

# Public Accounts Committee

## Oral evidence: Tackling local air quality breaches, HC 37

Monday 27 June 2022

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Members present: Sir Geoffrey Clifton-Brown (Chair); Dan Carden; Kate Green; Sarah Olney; Angela Richardson; James Wild.

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

Questions 1 - 73

### Witnesses

I: David Hill, Director-General Environment, Rural and Marine, Department for Environment, Food and Rural Affairs; Gareth Davies CB, Second Permanent Secretary, Department for Transport; Nick Harris, Chief Executive, National Highways.



Report by the Comptroller and Auditor General  
Tackling local breaches of air quality (HC 66)

Examination of witnesses

Witnesses: David Hill, Gareth Davies and Nick Harris.

Q1 **Chair:** Welcome to the Public Accounts Committee on 27 June. We are looking at tackling local air quality breaches. The UK has air quality targets that set the legal limit for the number of pollutants that are allowed. While air pollution has decreased over decades, the level of nitrogen dioxides is breaching local limits in many areas. Today we will question officials on whether the Government's targets are working and how they are going to make sure that those local breaches are reduced.

We hear a fair amount about net zero for CO<sub>2</sub> emissions, but does the Government communication strategy for other air pollutions that we will be examining today match that effort? We will want to examine this aspect in our hearing this afternoon.

Can I welcome, on the Committee's behalf and in no particular order, David Hill, the director-general of environment, rural and marine at Defra? David was appointed director-general, environment, rural and marine in October 2022. He was previously interim director-general, environment, rural and marine from December 2019 to October 2020. Before that he was director of environmental policy at Defra, so he is well seized of this issue.

May I also welcome Gareth Davies CBE, second permanent secretary at DfT? Gareth has been second permanent secretary for the Department for Transport since January 2022. His responsibilities include decarbonisation targets for transport, technology, international and security. Finally, but by no means least, welcome to Nick Harris. Have you been before the Committee before? I was trying to remember.

**Nick Harris:** I have not. This is my first time here.

**Chair:** You are very welcome. I am sure we will see you again. You are the chief executive of National Highways. Nick was appointed acting chief executive of Highways England in February 2021 and was appointed to the role permanently in August 2021 when the organisation was renamed as National Highways. You joined the organisation as executive director of operations in September 2016, so you have been part of the organisation for a long time. Welcome to all of you.

You will be glad to know that we do not have any subjects at the top, so we will go straight into the subject. I should explain before we start that our Chair, Meg Hillier, is sadly at a funeral today, so that is why I, as deputy Chair, will be taking the Chair this afternoon. Just for the record, I should record that Tamara Finkelstein, as the second permanent secretary David



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Hill has made clear, has been extremely unwell with Covid. We wish her a very good recovery.

Finally, in terms of declarations, I should declare my declaration in the Register of Members' Interests as a farmer. Agriculture does touch certainly on ammonia emissions and maybe others as well, so I declare my interest as a farmer. I do not think we have any other declarations.

**Q2** **Angela Richardson:** Good afternoon, panel. Mr Hill and Mr Davies, if I can start with you, at the moment existing policy measures that you have will not be sufficient to meet the air quality targets for 2030 that Government have set out in legislation. Figure 1 in the NAO report compares UK projected emissions to the emissions ceilings that have been set. In almost all cases it looks like they are going to exceed. We know that you have new plans that you wish to set out in September of this year. How confident are you that there is still time to introduce and implement those plans to help you achieve those targets for 2030 for air quality?

**David Hill:** As you say, we are currently in compliance for four out of our five key pollutants in terms of our 2020 targets, but the projections, which we published in March 2021, projected that if we were to extrapolate forward purely on the basis of existing policy and measures, we would likely miss four out of five of our targets for 2030. Those targets in law become progressively more stretching. Therefore, we are due shortly to publish for consultation a revised draft national air pollution control plan. The aim of that plan will be to set out policies and measures designed to bring us into compliance for 2030.

In terms of your question of how confident we can be, the work we are doing right now is designed to both assure us on feasibility of those measures and the degree of stretch. As I say, we will publish these measures for consultation. We are not starting from scratch. For example, we have well-established regimes around our best available techniques programme, which is a programme of continuous improvement, working with industry around industrial emissions. We can draw some comfort and assurance from that about being able to draw on an existing programme, which will drive further improvements over the period. Similarly, on environmental permitting, that is another programme of continual improvement.

In terms of the question of feasibility, we will test this through the consultation before publishing the final plan in September, but we can draw some assurance from that existing body of work that we are currently investing in.

**Q3** **Angela Richardson:** Mr Davies, did you want to come in at all?

**Gareth Davies:** Just to comment on particularly the NO<sub>2</sub> issue, as my colleague David said, we have seen reductions in NO<sub>2</sub> over the last decade, with just over 40% reductions in the levels of NO<sub>2</sub> exceedances.



The big issue here is the complexity of the policies that are needed to make an impact on this. This is about behaviour change as much as it is around Government regulation, and it is making sure that there is actually a sustainable way, from a transport perspective, both for people to be able to travel around the country but also to ensure that we are able to reduce the exceedances below the legal limits.

A large part of this is through some of the regulations on car emissions. We have seen in the past Euro 4, 5 and 6 regulations, but particularly the transport decarbonisation plan, while, as the name suggests, focused on decarbonisation, has large air quality benefits as well. The regulations to stop sales of petrol engines by 2030 and have zero emissions at the tailpipe by 2035, along with our measures on lorries, HGVs and light vans in the 2040s, will make a big difference on NO<sub>2</sub> and that is in addition to the work that has been going on through the joint air quality unit on particular local authority areas.

**Q4** **Angela Richardson:** Mr Hill, you mentioned the national air pollution control programme. What do you see as the priorities to be addressed within that programme?

**David Hill:** Within that programme, we will need to set out policies and measures for each of the five key pollutants: fine particulate matter, ammonia, nitrogen oxide, sulphur dioxide and non-methane volatile organic compounds. It will be a comprehensive plan that will address what we need to do for each of those to ensure we hit our statutory ceilings for 2030.

**Q5** **Angela Richardson:** That is all of them. Is there a priority?

**David Hill:** Those are the five key pollutants that in law have statutory ceilings. They are all important. We know that fine particulate matter, PM<sub>2.5</sub>, is probably one of the most significant in terms of impacts on human health. There will be a particular focus on that, building on some of the work we have already done, for example the measures and regulations introduced over the last 18 months or so, for example to limit the sale of wet wood and coal for domestic burning, which are significant contributors to PM<sub>2.5</sub>.

**Q6** **Angela Richardson:** Can I ask what modelling and scenario-planning are you doing to determine whether your updated plans will be sufficient to achieve compliance with all the targets?

**David Hill:** We have a very extensive modelling programme based on our National Atmospheric Emissions Inventory. The work we are doing now is testing draft policies and measures ahead of consultation, to assess the contribution each of those will make to abatement against the national inventory, so there is a very extensive national modelling programme underway to do that.

**Q7** **Angela Richardson:** Mr Davies, did you want to come in at all on either of those two questions?



**Gareth Davies:** On the modelling point, there is extensive modelling of the NO<sub>2</sub> exceedances that we develop at the national level. It is our pollution climate model. That is based on both the automatic NO<sub>2</sub> monitoring and the more localised urban centres. I want to emphasise the complexity of this modelling. This is not just digesting in the data from these systems. You then need to inform that through things like evidence from local traffic patterns and local fleet structures, because areas with older vehicles will tend to have higher levels of NO<sub>2</sub>. Similarly, weather—wind and sun—will change that.

The way the modelling works is not just to give you a snapshot of what is happening now at the points where the monitoring stations exist. It also then essentially fills the gaps. We do a map of a kilometre by a kilometre across the whole country. There is the strategic road network. We also forecast that out to 2030, so we have a more integrated view about what is happening.

However, even despite the quality of that work and the level of assurance we have through our chief scientific advisers in both Departments, that needs to be supplemented by modelling that happens at the local level because of the way in which the pollutions operate. The way in which the local road dynamics and the local road layout work will change the way in which the different levels of exceedances happen.

Q8 **Chair:** Can I ask you, Mr Davies, about the dynamism of that modelling? It may be anecdotal, but I do several miles. I think the traffic build-up is now back pretty well to where it was pre-Covid. Perhaps Mr Harris could come in on this. We are in some pretty warm summer months, which does affect some of these pollutants. Your modelling will presumably be predicting these factors. Then how quickly from that do you then start to alter your national model as to what needs to be done to meet the plan for 2030?

**Gareth Davies:** As you say, the traffic patterns post Covid have been incredibly hard to predict. If you just stand back, your intuition is right: on the road network traffic is back pretty much to where it was before. There is a slight compositional change. You essentially have more white vans and less car traffic. Car traffic is about 90%; white vans are around 110%. There is a little change over the week as well: it is busier at the weekends, with less midweek. It is very hard to know whether this is a new equilibrium post Covid or not.

Similarly, on the rail network we are still at 70% to 80%. However, that varies incredibly. Business travel, for example, is much lower; commuting travel is much lower. Leisure travel is much higher, so now the weekends are actually some of the busiest times on the rail network. Monday to Friday is much less so.

We have to constantly update those models. The way we work in terms of the NO<sub>2</sub> programme is to update those models at the point of direction of



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the local authorities. However, as we then track the forecast with the actual experience, we will then reiterate that.

A good example of this is what has happened in Southampton. This was before Covid. The model at the national level was then developed further by the local authority, as happens in all 64 areas. They were finding, though, that the model was predicting lower levels of NO<sub>2</sub> than was actually happening in practice. What essentially was going on with the fleet mix was different to what was predicted, and it went down even just to the baseline year for the weather from the Met Office data.

You are right. We have to update these constantly, which shows the importance of not just relying on the national model but also working with local authorities and ensuring that their local data and information can be informed into this.

**Q9 Chair:** Can these machines that we see at the side of the road automatically detect all these different air pollutants we have been talking about or do they only really do NO<sub>x</sub> and particulates?

**Gareth Davies:** I might bring David in on this in a minute, but essentially we have two networks. We have something called the automatic urban network. That is about 170 sites around the country. That essentially, as the name says, will cover a wide range of particulates. You then are supplemented by 300 sites that use smaller what they call diffusion tubes, in the main, and that is just NO<sub>2</sub>.

**David Hill:** That is right. Different monitors can detect different pollutants. We have significantly expanded, through the NO<sub>2</sub> programme, the diffusion tubes that detect the NO<sub>2</sub>. One of the things we are now investing in—we will invest over £10 million over the next three years—is monitors around PM<sub>2.5</sub>. That is in part in preparation for being able to monitor the targets we are proposing to set for PM<sub>2.5</sub> under the Environment Act. That investment will strengthen our monitoring capability in that field.

**Chair:** That is very helpful.

**Q10 Angela Richardson:** I have a question for Mr Hill and Mr Harris. I might bring you in first, Mr Harris, to answer this question. What do you see as the most significant barriers to achieving air quality targets?

**Nick Harris:** Just to touch on the modelling first, we do extensive modelling across the network, in conjunction with colleagues in DfT and Defra, and when we look at the whole network, there are at the moment 31 stretches of the network or links, as we call them, that are not in compliance.

Perhaps just to touch on the topic of traffic recovering from the pandemic, we have some of those links that were predicted to come within compliance, but the traffic has not been representative in the last two years, so as it is now returning and has largely returned, we are now monitoring to see if they are in compliance.



What are we doing to the others? If we go back to 2017, we published our strategy to bring links that were not in compliance into compliance. We have been successfully executing on that strategy. That has meant doing a number of things, like putting in more monitoring. We now have 64 fixed monitoring points across the network that give us a representative view of what is going on and, in addition, as David said, we have 186 locations where we do diffusion tube monitoring, just to get NO<sub>x</sub> levels. We have a representative view. Each local is quite particular.

Then we have been developing mitigation measures to bring them into compliance, and these have ranged from looking at building barriers, improving traffic flow and looking at whether we can have an impact on driver behaviour. We have done a huge range of innovative studies into whether we can do barriers with different coatings, plant different vegetation, algae or different fuels and, of all of those, we have come up with a series of measures that are effective, because we have to think not only whether they will be effective at reducing NO<sub>x</sub> levels; we also do not want to do something that will displace traffic onto other roads, which might have a worse pollution impact.

We have come up with a suite of effective measures that includes lowering the speed limit from 70 to 60. We are starting to develop barriers. We found the barriers have to be over nine metres to be effective. We have done some resequencing of traffic lights. We have been encouraging HGVs to use different routes. Of the 31 locations or links where there are or were exceedances, we now have mitigation measures in place on 14 of those. I am hopeful that, as we now do the monitoring with representative levels of traffic, we will see an improvement in compliance.

There are 17 links where we are still working on finding effective mitigation measures, and that we will continue to do.

**Q11** **Angela Richardson:** There was a report that came out just over a year ago, in about February or March 2021. The figures that were taken were during the Covid period, where there was not so much traffic on the road. You are talking about traffic coming back into play. Will there be likely more than 31 areas that actually fall into range?

**Nick Harris:** There are a couple of things to mention in that.

**Q12** **Angela Richardson:** I am only asking because Guildford, which is in my constituency, is number one on the strategic road network, so I have been paying quite close and careful attention to it.

**Nick Harris:** I will talk specifically about Guildford. Before looking at Guildford, if I talk about the 31, because that data was not, as I said, representative, we will likely find some of them have come into compliance. There may be others because the pattern of pollution has changed. Our modelling data shows us new links to look at.

Of all of the 31 links we are looking at, Guildford is the highest. There are a couple of issues at Guildford. To talk about air quality specifically, which



is the most urgent and most important thing that we address, we are looking at developing two nine-metre-high barriers in the centre of Guildford. We are also looking at the relocation of the cycling path.

We are looking more widely at the problem, because this is all about how we together reduce the creation of pollution. We are supporting and working together with Guildford and Surrey councils on an electric vehicle scheme to help promote the shift to electric vehicles. We have done this successfully in other locations. The other thing, as you know, that we are looking at in Guildford is that there is a problem with congestion as well. We are looking at options to alleviate that.

**Q13 Angela Richardson:** I do not want to divert the Committee too much on the particular matters of Guildford, but the question was about barriers. You talked about putting up barriers and you talked about solutions, but really what I am trying to get to is what you think the barriers will be in order to achieve air quality. What are the problems you are tackling?

**Nick Harris:** There are a number of challenges. The thing I would like to stress to the Committee is it is not through want of looking for solutions. We are continually looking for new solutions, which include looking at how to reduce the overall pollution, so encouraging the shift to electric vehicles or finding alternative routes. The challenges are effective solutions that we so far have are reducing speed limits and putting barriers in place.

**Q14 Angela Richardson:** Do you see potential issues with planning, for instance for being able to do some of the things that you want to do?

**Nick Harris:** Let us take Guildford as an example. Other locations will be similar. It is really important that we only put in place mitigation measures that are going to be effective. We have tried three-metre-high and six-metre-high barriers. We have done a lot of work studying the impact of nine-metre-high barriers, in particular in Holland. It is only at nine metres that you are seeing an effective reduction in NO<sub>2</sub> levels on the other side of the barrier, so that is one of the solutions we are looking at for Guildford and other locations. A nine-metre-high barrier has to go through a planning process, of course, which no doubt will not be straightforward.

**Q15 Chair:** If you live right next to a nine-metre barrier, it is like living in Colditz.

**Nick Harris:** It is a substantial structure. It is three storeys.

**Angela Richardson:** I am sure this is a discussion that we are going to have ongoing over a period of time. We will take that out of the Committee now and probably follow that up later.

**David Hill:** Perhaps I could just add to what Mr Harris was saying about barriers. There are different challenges relating to different pollutants. As Mr Davies was saying earlier, if we think about sulphur dioxide, for example, we have seen a 70% reduction over the last 10 years in sulphur dioxide, principally through best available techniques in terms of industrial





emissions, so working technically with big industrial emitters on how they can bring those down. To some extent, we have captured those low-hanging fruit. If you look at other emissions, the barriers are different. If you take NO<sub>2</sub>, for example—the programme that is the focus of the NAO's report—one of the things that will drive compliance over time is fleet upgrades, so the rate at which we can replace older and dirtier vehicles with newer and cleaner vehicles. Some of the barriers there are around supply chains and the pace at which we can move with that.

It is different again with ammonia. Agriculture in this country accounts for around 87% of ammonia emissions, and so, crucially, being able to have an impact on ammonia emissions depends on agricultural practice and how farmers manage their land. Therefore, we need to find ways of supporting farmers with good advice, but also some financial support to change the way that they work. On many pollutants, behaviour change is really important and the quality of our communication and engagement with different businesses in different sectors is important.

**Q16** **Angela Richardson:** You take me nicely on to my next topic, which is ammonia. Right at the beginning you talked about meeting four out of five of the 2020 targets, but ammonia is the one where the Government may not have met their legal ceiling for national emissions by 2020. You have already touched on the fact that 87% of ammonia emissions come from agriculture. My first question to you is about when it became clear that the UK might miss its 2020 ammonia target. What action have you taken as a result of that?

**David Hill:** The fact that we may miss the target became clear as we published the annual projections; the last projections were published in 2021. We are applying for a legal adjustment, because some sources of ammonia emissions have come onstream, in effect—non-manure digestates—since the commitment was set; that may well actually bring us into technical compliance, but that is not to underplay that this is a challenging target and a challenging statutory ceiling. Certainly, absent new measures, we would miss the 2030 target.

As I said, crucially, agricultural practice is at the heart of how we tackle this. We are seeking to do a number of things to try to work with farmers to embed more sustainable practices in terms of bringing down ammonia emissions. That includes a number of things. For example, we worked with the industry on a code of agricultural practice, which is now out there. We are seeking to extend, by doubling the catchment sensitive farming programme, advice and guidance available to farmers.

Then there is a range of financial assistance available. There is some through, for example, existing countryside stewardship schemes, which offer £100,000 grants towards slurry covers, but there will be further investment on slurry infrastructure coming forward in the autumn.

We have also been working with the sector on action to reduce emissions from fertilisers containing urea. We have agreed with the industry that we



will support an industry-led scheme, under the Red Tractor scheme, which will, in effect, require urea inhibitors to be part of the application of urea-based fertilisers in the future. There is a range of measures that we are working through to try to support the farming sector to adjust on this. We will consult on further measures later this year, both in the NAPCP and when we consult on the management of organic manures.

**Q17** **Angela Richardson:** Why are you not setting a long-term objective for reducing ammonia emissions?

**David Hill:** We will have a 2030 statutory target, and the NAPCP will seek to address that. I think you are referring to the suite of targets that we are setting under the Environment Act, where we are proposing to set two targets around PM2.5. That is in particular because of the health impacts of PM2.5. That is why the Government have chosen to focus on those as the main focus for the long-term targets.

**Q18** **Angela Richardson:** You have talked about some of the things and the practices you are encouraging the agricultural sector to put in place. Do you have any concerns about the fact that we have a new food production strategy? We are actually trying to increase productivity in farming as a political decision of the Government to try to help with food security, which is a concern. Do you see there being any issues in increased ammonia outputs as a result of potentially more farming in this country?

**David Hill:** The Government's objectives are around ensuring we have food security, but also improving the sustainability of the sector. Those two things are not necessarily in tension. It is a very important part of the future farming reforms that we invest in productivity. There is a productivity improvement fund to support improvements in agricultural practice.

The food strategy was published with these air quality and other environmental objectives in mind. It is of course the case that, right now, farmers are facing very high fertiliser prices and there is a lot of pressure on the industry. For that reason, it was agreed that the introduction of the Red Tractor scheme, which I mentioned specifically around urea-based fertilisers, would be deferred a year. That is in recognition of some of the immediate pressure the sector is under.

**Q19** **Chair:** Can I go back to you, Nick Harris, and talk about those 31 non-compliant areas that you manage, and in particular the 17 where you say there are sections with no viable measures? That sounds a little bit passive to me. I accept that, if we turn to figure 8 on page 42, 15 are forecast to be compliant by 2026 and two are non-compliant by 2030. Nevertheless, I wonder if there is more that your agency can do in these areas, particularly with the 17. It sounds a bit passive. You could do more.

**Nick Harris:** It is not at all passive. I am very clear that we have a very clear legal responsibility to bring them into compliance in the shortest time possible. Some of them between now and 2030 are likely to come into



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compliance, but that does not mean we are just sat around waiting for that to happen.

We continue with the programme. I mentioned earlier some of the innovations and mitigation measures we are looking at. We continue to pursue that. In recent times we have run competitions to try to bring even more innovation into this space. We are not giving up yet on finding physical methods of mitigating against those 17, but we are also looking more widely. We are looking at where we can change behaviours, be that in the pattern of using the roads. There are examples where we can encourage HGVs to go one way rather than another.

Also, we are looking to support much more widely the shift to electric vehicles, which might hasten these links coming into compliance. We are looking at supporting the rollout of EV charging points and the schemes that we are running to encourage the take-up of electric vehicles.

Perhaps just to put it into context, in terms of the 31 that we talked about, in total, if you add it all up, that is about 51 miles of 4,500 miles of roads that we look after. That is not to make light of those 17. We are still very focused on them. We will leave no stone unturned to try to bring them into compliance as soon as we can.

**Q20 Chair:** That is very helpful. I am sure we will get on to this a little later on but, in terms of the local authorities alongside those areas, are you helping them authority, at least with data if no other help, because they are going to have to deal with the problem away from your roads?

**Nick Harris:** We publish a lot of data and information. We share that with partners in the local authorities. We are working with a number of them on supporting clean air zones and the signage that is needed for that. Certainly, there was a criticism in the NAO report about how easy it is to access our data. I have very much taken that on board. We have on our website interactive maps that you can use to get at data, but we are certainly looking at how we can understand better, with Gareth and David, what information people want to look at and how we can make it more accessible.

**Q21 Chair:** We are going to come on to this whole communication strategy, but I see, Mr Davies, you would like to come in.

**Gareth Davies:** It is just really to build on what Nick was saying. I want to just give assurance to the Committee on two points, one on the partnership working between National Highways and my Department. Tackling some of the exceedances on the strategic road network is difficult. This is not just a challenge that we are facing in this country. This is, frankly, an international challenge. We have been working with Governments around the world. Nick mentioned the work in Holland and looking at Dordrecht and the use of the nine-metre curve barrier.

There is a high risk of wasting taxpayers' money on some of the measures. We have been very careful to make sure that we are protecting ourselves



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in terms of value for money, recognising that the overarching goal here is reducing NO<sub>2</sub> exceedances, but there is no point spending money if it has no impact or, at worst, a deleterious impact.

On the second point, you raised a really important point about work with local authorities. I know Nick works closely with the local authorities. Again, one of the big concerns on the strategic road network is a risk of displacement and a risk that you actually displace heavy vehicle traffic into local roads, which shifts where the exceedances might occur, which is a problem for local authorities, but is also a big traffic safety risk. Again, there is a range of considerations we need to bring to bear here while maintaining that number one focus on air quality.

Q22 **Chair:** While we are on this area, I travel the M4 twice a week and I curse the speed limits. I always thought the speed limits were there to try to improve road safety, which I am sure they are, but actually they are contributing to better air quality.

**Gareth Davies:** They are

Q23 **Chair:** Why do you not publicise that a bit better?

**Nick Harris:** We do on our website but clearly not well enough, so that is something we are looking to improve. Sometimes it is for safety reasons but has the beneficial impact on air quality. There are at least four locations where it is purely driven by air quality concerns, but, yes, we take the point that we can publicise it more.

Q24 **Chair:** You have mentioned electric vehicles several times, so let me go to you, Mr Hill. How is the withdrawal of the home charger grants going to help people to make a behavioural change to want to buy a more expensive electric car?

**David Hill:** I might ask Gareth, as electric vehicles is a DfT lead.

**Gareth Davies:** The scheme has exceeded the goals that were set for it when it was originally brought in over 10 years ago. If you look at the sales of electric vehicles, the latest figures are that around one in six new cars are electric. When I speak to manufacturers, all the constraints now are not on the demand side. They are on the supply side. We are seeing strong demand for electric vehicles. That is why originally the home charging scheme was brought in: to encourage, as you say, people to shift. We do not see that being the constraint. The cost of electric vehicles relative to the cost of petrol engine cars has decreased over time. Given the current fuel price situation, that is shifting even more so now.

The constraint is not on that side. To ensure best use of taxpayers' money, we want to shift that grant now more into the infrastructure, because if you look at the issues that users of electric vehicles or people who are considering shifting to electric are concerned about, one of the main concerns that we get from our qualitative research is on public charging. People who have driveways can plug in overnight. 70% of car owners have



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driveways, so they can plug in overnight. There are two issues. One is on long distance. Batteries are getting a lot better but we are still not there. We have the policy to have rapid chargers at all motorway service stations.

The second issue, which is a thornier challenge, is one around how you do local charging for people who live in flats, terraced housing and the like. As you will have seen, there is lots of work that local authorities have been leading to put in place chargers. You will see them in lampposts. There are some very interesting trials around pop-up charge points.

We know we need to really expand this work. Currently, there are just over 30,000 public charge points in the UK. Estimates are uncertain, as ever, when you look out 10 years, but we need to have around 300,000, so a 10-time increase in the number of charge points. We are about to launch the local charge point fund, which we are now just designing, to work with local authorities to increase that scale. That is primarily where the challenge is now on the electric vehicle transition, rather than the affordability of the car upfront.

**Q25 Chair:** On that general theme, given your two big goals—that you are going to ban sales of internal combustion engines by 2030 and stop use by 2035—do you see the ramping up of electric vehicle purchases at the moment as sufficient to be able to meet those targets?

**Gareth Davies:** At the moment, looking at the trajectory, from memory it is higher than our previous forecast of the sales at this point. I can confirm to you on that by writing. Certainly, it is one in 16 and it peaked even higher during some points over the last two years. Trajectory is always hard because you are not quite sure at what point of the S-curve you are on, but certainly that looks faster. It is fair to say that is on the sale of cars rather than the stock of cars, so even if all our projections come to pass, one in three cars will be electric in 2030. The majority will still be petrol engine cars, so we will still have this double-running system for a number of decades to come.

**Q26 Chair:** There is going to be an awful lot of work to do between 2030 and 2035.

**Gareth Davies:** Yes. Both of those targets are on the sales of new cars. It will take time for the stock to work its way through.

**Q27 Chair:** Are you thinking about introducing any scrappage schemes for those who cannot afford it?

**Gareth Davies:** Yes. Some local authorities have certainly brought in scrappage schemes. We are looking at the evaluation of those schemes, because there is always a risk of, essentially, dead weight. You are paying for things that people would have done anyway. There is some evidence that that accelerates the shift. As I say, the biggest issue now is twofold. One is the supply of cars. You have seen the constraints, given the lockdowns in China, but also Ukraine as well, and on infrastructure.



Q28 **Chair:** That is very helpful. Before I bring in Kate Green, can I just pick up on one thing that you said, Mr Hill? This was this legal adjustment to the definition of ammonia. Is that not just a fudge, or is it a real issue?

**David Hill:** It is a technical issue to do with a new source of ammonia emissions, which is non-manure digestates, that was not factored into the original calculation of our original commitment. It is a technical adjustment and I would not want to overstate that at all in terms of the scale of the challenge on bringing ammonia emissions down. I would not want to overplay that. Everything I said about the range of things we would need to do towards 2030 stands.

Q29 **Angela Richardson:** I just want to move on to particulate matter. In the NAO report, for those watching who may not have had a chance to read it, Public Health England estimated in 2018 that reducing fine particulate matter concentrations by one microgram per cubic metre could, over 18 years, prevent huge numbers of cases in coronary heart disease, strokes, asthma and lung cancers, so it is really important. The WHO has also said that it has not yet found a concentration of fine particulate matter below which no damage to human health is observed, so we all agree how important it is to tackle this. My question to Mr Hill and Mr Davies is about what you are doing to ensure that the new legislative targets for particulate matter will be realistic and affordable, also given how important it is?

**David Hill:** We are proposing to set two targets under the Environment Act framework: a concentration target to deal with particular hotspots, and also an exposure target, which is to seek to drive progressive improvement in PM2.5 levels everywhere. Those two things working in conjunction is important.

Subject to the outcome of the consultation, we estimate those targets could see 214,000 fewer cases of cardiovascular disease, 57,000 fewer stroke cases than would otherwise have occurred and 70,000 fewer asthma cases, so a significant impact. We are obliged in law to set targets that we think are achievable and achievable in all parts of the country. That is important when thinking about PM2.5 because of the range of sources of PM2.5, including pollution that is blown in from other countries and also naturally occurring sources. We are seeking to calibrate a level that we think is both stretching but we are also confident that we have the policies and measures that could get us there.

Q30 **Angela Richardson:** You are not proposing to meet the WHO guideline concentrations, which is ambitious.

**David Hill:** The WHO has brought forward recommendations around five micrograms per cubic metre. The challenge with five micrograms is our modelling suggests that in some parts of the country, those other naturally occurring sources of particulate matter that I just described and, indeed, transboundary pollution could mean that, even if there were no man-made emissions in some parts of the country, you would still be above five. The WHO has not recommended in any case that that five micrograms should



be written into legal frameworks in any country. It is saying, as you said in your opening question, that there is no safe limit, so the object of the policy is to seek to drive down, as far and as fast as we practically can.

**Gareth Davies:** On a personal basis, I lived in China for two years, working, and there you would often see the levels of pollution at 10, if not 20, times current UK levels, let alone WHO, so you can really see on a personal level the importance of reducing particulate matter.

On transport, we have talked a lot about NO<sub>2</sub>. The move to electric vehicles will make a big difference over time, as the fleet turns over, to reduce NO<sub>2</sub> levels. However, that does not remove the impact that transport will have on PM2.5. From memory, around half of the impact of PM2.5 will be from two factors. One is on brake pads and the small particles that are released at that point. It is similar on tyres and again the friction on the wheels to the roads. As you can imagine, that is very hard to solve because the friction is what you need to move the car. We are working with a number of universities now to look at the options for how we can tackle and reduce the emissions of small particulates from cars, including electric vehicles, but there is no simple solution on this.

Q31 **Angela Richardson:** That is very helpful. Can I just go on now in terms of the spending on this? In the NAO report, paragraph 1.16, it says Government could not provide a breakdown of committed and actual spend across portfolios of air quality initiatives. Mr Hill, why do you not know the overall level of Government spending on air quality?

**David Hill:** We have good data on programmes where their primary purpose is around reducing air pollution. The NO<sub>2</sub> programme itself is an £880 million programme, but there are also the programmes that Defra leads around local air quality.

Where it is more challenging—it is a technical challenge—is for some of the programmes that Gareth's Department, for example, is responsible for, such as some of the big active travel programmes and some of the decarbonisation programmes. It is technically quite difficult to disaggregate the air quality impact of that. We have done that where, for example, we have done a deep dive on assessing what the air quality co-benefits are of meeting our net zero commitments over the period from 2020 to 2050, but to track that on an annual rolling basis across the full span of Government programmes and disaggregate the components that bite on air quality is just a very technically difficult and challenge thing to do. Therefore, we have sought to focus on those things, like the NO<sub>2</sub> programme, where we can drive those very hard.

Q32 **Chair:** Can I stop you there, Mr Hill? This is absolutely crucial that we do have complete transparency and complete costs on all of this from all Government Departments, because you take the lead on it, but there are other Departments. We have the Department for Transport here, but we do not have the Department for Levelling Up here and we do not have the Department for Business here.



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It is quite important. The public wants to know whether we are meeting these targets or not, how much Government as a whole is spending on them and whether we are getting value for money for that spend. You say it is technically difficult. I wonder if you, as the lead Department, could let us have a note as to why it is so technically difficult and what more could be done to obtain the data across Government.

**David Hill:** I am very happy to write on that point. Gareth, you wanted to add.

**Gareth Davies:** I was going to offer to try to bring it to light for the Committee. We can happily follow up in correspondence. I will come back to the electric vehicle infrastructure programme. This is part of the wider transport decarbonisation plan, which was published over a year ago now. The primary goal of Government funding for electric vehicle infrastructure is to encourage a shift to electric vehicles. Its primary focus is on decarbonisation. It is reducing the carbon emissions of petrol engines. However, there will be important benefits from that shift, one of which is on air quality.

The technical issue is not a financial accounting issue of trying to allocate out. It is more a conceptual issue. A single pound spent will have at least two benefits, one on decarbonisation and one on air quality. The risk is then the allocation question of risks becoming arbitrary in terms of how you allocate the moneys out.

Q33 **Chair:** The problem is that, unless you do seek to allocate it, the public out there will think you are spending an enormous amount on CO<sub>2</sub> emissions and not paying sufficient attention to all these other, as Ms Richardson has made clear, very harmful pollutants.

**Gareth Davies:** I can totally see where the NAO was coming from in terms of this analysis. The only risk I would flag is where we might have to end up is essentially double-counting, because it would be impossible to unpick whether, for example, a single charge point was around decarbonisation or air quality, but we can come back to you.

**Chair:** Can we have a note? Then we can understand some of those issues. Thank you for the explanation. That is really helpful.

Q34 **Kate Green:** Could I start by asking a little bit more about how your Departments and National Highways work with local authorities, in terms of development of strategy and the role of the clean air service, which has been criticised by some local authorities. You mentioned data-sharing, Mr Harris, but knowing what the other party is doing does not necessarily mean that you have the tools in your hand to address the problems that are being created. There is also the issue of funding. Do you see this as a partnership between central Government and local authorities or do you see it as two parallel efforts working within an overall framework of national ambitions and targets?





**David Hill:** We do see it as a partnership. In terms of how we go about engaging and working with local authorities, our modelling assessments will assess whether or not exceedances are projected in a local authority area. If our modelling suggests that there is, in effect, a case to answer and a problem to be addressed, then, through the joint unit between our two Departments, we will work with those authorities to bring forward a plan. The level of rigour of the plan depends on how long exceedances are projected to last for. If the modelling suggests an exceedance would last for three years or more, a local authority would be directed to bring forward a full local plan. It would be a more proportionate response if exceedances could be tackled in shorter order.

In terms of our support in that development phase, each local authority would have access to an account manager, so that is a member of the team who can work with that local authority to help them understand what they need to do and how they can build up their business case. They would also have access to our science expertise, a science lead and a technical lead. For those authorities that move into, for example, implementation of a clean air zone, so charging measures, there is a more intensive package of support, including project management support and digital support.

You asked about the clean air zone service. It might just be worth me saying a word or two about that as well. As the goal of this programme and the obligations handed down by the court are about securing compliance with the court ruling to reduce exceedances in the shortest time possible, we took the view that it was necessary to build a central framework that different local authorities could then bolt on to as the programme progressed. That is why we built elements of a standard offer around the infrastructure needed to run clean air zones.

We worked quite intensively with early adopters, including through the alpha phase of the digital build test, on what we needed to build and what it made sense to secure compliance for in the shortest time possible, where it made sense to have a centrally led offer. Crucially, what we do not do is determine the mix of exemptions that local authorities might wish to apply in their local area. Birmingham, which has a clean air zone, for example, offers certain exemptions for those who live and work in the zone or for those on lower incomes who have to drive into the zone for work. We do not dictate that from the centre. We work with those local authorities, so they can make those judgements about what works best for their area, but with a platform of that central support from central Government.

Q35 **Kate Green:** That is, if you will forgive me, a fairly central and prescriptive approach, with some discretion, as you say, around the mix of charging and so on. Why is it that you are confident that that is a better way of achieving the legal obligations than working in a more partnership-based, holistic way with local authorities? I speak as a Greater Manchester MP. We feel very strongly that we could have developed a broader approach than simply relying on charging. We could have put together a package to do with the use of EV and low-emission vehicles, around promoting active



travel routes, revenue support for low fares and so on. Why is it that Government are so confident that the charging model is the best and quickest way to achieve the legal obligations?

**David Hill:** We are led by the evidence on the charging model. Across the 64 authorities that have been involved in the programme at some point, a proportion of those were found, on further interrogation, to already be in compliance, but this programme has touched 64 authorities. The approach we have developed has been predicated, essentially, on having some common platforms that a range of authorities can build out from over time.

On charging specifically, in each locality we seek to assess, through our modelling, tested locally and validated against local monitoring and measurement, which mix of measures will secure compliance in the shortest time possible, and then we are able to benchmark that across different authorities. There is no prescription that says charging is the right answer, but we are obliged to test whether a charging solution is likely, based on all our evidence, to drive compliance faster than non-charging measures. That is the process we go through with each authority. That is validated by an independent panel of experts, both on the science but also on delivery. We have two panels that look at different aspects of the local authority business cases.

Q36 **Kate Green:** Yet there are still quite a substantial number of authorities, are there not, that have not been able to progress as quickly as is needed? What are you doing to support those local authorities and to ensure that their plans and budgets are achievable?

**David Hill:** We touched earlier on cases on the strategic road network where we have not been able to identify viable measures to bring forward the date of compliance. There are a small number of authorities where, similarly, we have not been able to identify measures that, in those authorities, would bring forward the date of compliance. That does not mean we cannot improve air quality.

Leicester would be an example of this where we could not identify measures. A charging zone could not have been implemented in time in Leicester, for example, in order to make a positive difference to the date of compliance, but we are still providing financial support to Leicester to invest in measures that will, nonetheless, improve air quality in those localities.

As the NAO has picked up in its report, it is a relatively small number of authorities where that set of circumstances has applied, and the NAO has rightly challenged us about whether, from what we have learned from working with those authorities, we can develop a clearer set of criteria about how an authority should handle those situations of no viable measures. That is certainly a recommendation we are keen to pick up and work with.

Q37 **Kate Green:** How does all this sit alongside wider Government levelling-



up ambitions?

**David Hill:** It is a very big question for us around a programme that was set up explicitly to be time-limited to meet the judgments that the court has handed down, but we are learning a huge amount from that programme. In many of our conversations with local authorities we are learning a lot about not just the direct measures we might take on exceedances, but also urban design, the quality of life in a locality and the measures we might do to educate local communities—the legacy of the programme.

One of the things we are working on now is thinking about, as this programme comes to the end of its natural life, what we have learned from that and what that means for the design of other big programmes and some of Gareth's big funding programmes around transforming cities, for example, where we can take the learning from the NO<sub>2</sub> programme and see that reflected in wider mainstream programmes. It is important to the levelling-up agenda, because we know, and the evidence suggests, that the adverse health impacts of poor air quality are felt disproportionately in more disadvantaged communities.

**Q38 Chair:** You have mentioned several times, Mr Hill, learning. I know that London does not come within the specific funding of this scheme, but it is, after all, the largest charging zone anywhere in the country. What lessons are you learning from London as to how well it is or is not working? London is split into different areas. Are you learning those lessons to apply to this scheme for all the other local authorities?

**David Hill:** Yes. We worked closely with Transport for London as we were producing the NO<sub>2</sub> programme. There are some material differences as well. Scale is important, in terms of the scale of the ULEZ compared to much of what we are doing in many places.

**Q39 Chair:** The Manchester one is pretty big.

**David Hill:** Manchester is probably the exception to what I am about to say, because Manchester's scale is quite different to pretty much any other authority or group of authorities in the NO<sub>2</sub> programme, because it is that partnership of 10 Greater Manchester authorities. We have worked closely with TfL.

The learning process is a two-way thing. One of the things we designed into our programme at a relatively early stage was the use of live-feed data from the DVLA, which took longer to build but gives us a more accurate set of data around vehicle compliance in clean air zones. I believe TfL is now interested in whether some of that learning could be applied in London. There is an ongoing two-way process of dialogue with our counterparts in London.

We also, for the NO<sub>2</sub> programme, have a very extensive annual evaluation programme; I think the NAO acknowledged this in its report. Each year, we will publish an annual evaluation report. That will capture what we know



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already about the impacts of the programme. For those authorities with clean air zones, we will do a full lessons learned exercise on the implementation and rollout of the zone in each locality, what we could have improved upon and what we could have done better. That feeds through into successor waves of authorities for the future.

Q40 **Chair:** I am sorry. When I came in, I did not realise, Mr Davies, you were wanting to respond to Ms Green's question on local authorities. Did you want to come back in on that?

**Gareth Davies:** Shall I respond to your last question, and then I might, if that is okay?

**Chair:** That would be more logical. Thank you.

**Gareth Davies:** It might help my mind anyway, otherwise I might get myself in a muddle.

**Chair:** It would certainly be more orderly for our report.

**Gareth Davies:** I will do my best. I was going to add two points to what David said about working with TfL. There has been good partnership working with officials to understand the complexities of the implementation, particularly around developing the central IT platform. This is a complex IT platform to have real-time data for the vehicles. We wanted to understand exactly how TfL had designed it. We made some changes, as David said, but we want to understand exactly, through the discovery and alpha phases, the best way of implementing that, and particularly the in-source versus outsource decision. We decided to build it in-house, given the need for flexibility in the system and to work with a number of different local authorities. That was an important learning.

The second thing we have been watching very closely is how TfL have expanded the size of the ULEZ, particularly, most recently, to the North and South Circulars. It touches on what Nick was saying before around a strategic road network and the question of displacement because, as ever in transport policy, you have to be very careful about what happens on the border and the boundaries of different policy areas. We have been watching carefully to make sure transport displacement is not having a deleterious effect in local areas.

If I can jump back to your question, the issue of partnership working with local authorities is a really important point. This programme will fail if it is seen to be a top-down programme done by national Government. It will fail in a number of ways. First, the way in which national modelling works—we do excellent national modelling, despite the quality of the work, which is assured by independent academics—needs to be translated into what is happening at the local level, in terms of the local road network, fleet patterns and weather. That is a core part on which we need to work with local authorities. If we had just done this nationally, we would have had 16



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more areas exploring programmes when, in fact, they are already compliant because of the calibration that was done at the local level.

Secondly—this comes into your question around the link to levelling up—I have been very impressed by the way in which local authorities have not just been seeing this as a compliance issue. Obviously, you have a court direction and, yes, you have to comply with it, but they are seeing it more broadly as part of their transport policy and their local regeneration policy. I was in Birmingham recently with Tamara. There, the local authority went through, very compellingly, how it is embedding this not just as a short-term programme to increase NO<sub>2</sub> compliance, but to think more broadly around what it wants from its street map, traffic profile and local health, not just from air quality but also from active travel and issues around obesity and travelling. That is a way in which it can really work. That is why the partnership is absolutely critical.

In some ways, the language we have to use around directions for local authorities is not very helpful. Yes, we have to legally direct local authorities to come up with a plan, but, critically, that plan needs to be local-authority-owned. It is then baselined against a clean air zone, but, as Ministers have said, that should be a last resort, not a first resort. Critically, it has to be a local authority plan.

**Q41** **Kate Green:** Are you thinking of revisiting that assumption that the baseline is the clean air zone, given that there have been quite a number of authorities that have experienced significant delays in implementing it?

**Gareth Davies:** This comes back to the evaluation we published, the latest annual assessment and our initial focus on Bath, given the experience there. As David touched on, the evidence is that the clean air zone is the fastest way to achieve compliance; that is the reason why that is the baseline. If there are ways in which local authorities can put together a package of measures that would achieve compliance faster, we are very open to that. For us, it is not about the means; it is the ends, and the end is how you achieve compliance as fast as possible.

**Q42** **Kate Green:** I wonder if I could return to Mr Harris for a moment about the strategic road network. Again, you talked about making data available to local authorities, and, Mr Davies, you have talked about the need not to displace polluting traffic from the strategic road network on to the local road network next door. In fact, from the point of view of residents, that is not a very clearcut different set of roads.

Again, with Greater Manchester examples in mind and the M60 in my own constituency, people in Urmston live right underneath it on the local road network. It does not really matter to them whether you do or do not displace the traffic. It is already right past their front doors, pretty well. Equally, I can think of Regent Road in Salford, which starts as the strategic road network at the M602 end and becomes part of the clean air zone at the city centre end. Do you think there is more scope for holistic planning of how the strategic and local road networks can achieve clean air targets?



**Nick Harris:** Yes. It certainly becomes more challenging as the roads that we look after come into contact with urban areas. There are three or four ways in which we are approaching. First, at the national level, as Gareth has been talking about, we work very closely with the joint air quality unit to make sure that we are supporting and co-ordinating what we do. It is very interesting that a lot of this, through the sub-national transport bodies, becomes part of the way that they look at transport policy. We work in very close partnership with the seven sub-national transport bodies. They are all a little bit different, and we are finding that relationship very effective to talk about and develop some of these opportunities.

We then work at a more local level, particularly thinking about the clean air zones, so what we can do to help in terms of signage. Of course, some of our roads are in the clean air zones, as you said, so if we have exceedances, that is something on which we work together with the local authority concerned.

We are also looking at what else we can do. That is the very particular specifics of our roads and their compliance, but we are also very keen to look at what else we can do, particularly when we are looking at the way that transport is being developed. We have a fund that we look after called a designated fund. There are a number of objectives to this, but a large part of it is aimed at environment and communities. That is where we actively support active travel. There is the funding for the electric car schemes charging or switch to electric vehicles that we have talked about. We look at other opportunities. I think we are the largest developer of cycle schemes in the country. Anything we can do to encourage active travel helps.

Q43 **Kate Green:** Mr Hill wants to come in, but I just wanted to ask, in terms of the number of people affected by the exceedances on the national network and the 31 sites that we are still concerned about, where we are still seeing these exceedances and we do not have plans to reduce them, how many residents will be affected by that. Are you able to say in human terms?

**Nick Harris:** That is a really good question. Guildford, which we talked about earlier, is probably one of the more challenging locations. Looking at NO<sub>2</sub> levels, it drops off quite quickly from the road. It really depends on the topography and prevailing winds and all those local features. Our best view is that, if you take all 31 links and not just the 17 we talked about, there are around about 240 to 250 houses or properties affected. Many of the links that are in exceedance are not in urban areas.

**David Hill:** I just wanted to add one point on your question about whether this needs a more holistic approach and partnership, and flag that one of the things we have sought to do in the 2021 Environment Act is strengthen the obligations on a range of partner organisations to work with local authorities who have the legal obligation to review and plan for local air quality in their area. Certainly National Highways will be in scope of that, as one of those organisations. That is really to give local authorities more



purchase over bringing different partners to the table on what they need in their area to tackle air quality issues in the round.

**Kate Green:** I noted what Mr Davies said about ends, not means, and that, if there are other ways of achieving ambitions, local authorities should be able to bring in partners and work with them to do that.

Q44 **Chair:** Let us examine the joint committee and local authorities implementing these plans, Mr Hill, because the NAO report at paragraph 3.23 considers that, of the 38 local authorities who are planning or implementing measures, 25 missed the legal deadline for providing a full business case. What are you doing about them?

**David Hill:** We are doing a range of things. It is fair to say that, for a number of those authorities, Covid and the onset of the pandemic would have had an impact on their ability to deliver their business cases within the original legal deadline. We worked really closely with the authorities through some of the things I was describing before. We offered technical support around science and modelling, to try to help local authorities in terms of putting those business cases together.

The experience of those that went first is also really important. Through the account manager function, we are sharing some of that experience with successor local authorities. That should also help in getting things back on track. We also have a range of legal levers as well. We can further issue new directions as we have done on a number of occasions if there is persistent slippage, but we do seek to approach this in a spirit of recognising that the local authorities are being asked to do something difficult and challenging. Our job is to make sure that our technical capabilities and analysis are available to support them.

**Gareth Davies:** It is fair to say, when I reflect on the overall programme, the business case has been the most challenging phase. It has been less around the implementation of the measures. It has been much more around that business case development. We set very ambitious timelines for business cases right at the start, typically just shy of a year, with a little bit of variation around that. Of the 25 areas that you mentioned that have been delayed, there has been a wide variation in the amount of delay, with some being literally a couple of weeks. On average, the delay is five to nine months.

In terms of the challenge, we are asking a lot of local authorities. They had to convert the national model that I talked about into a local model. That involves a lot of work; it is not an automatic process. They need to do public engagement. You will know that Greater Manchester has had both an informal and a formal period of conversation, which is really important to ensure public acceptability of any of the proposals. Local authorities have had to develop a set of proposals, understand the road layouts that might be affected and test those models before developing the OBC and then the FBC. That business case process has been particularly complex.



This has been important to get right. I will bring that to life with two examples. One is in Leeds, where the national model was suggesting that it would need to move to a clean air zone. Actually, as we worked through the details, it was found to be close to compliance already and was able to use non-charging measures. As a result of working through the business case process, we were able to ensure that we did not wrongly put in place a clean air zone, and it was able to have local measures.

The flipside has been in Southampton where the local model was showing that it was out of kilter with what was happening in terms of actual levels of NO<sub>2</sub>. That needed a recalibration and further work. On reflection, on the overall programme, we were very ambitious on the timelines—rightly, because of the court direction, but it was important that we did not lose that local engagement right at the start.

**Q45 Chair:** Does that answer also cover the eight local authorities who missed their compliance deadlines?

**Gareth Davies:** On compliance, there are two issues. One is that that is, in part, due to delays in both the business case and implementing some of the measures. Birmingham is a good example of that. More generally on compliance, the challenge we face, which Nick touched on earlier, is the impact of Covid. Compliance was all baselined against the 2019 data. We will all remember what traffic was like in 2020. The level of NO<sub>2</sub> fell by, I think, over 40% compared to the previous three years. Because of the disruption in traffic patterns, we are not able to use 2020 data to show whether local authority areas are in compliance. They may be in compliance in that year in particular, but it is about the sustainability of the compliance position.

**Q46 Chair:** Whilst the NAO report does significantly acknowledge that Covid was a delaying factor, these problems were in train pre-Covid. How can we be given an assurance from your answers that you are not going to continue to use Covid as an excuse and we are actually going to get back to some real, hard implementation?

**Gareth Davies:** I would hope you would not think that I was using Covid as an excuse rather than just an explanation of what was happening over this period. It is very hard to unpick the different impacts. This is a complex, innovative programme, and the team has done amazing work in terms of how it has been able to push forward this programme and, hopefully, in partnership, on the whole, with local authorities. This involves behavioural and environmental science and a new technology platform, partnership working, as I said, but also doing it through a pandemic, when everyone was working remotely. This has been an incredibly hard programme to get right, and we have seen incredible progress over this period.

Just to give context of where the local authorities are on the pipeline from the business case through, because this is important to giving you assurance on compliance, 14 have now completed all the measures that





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they said they would. Of those, 12 took less than a year from the final business case through to full implementation. Fareham was delayed by a month or so. With Nottingham, we are still working through some of the details with some of the taxi retrofit schemes. 17 that were identified by the NAO are still implementing. We have dates for all of them, with the exception of Greater Manchester, which represents 10.

In terms of timelines, they are looking at 12 months from FBC through to implementation in all those. They are all on track bar one; Reading is a few weeks overdue due to issues with a retrofit contractor. Of those yet to implement—there are seven identified in the NAO report—two have already now started. That is Tyneside, Newcastle, Gateshead. We are expecting Sheffield and Rotherham imminently, and we have some complex issues with Liverpool, Stoke and Newcastle-upon-Lyme.

On compliance overall, I hate to say this, but we are going to be in a better place to tell you the answer in September when we are able to look at the 2021 data. On where we expect to be—I emphasise the words “expect to be”—we are expecting 16 to be shown to be in compliance in 2021 and then a further 16 areas of the 45 to be compliant over the subsequent four years. We are working our way through the final 13, 10 of whom are in GM. With Liverpool, Coventry and Nottingham, we are reviewing some further modelling to understand that.

In terms of your question, which is a really important question about Covid versus other issues, the NAO report was identifying that, at the start, we set ambitious timelines for three years for the overall period to be in the programme. It set out that some of these have been up to four and a half years. This is a personal assessment rather than a scientific unpicking of the data, but my personal judgment would be that it is around two-thirds/one-third. In other words, one-third of the delay has been due to the complexity of the programme and issues around the IT platform, and two-thirds due to Covid.

I will bring that to life with the example of Birmingham. As we were running into the end of 2019 and the beginning of 2020, we had been working with Birmingham on the alpha phase of the technology build. We had been working our way through what that meant in terms of the back office payment reconciliation. It had had some issues with some of its IT providers as well. At that point, it was originally looking to implement the clean air zone in January 2020. At the back end of 2019, it pushed that back six months due to a range of issues, so I would say that gives you roughly six months’ delay. Covid then hit at the beginning of 2020, and the introduction was pushed back 12 months.

Again, that is not completely scientific, but that gives you a broad sense of the balance between Covid and non-Covid issues on this programme. I would just like to pay tribute both to the team in JAQU but also the teams in local authorities that have been doing incredible work on this innovative and complex programme.



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Q47 **Chair:** First, thank you for that very helpful and comprehensive answer. You say you will be in a better position to know precisely where you are with local authorities later in the year. Could you keep us updated by correspondence so that we know where we have got to with all those local authorities.

**Gareth Davies:** Of course. Just to emphasise, that is not that we are not speaking to local authorities. This is on the compliance issue. In terms of the implementation of the measures, we are working hand in glove with local authorities on that as we speak.

Q48 **Chair:** This Committee knows better than any other that a lot of Government projects have run into problems with systems in implementation. Perhaps one of the most difficult areas of the charging zone is the supporting digital system for charging, which was only communicated to local authorities, or at least in one case, in Leeds, six months before they were supposed to bring in a charging zone. Has that issue now been resolved, and do all the local authorities know exactly how they are supposed to implement this?

**Gareth Davies:** Yes. This was an issue faced by Leeds, which was considering a clean air zone, and Birmingham back in 2018. The issue here was essentially with the provision of back office payment reconciliation services. The challenge that the wave one local authorities faced is that we were learning and developing the project in line with Government Digital Service guidelines in real time as they were developing it.

We worked in partnership with them through 2018 and 2019 in the design phase. David has already talked about the alpha phase, as it is known, looking at the three services: the vehicle checker service, the payments service and then the reconciliation process. On the basis of that alpha work, we decided not to offer the reconciliation service as part of that IT platform. Coming back to your earlier point about what we had learned from London, TfL did offer that reconciliation service That only had to plug into one authority. This would have to be a platform that would plug into multiple authorities, depending on how many clean air zones.

The judgment at the time, in 2018-19 was that designing multiple reconciliation services would be less efficient if done centrally than done in the local authorities. Yes, it had an impact on timelines. There were other issues as well in terms of the IT delay at that point, but that was one of the issues. That is now the standardised offer, and we worked our way through that. Just to emphasise, as mentioned in the report, the IPA has recognised that this project has now been delivered to time, and GDS, the Government Digital Service, has said that all service criteria were met and particularly praised the work through the pandemic to do a new innovative service in this way. This is now a stable IT platform, and local authorities know what they are designing into.

At the heart of it, it is trying to combine two things: first, the need for local partnership or shaping of the scheme, and David has talked about the way



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in which Birmingham has different exemption criteria and different local authorities have different charging levels; and, secondly, creating a common payment engine, which creates the economies of scale to do it in the most tax-efficient way.

**Q49 Chair:** The answer for those eight authorities that are struggling with compliance is there are now proven technologies that will deal with their problems.

**Gareth Davies:** In terms of compliance, compliance will be a range of issues depending on the local authority. That may be just the nature of what is happening in the local authority on traffic patterns, fleet turnover and the like, but, in terms of the clean air zone, there is no technical issue to implementation of a clean air zone. We have successfully launched three clean air zones over the last year and a half, more through the vehicle checking service. In terms of level of availability, we have checked over 50 million vehicles. We have 99.9% availability of the service. We are getting very good feedback from customers.

**Q50 Angela Richardson:** Can we move on to public engagement on air quality? My first question is to Mr Hill and Mr Davies. Why did the Government decide against a national campaign to raise public awareness on clean air zones?

**David Hill:** I think it relates to what Gareth was just saying about the importance of local decision-making in relation to each area of the country. We found that, actually, local places were best placed to judge how to communicate with their residents. Different zones offer different features in different parts of the country. The exemptions in Birmingham are different to what measures might be put in place in Bath and so on. That is why we felt it was right to provide some funding support, which we do to local areas, around their local comms and engagement, and provide some support around evaluating their marketing campaigns but not to seek to run a one-size-fits-all national campaign.

That said, we have also at national level worked intensively with, for example, industry bodies in the transport sector—hauliers and so on—to make sure that, where sectors are operating across the country as a whole, they have a good understanding of the programme across different parts of the UK.

**Q51 Angela Richardson:** If you are relying on that to be done locally, have you made any assessment or how are you able to make an assessment of the levels of awareness nationally of clean air zones?

**David Hill:** We are funding and supporting evaluations in each authority with a clean air zone or group of authorities around the effectiveness and awareness of those. We took the judgment that that is the most important thing to focus on as opposed to generic understanding in places that might have been nowhere near or hundreds of miles from a clean air zone. That is why, with the resources available, we focused on that local action.



**Gareth Davies:** At the start of this programme, there was a choice between a centrally driven, top-down, one-size-fits-all approach and a more locally driven approach. For the reasons we have touched on already in this Committee, it is important that these programmes are locally designed and shaped. They need to be part of their local transport plans and local regeneration programmes for the area. In terms of the communication issues, I come back to the guidelines you get from the Government Communication Service. In terms of the professional guidance we have, it is about making sure that communications are targeted, timely, relevant and, critically, given by trusted intermediaries.

The most effective communications, arguably, as we have seen through the pandemic, can often happen most locally. I mentioned I was in Birmingham recently looking at the implementation of its clean air zone. It was walking me through how it has used, for example, public health directors to explain the need for the clean air zone, going back to some of the earlier points around not just the way in which the scheme will operate but the why, so as to create public acceptability and understand that it is not just another form of charging but important for local health through the impact of NO<sub>2</sub>.

Similarly, Birmingham has done interesting work around the way in which it provides online real-time data on air quality. It is the importance of shaping the communications around the people who are going to need to use it and change the behaviour because this is, at heart, a behaviour-change programme. The risk is that a national programme will not be seen to be relevant because, if you are driving to, say, Liverpool, what Bath is deciding to do with its clean air zone is not really meaningful for you. The risk is that people switch off from the communications.

We are evaluating this through, as David said, our annual reports, which are looking at the way in which local residents understand the schemes. If you look at the most recent report, which was published in March this year, in Bath 25% of residents said they would start changing their behaviour as a result of the clean air zone. In Birmingham, it was 39%. We are carefully monitoring the level of both understanding but, more importantly, the behaviour change we want to see to reduce NO<sub>2</sub> levels.

Q52 **Angela Richardson:** That was going to be my next question, about public understanding and any confusion. You are then devolving that to the local authorities to clear up any confusion as well.

**Gareth Davies:** The reason we are working with local authorities on this is we feel that local authorities are best placed to explain to their local residents the way in which the NO<sub>2</sub> clean air zone will operate, the rules, the regulations, the charging and the exemptions behind it. Because each scheme will differ because local authorities want to shape them for their own local contexts, a national programme would have to be so generic and bland, it would not be relevant for people.

Q53 **Angela Richardson:** How will you know if it is not working?



**Gareth Davies:** We will know if it is not working through our annual evaluation report. The most recent focused on Bath because we have six months of data. It is early data, so I would not want to put too much weight on it, but that is showing local residents changing behaviours in response to the introduction of the clean air zone. There is lots of noise in the data because of Covid and transport patterns. It is showing that NO<sub>2</sub> levels per kilometre of journey in those clean air zones has fallen by about 10%, so that is the way in which we track it on an annual basis.

Q54 **Chair:** The success, if that is what it was, of the Covid communications programme was partially because of a strong national message. This was then backed up by local authorities and others giving details at a local level, which, of course, differed from area to area. The local authorities and others were very good at adapting to quite rapidly changing circumstances. Reading this report, it seems to me that we are not getting a strong enough national message of what you are trying to achieve. If you cannot get the national message through, local authorities will struggle.

**Gareth Davies:** The distinction I would make is the need for a strong national message around NO<sub>2</sub> and clean air. I think we have all shared the view that, while we are producing a lot of information, we are not bringing that together. Frankly, it is a bit of a jigsaw puzzle: you can put the pieces together, but we should make it easier for people. I would make that distinction with the clean air zones, which are local, specific and are best communicated for the people who will be using those clean air zones in the local communities.

Q55 **Chair:** What more can you do to strengthen the national message between you?

**David Hill:** Perhaps I could address that. One of the things we have committed to do on the back of the coroner's prevention of future deaths report following the tragic death of Ella Adoo-Kissi-Debrah is to review all our sources of information around air quality. We are taking expert advice on that review, including experts like Sir Stephen Holgate but also behavioural scientists, health practitioners and representatives of other community groups.

We are looking across everything that is out there at the moment because, as Gareth says, there is a lot of information out there, but the NAO finding, which we take in the spirit it has offered it, is that we can do better in terms of how we make that information accessible. There are some quite significant things we need to work through there. For example, much of our current online offering is in English, so we need to think about how we have more targeted information for people whose first language may not be English. We need to think about older people who may have, for example, less access to smartphones and so, on and think about different ways of reaching older people and people with different health conditions, because the advice and recommendations we might make would need to be nuanced and targeted to different health conditions.



We are doing a lot now. We spent over £9 million last year on public awareness. We fund an NGO called Global Action Plan to run the annual clean air day, for example, which is a big awareness-raising exercise, but all that work is being reviewed to see how we can improve on it in the future.

The other thing I would just add is that extending our reach into the health practitioner community feels really important here. We have just run some pilots where we funded a pilot project working with around 40 GPs. That is looking at whether we can make more of and support GPs in terms of the advice that they offer in their communities. We have just run that pilot, and we will be looking to see whether we can extend that further as part of this review. The NAO's recommendations are helpful in this regard, and we will be pursuing all of that work.

**Q56 Chair:** That is a great answer, Mr Hill, but it sounds to me, listening to everything that you have said this afternoon, that there is an awful lot still to do if we are going to meet all our targets on all these pollutants by 2030. How long is all this going to take to improve the message? Unless you centrally can improve your message, the local authorities will struggle.

**David Hill:** As I say, there is a lot out there right now. The UK-AIR website, which is our principal repository for all our information—

**Q57 Chair:** Can I just stop you there? The UK-AIR website is relatively impenetrable. It is not great. We looked at it this morning in preparation for this hearing. Is there any way you can make it work? As you say, it is your main source of communication, yet it is fairly impenetrable. How can you make it work better?

**David Hill:** We are having a complete scrub off all our web-based products to see if we can up our game on all of the social media and online offering as we take forward this review. We are looking to take forward that review over the next 18 months. The reason it is taking that length of time relates to the points I was making about making sure that the targeting is effective. We need to test whether the messages for some of those particular groups that I was talking about, such as older people and people from different ethnic minority communities, are effective and working. That is the working we will go through. We are seized of the urgency and we want to push it forward as quickly as we can.

**Q58 Kate Green:** I wanted to take a little further the Chair's question about the need for a strong national message. To what extent do you think that that would be a response to the concern that local authorities have that they are being held responsible by their residents for measures that are not popular and not wanted and that national Government are walking away?

**David Hill:** National Government cannot walk away. The legal obligation handed down by the court sits with national Government, and national Government have been very clear about their responsibilities in relation to the NO<sub>2</sub> programme. My view on this is there is no attempt to distance



here. Fundamentally, it is about ensuring that the message is tailored to local circumstances and delivered by local authorities that know their residents best. Certainly, if I think back to my time in local government before I joined Defra, when I was working for a county council, we would have looked a bit askance if national Government had come along and told us how we were going to communicate with, in that instance, Essex residents. That is the balance we are seeking to strike here.

**Q59** **Kate Green:** People do move around. They do not spend all their time in their own local authorities, so do you see scope for national messaging that really reinforces why these measures are needed?

**David Hill:** Yes, absolutely we do. That is why some of the work that I alluded to, as we have developed the programme, in terms of our engagement with hauliers associations, for example, which obviously move between different parts of the country, has been so important. Particularly with sectors and businesses that are directly affected and have a national footprint, we have worked quite intensively to help them understand where there may be variations in different parts of the country.

**Q60** **Kate Green:** I have just one other question. You mentioned working with the health sector, which is very welcome. My own observation as a constituency MP is that there is huge amount of opportunity to work in education settings. I wonder what thought has been given to that.

**David Hill:** Yes, that is really important. Outside the parameters of the NO<sub>2</sub> programme but certainly part of the wider work my Department leads is work around, for example, the local air quality grants programme. One of the principal objectives of that grants programme is about providing support, for example, for initiatives in schools. A recent example of that is that we funded work with Tunbridge Wells and Canterbury City Council, for example, on an animated storybook aimed at children and parents to help them understand what they can do to reduce their exposure to air pollution. That will be available to primary schools in those authorities and we estimate will help families understand what action they can take.

The local air quality grants programme links back to your earlier question about whether we need a more holistic approach to air quality. It is very much designed to support local initiatives, whether that is education, health or support for local businesses to take a whole range of action on air quality.

**Q61** **Chair:** Given that the NAO report, at paragraph 2.12, says that the joint committee estimate the overall model uncertainty remains at plus or minus 30%, as it was in 2017, how do you plan to evaluate the impact of the NO<sub>2</sub> programme measures?

**Gareth Davies:** That is the model that looks to predict the overall coverage of NO<sub>2</sub> in the local authorities. That is a national model, converting it down. You are right. There is still continued uncertainty at that level. That is why it is important to have the local assessment to



complement what is happening at the national level, because the levels of exceedances are so specific.

There are two ways in which we look to tackle this. I cannot remember off the top of my head the parameters by which we identify local authorities that are participating in the programme, but we ensure that we include the variation and the margin of error when we identify local authorities. Apologies; I cannot remember the exact percentage now. That makes sure we capture local authorities that, for whatever reason, might be above or below. Once we have then captured the 64 local authorities, they then work through the modelling at a local level. That is why we are able to say, of the 64, three actually should not have been part of the programme because of the nature of the particular stretches of road or schemes that meant they are outside. 16 of the 64 were actually found to be compliant because, once we did the next level of assurance, there were able to be excluded and we were able to work our way through.

Similarly, we can work with local authorities to update and reopen the model. For example, I mentioned Southampton has reopened the model, and we are doing work with Sheffield and Rotherham on the nature of the model. Overall, the model is continually assessed through both our central analytical teams. Both your chief analysts and mine do an annual assessment of the review, and we have outside academics who look to assess the model.

The model is never going to be perfect. We should recognise that. We are converting two networks, the automatic network of 171 sites and the cheaper diffusion tubes of 300 models, into, as I said, a kilometre-by-kilometre grid of the whole country, including 9,000 sites on the strategic road network. We are also looking to forecast forward to make sure, because it is not just about this year; it is about future years as well, so it is never going to be a perfect model. We will look to continue to update that, but the combination of both the local and academic assurance and the way in which we use the parameters for identifying local authorities means we are able to tackle the concerns as identified.

**Q62 Chair:** I hear what you say about the local knowledge bolstering, if you like, the figures produced by the national model. I am not a statistician, but I would have thought that an error rate of plus or minus 30% is pretty large.

**Gareth Davies:** That is a judgment call about how you interpret the error rate. This is a complex set of modelling. Nick talked about the way in which NO<sub>2</sub> levels can fall, literally, metre by metre, so, if you are on one side of the pavement or the other, the NO<sub>2</sub> levels will vary considerably. Think about how then we are taking a national model and turning that into local data, you would expect to have large areas of variation, so that is why. It is not just bolstering. It is the assurance process that happens at the local level to ensure that the model is fit for purpose. The use of those small diffusion tubes, which are actually only a couple of quid each, means you are then able to expand the assessment at local level.





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Going back to the Birmingham example again, it is complementing the monitoring stations, nationally provided through David's department, with its own as well, to have a more detailed understanding of what is happening locally.

**Q63 Chair:** Will the local authorities have more of these fusion testing kits than you do? Will they be dotting these around in many more places than you do through National Highways?

**Gareth Davies:** It will vary according to local authority. Some local authorities will have a large number of these local models to understand the nature of the local persistence of NO<sub>2</sub>.

**Q64 Chair:** Is that data being relayed to your model in real time so that you can know what is happening in the individual local areas?

**Gareth Davies:** Yes, exactly. Their local modelling then feeds back in, and that is the assurance process I was just walking through to ensure that we are able to—

**Q65 Chair:** I am beginning to get it now. If another area or city suddenly emerged with really bad figures on these pollutants, would that model pick that up?

**Gareth Davies:** Yes.

**Chair:** That is interesting. Thank you very much.

**Gareth Davies:** I am not dismissing the scale of the challenge we are facing here, but NO<sub>2</sub> levels have been falling. They have fallen by over 40% in the last decade. A lot of the trends are, luckily, in our favour. The shift to electric vehicles, for example, is all helping this in addition to the specific programme we are investigating today. In the background, we are, directionally, heading in the right way.

**David Hill:** Just one supplementary point, if I may, Chair, on this point is that we will also monitor through real-time data for two years after we think compliance is first achieved, so it has to be sustained compliance. That is important because of the degree of local variation and so on that Gareth was describing. We will be tracking. Once a local authority hits where we think it needs to be, it has to then maintain that for two years before we can declare that it is through the programme.

**Q66 Chair:** It takes about three years to implement these clean air zones. Typically, how long are you envisaging that they would need to be in place before they hit that improvement that you are talking about and they are able to dismantle them?

**David Hill:** An authority might hit compliance through a clean air zone within a 12-month period. We anticipate that, in some of those that already have clean air zones in operation, when the September data comes through, we may find that compliance has already been achieved. It will vary from authority to authority about whether measures in place need to



remain in place or can be switched off, both charging and non-charging. We will look for that two-year insurance period to ensure that the improvements are real and that some other factor is not in play.

**Q67 Chair:** The fact that the improvements are real, which is a really important point, is because of this behavioural changes—people have bought electric cars or are driving slower or whatever. There is no possibility that, once you have that two-year period, it is going to revert back to the old state.

**David Hill:** That is right. The whole programme is predicated on accelerating what would happen anyway through technological change over time and so on. It is a slightly misleading term, but you will see the term “natural compliance”. It is not really natural. What that means is things that would happen in the absence of action through the NO<sub>2</sub> programme. Vehicle upgrades will happen over time and so on as people buy newer, cleaner models; of course they will. What the programme is trying to do is accelerate that. As you say, if the programme is doing its job well then, yes, those improvements should be locked in. All the evidence to date suggests we are seeing it having an impact, although it is early days from some of the clean air zones.

**Gareth Davies:** If I can bring that to life, we naturally focus on the charging element of the clean air zones, but, in parallel to that, there is also the clean air fund, which is discussed in the report. It is over £280 million of funding, which, essentially, is funding things like retrofits for taxis and upgrades for the bus fleets. If you look at what is happening in Nottingham, as David was saying, it is accelerating the shift by essentially changing the bus network. It is now moving to electric buses. That will have a permanent impact on local air quality.

**Q68 Chair:** What are you doing about those local authorities that are not really drawing up a business plan and beginning to grip this problem? How many of those are there?

**Gareth Davies:** We are working closely with all the local authorities. No one is denying their responsibilities under the programme. This is complex and controversial, as we have probably all touched on here. In Greater Manchester, there are lots of complex issues that we are working our way through. Of the seven yet to implement, probably the two most complex areas are Liverpool, where there has been a range of issues with both local contractors who have had to be replaced and the local politics, which have meant that there are some issues around some of the potential schemes that it was looking to promote. There have been similar issues around Stoke and Newcastle-under-Lyme as well, but we are working closely with them, and we feel we are making good progress.

Especially on the larger schemes, these are complex issues that we need to work through. Overall, as I say, if we look at the overall portfolio of the local authorities, we are expecting 16 to be compliant, 21 and then 16 more in the further four years. Of the remaining ones for which we do not have dates, I have touched on Liverpool and Greater Manchester, but the



other two areas are essentially modelling issues, having to remodel on the basis of changed local travel patterns on the back of Covid.

**Q69 Chair:** That is very helpful, thank you. We have more or less exclusively discussed today NOx and particulates. Can you tell us whether you expect to meet the statutory targets by 2030 on all the other pollutants, such as sulphur dioxide? You have mentioned methane and high-generation compounds, whatever they are. Can you just give us a rundown on all of those?

**David Hill:** The projections we published last year showed that, if we were to go forward to 2030 purely on the basis of existing policies and measures, by which I mean regulations already in force, et cetera, so not policies that we have announced but not delivered, we would not be on track for probably four out of five of those key pollutants. The one that we would be on track for is non-methane volatile organic compounds. Thank you for making me say it again.

**Chair:** You got it right; I could not.

**David Hill:** That is the work we are seeking to address through the draft air pollution control plan, which we will publish for consultation shortly and aim to finalise for September. The aim of that plan is to set out policies and measures necessary to bring us into compliance against all five of the key pollutants. That is the piece of work that the Committee will see coming in the coming weeks and months.

**Q70 Chair:** The one you have not set out a target for is ammonia. We know the reasons for that from agriculture. Is there a reason you have not set out a target for it?

**David Hill:** There is a statutory ceiling for 2030 for ammonia. We are committed to reducing ammonia emissions from 2005 levels by 8% by 2020, so that is the one we have just missed, and by 16% by 2030. There will be a statutory ceiling in 2030 for ammonia. That is the work we are engaged on now, which is to identify additional policies and measures to get us into compliance for 2030.

There is no proposal for a specific longer-term ammonia target under the Environment Act framework. As I said to Ms Richardson earlier, the reason we have sought to focus on air quality targets around PM2.5 in the first instance, in terms of the Environment Act framework, is really about the health risks that PM2.5 presents.

**Q71 Chair:** In a way, that sounds the most urgent one of the lot. Ms Richardson was giving you the health figures that the NHTA has come up with. That is a substantial number of deaths that could be avoided if we could reduce those particulates. Are you satisfied that you have an action plan? You have talked about various aspects of it today—electric car charging, behavioural change and so on. Is there anything more? Looking at figure 4 on page 23 on the fine particulate matter, it looks as though the actual projections for 2030 are quite above the ceiling. Is there anything more that you can do



to bring about quicker change in particulates?

**David Hill:** Yes. We have sought to do a number of things in recent months to try to drive that change faster. Domestic burning, for example—people with wood-burning stoves and so on in their own homes and that sort of thing—actually accounts for about a quarter of PM2.5 emissions. The restrictions brought in on the sale of wet wood and the phasing out of traditional house coal for domestic use are some of the most important practical things we can do right now. That is on the statute book and in force.

From January of this year, new regulations came in under the ecodesign code for wood-burning stoves, for example, and those ecodesign regs do include emissions reductions limits, so there is quite a lot of practical work being done right now. I will not deny that, to achieve those 2030 targets and, indeed, beyond, we will need to go further. That is the purpose of the work we are doing through the draft air pollution control plan.

Q72 **Chair:** I imagine that the particulates are going to be most dangerous in and around big cities and centres of populations, whereas the wood-burning control regulations are largely going to affect the rural population.

**David Hill:** I am sure you will know that there are different legal regimes around focused action in what are called smoke control areas, typically in urban areas, so additional restrictions can be imposed in those areas. You are absolutely right. In rural areas where the impacts are less concentrated, some of those additional smoke control regimes do not apply. We try to target hotspots as they arise.

The other thing that is quite important touches on some of the questions Ms Green was asking earlier around the importance of education and how we can educate people and improve the quality of our information about how people can manage their own exposure and manage down their own risk. That is part of the work we are doing through that review of our information output.

Q73 **Chair:** The final question is this. We do not want to get to 2030 and find that you have missed these targets. You are publishing a plan later this year. When and how will we see whether you are on track to meet those 2030 targets? What is the trigger point as it were? Talk us through that please.

**David Hill:** The work we are doing right now to scope what would go in the plan is about identifying policies and measures but also through our models and, through the national emissions inventory, testing and calibrating how much abatement we think each measure will be able to deliver. It is not simply publishing a list of policies. It is also trying to quantify, on all our evidence, what we think the impact of those policies will be. All that will be laid out as we refresh the projections.

How will we know if it is working? We update our projections on an annual basis. As policies are passed into law and implemented, we will then adjust



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our projections looking forward to 2030 on a rolling basis, so we will constantly be reassessing whether the things we have enacted and started to implement and fund are having the impact that we anticipate they should. You will see those projections updated. That is how we will be able to track progress and, frankly, how we will understand whether we are on-track or off-track.

**Chair:** Can I thank our witnesses very much indeed? It has been a very interesting session. We have learnt a lot. Can I thank my colleagues, the NAO and the Public Accounts team here in the House of Commons? Our report will be published in the summer. Our uncorrected transcript will be available in a couple of days' time, if you want to look at that and see if there is anything you need to look at. Thank you very much indeed. I know you are all busy people. We appreciate it hugely. Thank you.