech and R&D required for that.



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I would also focus on points around customer experience, such as interoperability of charge points, availability of data around charge points and the general accessibility of those in every respect.

Q4 **Chair:** Thank you, Sarah. Finally, Caterina on this one.

Caterina Brandmayr: I agree with some of the points that have been addressed already by the previous panellists, particularly around the supply of electric vehicles in the second-hand market, which is essential to ensure that a wider set of consumers can benefit from electric vehicles, and on addressing the up-front cost of zero emission vehicles as well as ensuring that there is a charging infrastructure.

The one thing I would emphasise is that with transport being the largest emitting sector, accounting for 31% of greenhouse gas emissions, and cars and vans responsible for more than half of those transport emissions, promoting a rapid shift to zero emission vehicles, particularly battery electric vehicles, will be essential. At the moment, uptake has been increasing through recent years. Last year, it was over 6%, which is a significant increase since 2015. However, that is still far too low compared with what we need to deliver for emission savings, cost savings and economic benefits.

Q5 **Chair:** We are going to go into each of the challenges that you have all listed. If we continue at the current trajectory, is it reasonable to have 2030 as the target date?

Ed Birkett: I think the 2030 and 2035 phase-out dates are about right, in the context of the advice from the Climate Change Committee. They are saying 2032 for the end of all new internal combustion engine sales, including plug-in hybrids. The key thing on next steps for the Government is ensuring quick take-up now. As you say, we need to increase the current trajectory. The question about the role of plug-in hybrids after 2030 is also really important.

The phase-out of petrol and diesel vehicles is challenging, but in the context of all the things we are doing for net zero, this is going to be one of the more straightforward areas. This is an area where we need to press home our advantage and reduce emissions in this sector to take the pressure off some of the other sectors where we also need to reduce emissions.

Q6 **Chair:** Thank you. Sarah, do you feel that there is the right level of impetus and urgency right now to allow us to get to 2030?

Sarah Owen-Vandersluis: I feel that 2030 is a reasonable but stretching target. I think we are going to be helped in that target by corporate fleet take-up, to be perfectly honest. I think that will be a big driver of acceleration through the 2020s. My biggest concern is on the supply side. That will not be for lack of effort, but for the ramp-up that is required. In particular, raw material supply is something we need to give attention to.



On your direct question about whether we are moving quickly enough now to achieve that, I would say no, we are not. I would say that we have a good idea of all the things we need to do but, like any early-stage market, we are learning that many of those things are complicated to accomplish, they carry early-stage risks, and in some cases the technology still needs a bit of impetus. A lot of the discussion right now has to be around how we accelerate a number of the activities that are already under way—how we accelerate the process to get grid connections, for example. That may be one that we come on to later.

Q7 Chair: Thank you. Finally, Caterina. Is 2030 realistic?

Caterina Brandmayr: Absolutely, acknowledging the fact that we need a new policy to make sure that that phase-out date is delivered. Green Alliance would prefer the phase-out date to be for all conventional petrol and diesel vehicles and all hybrids in 2030. However, we see that the 2030 or 2035 phase-out date was a very significant step for the Government. The ambition now needs to be translated into real-time action.

In particular, I emphasise the fact that there is a huge opportunity for the UK to lead on emissions savings and maximise them. Fast forwarding the transition to battery electric vehicles over the next decade will put the UK into a stronger position to meet its decarbonisation targets. At the moment, the country is not on track to deliver the emissions reductions needed to meet the 2030 nationally determined contribution target as well as the emissions reduction in the fifth carbon budget. The CCC said, for example, that battery electric vehicles should represent nearly 50% of new car sales in 2025.

An accelerated transition will also enable lower income households to benefit from clean vehicles. Previously, Green Alliance has shown that there are significant cost savings for second and third-hand battery electric vehicles, between £3,000 and £5,000 per car after first ownership. For that, we need to accelerate the uptake of electric vehicles so that they can enter the second-hand vehicle market.

There is also an opportunity for UK industry to future-proof its investments as it transitions supply chains towards the manufacturing of battery electric vehicles and batteries, as well as delivering wider economic benefits, including through the delivery of charging infrastructure. It will also deliver jobs in the renewable energy system to power the transition towards electric vehicles.

I think there is a huge opportunity for the UK, and it is one that should not be missed. Putting in place a policy framework that addresses supply, the up-front costs, the charging infrastructure and the materials that go into producing battery electric vehicles will enable this rapid transition to be delivered.

Chair: Thank you. We do not have the best of technology links. Caterina,



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could you speak a little slower? I think we will then pick up all of your evidence. Sarah, if there is a way of getting a bit nearer to your kit, that would be ideal. Ed, yours is perfect, so don't change anything at all.

I am going to continue on the theme of developing the market and hand over to Gavin Newlands.

- Q8** **Gavin Newlands:** Before I move on to the used EV market, I want to talk about the increasing take-up of electric vehicles in general. My colleagues are going to dig into the plug-in car grant shortly, so without looking at that, maybe we can look at trying to increase the size of the carrot for current ICE drivers. In Scotland, at the moment, we have an interest-free loan of up to £28,000 for new electric vehicles and a further subsidy for domestic charging points. That is another £300, or £350 if you are in a rural location, for assistance for a domestic charging point. Is that the sort of policy that you were talking about, Caterina, if you want to move drivers to battery electric vehicles to try to meet that 2030 target?

Caterina Brandmayr: I am sorry, it was hard to capture what you said. The sound was quite poor. Would you mind repeating the question? My apologies for that.

- Q9** **Gavin Newlands:** In Scotland, the Scottish Government have a policy of interest-free car loans of up to £28,000 for new cars, and an increased subsidy for domestic charging points for electric cars. Is that the sort of policy that may have to be replicated across the UK if we are to meet the 2030 target?

Caterina Brandmayr: On that point, as I was saying, I think we need a portfolio of measures. We need incentives to stimulate the uptake of electric vehicles to address the fact that there is, at the moment, a price differential between battery electric and conventional cars. We expect price parity for some models to be reached in the mid-2020s. The expectation is that it will be reached across all models later in the decade. It is important for the Government to provide incentives to help address that cost differential and incentivise purchase, until that cost price is reached across all market segments.

Grants will obviously play a significant role. I think the plug-in car grant has already played a very useful role in stimulating uptake. For example, research by Green Alliance has shown that thanks to the plug-in car grant new battery electric vehicles in some models are already cheaper than petrol and diesel alternatives on a total cost ownership basis.

Going forward, however, it is important for the Government to establish a more sustainable system to fund the uptake of electric vehicles. What we would recommend is that they introduce a system along the lines of the Bonus-Malus system that is in place in France, as was recommended by the organisation Transport & Environment. That system would introduce a higher first-year vehicle excise duty on fossil-based cars, which, on the one hand, would disincentivise the purchase of polluting vehicles and, on



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the other hand, provide a revenue stream that could fund the purchase of battery electric vehicles.

The other aspect to address on incentives is that company car tax has been very effective at driving electric vehicles in the corporate fleet. The one thing I would emphasise there, however, is the fact that it is also promoting rapid uptake of plug-in hybrids, which do not lead to significant emissions savings compared with conventional vehicles, particularly for corporate fleets, where it has been found that real-world emissions from the use of plug-in hybrids are much higher than in test conditions. The benefit-in-kind rates should be increased, so that they do not incentivise corporate fleets to take up plug-in hybrids. They should be incentivising battery electric vehicles.

Alongside that, I think there is a need for stronger incentives through policy and regulation to make sure that charging infrastructure is delivered uniformly across the country.

Q10 **Gavin Newlands:** We will be touching on charging infrastructure in a bit more detail later in the session. Ed, I will come to you.

Ed Birkett: We really need to get to the point where we are thinking about whether these policies would work if they were extended to the whole market and if everyone was buying EVs. We are going to have a pretty rapid transition, so do we want to be extending interest-free loans to large numbers of drivers? Do we want to be extending subsidies for domestic charge points to a large number of drivers?

I would argue that that is quite a big intervention, and I am not sure that is justified. I am not sure we see the evidence of market failure in the car financing market, where there is a very active market. We would favour a market-wide system of regulation on manufacturers, which is something called a zero emission vehicle mandate and would require manufacturers to sell a minimum number of zero emission vehicles each year or to buy credits from manufacturers who do.

Q11 **Gavin Newlands:** Sarah, could you touch on the used car market as well and how we stimulate demand in the used EV car market? There is an interest-free loan for used cars in Scotland of up to £20,000. Could you address the original question as well, please?

Sarah Owen-Vandersluis: Yes, absolutely. Given the way that demand is going, and particularly the role of corporate fleets in that—don't forget that corporate fleets represent 50% of new vehicle sales in the UK, which is a very high proportion—I think we should soon be moving from up-front incentives to drive the sale of vehicles. That is for lots of reasons, including, as other colleagues have mentioned, that we really should not be incentivising people to drive. Full stop. Some of that funding should be going more towards infrastructure.

We also need to remember that most new vehicles in the country are bought on finance. As Ed pointed out, we have a healthy and thriving



private finance market in this country. I think that brings me to the used vehicle piece. One of the things that is really important to an established and well-functioning market generally is consistency and predictability around residual values, or the second-hand value of the vehicle, because that underpins the financing cost. It also drives a lot of the decisions about whether individuals will take up an EV as a second-hand vehicle.

One of the things that is really important—we have touched on it—is clarity about the road map around transition. The Government have given that with the 2030 ban on ICE vehicles. I think we need clarity around hybrids. In the second-hand market for hybrids, there is lack of clarity about the transition for hybrids, and that will confuse some of the residual values and will confuse the second-hand market.

As we have more EVs coming on to the second-hand market, we need to look at whether we need to encourage people to switch from an older ICE vehicle to a newer second-hand electric vehicle. That is a decision for probably two years' time, I would guess. If you think that most fleet vehicles are out for three years, we are going to have fairly soon, in three to five years, a large block of those vehicles coming on to the second-hand market. We can start to look at residual values ahead of that.

Q12 **Gavin Newlands:** Ed, I see you have your hand up. We need to move on because we have only covered two questions, but do you have anything briefly to add on the used market?

Ed Birkett: I would be a bit nervous about having large-scale incentives for second-hand vehicles, because that would just tend to push up the price of second-hand vehicles. Any incentives would need to be targeted at those who need them most.

Gavin Newlands: Thanks.

Q13 **Chair:** I hope you don't think I am being cheeky, Gavin. The Scottish model is to subsidise a market that already exists. Ed, do you think that is the right approach, or should Government be subsidising areas that do not currently exist, which is a policy that they had, for example, with solar? As soon as it got mature, they left that market and started subsidising other areas that needed an origination spark.

Ed Birkett: The analogy with early-scale subsidies for renewable energy projects is a really good one. We started with things like the feed-in tariff, where the Government set defined rates of support for solar and then had to keep cutting it as solar got cheaper. We have seen the same thing with the plug-in car grant. In that way, the plug-in car grant is quite an old-fashioned policy. For renewables, we moved to competitive auctions, where we saw offshore wind prices tumbling. That worked really well.

The analogy for that in the transport sector would be something like a zero emission vehicle mandate, where the incentives would rise and fall depending on the underlying technology costs of zero emission vehicles. That is the direction we should be going in.



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Q14 **Chair:** I want to move on, but do you briefly want to say something, Caterina?

Caterina Brandmayr: I emphasise the fact that we need a policy framework in which there is an incentive for uptake that will gradually decrease as cost parity is reached. On the other hand, we need regulation that drives investment so that car manufacturers can provide more models on the market, and ensure that there is adequate supply to help to bring down the cost of the vehicles.

Chair: Thank you. Obviously, we are not here to scrutinise Scottish policy, but it is always good to look at comparisons.

Q15 **Robert Largan:** Good morning to the panellists. We have already touched on this in the question we have just had. The NAO reports that zero emission cars remain, on average, £13,000 more expensive to purchase than conventional cars. With that price gap in mind, is the plug-in car grant fit for purpose?

Sarah Owen-Vandersluis: There is a price differential. It is not quite as straightforward as one number, as the NAO and you will appreciate. When you look at the way that vehicles are financed, the total cost of ownership is the best way of looking at it. That means, effectively, that you are taking some of the up-front cost over the life of the vehicle, rolled in with the much lower running costs that attach to EVs than to ICE vehicles.

The plug-in grant is appropriate and suitable at the moment. I am of the view that fairly soon we will not need to stimulate demand. We are going to get a pretty big ramp-up in the corporate fleet as companies look to reduce their emissions and demonstrate that they are net zero over a period of time. I think that will drive significant volume and, therefore, wider acceptability in the marketplace, and the grant will not be needed in its current form for a much longer period of time.

Ed Birkett: The plug-in car grant has been useful initially to stimulate the market. My concern is that it is inherent in the design of the plug-in car grant that the Government have to keep cutting the thresholds in order to keep it affordable, as the cost of EVs falls rapidly. That creates boom and bust investment cycles for manufacturers, and boom and bust purchasing cycles for customers. It is not the right approach to get us to 2030. That is why we think, as I have said before, that a regulatory backstop is the best way to do it, through a zero emission vehicle mandate.

Caterina Brandmayr: We would agree that it has been useful so far. We still think that it should be playing a role going forward. However, we emphasise the fact that it will have to be phased out as price parity is reached. There needs to be a more sustainable way of funding the plug-in car grant, alongside making sure that there is regulation as well. Green Alliance also supports the introduction of a zero emission vehicle mandate



to ensure that there is adequate supply of zero emission vehicles and that costs are brought down by manufacturers investing in their production.

Robert Largan: Thanks to all three panellists.

Chair: Robert, thank you for finishing off that section. We have touched on issues in the market for the vehicles themselves. We now want to see whether the infrastructure is holding back that market. We will start this section with Lilian Greenwood.

Q16 **Lilian Greenwood:** Good morning to our witnesses. First of all, I think I know the answer to this, but I am going to ask anyway. Are the Government on track to install sufficient charging infrastructure to support widespread EV usage?

Ed Birkett: We did some analysis on this for a recent report. We found that to deliver the phase-out of petrol and diesel cars, EV charge points must be installed five times faster than the current rate. To put that in context, though, five times sounds like a lot, but if you look at what we have done with solar, offshore wind and all the other low-carbon technologies, it is very achievable with the right policy framework.

Q17 **Lilian Greenwood:** What is it that they need to do? Where are we falling behind? There is not an equality across the country in where charging infrastructure is. Potentially, there is a mix of rapid charging and slower charging. Give us a bit of a picture of what the situation is, and what needs to be done to change it.

Ed Birkett: There is a lot of private investment going into charge points. There are things like the Tesla network, and some of the other dedicated charge point operators are installing rapid charge points at fast food restaurants, motorway service areas, and so on.

One thing that we should be concerned about is the growing disparity between different regions; for example, the number of public charge points per person in London is currently three times higher than in the north-west of England or in Northern Ireland. If that continues, it could undermine the feeling that there is a comprehensive network, which is important for drivers who live in those areas and for drivers passing through.

We argue that the current approaches should all be joined up in one strategy, where the Government target areas that are under-served and run competitive tenders for charge point operators to bring forward charge points at the least cost.

Q18 **Lilian Greenwood:** Caterina, we have heard from Arup that 30% of car owners do not have access to off-street parking and cannot charge an EV using their domestic energy supply. What should the options be for affordable and convenient charging for people who do not have a driveway and a garage? Clearly, that is going to be a massive issue in lots of urban areas, where people live in terraced housing or in blocks of



flats that do not have a big car park underneath them. What is the answer there?

Caterina Brandmayr: There will obviously need to be a combination of different charging options, including in car parks, at workplaces and at supermarkets. All of those will have to be explored. Local authorities will have to play a big role. Workplaces will have to play a significant role. It is vital for the Government to set out a comprehensive strategy that uses policy and regulation to drive the deployment of charging units in those sites.

The other thing to highlight is that there is a role for public funding to support roll-out in particular areas where upgrades are costly, or where the business case is weak, to ensure national coverage. This is to ensure, for example, that some of the rural areas are properly served, given the fact that they are also some of the areas where the highest number vehicle miles are being driven.

Q19 **Lilian Greenwood:** Can I come back to you on the behaviours that that could potentially encourage? Maybe you primarily want to use the car for leisure purposes at the weekend, because you want to go out walking in the countryside or something. If you cannot charge at home, are you now going to drive to work in order to use a charge point, when previously you might have used public transport or walked or cycled? Are you going to drive to the supermarket and leave your car there for ages to try to charge it, when previously you might have walked to the shop? Do you see what I mean? Is that plausible? What about the fact that people need a multitude of different cards, dongles and apps on their phone to use a variety of different charge points? Are there any concerns around those issues, Caterina?

Caterina Brandmayr: I think, for sure, we need to make the charging experience as convenient as possible, both so that the payment system is easy to use and so that the chargers are interoperable. To ensure that it enables charging for different types of trips, there will need to be a mix of slow and fast chargers that allow for charging before those kinds of trips, as you indicated.

Q20 **Lilian Greenwood:** Sarah, what requirements, if any, should Government place on local authorities? To what extent are local authorities in any position to meet any requirements, given the way in which their funding has dramatically fallen over the last 10 years?

Sarah Owen-Vandersluis: Local authorities play an absolutely critical role in the overall ecosystem, and in particular in the delivery policy. I think that role has a number of aspects. Let's not forget that it is not just about charge points, although I will come back to that. It is about supporting education, the planning environment and developing the strategy, and it has to be a strategy that includes all modes of transport, maybe on a regional basis. There is a promotion aspect, and of course they play a role in new builds, in hubs and in business rates



incentivisation. There is a whole set of things that local authorities can be doing and are doing in many cases. Some of those will not be costly and some of them will be.

When we look at the charging infrastructure specifically, we have to appreciate that, as this market is developing and moving so quickly, it is easy for us to say that Government should support commercially non-viable sites, but it is actually quite complicated. You have to do a lot of demand modelling and make assumptions about future charging behaviour to work out which of those sites might not be viable, and over what period of time. It is quite complicated to work out what types of technology should go in—what speed of charger, what type of charger, how many connectors and all of those things.

There is then a whole process of understanding what role the local authority should play in commercial engagement with charge point operators. Currently, that is a function of funding and investment capital, but it is partly a function of risk, of service levels, and of the appetite and resourcing in the local authority. I think there is a massive opportunity to create something, whether it is a Crown Commercial Service for charge points or whether you call it something a bit less flamboyant—you could call it a toolkit—so that some of the local authorities who are doing really well at this can contribute. Other local authorities who, frankly, are struggling to understand where the risks are and how to manage them can be supported in doing that. That will really help.

There are some strategic questions that apply to all local authorities that could be addressed. The framework could be set once for those local authorities to enable them to feel more confident that they can follow it.

Q21 Lilian Greenwood: Ed, I see you have your hand up. I have a couple of questions to follow on. How do we ensure that there is interoperability? What do the Government need to do to ensure that people can use a charger without having to have a phone full of apps? How do we ensure that people who do not have a driveway or a garage are not paying over the odds for the electricity to charge their car? Do we need a specific policy to target that? How are we going to target places that are difficult to reach, particularly rural areas? What is needed there? Sorry. That is quite a lot of questions.

Ed Birkett: I will try to take them in reverse order. We need to develop some metrics for working out which areas are under-served. Commercial providers are already doing that, but the Government could do it as well. Then it is just a case of targeting procurements in those areas, with the Government being prepared to pay more for a charge point in Northern Ireland or in the north-west of England, which are currently under-served, than they would be prepared to pay in Chelsea in London, for example. That is the way you action that.

Can you repeat your other two questions, please?



Q22 Lilian Greenwood: How do we ensure it is affordable for the end user? If you have to buy it on the street or at the supermarket, or wherever you have parked, isn't it loads more expensive than if you can plug in at home? How do we make sure that there is equity in all of this?

Ed Birkett: On the affordability point, I think it would always be more expensive to charge on the street, because you would be paying both for the electricity and for the capital cost of the installation of the charge point, whereas, if you charge at home, you have bought the charger and you have paid the capital cost so you are now just paying the energy cost. That is cheaper.

We should look at things like time-of-use tariffs. For example, if I am charging at home, I can have an off-peak tariff where it is very cheap overnight, either Economy 7 or some of the more innovative tariffs. Those sorts of offerings should be available on the street as well. There are no particular barriers to that. There are various energy regulatory bits that are going through that will allow it. That is important.

There is also the role of competition. Where you have competitive procurement by local authorities for who is going to install the charge points, one of the criteria could be cost. You could have a cost cap in place, particularly to get round the risk of local monopolies. For example, if a local authority has paid a charge point operator to install charge points across their entire borough, it could create a monopoly. In that instance, it could be justified to have a price cap.

Lastly, on your interoperability point, it is clearly a key issue. We need to be a bit careful, though, of just applying blanket solutions across the market, through regulation in this case. Commercial providers are going out and spending private money to install charge points. Their business case might rely on getting someone into your app, or displaying them an advert or something like that. If we had heavy-handed regulation, it could ruin some of those business cases and slow down the roll-out of charge points.

We have said that where charge points receive public money, they should be required to have high standards of interoperability so you can pay through any app you want. They should also have high standards of reliability, enforced through financial penalties on providers who do not keep their charge points working.

Lilian Greenwood: Thank you.

Chair: I am going to hand over to Chris Loder on the same thing.

Q23 Chris Loder: Good morning, everybody. It is good to see you. I would, first of all, like to probe into the more rural areas and issues. In 2018, the Policy Exchange "Charging Up" report suggested that there would be black spots in rural areas unless the roll-out of EV charging points speeded up. I have subsequently found out that, as it stands today, there are 165 charging points per 100,000 people in the Borough of Richmond



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upon Thames, compared with 24 per 100,000 people in Dorset, which is where I am from. Ed, given the Policy Exchange report, are rural areas of Britain being left out in this strategy?

Ed Birkett: Unfortunately, I do not think it is that surprising that somewhere like London is leading the way in rolling out charge points. There are more early adopters in urban areas, as you might expect. There are wealthier consumers. There are more incentives—for example, avoiding the congestion charge and the ultra low emission zone. Drivers in urban areas have less access to off-street parking, which means there is more need for public charge points. That is the context. Despite that, we think there is a risk of rural black spots emerging.

There is a relatively simple solution. The solution is that the Government should be prepared to pay more for charge points in rural areas like Dorset, which you mentioned, than for a charge point in an urban area like Richmond. It might be the case that we say, “Okay, there are some areas where there are enough charge points and the private sector is delivering. Those are not eligible for public funding, whereas other areas are eligible for accelerated public funding if it can be demonstrated that they are under-served.”

Q24 **Chris Loder:** Sarah, do you have any observations on this area?

Sarah Owen-Vandersluis: I agree with Ed’s analysis of the situation. I think there are, in fact, some really interesting developments outside London as well. There is probably more creativity in urban and semi-urban areas, to be honest.

I think we need to look at the balance of charging locations. We should start to think about that a bit more strategically from a public perspective. What do I mean by that? One of the things we need to be thinking about is how we get the most throughput on the chargers we put in, as quickly as possible. It is the biggest bang for our buck and the best utilisation of those chargers to support the commercials around them, whether publicly funded or not. That speaks to me of an argument not necessarily for trying to have a large number of chargers on the street, for example, in particular areas, but for starting to think more cleverly about hubs.

If I am an EV driver, knowing that there is one charge point on a side street in the town next to me does not necessarily help me. I could waste an awful lot of my day going round trying to find one that is empty, and when I get there it is not empty but I have to wait for—

Q25 **Chris Loder:** I am sorry to interrupt you. The avenue I am coming at this from is that I am thinking of a very loose-knit community that may have a very small number of houses in a very rural area. I am looking to understand it more from that perspective, and whether or not, in effect, they are going to be left behind by this strategy.



Sarah Owen-Vandersluis: I am trying to draw a bridge between your question and what I was saying. What we need to think about is that charging behaviour may not be all on your doorstep or on your driveway. It may be that you go to the gym, and that is a good place to charge, or it may be your local library. It may not be in your village; it might be in another village, or it might be your village hall that has the capacity, and I think we need to be creative about that.

Q26 **Chris Loder:** I should just say that the local library for many people is some 20 or 30 miles away.

Sarah Owen-Vandersluis: I do not think you will necessarily be charging on your doorstep. That is what I am saying. I think people will be planning their journeys around different options for charging in different places. That is as relevant rurally as it is in semi-urban and urban areas. We need to bear that in mind as the planning goes forward.

Q27 **Chris Loder:** Do you think the progress of EV is going to force rural areas into poverty, or worse poverty, as we are unpacking this discussion, further to Ed's points earlier?

Sarah Owen-Vandersluis: I am struggling to see the direct connection between EV and questions of poverty. We have significant issues around affordability and accessibility more widely around EVs. I think some of those are early-stage market issues. We need to see manufacturers putting as much R&D effort into smaller, lower-cost vehicles as they are at the moment putting into the technology around premium vehicles and larger battery sizes. The volume of the lower-cost market and models over the next number of years is going to substantially assist with the equity question.

One of my concerns, though, is around the second-hand market. That is absolutely key from the point of view of social equity. I agree completely with Ed that part of the goal of public policy has to be reducing the gap, the risk or the market failure, around infrastructure in more rural areas.

Q28 **Chris Loder:** Finally on that point, if you do not think that the strategy will force areas into poverty, do you think there is a real risk that rural areas will be left behind in the quest to make road transport more environmentally friendly?

Sarah Owen-Vandersluis: As you know, with any new market that depends on utilisation and volume, there are going to be transition challenges. Ed articulated that there are many reasons why London has been a first mover, both in take-up of the vehicles and in infrastructure. I do not think that necessarily leads in any way to rural areas being left behind as we move towards 2030, although I think regional equity, as well as socioeconomic equity, will be writ larger. To be honest, accessibility from the point of view of disabled and less able people needs to be considered as a direct policy objective.

Q29 **Chris Loder:** Thank you. Ed, I will come back to you because you had



your hand up a moment ago, and then I will go to Caterina.

Ed Birkett: On the idea that there might be small, isolated communities that might not have access to charging, one thing to say is that those communities are more likely to have access to off-street parking and therefore home charging, which is an extremely economical way to charge their EV. There are commercial solutions already coming on to the market; for example, you can charge at your neighbour's private charger and then get automatically billed through your credit or debit card. Yes, there might be some edge cases, but in general EVs are going to be pretty practical in the long term for people living in rural areas.

Q30 **Chris Loder:** Do you think that the national grid in rural areas will be able to cope with such an increase in demand?

Ed Birkett: It depends on which type of charging we are talking about. If we are talking about putting lots of very high-powered chargers in areas with sparse electricity networks, it will be a challenge. There are things you can do, for example, by integrating the charger with battery storage, so that you have lower peak demand on the grid. For home charging, I do not see that many issues. We already have large periods when people are not maxing out their home electricity supply—for example, overnight, when they could charge their vehicle and make better use of the existing grid infrastructure.

Q31 **Chris Loder:** My colleague Lilian mentioned a little earlier Arup's claim that 30% of car owners did not have access to off-street charging points. Surely, that is in urban areas. In more rural areas, I wondered whether you had any view as to what that really is, Ed.

Ed Birkett: We quoted some figures in our report that you mentioned, "Charging Up", but I do not have them in front of me.

Q32 **Chris Loder:** I will revisit the report. Of course, we are three years from that, so maybe things have changed.

Ed Birkett: Actually, it was February 2021. It is very recent.

Q33 **Chris Loder:** Oh, is it? Thank you very much. Caterina, can I ask for your take on the rural effect of this strategy?

Caterina Brandmayr: In terms of charging, as I was saying, there is a challenge obviously on the distribution of charging points at the moment. There is non-uniform distribution. We think public investment should support roll-out where there are costly upgrades or where the business case is weak, to ensure national coverage. This is particularly the case for rural areas because they have a lower population density and higher connection costs. Targeting public investment in those areas will be vital. There is also a role for empowering local authorities and making sure that they have sufficient resources and capabilities, as well as responsibilities, to deliver on charging infrastructure.



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I emphasise the point that Sarah was making. Equity needs to be a prime consideration when developing policy around electric vehicles, and making sure that those areas also have access to charging points, as well as making sure that the second-hand market is accelerated. That is where there will be significant cost savings that benefit lower-income groups in particular. Lower-income households tend to buy used vehicles. As I said, Green Alliance estimates that a battery electric vehicle could save between £3,000 and £5,000 per car on a total cost basis, compared to conventional petrol and diesel cars.

Q34 **Chris Loder:** That is very interesting, Caterina. Did you say £3,000 to £5,000 over the life of the vehicle in use, or per annum?

Caterina Brandmayr: Per car. Over the life of the vehicle.

Q35 **Chris Loder:** How many years, roughly?

Caterina Brandmayr: I can double-check this. For second-hand vehicles, it would be about five years, I think, and for third-hand vehicles it would be six years. I can double-check that. We published it in our report a couple of years back. We are in the process of updating that analysis, and I would be happy to share the latest figures with the Committee when the analysis is ready.

Q36 **Chris Loder:** Finally, Caterina, I want briefly to touch on the efficiency point. To convince people to move towards electric cars, they will need to understand more where the efficiency point is, how money is saved and when that starts to evolve. Have you any thoughts as to when? If someone has to put some money up front to buy a new car, for example, when might they realise the savings and the benefits from an EV car?

Caterina Brandmayr: The thing that is worth highlighting about electric vehicles is that they have lower running costs and lower maintenance costs. That is particularly important to highlight when it comes to second-hand vehicles because running costs are a much more significant factor in deciding which kind of vehicle to purchase.

As I said, we have identified that, even for first-time vehicles, at the moment, thanks to the plug-in car grant, some models of battery electric vehicles are cheaper than conventional petrol and diesel cars on a total cost ownership basis. It shows that within the first four years of a lifecycle of a battery electric vehicle there are already opportunities to realise cost savings for EV users.

Chris Loder: Thank you. Ed, I should apologise. I was getting mixed up with the "Road to Zero" White Paper in 2018 rather than your report.

Q37 **Chair:** Our esteemed Clerk has mentioned that this is all good stuff but we are taking too long to get through the questions. I will try to lead by example with this question. I am only going to put it to Ed. I suggest that Members are selective as to who we put questions to.

Ed, we have talked a bit about when people charge during the day, and



trying to flatten it across. Obviously, people are used to filling their tank and then running it down. How can the market incentivise a little-but-often approach that spreads out the delivery?

Ed Birkett: I do not think it is necessarily about a little-but-often approach. It is more about concentrating your charging on off-peak periods, when we have abundant clean energy and when the electricity network is not overloaded because everyone has not just got home from work.

There are a couple of things. There is growing evidence that EV drivers have significant flexibility over when they charge, particularly for home charging. I highlight a trial called Project Shift run by UK Power Networks. That shows some really interesting results about how, by showing people time-of-use tariffs at home—for example, charging them less for electricity to charge overnight—and giving them access to a smart charger, you can have massive changes in when people charge and how they overload, or do not overload the grid in this case. EVs can be a really good friend to the electricity grid.

Secondly, we could do even better than just having time-of-use tariffs to make people charge overnight. Ideally, drivers in Cornwall would be charging when it is sunny and drivers in Scotland would be charging when it is windy, to take advantage of local solar farms and wind farms, respectively. The way to achieve it is through something called local electricity pricing, a model used in many US states and in New Zealand, Singapore and others. It is something we recommended in a recent report called “Powering Net Zero”. That could be really powerful in encouraging drivers to use clean, green energy when it is available in their local area.

Chair: Thank you. That has covered that part. We move to Ruth Cadbury to look at the grid infrastructure.

Q38 **Ruth Cadbury:** Thanks to the witnesses. When we talk about charging infrastructure, there are, effectively, two separate networks: the standard electricity that we have in our homes, and the rapid charge electricity at higher power. Is the £950 million rapid charge fund sufficient for unlocking investment along the strategic road network?

Ed Birkett: I do not think we know yet. The design of the rapid charging fund is still under review. It feels to me like a really good start. If we can leverage private investment alongside that, it should go a long way to upgrading the grid along the strategic road network where it is needed.

Sarah Owen-Vandersluis: I want to jump in on that point; £950 million is an amazing start. There are issues around customer satisfaction and competitiveness on some aspects of the SRN. There is a need, and I understand that it may be being looked at by the Competition and Markets Authority, but at the moment it feels like there is a bit of a barrier to private investment flowing in alongside that £950 million.



It is probably going to be really useful for that £950 million to also be deployed, if needed, for market failures in grid upgrades or for battery storage to complement capacity in areas where the grid upgrade is too expensive or there is not enough capacity. A bit of breadth to support a wider range of applications and technologies would be helpful.

Q39 Ruth Cadbury: Thank you. I want to move away from subsidy and think about other Government interventions. ChargePoint said that the charging network should be part of the UK's critical national infrastructure and, therefore, be treated a bit differently from merely a private project.

We have already covered some of the non-fiscal challenges around rolling out the network, such as interoperability and the potential challenge for rural areas, particularly for fast charging. I am aware of other challenges; getting wayleave for cabling for rapid charging has been raised with me. Another one is the last-comer principle. At the moment, the first business in—let us say, a business park needing rapid charging—ends up having to pay for the access of the cabling to that location. All the other businesses benefit from that first business's investment. That is not fair and does not seem like a sensible way to unlock the market. Ed, what do you think about having some Government role in not just financing but making the roll-out of the network more feasible?

Ed Birkett: I think you are right; EV charging is quickly becoming part of our critical national infrastructure, as are petrol stations, for example, but I do not think that necessarily means that it needs to be delivered by the public sector. It is about working together, having contingency planning and working out what would happen in fuel rationing scenarios, as we do for fuel. What does that look like for EV charging?

Secondly, on your issues about getting charge points into the ground, I used to be a solar and battery storage developer, so I have been through a lot of those headaches. There are lots of different ways that you can connect charge points or energy projects to the grid. Sarah mentioned that you can combine battery storage with a smaller grid connection to reduce the overall cost. That is one reason why it is really important that we use competitive procurement to work out which are the best solutions. Let all the companies compete to find the solutions.

Finally, on the idea of first-comer charges, where the first business pays the upgrade and everyone else free-rides on that, this is something that Ofgem has looked at. I have experienced something called second-comer charges, for example, for solar projects, where you help them to pay back the person who funded the big upgrade. That is really a question for Ofgem, but you are right to raise it as a really important point.

Sarah Owen-Vandersluis: There is a lot that needs to be looked at, in particular if we want to move at pace, which was the discussion to begin with. We are not geared up to move quickly on grid upgrades. There is the amount of time that it takes; the transparency around pricing; and the associated issues that you mentioned, such as wayleaves and other



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things. I believe some of that would be assisted by classification as critical national infrastructure. There are other things, as Ed referred to, around regulatory issues and the pricing model that also need to be addressed to allow us to move at pace.

Chair: I will hand over to Ben Bradley now to touch on the impact on other forms of transport.

Mr Bradshaw: Ben Bradshaw, Chair. It's a common mistake.

Chair: Did I call you Ben Bradley?

Q40 **Mr Bradshaw:** Yes, I'm afraid you did. Not to worry. Chalk and cheese—there couldn't be two more different MPs.

I am sorry we have so little time left for this session, because the potential unforeseen impacts on other areas of transport policy are really important. Chris Boardman told us recently that one of the worst things that could happen would be expansion of electric cars—I summarise what he said—because it gives us a reason not to change and move to active transport and public transport. How can we avoid that danger? Sarah, you put something in your evidence about that, and the Government having mixed messages, so we will start with you.

Sarah Owen-Vandersluis: We had an earlier conversation today about incentives, and to me this is a big part of it; we have to be careful that we phase out incentives appropriately so that it does not become tax-free to drive. In most people's view, that is inappropriate. We will see continued drives for mobility as a service, shared transport and on-demand transport. That is going to be critical. It will also affect the charging behaviour massively, by the way, and that needs to be factored in.

We need to continue doing all the other things we were doing. Another thing on my mind is, in particular, the decarbonisation of public transport. I believe it is going to get very challenging at a certain stage to tell people who have bought a zero emission vehicle, "Please don't use that vehicle and please get on a bus that is still an old-style bus and maybe emitting quite heavily." We need to look at all of transport and the decarbonisation of transport in the round, and not forget about the technical, commercial and regulatory challenges that we will be facing, particularly in the bus market, as well as in other markets.

Ed Birkett: I echo what Sarah said. We need to be honest with people about what is going to happen to things like the London congestion charge once everyone has an EV. We cannot just have everyone driving everywhere all the time; an EV is a car, and it still causes congestion. We need a clear framework. We have called for the Government to set a phase-out of the tax breaks for EVs, including company car tax. That would also make sense for things like congestion charges particularly, because these vehicles still cause congestion.



Caterina Brandmayr: To pick up a number of points that Ed and Sarah have mentioned, it is important to see how the tax system can support the transition to a zero emissions economy and, as fuel duty drops off, think about how road pricing can play a role. Obviously, that needs to be designed with equity in mind. It is right for the Government to start that conversation sooner rather than later because they really need to get the design right.

It is also about making sure that EVs are part of a comprehensive plan to decarbonise the transport sector. That plan needs to include enhancement of the decarbonisation of public transport and investment in infrastructure for walking and cycling. It also needs to include a test for all infrastructure decisions to make sure that they are compatible with net zero. It will be between DFT and MHCLG to ensure, for example, that reforms to the planning system embed low-carbon transport so that we reduce the need to travel, as well as ensuring, finally, that local authorities have the resources, the powers and clear responsibility to deliver on low-carbon transport.

The one thing I would emphasise is that we know the Department for Transport is due to publish a transport decarbonisation plan. We see that as a vital document that should set out a comprehensive plan, providing better clarity about how electric vehicles fit into the wider decarbonisation process.

Q41 **Mr Bradshaw:** You do not all have to answer this question, but do any of you have any knowledge or expertise on car-sharing schemes? We have an excellent one here in Exeter, in my constituency. It is supported by the local authority. It has a fleet of electric vehicles. We gave up our car years ago. When we need a car or want a car, we just book it all online. There is smartcard entry. I know people who have given up their first car, both their cars or their second car and use this instead.

I am sorry if I missed it, but there was nothing in the evidence we received about this. Isn't it the way forward, at least in the interim period, to avoid some of the problems that we have just been discussing? Just answer if you think you have a view on it.

Sarah Owen-Vandersluis: It is definitely part of the answer. When I think about mobility as a service, I am thinking about car-sharing as well as ride-sharing and other forms of non-owned transport across multiple modes.

I personally do not feel that car-sharing will be the answer to everything, but I think it plays a big role in certain more concentrated urban regions. If you are thinking about not just corporate fleets but other fleets, and the electrification of those fleets, you have to start to think about delivery vehicles, car-sharing schemes and promoting those, and about taxis and ride-hailing companies, and making sure that we are pushing everything in the same direction around all of those schemes.



Caterina Brandmayr: They are definitely part of the solution. There is a report published by the Centre for Energy Demand Reduction¹ that looks at different schemes for shared mobility, such as lift-sharing and car clubs. It highlights the fact that there is huge potential for expanding shared mobility schemes. It also highlights the fact that we need to start using different metrics to map how the transport system is evolving, and therefore paying greater attention, for example, to occupancy as well as other factors. That will be one way of promoting shared mobility.

The one thing to highlight is that, together with promoting public transport, walking and cycling, promoting greater shared mobility will ultimately reduce the emissions associated with vehicle manufacturing. That is also fundamental for decarbonisation.

Mr Bradshaw: Thank you very much.

Q42 **Chair:** Thank you, Ben, and my apologies for the brain fail. Very similar names, very different opinions, I think it is fair to say.

That brings us to the end of our evidence. There are 30 seconds for each of you—no more please. This is obviously quite a radical shift and change, so does it mean that road pricing is now inevitable as a result?

Caterina Brandmayr: Road pricing will definitely be an important tool to promote decarbonisation. On the one hand, obviously, the Treasury will need to address the drop in revenues that will come as fuel duty is phased out. We must also make sure that we continue to incentivise a reduction in car miles. That is vital not only in promoting decarbonisation but in delivering a wealth of benefits, including reducing congestion, improving air quality and improving health through greater walking and cycling. Yes, I think that road pricing, well designed, will be a fundamental part of the solution.

Sarah Owen-Vandersluis: On the fiscal side, when we try to look for progressive and comprehensive mechanisms, I think road pricing is one of the strongest mechanisms out there. I take Caterina's point about it being well designed. There are many examples of different forms of road pricing around the world. I think care needs to be given to what we are trying to incentivise and how we do it. Care needs to be given to its being progressive as much as possible. As you are more aware than anyone, there will be challenges in explaining the necessity for it and the approach to it. That will need to be carefully thought through.

Ed Birkett: Everyone can see the fiscal hole coming from the transition away from petrol and diesel fuels. Clearly, that needs to be addressed. Well-designed road pricing is something that we have gone on record on and supported in a previous report. It is also looking as a whole at road pricing, vehicle excise duty and company car tax. How do you get that holistically as a system that will work, both for the transition to electric

¹ Correction by witness: Centre for Research into Energy Solutions.



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vehicles and then when we are in a position where we only have zero emission vehicles?

Caterina Brandmayr: Can I—

Chair: Caterina, I am sorry. I am going to have to decline; the other witnesses are already overdue.

A big thank you, Caterina, Sarah and Ed for giving us such a great start. I very much hope that you will follow the inquiry all the way through. I wish you a good rest of your day. Thanks again.

Examination of witnesses

Witnesses: Professor Booth, Eamonn Ives, Edward Leigh and Claire Haigh.

Q43 **Chair:** Let's introduce our second panel, who are going to talk to us about road pricing options.

Professor Booth: Good morning. I am Philip Booth. I am director of the Vinson centre for the public understanding of economics at the University of Buckingham and a senior academic fellow at the Institute of Economic Affairs.

Chair: Excellent. Good morning, Philip, and thank you for being with us.

Claire Haigh: Good morning. I am Claire Haigh, the founder and CEO of Greener Transport Solutions, which is a not-for-profit organisation dedicated to the decarbonisation of transport.

Chair: Claire, good morning to you.

Eamonn Ives: My name is Eamonn Ives. I am the head of energy and environment policy at the Centre for Policy Studies, which is a think-tank here in Westminster.

Chair: Good morning, Eamonn.

Edward Leigh: Good morning. I am Edward Leigh. I am a transport economist and leader of a voluntary campaign group and think-tank, Smarter Cambridge Transport, which advances sustainable integrated and equitable transport for the Cambridge region.

Chair: Good morning to you, Edward. Something I was meant to do at the start, but completely failed to do, was to ask if any Members had declarations that they wished to make with regard to the witnesses.

Greg Smith: For transparency, I should declare that I know Philip Booth, both in his capacity at the Vinson centre at the University of Buckingham in my constituency and also in my capacity as co-chairman of the Free Market Forum, which is a project of the Institute of Economic Affairs.

Q44 **Chair:** I know Eamonn Ives on a personal basis, so I make that declaration.

I hope you heard some of the evidence with regard to the phasing out of



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diesel and petrol by 2030. One of the challenges that that will bring will be a loss to the Treasury with regard to fuel and excise duty, described by one of the witnesses as a fiscal hole. Does that make some form of road pricing inevitable?

Professor Booth: I suppose you might say it will concentrate the minds of the Treasury and politicians, but I do not think it fundamentally changes the case for road pricing, which was made very clear in the Smeed report back in 1964. The case for road pricing is to ensure that road users pay the cost of road use, including the cost of congestion and so on that they impose on the system.

Obviously, there also needs to be a mechanism for financing the development and upkeep of the road system, but that case for road pricing has remained invariable ever since it was first made by people like Alan Walters, Reuben Smeed and so on. It has become politically difficult, it would appear, to implement the pricing. Perhaps it is the so-called black hole that will finally concentrate the minds of politicians to introduce a more rational framework for pricing road transport in the UK.

Q45 **Chair:** Thank you, Philip. Claire, the same point to you.

Claire Haigh: The black hole will certainly focus the mind. The point about road pricing is that it is inevitable, as previous witnesses have said, and it should be inevitable. The difficulty is the politics; it is coming up with a scheme that will be politically deliverable. We can now ask the public who pays for Britain's roads with petrol and diesel cars phased out. If roads were funded out of general taxation, that would ultimately mean that non-car owners—many of them on low incomes—would be subsidising people who own a car. We have to find a more equitable system, but it is the politics. The technology is there, and the case is overwhelming. It has always been the most effective way of tackling congestion and pollution, along with fuel duty and so forth, but it is the politics that is the challenge. That is what we have to overcome.

Q46 **Chair:** Thank you, Claire. Eamonn, do you believe that road pricing is an inevitable consequence to fund the black hole?

Eamonn Ives: I agree with Philip, in that it seems to me that the case for road pricing is strong enough without the black hole, as we have discussed, but it definitely adds to the impetus. I would not necessarily use that as my first justification for road pricing. I think the point of road pricing should be, as Philip said, to pay for the upkeep and maintenance of the roads and end there, or thereabouts. It certainly adds to the overall case.

Q47 **Chair:** Finally, what are your views, Ed?

Edward Leigh: I would say that it is inevitable. There are other options, but none can raise the same amount of revenue as fuel taxes do at the moment. We also need an equitable way of raising additional funding to



fund sustainable transport in order to drive the modal shift that is needed to decarbonise road transport.

Q48 **Chair:** Philip, the evidence we received from the IEA was from one of the other academics. It was strongly against road pricing. To probe your own views on this, as an individual, are you warmer to the concept?

Professor Booth: Absolutely. I first studied road pricing in the mid-1980s. I have always been a huge supporter of it. I think the economic case is very strong. There are some questions around practicalities and some questions around data privacy, but I think the economic case for road pricing is extremely strong, not least because it allows you to remove some of the interventions that I suspect other witnesses will favour, but my colleague is against, such as the subsidisation of public transport, which is justified on the grounds that the externalities from the negative external costs from public transport are less than those from road traffic. If road traffic is paying the full cost that it imposes on other road users, and more generally the full external costs of road use, the case for public subsidies really melts away, because public transport itself is quite a carbon-intensive activity.

Q49 **Chair:** Thanks for clarifying the difference in your views from the written evidence. Perhaps I could ask you to help us with regard to international comparisons. In terms of price charged per road used as opposed to entering a zone, I believe that there are not that many examples across the globe. Perhaps I could ask you if you believe that there are, and indeed what we can learn from them, if that indeed is the case. Could I start with Eamonn?

Eamonn Ives: I can definitely come in on that. There are certainly areas around the world that have experimented with road pricing. One's definition of road pricing will depend on what you think about those. Some might classify the congestion charge in London as road pricing; others might not. It is on the very unsophisticated end of the spectrum.

We can look to places like Singapore for a better, more fleshed-out, example. Indeed, Singapore is the poster child, and has shown in evidence over decades the benefits of adopting road pricing in their flow of traffic and average speeds in a very dense city state. I think it has speeds of about twice those in central London, despite packing in more people over a given area.

There are definitely places we can look to abroad and learn from. Philip mentioned the Smeed report in his opening remarks. That was definitely something the British Government were interested in. They did not do it. Singapore then adopted it, and we followed along later with London. There are certainly places around the world we can look to and learn from. The technology is advancing so rapidly nowadays that there is a real chance to go for the next-generation system of road pricing on a more per mile basis, which more accurately tracks motoring.



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Q50 **Chair:** Thank you very much, Eamonn. Claire, are there any examples across the globe that you would look towards?

Claire Haigh: The interesting thing is how few examples there are. Singapore is indeed the poster child. The paucity of examples demonstrates how difficult it is to impose in a democracy.

Stockholm is an interesting example. The Stockholm congestion pricing system was trialled and put in before it was fully implemented. It was put in on a trial basis. It was interesting how public opinion shifted dramatically when they saw the roads getting clearer, buses running on time and real improvements. It was put in at the same time as park and ride and improving the public transport system as well, so in a way it was a tick in the box of "This is how to take the public with you." That is an interesting example to look at.

Q51 **Chair:** Thank you, Claire. Ed, where would your international comparison be, or would you agree that there is a paucity?

Edward Leigh: There is a paucity. Oregon in the USA is another one to look at. What none of them are currently doing is a per mile charge. They are all either a cordon charge or a gantry toll-based system. Although Singapore was looking to introduce a per mile charge, that has now been delayed. They are going to change the technology so that it uses satellite tracking, but it is still going to be charging as if through virtual gantries. There is not yet a precedent for per mile charging.

Q52 **Chair:** Philip, I will come back to you because I do not believe I put the point to you about where we could look across the globe.

Professor Booth: I do not have a great deal to add. There is not a country that has done this as a whole, it has to be said. If you do it within a country as a whole, you need a different approach from doing it around the border of a particular city. It is quite likely, for example, that around 50% of our road network by mile would not necessarily merit a congestion charge or any form of road pricing at all. You might want to pay for the upkeep of that in an entirely different way, and do something like vehicle excise duty.

There are several cities, and congested zones outside cities as well, where you would want to apply road pricing on a per mile basis, and vary it with the extent of congestion. There is nowhere in the world really where that type of approach has been introduced on a broad geographic scale.

Q53 **Chair:** Before I hand over to colleagues, who are going to look into implementation and some of the ideas that could be novel but available to us, Philip, I hope you don't think I am cheeky, but I want to get a bit of balance. I am sure you have had this debate with your colleague as well. I am going to put your colleague's view back to you in terms of why you are wrong on road pricing. He said that, "any likely road pricing policy would be subject to a high degree of politicisation and capture by



special interests. The economic costs would be inflated and the benefits undermined. In the current political climate, road pricing would almost certainly be deployed to pursue the top-down environmentalist agenda in a further attempt to push lower-income motorists off the roads and onto heavily subsidised public transport.” Why is he wrong?

Professor Booth: I think it is a matter of prudent judgment. The road network is nationalised. I would like a large proportion of it to be in private hands, as would my colleague Richard Wellings. The question is, if the road network is nationalised, should the Government charge for it on a rational basis or not? Richard Wellings’s view is that, if you start to go down that path, the whole process will get captured by special interests, and you will get a totally irrational approach to road pricing.

My view is that, if you go down the track of road pricing, you actually open up possibilities to the building of new roads by private competitors and the privatisation of roads in certain respects, which exists as a model in very many countries. We have the M6 toll road, of course, which is a private road, but it is competing against a totally free road that is an alternative and is owned by the state. To me, the introduction of road pricing—as well as being correct for its own sake—also, if you generally support a free market view of the world, opens up possibilities to more private investment and ownership of the road network, which I think would be a good thing.

Chair: Thank you very much indeed, Philip. Let’s look at the implementation and some of the ideas that could be brought in if we were to design such a scheme. We will start with Karl McCartney.

Q54 **Karl McCartney:** Edward Leigh touched on this in answer to an earlier question, so maybe I will come to you first. On the design of road pricing schemes, or a national scheme, what do you think is currently technologically possible? Will it simply be tolls or per mile? Would it maybe include ANPR cameras and dynamic pricing, or would it include charging people by the time of day that they use the roads, perhaps by vehicle weight, road type and the use of telematics, or will it be a purely satellite-based system?

Edward Leigh: I think ultimately the technology will provide the ability to track by time and place using telematics that transmit data, not necessarily continuously but periodically via the mobile phone network. In some ways, I feel that gets ahead of the game because we do not have road pricing introduced, and I do not think we could get it introduced if its initial structure was to be very different from the fuel taxes that it would replace.

We need to implement road pricing in a way that addresses three separate objectives. The first is to replace fuel taxes. The second is to raise additional revenue to invest in sustainable transport. Only the third is to incentivise behaviour change to drive modal shift. That is when we would need—



Q55 Karl McCartney: Surely a basic one is that people pay for the use of the roads that they use. I worked in Mitcham and Morden back in the early 1990s, and had a conversation with a councillor candidate there about the fact that Mitcham and Morden probably needed road pricing there and then, because so many people used the roads to get through Mitcham and Morden. They did not live in Mitcham and Morden and they did not pay any taxes there, but they certainly created all sorts of congestion and pollution for the people who did. Surely, there is a fourth aspect that you did not cover.

Edward Leigh: It is currently the third, which is tracking people by time and place, and using road pricing as a congestion charge; in other words, it varies by time and place to incentivise people to change the time of their travel or the mode by which they travel.

The problem I see is that if we try to do that in one leap, people will think, "Well, I'm going to end up paying more, so I object to this." We would be having a battle about that before we even had the principle of road pricing established. I think we need to make the first step simply to replace fuel taxes, more or less like for like and pound for pound, so that the public understand what it is, and they do not feel that they will lose. Once we have it established, we can start to tailor it in an equitable way to drive the kinds of behaviour change we need to reduce congestion, reduce carbon emissions, reduce air pollution and so on.

Q56 Karl McCartney: Do you also think that road users might seek some assurances from Government that they were not going down a Big Brother path? The Government might need to convince people that their private data and security would be protected. It is very unlikely that they would.

Edward Leigh: Those are all essential issues to be covered. I think this is why we need to use deliberative democratic techniques—citizens juries and citizens assemblies—to develop and test ideas, and to design the system with all of the safeguards that are needed to protect people's privacy and so on. The messaging should also be tested with a representative sample of the public to make sure that it is as simple as it can possibly be, and is reassuring and gains the public's trust.

Q57 Karl McCartney: Thank you. Do any of the other witnesses have anything they wish to add?

Claire Haigh: I do not think that technology is a barrier. The privacy concerns that would go with being tracked were very much an issue 20 years ago. What has happened is that we have given so much more of our freedom away. Google Maps know where we are. We are used to being tracked, so there has been a shift in acceptance of something for a benefit.

The absolutely fundamental point that Edward just touched on is that it really cannot be seen to be costing motorists any more in aggregate than they are currently paying in fuel duty. If it can be replicated more as,



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“We are replacing something, and this is being done as fairly as possible,” that is the key. On the technology, telematics have obviously been used and proved, and we have seen leaps and bounds. I do not think that the technology is the problem. It is getting it fair and equitable, and getting the politics right.

Q58 **Karl McCartney:** From my point of view, I think the technology is a problem. We are looking at smart motorways, as this Committee has done over the years. We are told that the technology is there for smart motorways, but it does not work 100% of the time. I am not sure that the technology would work 100% of the time with road pricing either, but that may be a subject for another day, Chairman. Sorry. I was going off on a tangent. I see Philip has his hand up.

Professor Booth: Smeed did not think that technology was a problem in 1964, and I do not think the technology is a problem now. I would put the privacy issues slightly differently from Claire. We are now more able to deal with the security of data than we were 20 years ago, so I think privacy issues should be less of a concern.

I would put it totally the other way round, I am afraid, from Edward. I do not think there is any point in road pricing unless we actually charge people differently according to the amount of congestion when they are driving, where they are driving and so on. Although we may not raise less or more in revenue from road pricing, different people will bear the cost. In other words, those who drive at the more congested times will bear greater costs than those who drive at less congested times and in less congested areas of the country. They will bear lesser costs. If you do not do that, there is actually not much point in road pricing. It is then just a revenue-generating mechanism.

Q59 **Karl McCartney:** Philip, thank you for that. That goes back to a few months ago. We had a representative from Singapore. It certainly was not a carrot and stick approach. It was a stick and bigger stick approach to change people’s behaviour.

Eamonn, you are the only one who has not had anything to say.

Eamonn Ives: I agree with most of what has already been said. On Claire’s point, people voluntarily give up data on themselves all the time. There is a lot of good evidence that when they know they are getting a benefit in return they are more than happy to do that. I do not see why that would not apply to road pricing as well.

Karl McCartney: Thank you all very much indeed.

Q60 **Mr Bradshaw:** Can I go back to the point of disagreement between Edward and Philip? One of the things we covered at the end of the first session was unforeseen consequences of electric cars in preventing or lessening modal shift to walking, cycling or public transport.

Edward, don’t you accept that part of the advantage for a lot of people about this is that it would help deal with the horrendous congestion



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problems that we suffer in cities like Exeter, particularly at rush hour? If you do not have those sorts of incentives built into the system, which we understand would be technologically possible, because you are frightened about the reaction of the public, is there not the danger that you get the backlash the other way, with the public saying, "What's the point of this because it hasn't eased congestion?" Also, congestion has huge costs for our economy, as we know.

Edward Leigh: I think congestion will be solved by the modal shift that mechanisms like road pricing would achieve.

Q61 **Mr Bradshaw:** But that is only coming in the later phase, in your vision. You don't want that coming in at the beginning.

Edward Leigh: I would love it to come in at the beginning. I just do not think that it is practical to do it. The more complex the system is, and the more the bureaucracy involved in designing it, testing it, implementing it and piloting it, the longer it will be before it is there to be used. We need to get the mechanism in place, and then we can start to tune the mechanism to achieve some of the outcomes. Without the mechanism, we only have fuel duty. As we have seen, the Government have been extraordinarily reluctant to increase fuel duty and to use that as an incentive.

Q62 **Mr Bradshaw:** Claire, do you have anything to add?

Claire Haigh: Yes, I do, thank you. The discussion at the end of the last session on the unforeseen consequences was terribly important, and I would like to add to that, if I may.

One of the key problems that we have with the switch to EV—it was being lauded as a benefit for lower incomes—was the lower overall cost, but that is over a period of time. There are more up-front costs but lower running costs. Of course, the consequences of lower running costs will be more driving. We modelled this when we looked at fuel duty. If EVs are introduced without a replacement for fuel duty, we could see an additional increase in traffic of 30% by 2035 just on that. That is before we take into account the lower running costs of the electric vehicle.

The other point, for clarification, is that it needs to be fair and transparent. It must not be seen to be more than the current system. I absolutely think that we need to move quickly to a new system that charges by time and distance in a different way. I won't go into too much detail about that now because I am conscious that I have already given you quite a long answer, but there were a number of important points I wanted to cover off. The big risk is that we could see public transport and sustainable modes really damaged by lower running costs for EVs.

Q63 **Mr Bradshaw:** Very quickly to you both, what timescales are we talking about for the simple system that Edward was advocating and then for the more dynamic, all-singing and dancing system, Claire, that you are advocating? How many years before could we see this in place, Edward?



Edward Leigh: I have modelled on the basis of its being three years, but over those three years we would start to increase the total amount that is raised by not returning VAT to businesses. At the moment, businesses can reclaim the VAT on fuel, which includes VAT on duty, in fact. That amounts to about £3.3 billion a year. If that money were not returned, and therefore could be ring-fenced for investment in public transport, over those three years we could build up the public transport network, particularly the bus network, to give people affordable, viable and dependable alternatives to driving. Then, when we started to use road pricing to incentivise behaviour change, people would actually have options.

The problem at the moment is that, if we penalise people who are driving on congested roads to get into cities, they will say, "What's my alternative?" We have to have those alternatives there. At the moment, certainly market towns and small cities do not have adequate public transport to give people those options.

Q64 **Mr Bradshaw:** A lot of journeys in my city, here in Exeter, are under 2 miles, which you can easily cycle or walk. Should we not be making the system more dynamic to help fund the desperately needed expansion in cycling and walking infrastructure, which would help obviate the need for all the short journeys clogging up cities like Exeter?

Edward Leigh: Yes, but we need to make that investment. It takes time to build a safe, connected, continuous cycle network that gives people confidence to use it. If we have a three-year programme to build up active and public transport, and then start using road pricing to incentivise people to use it, I think people will understand that narrative. Otherwise, we are putting the cart before the horse. We will try to incentivise people before they feel that they have safe, reliable and dependable options.

Q65 **Mr Bradshaw:** But it would be technologically possible, or it is now, to charge people more for the first two miles driven than for an infinite number.

Edward Leigh: Yes, indeed. The entire logistics sector pretty much all use tracking of every single vehicle. They know exactly where every vehicle is, how fast it is going and every detail about it. That information can be used to feed into a charging system. Obviously, work needs to go into the design of that system, with all the privacy protections that need to be there as well. The technology can be done, but to do it at a national scale is a major project. That needs three years of development to make sure that it is piloted and robust by the time it is rolled out nationally.

Mr Bradshaw: Unless any of the other three witnesses want to add anything, Chair, back to you.

Q66 **Chair:** Claire does.



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Claire Haigh: The quickest way to incentivise people to switch to more sustainable travel right now would be to whack up fuel duty. We have a system already, but again we run into the politics of it.

Chair: Thank you, Claire. I hand over to Greg Smith.

Q67 **Greg Smith:** I want to return to the point of how, if road pricing is to be introduced, it can be equitable. On the last point that Claire made—if you want to disincentivise driving, keep whacking up fuel duty—prior to the current Government, fuel duty was whacked up consistently year after year after year, up to 2010. The reason that people still drove was that they needed to drive, maybe not in some cities like London, where you have the tube and a bus network, but in rural communities you absolutely need a car to get about.

Likewise, for non-personal or private journeys, it is not possible for a builder, a carpenter, a plumber or a roofer to take all their tools with them on the bus. If a road charging system is to be brought in—I appreciate Philip's point about who should own the roads, but for the purposes of this question let's take the presumption that it is still the state that owns and operates the roads—how can we actually lock into it something that is equitable to all road users, recognising that different parts of the country are very different in the way people need to use the roads in the first place?

Can you focus your comments through the lens of coming from a base principle that we have operated on for many decades, that whether you are an occasional driver, a daily commuter or are travelling for business every day, you pay your taxes, not just at the fuel pump but through vehicle excise duty and the tax you pay on buying your vehicle in the first place, on the presumption that there are safe roads out there to use? It is a very big jump to then say per mile, time of day usage. Claire, could you give your thoughts on that?

Claire Haigh: Thank you for the question. It is really important, and I absolutely hear the difficulties, particularly in rural areas where people are very often on a low income, have no access to public transport and have no other way of getting around. Fuel duty is a very blunt instrument. We should move to a much fairer way of charging for road use, by time and distance, for example. A typical petrol car driver in a rural area would actively want to opt in to such a system because it would save them money. Those are the sorts of difficulties that we could address with a well thought-through and well-designed national road pricing scheme.

It was not in my original evidence, but subsequently we put forward some supplementary written evidence with details of that proposal. Greener Transport Solutions would be delighted to discuss it in detail once the Committee has had a chance to read it, if that were useful at some point. The key point for today is looking at the overall principle.



Going back to the politics, you do not very often get an opportunity to have a really honest conversation with the public. Right now, we have a burning deck. We know that there is this fiscal black hole coming. It is a reasonable time to start having a conversation. We would recommend a mandatory shift, but giving plenty of time for people to opt in in the meantime. There could be a mandatory shift or switch from fuel duty and VED to a new system of paying for road use based on distance and time, but the public should be given plenty of warning and there should be plenty of time, as Edward pointed out, to get all the important infrastructure and mechanics in place for public transport. Giving people time and showing a horizon is very important. Above all, it needs to end up being fairer and more equitable than what we have today.

Q68 **Greg Smith:** Isn't it the case that we are in a pretty bad place if the reason for a road charging scheme being proposed is an upcoming fiscal black hole due to the shift to electric vehicles that undermine the very way we have taxed the motorist over many decades? Any system that is equitable surely cannot start with the first base being that the Government need to raise some money. That would make the whole scheme inequitable in the first place.

If I may, I will give an example from my own opinion. The London congestion charge has never, ever been about congestion. It has only ever been about topping up funds for London City Hall. The roads in London are as miserable to drive on in times of congestion today as they were before brought it in when he was Mayor of London. Surely, if we are to have an equitable scheme, it cannot start from the basis of needing to raise money.

Claire Haigh: I agree. The arguments for road pricing are much deeper and more powerful than the need for the Treasury to earn some money. It is fundamental for the decarbonisation of transport. The difficulty is, at what point do you start to have that conversation with the public? The switch provides an opportunity.

The fundamental point is that, if we do not move fast, people will just bank the fact that if you buy your electric vehicle you do not have to pay much in running costs. If that becomes part of the psychology of owning an electric vehicle—you buy an electric vehicle and you do not need to worry about running costs—we have no hope of filling that hole and changing how we pay. Of course, it is the better-off who are benefiting by being able to afford to buy an electric vehicle. We have already touched on this in the previous session. Now is the time. If we do not do it now, the wind of opportunity will rapidly diminish. People will bank it, and paying for road infrastructure and so forth will have to be funded out of general taxation. That clearly means non-car owners subsidising car owners. That is not equitable either.

Q69 **Greg Smith:** Thank you. Philip, I saw you waving at me at one point.



Professor Booth: If we are to have a discussion about equity, I think we need to define what we mean by equity. For me, what is appropriate for a system of road user charging is that the road users are charged for the costs that they impose on the system in the provision of the infrastructure and the costs they impose on other road users. There may be debates as to the extent of the costs in carbon emissions, which, of course, may then be influenced by views on the move to electric vehicles and so on.

Modelling has been done on this. Any system of road user charging is likely to give rise, if the charging is rational, to roughly the same revenue that we have today. Of course, different people will be paying the charges. People in rural areas will be paying much less, most likely. Indeed, the modelling that Stephen Glaister at Imperial College did suggested that it would be best to take about 50% of the road network totally out of the road pricing system, as I mentioned earlier, because it is not worth the hassle economically, and you will pay for that some other way. The people who pay more, of course, will be people who regularly drive in congested areas and cannot change either their mode or their time of travel. They will benefit significantly, hugely, from a reduction in congestion and increased traffic speeds. They are the people who are most likely to value time the most. It will be a significant benefit to them.

The reason why we have not had increased traffic speeds in London is that so much of the road network has been taken out of use and turned over to cycle lanes, bus lanes, pedestrianisation and so on. That may or may not be a good thing, but, as we have seen reductions in traffic, we have also seen a reduction in the amount of road space in London. Everybody can benefit from a system of road charging—some people by paying less, by travelling at less congested times, and some people by getting quicker journeys because congestion is less as a result of the road charging system.

Q70 **Greg Smith:** That is very helpful. Eamonn, you put your hand up.

Eamonn Ives: Philip has got the point across that where road pricing will be effective and have the most impact will be in urban economic areas. It just so happens that those are the areas that are better served at the moment by public transport, and definitely could become better served by public transport. Naturally, you have that alternative. If you are one of the people for whom road pricing will increase your costs of transport, which is what we have to look at as the operative question, you will have alternatives. They may not be perfect, but they will be perfectly palatable. Those alternatives will themselves get better, the more the effects of road pricing come into question. One of the reasons why people do not like getting on the buses much at the moment is that, to be quite honest, they are infrequent and not very fast. Road pricing, hopefully, deals with all those problems. It makes them more punctual and speeds them up.



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Looking at it dynamically is really important. The alternatives are there and will come through as road pricing takes effect.

Q71 **Greg Smith:** Thank you. Edward, you had your hand up.

Edward Leigh: One of the ways to address the equity concern is to make sure that some of the revenue from road pricing is fed through to local authorities to spend on sustainable transport locally, so that there is a link between what you pay to drive and the investment in the alternatives. If you are in an urban area, where you will probably be paying more to drive, it is clearer that the money you are paying is going into investment in the local public transport network. If you are in a rural area, which may not have enough density of people to warrant that kind of investment, you will be paying less. There would be a clear link for the public between what they pay to drive and investment in the alternatives.

We also have to explain to the public the issue that Philip was talking about—the external costs. Although a lot of money is raised through fuel taxes, there is still not enough to cover the external costs of congestion, road accidents, carbon emissions and so on. There needs to be a narrative about why road pricing is the right approach. It is not simply about raising money to fund other things. It is to cover the external costs of private transport and to invest in sustainable alternatives.

Greg Smith: I could talk about this all afternoon, but mindful of time I will hand back to the Chair.

Chair: Thank you, Greg. Finally, on implementation, we are keen to look at the piecemeal devolved approach versus a national policy. I will hand over to Ruth Cadbury.

Q72 **Ruth Cadbury:** Thank you, Chair. Professor Booth, how complex would it be to develop a national scheme alongside the existing one, and some new, local initiatives such as congestion charging and toll roads?

Professor Booth: First, this is a reasonable function to lie with the devolved nations. That is a small aspect of the problem perhaps. Then there is the question of what we do with existing schemes. I cannot remember whether it was Edward, Eamonn or Claire who mentioned that the current London scheme is quite unsatisfactory in many ways. I think there is a strong case for the whole of London to be brought into a wider road pricing scheme, not least because in London you have boundary problems, where on one side of the boundary you have a charge and on the other side of the boundary you do not have a charge.

Nevertheless, I think it should be within the powers of local authorities to impose special restrictions, charges and bands, if they wish to do so, on cars entering particularly congested parts of town and city centres. I may not believe that they ought to use those powers, but I think that those powers ought to lie with local government.



Regarding existing toll roads, everybody accepts that the idea that you have tolls on bridges but not on roads is an anomaly. Bridges would simply be brought into a road pricing system. The private toll roads that exist—I am not sure whether there are any, other than the M6 toll road—should remain as private roads. The owners of those roads should choose whatever form of pricing system they wish to use. It might change if there was a national road pricing system, because they might choose to mirror that, or they might decide to keep the current method of charging for the use of those toll roads.

There isn't a straightforward answer, "Yes, everything should be integrated," or, "No, nothing should be integrated." It varies according to the particular circumstances.

Q73 **Ruth Cadbury:** Do any of the other witnesses want to add anything?

Claire Haigh: The only thing to add is that the politics, if we come back to that, do not get any easier at the local level as opposed to the national level. The advantage of doing something nationally and building a strong case would be to crack that difficult nut.

The other thing is that we are replacing the current system with something that is not like for like but which replicates it, albeit on distance and time or whatever. How does that sit alongside some of the clean air zones? How those things enmesh or work together would need to be looked at. The point I wanted to add is that the politics do not get any easier.

Q74 **Chair:** Edward, do you want to come in?

Edward Leigh: The approach of introducing the mechanism of road pricing allows us to absorb all the back-office admin infrastructure for all of those alternatives. The existing tolls, congestion charges, clean air zones and so on could all be billed through a national road pricing system, even if that is set up very simply to charge initially on the basis of distance and weight. That would make it possible and much easier for local authorities to introduce their own clean air zones or congestion charges and be able to charge a much lower increment because they would not have to cover all of their own back-office charges to do it. They would be able to ride on the back of the national billing system, in effect.

Ruth Cadbury: Thank you very much.

Q75 **Chair:** To summarise the implementation evidence that you have given, it appears that you are telling us that the technology is there to be able to price at the time, and therefore for the amount of congestion on the roads, and to price differently depending on the mileage driven.

Looking at price as a driver, if you take the comparison with supermarkets, as soon as we were charged 5p to use a plastic bag, usage collapsed by about 95%, notwithstanding that everyone had been paying for it beforehand in the general funding of supermarket food. Do you



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believe that, if there were radical policies on charging, based on time of day and number of miles served, it could have a massive impact on congestion, for example, and on road usage? How great could it be? Claire, you are nodding.

Claire Haigh: I would love to come in on that because it is a great question. There was a really important study done about 20 years ago by the Commission for Integrated Transport that looked at paying for road use. I think they modelled that by replacing fuel duty with that sort of system, you could reduce congestion, and the number they came up with was about 48% or 50%. That was supported by further modelling done by the Department for Transport. Changing the time of day could have a massive impact in reducing congestion.

Q76 **Chair:** Eamonn, I will come to you and play devil's advocate with myself. It is all well and good to say, "I'll bring my own bags to the supermarket so I don't have to pay the money," but driving a car is an essential and key requirement, particularly in rural parts, so perhaps it would not have such a great impact.

Eamonn Ives: It might not have such a great impact in rural places, but I guess the counterpoint to that would be that they are probably the last places where road pricing needs to come in. It is in the urban areas where it would take effect and hit and change behaviours. What we would need to find out is the elasticity of demand for driving. I suspect that in urban areas it is high and that, where there are alternatives, people are more than willing to switch. There is some evidence to suggest that already, but maybe we need to do a bit more on that sort of thing—perhaps your Committee could do it.

There are lots of reasons to think that people would react to road pricing. It has definitely had an impact in London with complementary schemes, of course. There are other areas around the world—to return to Singapore—where the effects have been clear and obvious. I do not think there is any reason to suggest that that would not be the case in the UK either.

Q77 **Chair:** Philip, if you were to price people out of short journeys, you could be accused of impacting those who are of elderly age and who need them. It is not great politics.

Professor Booth: It is important that you do not have a system that prices people out of a particular form of journey. A road pricing system should have charges that vary with congestion, amount of use and so on. It may well be that the elderly are the people who can make adjustments to their times of journey the most easily.

If you have a road pricing system, as Eamonn said and as we talked about earlier, you will have quite large parts of the country that are really not impacted at all, and then congested areas of the country where those who can make the adjustment most easily and least painfully will make the adjustment. That could be on to public transport, which is most likely



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to happen in cities like Cambridge or Oxford where you have people living outside the city and travelling into the city. It is much more difficult in areas like Sussex where I live, where most journeys are across city boundaries.

The adjustment might be to travel less. It might be to go on public transport. It might be to do far fewer very short journeys that can be done by walking or by cycle. It might be by changing the time of day. There are so many ways in which we can avoid congested times when the road pricing will be at its highest level.

Q78 Chair: Edward, there are so many radical possibilities, but you feel they are too radical to be true.

Edward Leigh: No; it is being realistic about what the public will accept, and making sure that we have gone through a process of proper consultation with people—representative samples of people—to understand what their concerns are and to make sure we design a system that works properly.

There is no doubt that an increase in costs would change people's behaviour. What we do not know is how much it would be increased and whether we can do it in such a way that the impacts are equitably distributed. One of the things we need to do, in parallel with setting up road pricing as a simple scheme, is a pilot, probably with taxis and HGVs. They are two classes of vehicles that are in all parts of the country, and almost all have the telematics equipment already installed to do testing. We could run a pilot of a variable congestion-related charge on those types of vehicles to see what behaviour changes result and how much you have to push the lever in order to get the desired effect.

Chair: Thank you, all four, on the implementation side. Edward, you touched there on the views of the public and the need to take the public with the policymakers. I will hand over to Lilian Greenwood on that point.

Q79 Lilian Greenwood: Thank you, Chair, and good morning to our witnesses. An Ipsos Mori poll in December 2020 found that 60% of Britons were in favour of road pricing if it was designed to reduce congestion, improve local air quality or raise revenue for public transport. I am here in Nottingham, where the workplace parking levy was very controversial. Its acceptability was helped by the fact that people could very rapidly see that it had resulted in investment in extensions to our tram network and improvements to the railway station. Is there a case for linking road pricing to the funding of specific transport projects? I will come to you first, Edward.

Edward Leigh: Yes, I think that is essential. People are very reluctant to support a tax where the money just goes into the Treasury and gets spent in ways that they do not control. It is important that people feel that the money they spend to drive is being invested in their community and in the alternatives for them. It is very clear that Nottingham is an excellent example of where that has worked. The workplace parking levy,



which is still almost unique in the UK, is supported because that money is reinvested locally. Therefore, people see that it is purchasing an alternative mode of transport that gives them options. Without giving people options, they will resist it.

Q80 Lilian Greenwood: Claire, is hypothecation a good idea? Can it operate at a national level, or does it need to be local in order for people to really feel that benefit?

Claire Haigh: It is a really good question. To add to Edward's comments and the point around public transport and having the money spent like for like, in the Stockholm example that I gave earlier it was very clear that the money was being invested; it was seen that the taxes went back to the people and were being invested in public transport. That certainly worked, although there are differing opinions on it. The same Ipsos Mori poll said a very different thing 10 years ago. It did not help the Manchester referendum. Perhaps there has been a big shift; I hope that there has been. In the Manchester referendum, ring-fencing the money for public transport did not help as a message.

I am a little bit wary of polls. Just this week we had a poll from BritainThinks for the Green Alliance, which said that two thirds of the public support taxing environmentally damaging behaviour, but there was much lower support for road pricing. We are still on very delicate ground when it comes to road pricing.

With regard to hypothecation, it would seem to help the argument if you are, for example, investing in EV infrastructure or in public transport, and it is a very clear narrative. I think my answer to the question, Lilian, is that I would hope it can only help in the messaging if you have a very clear narrative as to what the money is going for.

Q81 Lilian Greenwood: Eamonn, do you have a view on this? Is it the right way to go? Will road users, particularly drivers, feel resentful because they feel the money is not being invested in the things that matter to them? Perhaps they would rather the money was spent on improving the state of their local roads. What is your opinion?

Eamonn Ives: It is a brilliant question, Lilian. I definitely have a lot of thoughts, so please cut me off if I start waffling. The idea of hypothecating the revenues from road pricing and putting them into public transport might not necessarily be as popular as you think. The real blocker at the moment to rolling out road pricing is probably the most ardent motorists—the Jeremy Clarkson types—who are fearful of this being a tax raid. I think that for road pricing to really get public support it has to be seen as something pro-motorist.

What you were implying suggests, "We're taking money off you to give to other people who are going on public transport." If I am a motorist and I do not really want to give up my car, that suggests that there is just



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going to be a higher cost for me all round. That is what I would say on that front.

I have a point on opinion polling. Claire mentioned Stockholm, and how public opinion turned on a sixpence. There was initially opposition, and then immediately after there was big support for it. I think we see the same in London. I would be wary almost of public opinion on these things. I think they need to see the benefits fed through. It is often quite difficult to make and articulate that case. However, I think we have all the evidence we need to go forward with it.

The take-home point that I am hoping to get across is that road pricing can deliver enormous benefits for motorists, and that has to be how the case is made. Fundamentally, people rely on cars for their journeys. About 68% of people use them to commute to work, at least in pre-Covid times, and woe betide whoever forgets that. That should be our operative focus.

Q82 Lillian Greenwood: Philip, the argument is a bit indirect, isn't it? In Nottingham, loads of people have said to me, "Well, I don't use the tram, so I'm just paying for something that I'm not using." The argument that, "Well, if other people use the tram, you've got more road and less congestion," does not always quite cut through. Does road pricing need to be seen to be no more expensive than paying the combination of fuel duty and vehicle excise duty? What is the key to getting public support, particularly from drivers?

Professor Booth: I do not think there is any need for road pricing to be more expensive in total than the current taxes, but, as I keep saying, different people will be paying the cost depending on where they live, when they travel and so on.

There is a huge difference between Edward and me in our view on hypothecation and subsidising the public transport network. In my view, road pricing creates a stronger case for not subsidising public transport. The danger of hypothecation is that you give local authorities a pot of money to pursue grandiose projects that may be attractive to the electorate and may be attractive to the local authority administrators, but do not necessarily provide the most value to the people who live in the area.

The bus market is highly contestable. It is easy for providers to go in and out of the market. Of course, in the last few years we have seen that the direction of travel in the bus market has been for providers to move out of the market. If, at congested times, it becomes expensive to travel on the road network, that provides a stronger market incentive for people to use buses and then for providers to respond to that by adding to the bus network.

Public transport is itself, as I said in my opening remarks, a carbon-intensive activity. It is not a zero carbon option, even public transport



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powered by hydrogen or whatever else it might be. Buses, trains and so on are quite carbon intensive in their making, never mind in their running. In my view, public transport should stand on its own two feet. Road pricing provides a stronger argument for public transport standing on its own two feet.

Lilian Greenwood: Thank you very much.

Q83 **Chair:** I have a final question. I have heard it said, not from those inside the Treasury but from another Government Department, that road pricing would actually be the wrong thing to do because it sends out the wrong signal at a time when the Government are trying to encourage more people to take up the electric option, where they could end up paying less because they are not paying fuel duty or vehicle excise duty. Are people really so stupid as to think that they will not have to pay for what they use?

Professor Booth: The easiest way to deal with that argument would be to charge a differential rate according to whether a vehicle was petrol or diesel powered or electric. My colleague Richard Wellings would not agree with that. You would pay the cost of carbon emissions—whether that is the right level or the wrong level is a different argument—when you charge an electric vehicle through the electricity network and pay the costs connected to using electricity.

The argument would be that you pay the costs of carbon emissions when you use a petrol car, either by the maintenance of some fuel duty or by a higher rate of road charging on petrol-driven cars. Whatever the Government do, we are going to have petrol-powered cars around for another 20 years or so. They are not going to disappear within the next five or 10 years, or even within one or two years of the Government banning them in 2035.

Q84 **Chair:** Thanks, Philip. Edward?

Edward Leigh: I think we are pretty close to the point where we will not need to continue to incentivise people to buy battery electric vehicles. The tipping point in the market will arrive within the next few years, and then the market will take over. It simply will not be necessary to give people incentives.

The point that Claire was making earlier is that we have a window of opportunity while the lobby of EV drivers is relatively small and quiet. It will get bigger and louder. People protect their privileges. At the moment, we are giving EV drivers big privileges in that the per mile cost is so much lower. If you charge up from your own solar panels at home, your driving is free. It is very hard to wean people off something that is free.

Q85 **Chair:** Claire, one could say that you could provide the incentives through electric with no fuel duty and no vehicle excise duty. If you bring in road pricing, you would charge road pricing and those other taxes on the diesel and petrol. Is that something you would support?



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Claire Haigh: Winding back for a second, there is a brilliant and timely opportunity to link enhanced EV grants to the buyer committing to pay the new road user charge, to pay for road use. This is all in the proposal that we have submitted. You have not had a chance to read it yet as it was only published today.

The point is that you could extend the offer to a third off the price of an EV, up to £35,000, which I think is the limit that the Government set. Crucially, it needs to apply to the second-hand market as well. In fact, if people want to trade in their old polluting vehicle as part of it, there could be additional scrappage.

It is a big up-front capital cost, but what we would be saying to the Treasury is, "You are investing in a revenue stream because this is going to disappear." I think that would really incentivise take-up of a new road user charge. It would almost go to the heart of it. It would link the roll-out of EVs to the new road user charge, but to do that you need to set a date that, say, from 2030 there will be a mandatory shift from fuel duty and VED to a distance and time charge for paying for road use. That is the essence of what we are saying. Does that answer your question?

Q86 **Chair:** Yes, it does. Eamonn, finally, the Government always take note of "white van man" and the *Daily Mail* reader. There has been talk before, but no one has really grasped it because they have run a mile, with public opinion. Is now the time?

Eamonn Ives: Yes, I think so. The benefits that I hope we have mapped out over the last hour or so go to show that road pricing is fit for the 21st century and it is what we need to transition to. I do not think the current system is working. This allows us to get to the best system; one where tradespeople can get around more easily; where we can exploit new economic opportunities; where congestion is eased; where environmental problems can be factored in a lot more easily; and where we can ensure that there is a ring-fenced pot of money to pay for the maintenance and construction of new roads.

Ultimately, I think it is a fairer system. That is another thing where public opinion should be looked at. People expect to be able to pay for the damage they cause. If you are freeloading on the payments of other people that are currently being made through fuel duty and vehicle excise duty, that to me is an inherently unfair system. That could be another messaging avenue that we go down. Selling it as a pro-motorist reform is going to be absolutely essential if road pricing is to have any sort of future in this country.

Chair: Excellent. Thank you so much, each of you, Eamonn Ives, Claire Haigh, Edward Leigh and Professor Philip Booth. You have given us a heck of a lot to chew on. We look forward to doing just that as we take this inquiry further. Thank you again.