



Environmental Audit Committee

Oral evidence: Mapping the path to net zero, HC 104

Wednesday 19 July 2023

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Environmental Audit Committee members present: Philip Dunne (Chair); Duncan Baker; Sir Christopher Chope; Barry Gardiner; Clive Lewis; Caroline Lucas; Jerome Mayhew; Anna McMorrin; John McNally; Dr Matthew Offord; Chris Skidmore; Cat Smith; Claudia Webbe.

Energy Security and Net Zero Committee members present: Hilary Benn; Vicky Ford.

Questions 396-470

Witnesses

I: Chris Stark, Chief Executive, Climate Change Committee; The Baroness Brown of Cambridge DBE, Chair, Adaptation Sub-Committee, Climate Change Committee.

II: Rt Hon Graham Stuart MP, Minister of State (Minister for Energy Security and Net Zero), Department for Energy Security and Net Zero; Jonathan Mills, Director General for Energy Markets and Supply, Department for Energy Security and Net Zero.



Examination of witnesses

Witnesses: Chris Stark and Baroness Brown.

Q396 **Chair:** Good afternoon and welcome to the Environmental Audit Committee for our one-off hearing looking at progress against climate change targets for the Government. We are delighted to welcome Baroness Brown of Cambridge, who chairs the Climate Change Committee's adaptation sub-committee, and Chris Stark, who has been chief executive of the Climate Change Committee since April 2018. I would like to start with a very simple question, and I am not sure which of you is best placed to answer it: do you yet have a successor for Lord Deben as chairman of the committee?

Chris Stark: No.

Q397 **Chair:** Do you have any insights as to when that appointment might be made?

Chris Stark: The process is under way. Professor Piers Forster, who presently serves on the committee, is acting up as interim chair. I understand that the timetable for the appointment of the chair—which, formally, I am not part of, of course—will conclude in the autumn, so fingers crossed that we will have a new chair for the CCC in October/November.

Q398 **Chair:** Thank you. We are joined today by members of the DESNZ Committee. Vicky Ford is very welcome, and we will be joined during the course of the session by Hilary Benn, another member of that Committee.

I would like to start with you, Chris. Could you give us your overall impression from your latest report, which was pretty critical of Government progress against targets over the last year?

Chris Stark: Yes, it was pretty critical. Every year we do a progress report for Parliament, and this year felt like an important moment to raise a red flag. It was an interesting year in all sorts of ways. We almost achieved the magic halfway mark. We measure emission reductions from 1990 levels. In the stats that we measured, we were at the 46% level, so we are halfway there, but of course the next half is the hard half, so we were reflecting a bit on that.

The other interesting context for the report was that the year prior was dominated by an energy crisis and what was happening, sadly, in Ukraine, and we had several changes of Prime Minister, so there were several changes in political direction over that period as well. Those collectively felt like quite an important test of the Government's commitment to decarbonisation and to net zero. Our view, in summary, was that we only saw lacklustre support for the climate objectives over that period. We thought very carefully about what to say about that, and we said that the UK had "lost its clear global leadership position on climate action." We did not say that lightly.



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There are some obvious reasons why we have lost that. We are no longer the COP President. We are no longer part of the EU negotiating bloc for climate. Those are self-evident. More importantly, over the fossil fuel price crisis that the whole of Europe experienced, driven by what was happening in Ukraine, we did not see the UK embrace the steps that other parts of Europe took to grow the renewables base as quickly as possible and reduce energy demand over that crisis period. Some of that happened, but not at the same level.

We seemed to backtrack on commitments that had been made to phase out fossil fuels. We consented to a new coalmine, which has been very, very prominent in the public discussion outside this country on what the UK has been doing. There was lots of support for UK oil and gas production, which is understandable during a crisis, but that was none the less in defiance of the very strong words we saw in the Glasgow climate pact, which was UK-led at COP26.

We also did not react as strongly as other parts of the world did to the US approach to climate, which is a brand-new thing for us to deal with, in terms of the Inflation Reduction Act and other things that are happening. The EU has a green industrial plan. It has its Fit for 55 plan. We have not yet seen what the UK response to that is. We are promised that from the Chancellor.

In summary, time and time again, from the network of people we have around the world, we heard questions about what was happening in the UK—particularly about that coalmine and the oil and gas support, as well as questions about why the Prime Minister did not go to Paris for the recent climate finance summit and a suspicion that things were slipping a little with the Government's support for climate. I very much hope that is not the case.

Coming back to home and to the job of assessing progress, this year had one particularly important hallmark. The courts last July encouraged UK Ministers to produce a new plan, and we saw that new plan—literally thousands of pages of new material were published by the Government, driven by that High Court judgment. The carbon budget delivery plan was a very important new piece of information for us in assessing progress. We have not had the kind of transparency and detail before that that brought about what the Government were doing on emissions reduction.

Importantly, despite all of this new detail, which took us a long time to chew through, our confidence in the UK meeting its legal goals from 2030 onwards has actually dropped—it has fallen from the assessment that we made 12 months prior to that. That felt very problematic. It felt like an opportunity to go faster on the overall pace of delivery had been missed.

I want to make two final points on the issue of where we are, firstly on delivery and then on contingency. We have been thinking a lot about the goals that were set in COP26, in particular the goal for the 2030 emissions reduction that was promised to the UN process by the UK in the presidency of the COP26 climate summit. We promised at least a 68%



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reduction from 1990 levels in our emissions in this country. That is just seven years away.

All the discussion recently has continued to be about what we are doing to decarbonise the power sector. That is great, and that is the basis on which we have made all the progress in this country recently, but when you look outside the power sector, the action now lies somewhere else beyond it if we are going to hit that 2030 goal. If you look at the progress we have made outside the power sector, it amounts to about 1% per year. That needs to quadruple if we are to hit that 2030 goal and sail on to the sixth carbon budget after it. We just do not see that level of shift in ambition, pace and delivery in the Government's plans, despite all the detail that we saw.

That brings me to the final point, which we will have to come back to in our future reports, on the level of contingency planning in the Government's plans. The Government broadly have a plan to hit the legal goals and no more. We know that somewhere north of 50% of the plans they have at the moment have quite a high degree of delivery risk against them. That feels like an enormously risky strategy to hit a legal target, so we are going to have to look again at what contingency planning the Government are doing.

We think increasingly that the Government will need to aim for something more than the legal targets, knowing that they may under-deliver on the plans that they have. That means that we need to bring in alternative options for some of the things that need to happen across the economy. We have to discuss the areas where the Government have been more reluctant to act, which includes, notably, what they are doing on demand for high-carbon and fossil fuel services and products.

If you look at all of this together, it is quite a concerning moment. There is still time to act on all this; there is still time to raise the ambition. We felt it was a very important moment for us to say that, actually, we do not think the country is on track on those legal goals. Although there is time, and there is momentum in the energy transition globally, we are not going to make it unless we start to see that change in delivery and pace outside the power sector and, indeed, within the power sector itself.

Q399 **Chair:** Thank you. Have you quantified your reduced level of confidence about achieving the NDC?

Chris Stark: I am afraid I have not got the number in front of me, but we do quantify it, yes. We measure the Government's plans by the extent to which we think they are a delivery risk. In the charts that we produce, for those bits and plans of the Government where we are confident, you will see a green wedge, and for the other parts, there is a rainbow between amber and red. There is more red this year than there was last year, and that is probably the best way I can describe the change. I would be very happy to write to you afterwards with the numbers.

Q400 **Chair:** Thank you. Baroness Brown, you have published the second



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national adaptation report this year, covering the previous five years, I think. It raises a question in my mind as to whether DEFRA, who are responsible for delivering this element of policy, have sufficient heft within Government to be able to persuade all of Government to react appropriately. That is a recurring theme of this Committee, because we are having to deal with cross-governmental issues all the time on the environment. Is it your assessment that DEFRA have the clout within Government that is needed?

Baroness Brown: As you can imagine, that is a discussion that we have on the adaptation committee quite frequently. We published the third national adaptation plan yesterday, which DEFRA lead on, as you know. When you look through that, some of the DEFRA actions are quite positive. In general, the response from the rest of Government is much less satisfactory, and I think that does rather emphasise your point.

One of the good things from the NAP was that DEFRA talk in a number of places about working with the Cabinet Office to help draw Government together. One of the things that we were pleased to see was that there was going to be a senior civil service sub-committee, which the Cabinet Office and DEFRA would be bringing together, called the climate resilience board. We do not know anything about the membership or anything, but that seemed a positive step. There are also a number of other places where they mention drawing the Cabinet Office in.

That was one part of improving delivery where we thought we were seeing some hope, but when you look at some of the things from other Government Departments, a lot of adaptation issues could be and should be dealt with more strongly through planning. There is a commitment from DLUHC to look at the NPPF to see how adaptation can be integrated more closely into it, but DLUHC quite clearly say that that is only after the current Levelling-up and Regeneration Bill achieves Royal Assent, so they clearly do not want to do anything that is statutory or that might require legislation. So the promises, if you like, in the new NAP from many of the Government Departments are very weak.

Q401 **Chair:** I am going to keep us moving, I am afraid. We could talk about DEFRA for a while, but I am not going to.

I would like to move on to the grid. As you may have seen, Chris, our Committee has decided to launch an inquiry into grid access, because we see it as a major barrier to adopting greater amounts of renewables. Are there things that you would encourage us to look at as part of that inquiry? I am sure you have done quite a lot of work in this area as well.

Chris Stark: I am very pleased that you are doing that inquiry; I think this is an important moment to look at all of this. We have some important new roles and responsibilities for the institutions that will guide the transition to a decarbonised power system, and they are being handed out right now.

Nick Winser—who I believe you will be hearing from, if you have not done so already—has done a really good review on where we stand on all this



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and how to accelerate progress. We in the CCC have also done some really good work, I think, on illustrating what would be necessary to get to the goal of a decarbonised power system by 2035. The Labour party is planning to do that even earlier, so it felt like a really important thing to model and understand.

I think the main thing to say is that we regard a decarbonised power system as one of the central components of a successful transition to net zero. It is also a successful component of a transition to a more modern economy in which consumers are using cheaper power, so it is a really important thing for all sorts of reasons.

It is eminently achievable—we can now quite easily imagine an energy system that is largely based on wind, complemented by some nuclear, some long-term storage and some consumer demand flexibility, particularly since we will have lots of electric vehicles and heat pumps on that system—but it rests on having a few new components in the system that we do not have at the moment. We need lots of grid, we need a mixture of hydrogen power, hydrogen generation, and carbon capture and storage. We need that hydrogen storage or some long-term duration storage on the system. We probably need to retain some fossil fuel generation as back-up, which is fine from the CCC's perspective.

We have done all that modelling using real wind data and have satisfied ourselves that that is a workable system, but the planning system is getting in the way. That is our central concern, I suppose: it really does need reform if we want to see faster installation of infrastructure. It is not just the UK that is making the decision to go faster on all of this; you can look across the channel to the continent, and there are the same challenges there. How quickly can we get infrastructure consented to and in the ground? That is the key thing. From our perspective, there are a number of processes holding that up, including the planning, consent and connections processes. All of those need to be reviewed and considered in the light of the obligations that we have for net zero and, more importantly, in the light of our more general obligations to have a resilient power system.

We urgently need to up the pace of the deployment of the key infrastructure. The infrastructure build rates that we need to hit the 2035 goal, or even a slightly later goal, will be beyond anything we have done in recent years, so we have a real challenge. You could think of it as a real mission.

All the actors in that sector tell us that it is possible to do this if we unblock some of the processes. To do that, we need a clear 2035 delivery strategy for all this. We in the CCC have been calling for that for three years. That is something that I very much hope the Department will act on in the coming 12 months. That will allow us to see how we bring all this together.

The other thing it will allow us to do, I think, is properly assess how the roles for the key institutions will work. Ofgem has a new obligation to

think about net zero, which I think is helpful. We will have a new future system operator that also has a role here, but there are various consenting and planning organisations that need to be brought in, too.

Broadly, what we need is a plan—something that looks at the key infrastructures and where they will be. They cannot be in random places across the country. We could start that now.

Q402 **Chair:** That is a very clear and helpful steer for our Committee. Thank you.

A final quick question from me. You mentioned carbon capture and storage. The Government allocated £20 billion for that in the announcements that they made before Easter, which is one of the largest contributions that they have identified across this territory. Do you think that that is appropriate? Is it out of balance? Is it in the order of magnitude necessary to make something happen?

Chris Stark: We think the £20 billion is very welcome. This is a commitment that on occasion the Treasury has hummed and hawed about, but it seems now to have decided that CCS is something it is willing to support, so I think we have to welcome that. It is worth saying that it is not clear how the £20 billion will be deployed, so the next stage is to very rapidly get to the point where we are clear on how and where it will be spent and how it will support the commercial operations for CCS.

CCS is very important. Without it, we will have higher cumulative emissions in the journey to net zero. Without it, we cannot have key industrial processes taking place in the UK. It gives us options that we would not have otherwise. We do not do CCS because we like fossil fuels; we do it because of those options.

The key thing with CCS, I suppose, is that there is a set of infrastructure challenges that cannot be resolved immediately. Even though that £20 billion is there, it is not quick to get the key CO₂ storage and the financial models in place for CCS to build the commercial willingness to construct these facilities. It is tied, ultimately, to issues around hydrogen as well, which in turn are tied to where we are using hydrogen and, indeed, what we are doing with the power systems. That £20 billion is welcome, but frankly there will need to be more work to look at the commercial models for CCS alongside that, and some very rapid work to open up the £20 billion into a full commercial model for CCS.

Chair: Thank you. We will now move on to transport.

Q403 **John Mc Nally:** I have quite a few questions to ask on surface transport and civil aviation. As you know, Chris, surface transport is the highest emitting sector. What are the key barriers that Government must tackle to accelerate the transition to a clean transport system?

Chris Stark: Transport is the biggest of the emitting sectors, as you say. I do not think that that means it is the biggest of the challenges any longer. That is one of the exciting things here: when it comes to surface transport,



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there is a way forward. One of the key planks in that strategy is the move from fossil fuel vehicles on roads to electric or zero-carbon vehicles.

It is not all about cars—I wanted to say that. Of course, we need to have lots of things happening in the transport system to make it a workable system—notably public transport, walking and cycling—but the big emission gains come from switching vehicles on the road from burning petrol and diesel to being, probably, battery electric. On that, right now, despite what you might read in some of the newspapers, we are seeing sales of EVs ahead of where the path tells us we need to be to hit the goals that the country has set for transport. There is a positive story here about that playing out.

The barrier to that happening is, first, that the public discussion of this has turned sour in the last 12 months—I have very much noticed that. We need to be positive about this; it is a genuinely positive development. If we build an industry around the vehicles themselves on the road, that is another aspect of the net zero transition that I think we can publicly support and get behind.

For me, the biggest barrier is the charging network. I am an EV driver myself; I live in a flat, so I am at the mercy of the public charging network. It is good in some parts of the country, but it is not good in many parts of the country. I am afraid that where I am, in the west of Scotland, is one of those powerless places. That is a barrier. I would like to see more focus on establishing a fairer transition here so that we see improvements in parts of the country that are not presently well served by public charging.

The other area we noted in our assessment of the Government's transport plans is that what we think the Government have done in the last 12 months is, essentially, reduce their ambition—or at least their stated ambition—on demand for transport in the round. We had a strategy, in the net zero strategy from the Government 12 months ago, that was willing to talk more about reducing demand for transport. This has become a very difficult political topic. Some 12 months later, the High Court said the Government needed to put some numbers around their plan, and it looks like they have been very reluctant to do so. That means that, in the Government's plans in that new carbon budget delivery plan I mentioned, there is less ambition on transport more generally. We think that is mainly because of the lack of willingness from the Department to put some numbers around what it is doing on the demand side.

Q404 **John Mc Nally:** You have kind of answered a question I was going to ask you later. I will move on to Baroness Brown, but I think the public transport side of it—particularly in terms of my own area of Falkirk, where we build the best zero-emission buses in the world, as you know—

Chris Stark: I do.

Q405 **John Mc Nally:** People there are very keen to see Government taking a big step towards actually making these buses, getting them on the road



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and making sure that they are built according to demand. The public are demanding these buses, but they are just not being made by a Government initiative.

Thanks for your indulgence there, Chair. Baroness Brown, I will move on to you. What are the challenges of ensuring that our transport sector is resilient to a changing climate? What progress are the Government making in this area?

Baroness Brown: We saw many of the challenges last year. We saw the problems with things such as grass fires on Transport for London, which cost them around £8 million last year, and we had that spate of wildfires associated with the very hot summer. Almost every year now, we seem to see problems with the west coast main line because the overhead wires expand too much and the pantographs cannot cling on to them, so we have no rail connection on the west side of the country. We see these things even though, on paper, our major roads and railway lines have credible plans for adapting to climate change. But we are not seeing that those plans are being implemented, and we are not seeing that they are making a difference today.

One of the issues is that I do not think anybody is taking enough note of extreme events and the increasing frequency with which we are now seeing extreme events, which will continue. So we need the regulators to be taking a stronger line, and we need the Government to make sure that the adaptation reporting power is used to make sure that all of these organisations—our ports, our airports, the road and the rail—are reporting what actions they are taking, so that there is visibility of what they are doing.

We need significant attention paid to our minor roads. We do not generally have credible plans for the minor road network. In places, the condition of the roads is getting increasingly poor, which makes climate impacts even worse. For example, I am sure people have noticed that, on many minor roads, we are seeing increasing incidences of local flooding because the drains are not being maintained. When we have these increasingly frequent incidences of very intense rainfall over a short period, you can get very dangerous conditions, where drivers suddenly drive into a huge patch of water. So we have a lot of problems, and we need the Government to be using the levers it has more strongly. What is good to see in the third national adaptation plan is that the Department for Transport has committed to publishing an adaptation strategy this autumn and consulting on it. I think there is a lot hanging on that about how we drive much faster action.

Q406 **John Mc Nally:** That was a very interesting reply, and some of the things you have mentioned have probably not been considered too well, especially minor roads. Where I live, there are an awful lot of minor roads.

Baroness Brown: Of course, there are more accidents on the minor road network than there are on the motorway network.



Q407 John Mc Nally: That takes me nicely to my next question to you, Chris, which is about the trend towards heavier, higher-emitting sports vehicles, or SUVs, and emissions savings. Savings are made from improvements in engine efficiency, so what more can the Government do to minimise emissions from conventional cars and vans sold before 2030, if anything?

Chris Stark: It is tempting to think that this is just about switching to EVs and nothing more but, actually, we will not make the full switch to EVs for potentially two decades. The 2030 phase-out date is just that—it is the point when we stop selling petrol and diesel cars—so we need something that considers internal combustion engine vehicles that are on the road today and that are still being sold today. They will continue to be sold right through this decade.

What has been interesting is that, sadly, you are seeing offsetting activities happening: conventional vehicles are becoming much more fuel-efficient, but that is being offset by the fact that they are bigger. You have SUVs that are much heavier now. SUVs are the dominant model; that is what people are looking to drive. That means, therefore, that emissions are heading in the other direction for those vehicles, because they are heavier and they have to be pushed around by fossil fuels.

We think that, looking beyond just EVs, there are some policies that could be put in place to encourage manufacturers to make lighter, smaller vehicles. Other parts of the world have been investigating that, and it brings greater fuel efficiency generally, so that is something for the Department to think about.

The other thing I will just chip in on—this is something that my organisation is going to look at in future analysis—is that how we achieve the turnover of the stock on the roads is another aspect of what we do about the conventional vehicles that are driving about. How do you give incentives to the second-hand car market, for example, to decarbonise? I think there is potentially a set of policies there that we have looked at before but will probably want to look at again.

Q408 John Mc Nally: For behavioural change, we need a big nudge towards making that actually happen.

Chris Stark: Particularly around sales.

Q409 John Mc Nally: Absolutely right. My last question is about the fact that the Climate Change Committee has raised concerns over the jet zero strategy and reliance on technology over demand management. Can the demand for passenger aviation be managed effectively without affecting the overall growth of the industry and its contribution to the economy, Chris?

Chris Stark: The first thing to say about the aviation sector is that this is genuinely one of the UK's remaining industrial strengths. We are a big player in the aviation sector globally. So the decarbonisation of that sector is a really important aspect of the general performance of the UK economy into the future and we have thought very hard about what to say about



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aviation. Aviation, of course, is something that we need, so we are going to continue to see people flying well into the net zero future that we have talked about.

I suppose the key stat here is that the Department is expecting 70% growth in passenger demand to 2050, from where we were in 2018. That's a lot. Our central scenario is a 25% increase in demand. We have another scenario that is a 50% increase in demand. We do not have one that accommodates a 70% increase in demand. What that tells you is that, broadly, the Department—I understand why; it is because of the point I made at the start of this answer—would like to see technology deliver most of the emissions reduction, rather than looking to the demand side.

While I understand that—while I understand the technology in aircraft and, crucially, in fuels being critical to this—we will have an aviation sector that is too big for the remaining carbon budget that we have in the future if we do not act on the demand side now. We would like to see technology, in similar terms, come through and save the day on aviation, but until it shows signs of doing so, we think it is important to bear down on the growth in demand. We are not suggesting that demand should shrink; we are saying that it should grow by less than the Department and the industry expect it to.

One of the ways in which that is playing out, and one of the concerns that we have, is that almost every airport in the UK has plans to expand. That is, very obviously, because they are commercial businesses. There is nothing at UK level that puts any kind of constraint on that, and there is no decision that has been taken about which airports it might be sensible to expand, at all, from the Department. So one of the things we have said is that airport capacity is something that the DFT should think about now, so that we have some basis on which to make rational decisions about that growth in airport capacity. That is going to be a key determinant of the demand growth that we have talked about. At the moment, the Department does not have plans to put that kind of constraint in place.

John Mc Nally: Thank you. I am mindful of what Baroness Finlay said: you have to take cognisance and be mindful of what is happening in the here and now. It seems that we are missing that here and now, and I do not know how you can miss it—it is all around you.

Chair: Thank you. We have a quick question from Duncan Baker.

Q410 **Duncan Baker:** I just want to build on the context of what is going on in the EU and how that relates to the UK. It seems as though political pressure from the large German manufacturers, like BMW, Mercedes and VW, has effectively pushed the EU to implement its ban on petrol and diesel cars in 2035. Frankly, if the German manufacturers are saying, "We cannot meet a target of 2030. It would have such a detrimental impact on our economy," because manufacturing in the car sector is obviously such a significant part of their economy, how do you see that in the context of the UK? If they cannot do it, will we still be able to hit our deadline of 2030? How will what the Germans are doing in the EU impact



us here?

Chris Stark: I think you are right. There has been a lot of pressure from some of the automotive sector in Germany—not all of it, but certain quarters—to push that date to 2035, and they have been very successful in making the arguments that, for example, e-fuels, synthetic fuels, might play a role in the future. All the evidence globally—I think we should turn to the global evidence—shows you that the EV transition is happening now, like the clappers.

One of the concerns, if you are a German automotive manufacturer, is China now. We are seeing, in this country, that Germany is still supplying most—in terms of where our cars come from in this country, Germany is still the biggest supplier, just, but China is rapidly moving into second place and shows every sign of taking the top spot. One of the reasons is that it is producing electric vehicles very cheaply. We have not seen yet the move to a cheap electric car, but it seems to me that that is inevitable, especially since the primary cost in an electric vehicle is the cost of the battery, and the battery price is continuing to fall now. It briefly went up during the pandemic period, but it is now on a trend to be cheaper and cheaper. In that world, you can be King Canute and hold it back or you can embrace it.

My view is that whether the date is 2030 or 2035, the early period of the 2030s will be naturally the point when we should be phasing out the sale of internal combustion engine vehicles. I suppose that if you embrace that, you send a very strong signal that this is a place that wants to produce electric cars and the components for them. We actually said 2032 was the more appropriate date to phase out sales. That is simply because we expect a car to be on the road for 15, 16 or 17 years after that, so it feels like a good point to phase sales out if you want to have a goal for 2050. The Government, with the Prime Minister then being Boris Johnson, went for 2030, a more advanced target. I think the logic of that was to not just improve the climate outcomes but to build some sort of industry alongside that, and I think that that bit of it—gigafactories, as they are sometimes called—is the bit that has not yet come along. I think that if we have a strategy for the automotive sector that is aligned with that 2030 goal—it has been very reassuring to hear Grant Shapps say that he is keen to stick to 2030—we can be happier that that is a strategy that will work for the country.

Chair: Thank you, Duncan. Of course, it has happened today—we had an announcement today in Somerset.

We now have three sets of questions. I am going to limit everyone to six minutes each. Barry Gardiner.

Q411 **Barry Gardiner:** Mr Stark, I want to focus on energy efficiency. The Committee on Climate Change has said that, in the building sector, 77% of the emissions reductions required by the sixth carbon budget are either at significant risk or with insufficient plans. Were you surprised, therefore, when in response to the oil and gas crisis precipitated by



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Ukraine, the Government did not focus more on accelerating energy efficiency measures?

Chris Stark: I was surprised—or disappointed, I suppose—that we did not do more on energy efficiency. There was a strange period when the Government were not entirely sure what they were going to do on this. As an observer of all this, rather than as someone who was actually in the process directly, I felt there was a debate inside Government on whether you could talk about this at all—you know, the idea of scarcity of energy was something that the populace of this country were not ready for.

Q412 **Barry Gardiner:** So you agree with the findings of this Committee when we put out our report that said that the Ministers had missed a crucial window of opportunity.

Chris Stark: I do agree with that. That said, I want to say one more thing, which is that there is a proverbial bit of string that you can pull, but it is not necessarily the case that you will get a response. One of the problems that we have here is that if you want to see greater energy efficiency, that means having an installer community across the country who are willing to do things like home insulation and double glazing, and they are burned from previous policy adventures here. So when you pull that lever, it does not always have the response that you might expect.

Q413 **Barry Gardiner:** Indeed. The carbon budget delivery plan projects that 1.5 million homes annually will receive new energy efficiency improvements after the next general election, in 2025. That is seven and a half times more than was achieved last year, which I think was just over 200,000—204,000. Do you think that it is a realistic project and that the Government are going to achieve that? How far off track do you believe they are?

Chris Stark: One of the things that we have done in the past couple of years is put some key metrics around the transition, and in this area one of the metrics we are looking at is energy efficiency installations. You are right: 1.5 million is the Government's own target. We have, in our own pathway—

Q414 **Barry Gardiner:** But it is only to be delivered after the next general election, in 2025.

Chris Stark: Indeed, yes. I think it is worth just looking at that. A very excellent chart in our report just shows you the scale of that. If you wanted to see that kind of impact and that kind of roll-out—it's really quite astonishing how much of an increase that would be on where we are today.

Q415 **Barry Gardiner:** Seven and a half times.

Chris Stark: Seven and a half times. There is a proverbial, metaphorical mountain in the metric chart that you see in—

Q416 **Barry Gardiner:** And, indeed, that is dependent on the Government promising extra funding after the next general election, is it not?



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Chris Stark: It probably is, yes. You can look at different ways to do this. We are saying that what the Government have mostly done is target that at fuel-poor homes. Some of those schemes are very good. The big gap lies outside that sector; it is for those who are able to pay for this but who are not being encouraged to do so. That is an area where, every time there has been a policy, it has not always been a successful thing for the Government. I do understand a lot of this, but definitely we have marked that as significantly off track. And it is important: it does not deliver you net zero, but it makes the problem smaller. So if we do not see that kind of energy efficiency improvement, we are making the task of decarbonising heat to those buildings much bigger.

Q417 **Barry Gardiner:** Thank you. Baroness Brown, 80% of existing properties are expected to still be in use in 2050. Is it your view that the Government should complement the forthcoming future homes standard with heat resilience and energy efficiency standards for the refurbishment of existing buildings, not just new build?

Baroness Brown: Absolutely, and NAP3 makes a lot of the fact that part O of the building standards has been changed, because, as you said, that only applies to new build. That leaves 80% of homes where, at the moment, there is nothing on offer.

The consultation that is due from the Government on the new building standards is an absolute opportunity on the future homes standard to start building in the climate resilience measures, in particular the heat resilience measure, which is really important. It is hugely disappointing that there are essentially no commitments in the NAP on refurbishments of existing homes. There are some vague statements about it being an issue for the Building Safety Regulator and other things like that, but there is no focus on investment and action.

Q418 **Barry Gardiner:** Thank you. Finally, Mr Stark—to stay within my six minutes—the Government’s target for the installation of heat pumps is 600,000 by 2028. Last year, I think 72,000 were installed. The Climate Change Committee’s balanced pathway says that we should have done 130,000 that year, and that that should rise this year to 145,000. We are ranked 21st out of the 21 countries in per capita installations of heat pumps. How do you think it is going and how do you think they are going to meet the target?

Chris Stark: It is very pleasing that you have read the report and pulled out all the stats there. There is no reason why this should be the case in this country. You do not see installations of heat pumps at this kind of level elsewhere in the world—in the developed world, at least. The US is doing it at scale now; the EU is doing it at scale. You go to New Zealand and most properties are heated by heat pumps. Very cold places in the world—Norway, for example—are heated with heat pumps. There is no practical reason why we cannot have greater installation of heat pumps. They are a very efficient technology, too.



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A lot has been said about heat pumps and the Government's strategy for decarbonising heat is largely based around heat pumps. They have a goal of 600,000 heat pump installations in the coming future. We think that is at the low end of what is required, but, as you say, at the present rate we are doing about a ninth of that.

Frankly, this is an area where I would like to see a Minister just say they support it and they want to see it happen. It is as simple as that. This is not some magic technology that we need to worry about; it is just a way of heating a home, and it is a very efficient way of doing so. We could have a UK-based industry around this one, too, if we had proper support for it.

I find it weird that we have developed this whole kind of cultural concern about heat pumps, which you see occasionally playing out again in those newspapers. Heat pumps are a very good way into all this. Even if you do not care about climate change, they are a very good technology that everyone else in the world is adopting.

Q419 **Barry Gardiner:** You have taken up my six minutes. You just want us to get on and do it, is that right?

Chris Stark: Yes.

Chair: Thank you, Barry, and thank you for keeping to time. Welcome to Hilary Benn, who I think would like to make a dramatic, instant and very quick intervention.

Q420 **Hilary Benn:** You are very kind, Chair. A gas boiler breaks tomorrow. I have many constituents, and so have all the Members around the table, who cannot afford a heat pump. I agree with what you say about the technology. If we do not have a plan to make it affordable for people who cannot otherwise afford it, how are we going to hit the target?

Chris Stark: That is what we need. There is a big benefit in using a heat pump. Once you have it and once you have made the capital expenditure in it, you can have very cheap heat, especially if you have a well-insulated home. But as you say, the capital cost of it is too high at the moment.

It can be brought down, but that will not happen unless there is scale installation and scale production. That is one of the biggest barriers. There is not an installer community for heat pumps at the moment. I have a gas boiler. I wish I didn't, but I live in a flat and heat pumps are a very difficult thing to put in there. The gas boiler guy who comes round and fixes my gas boiler—it breaks very often—tells me they will never work. That is a problem—and he knows what I do. If we do not have an installer community out there selling the benefits of this, and if we do not have support for it to bring down the capital cost so that we see the benefits in their use—there are widespread benefits; there is a huge system benefit to using them as well—then it won't work.

The one policy that would make this really sing is to have cheaper electricity. In the round, we should be moving to a world where we are



producing all this very cheap low-carbon electricity, but the consumer is not yet seeing the benefit of that. You can put a penalty in place and you can remove that penalty with the tax system, so there are tools at the disposal of the Treasury to try to skew this move towards electrified heat, which will make heat pumps themselves much cheaper to use and run.

Q421 Sir Christopher Chope: The Climate Change Committee adaptation progress report has as one of its top-level outcomes: "Buildings do not overheat". I want to ask a couple of questions about how we are going to achieve that objective when we know that already a fifth of English houses are overheating during the summer months. The prospect is that, as the summers get hotter and the winters get warmer, that percentage will increase significantly, yet the Government seem to have policies that are designed to make this worse. If you put in cavity wall insulation, for example, you add to the heating problem in a building rather than reduce it.

Baroness Brown: With appropriate insulation, you can improve the thermal properties of a building to make it better in summer and in winter, but you can also, by sealing up buildings, inadvertently reduce the air quality and cause problems such as damp, as we have seen in a number of cases. These things have to be done carefully, with particular attention paid to ventilation. Where mechanical ventilation systems are being relied on, it is absolutely critical that they are properly adjusted, they work and they are regularly serviced. That is where we have sometimes seen these real problems with homes that have been insulated.

Q422 Sir Christopher Chope: Why are we relying on mechanical ventilation when it is perfectly possible to open a window, as we do in here, and get natural ventilation?

Baroness Brown: It depends on the approach that is being taken to insulate the house, but I agree. In this country we need to learn, as people on the continent have learned, that when the sun is shining and the air temperature outside is hotter than it is inside, that is when you shut the shutters and close the windows, and at night, when the air temperature is cool, that is when you open the windows. That is not the typical behaviour here. We need better information for people about how to manage temperatures.

Q423 Sir Christopher Chope: Do you think that if the householder can show that the consequence of having double glazing, more insulation in the loft and cavity wall insulation would be to force the house to be hotter in the summer, that should be something that can be set off against the energy performance certificate standard? At the moment only one side of the equation is being imposed on householders—namely, to reduce the amount of heat lost through lack of insulation—and not enough is being said about the need to reduce the heat increase in the summer, because of ventilation.

Baroness Brown: I think we should move away from EPC to a much better system of green building passports that take into account, as you say, insulation and net zero, but also homes being prepared for the future

climate; for homes in flood-prone areas, those would include property-level flood resilience measures as well. We should have a comprehensive approach that would enable us to have green mortgages and green loans, and enable householders to get cheaper finance for making the right kinds of changes to our homes.

Q424 **Sir Christopher Chope:** That is a very helpful response, because effectively the Climate Change Committee is now saying that EPCs are redundant, so all the pressure to change the levels of EPCs is completely ridiculous on the part of the Government.

Baroness Brown: That isn't what I said.

Q425 **Sir Christopher Chope:** Well, can I put it a different way? Why don't you allow people to decide these issues for themselves? The reaction across the continent to the net zero zealots is increasingly a resentment that people are being told that they have to defy their own common sense and their own judgments and comply with imposed rules. You have just said that the rules about EPCs, if not already redundant, soon will be redundant.

Baroness Brown: EPC, we know, is a measure with a number of problems and is not even a very good indication of the insulation quality of a home, so, yes, it would be good to replace EPC with something better. At the moment it is the best thing we have and we should not throw it away.

Q426 **Sir Christopher Chope:** What about cavity wall insulation? Would you replace that as well?

Baroness Brown: I think cavity wall insulation can be very beneficial in many homes, so no.

Chair: Sir Chris, thank you. You have had your five and a half minutes. Chris Skidmore is next.

Q427 **Chris Skidmore:** I would like to turn to adaptation and a final couple of questions on mitigation to finish this part of the session. Baroness Brown, the third national adaptation programme covering the period 2023-28 was published by the Government this week. Do you think it is fit for purpose?

Baroness Brown: It is the best one we have had so far, and it is certainly better than the previous two. But we asked the Government for a clear vision about what a well-adapted UK would look like, so that you can start to set targets and measure progress towards that. We did not get that. We got a statement that the UK would be "fully adapted to the changing climate". That begs an awful lot of questions. Does that mean we will not have any excess deaths in a hot summer? Does that mean we will not have any travel interruptions due to extreme weather caused by climate change? What does it mean? It does not give us anything to start to measure progress or start to tell whether we are achieving that.



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We asked for ambition. We said NAP3 should not just be a collection of existing policies and processes. Unfortunately, it is mainly a compilation of existing policy and initiatives. There are no additional high-value initiatives, for example, on making existing homes resilient to our increasingly hot summers. There are some small positive steps, particularly in DEFRA's own areas, which we welcome, but overall it really lacks ambition.

There are some positives on delivery, like this new senior-level civil service committee involving the Cabinet Office, but overall it does not have the ambition or the urgency to deal with the problem that we can see is around us now. We experienced it here last summer. They are experiencing it on the continent in spades this summer. It is here, it is with us, and we really need to start taking action and finding the funding to make ourselves more resilient now.

Q428 Chris Skidmore: Chris Stark, we are going to hear from the Minister in a moment. He will no doubt tell us that everything is going just fine. But there is an assumption in the Government's published carbon budget delivery plan that everything is going to be delivered in full, and there is no account of any unknowable events. Even there, there are some policies that are unquantified. Are the Government right to be so confident in this approach?

Chris Stark: Well, I hope he is right that we do deliver all the stuff that is planned, but interestingly, even if we do, we will still not hit the targets, so there is a need to broaden the programme. One of the reasons why I say that is that there are lots of uncertainties here, not just in the delivery of stated Government policy but actually in the science. The amount of carbon that is stored in the natural world, for example, changes every year as we better understand the science of that. When we come down to these really low numbers of emissions that I hope we will be reaching in the 2040s, it really matters that we have a bit of contingency in there, as we learn more and more about, particularly, the natural world.

That probably means—I mentioned this at the start, and I do not mind mentioning it again—that we need a strategy from the Government that out-competes the targets and goes further than the targets themselves, so that we build in that contingency. There are lots of options to do that. What we have from the Government—and this is, again, an understandable thing—is a strategy that looks a lot to technology development as the basis of achieving net zero. It does not do very much at all to encourage changes in demand and consumption. Typically, the contingency options lie in the demand and consumption side. There are ways in which you can shape that and encourage people to make positive choices for the climate, but this is not a Government that typically want to put policy around that. That is one way into the contingency question.

Across the economy, we should have contingency options, because we know that policy does not work first time. Sometimes policies achieve more than they set out to achieve, but often it is the opposite. This is something that we are going to return to in the CCC's work as well. The



assessment of what contingency is in place is now almost as important as the plans themselves.

Q429 Chris Skidmore: Finally, your recently published progress report set out concerns about the credibility of corporate emissions and net zero claims based on the use of offsets. Do you think that anyone can claim robustly to be using carbon offsets to achieve net zero, and how can we improve the governance of this emerging infrastructure?

Chris Stark: To give a very brief detour on this, the UK has had its net zero target for longer than any other country in the world. One of the interesting things that came alongside that, especially during the period in the run-up to the COP26 conference, was this extraordinary move from corporates to come in behind net zero. That is very welcome.

What is interesting about that is that many of those corporates set net zero targets themselves. Sadly, what we have seen since then is that, as they have opened the bonnet on the strategy to achieve net zero in their own supply chain, they have found it very difficult. That is because it is difficult. Sadly, some of those corporates—in fact, many of them—are finding that, in preference to doing the hard job of cutting actual emissions, they can turn to the voluntary carbon markets, where they can get very cheap offsets, and use them instead, and of course that is not that beneficial overall. I don't blame those corporates—I think they are broadly trying to do the right thing—but I worry about that because if the offsets market gets a bad name for itself, it won't be the useful thing that it needs to be in the future.

At the moment, it is not that useful for corporates to have a net zero goal and use offsets to hit it. We need to get to a situation where corporates are aligned with the goal of net zero itself, which means that they are probably not achieving net zero yet. To give you one example of what that would mean, we see lots of corporates do things like put solar panels on the roofs of buildings they own, which on the face of it is very useful, but it is not that useful when you think about the fact that the country's electricity supply will be fully decarbonised within the next 10 years. Actually, there are other things that they can do that would be more useful to the nation's goal of net zero—for example, moving the corporate's fleet of vehicles to electric vehicles ahead of the country. That is more costly, but more useful in the transition.

We need something that gives accreditation to corporates that are aligning with the goal of net zero and the transition to net zero. If they want to go further beyond that, offsets have a big role. There are ways of doing very good offsets that need to be equally well accredited, but at the moment we haven't seen that.

The final point from me on this is that one of the reasons that this is such an important issue for the UK is that if we can get ahead of it, put our arms around it, properly regulate it and put the right standards in place—we have the City of London here, and a lot of this is driven by the finance sector's interest in this, which is a real bonus for the UK—we can really do



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something on the global transition. We just need to put some good rules and regulations in place for the offsets market now.

Chris Skidmore: Thank you.

Chair: Thank you, Chris. That concludes our first panel. I thank Baroness Brown and Chris Stark for your contributions.

Examination of witnesses

Witnesses: Graham Stuart and Jonathan Mills.

Q430 **Chair:** Welcome back to the Environmental Audit Committee for our second panel of the day. I am very pleased that we are joined by the right hon. Graham Stuart, Minister for Energy Security and Net Zero, and by Jonathan Mills, the director general for energy markets and supply at the Department for Energy Security and Net Zero. Minister, we have a lot of ground to cover, and we will try to be punchy with our questions. We would appreciate informative but reasonably concise responses. I will kick off.

We have just had in front of us Chris Stark and Baroness Brown from the Climate Change Committee, who, reflecting their most recent report, were somewhat less than impressed by the Government's performance over the past 12 months in meeting the net zero targets. In particular, Chris Stark said that our claims to have leadership internationally on climate change are now looking somewhat hollow. How would you respond to that?

Graham Stuart: Thank you, Chair. It is a pleasure to appear before the Committee. The Secretary of State for Energy Security and Net Zero would have liked to be here, but he was unavoidably detained elsewhere. Nevertheless, he is of course fully supportive of this Committee's work, and his absence should not be construed as implying any lack of interest; I am sure you will not take it in that way.

As you know, the Climate Change Committee published its annual report on our progress on reducing emissions and, as required by law, the Government will reply to it. The deadline to respond is 15 October this year, and our response will be laid in Parliament.

You have set out a good high-level challenge. The UK has overachieved on all our carbon budgets to date. The latest statistics show that we are on track to have met the third. The Climate Change Committee, as you will know, says that its confidence in the UK meeting the fourth carbon budget has slightly increased in the last year.

In March, we published our carbon budget delivery update, which provides detailed information on quantified and unquantified policies and proposals that we are confident will enable carbon budgets 4, 5 and 6 all to be met. Many of the proposals and policies in the package will be phased in over the next decade or longer. Given our success in decarbonisation to date,



we are confident in our approach, but the plan does not intend to predict the exact shape of the economy in 2037 or later, and neither should it.

On your high-level question, between 1990 and 2021 we cut emissions by 48% while growing our economy by 65%. To the best of my knowledge, we have decarbonised faster not only than every other G7 economy to date, but than every G20 economy, based on 1990. Over 80,000 green jobs are currently being supported or are in the pipeline as a result of new Government policies and spending since late 2020.

To answer your question, my noble Friend Lord Deben, quite rightly, always took it that his role as adviser was to be quite waspish in challenging Government. In truth, thanks to the Climate Change Act architecture and the work of the Climate Change Committee we are the world leader. I must pay tribute to Lord Deben; John had been a fantastic advocate in this area for many years before he joined the Committee, and he has carried on challenging us to the end of his time there. The important thing looking forward is that we stay world leader.

Q431 Chair: Chris Stark has just told us that his confidence level in achieving the nationally determined contribution has decreased over the last year. I don't want to dwell on that, but I want to pick up on another stat in relation to our fossil fuel-supplied energy needs, which have declined by only 7% since 2012. What should we be doing to accelerate that?

Graham Stuart: Of course, we are accelerating that. We are proud of the fact that in 2012—just 11 years ago—nearly 40% of our electricity still came from coal, and next year that will move to zero. I think we can be enormously proud of that. The other side of that is what we are doing by way of compensation in power; that has been the tremendous growth in renewables, to which we are fully committed.

We have gone from a low base in 2010 of just 6.9% of our electricity coming from renewables, to well over 40% today. It has been a transformation. We are moving to annual CfD rounds. The whole CfD concept and framework has been a tremendous success and is now widely copied. It saw the transformation of the economics of offshore wind, for instance. It was not always obvious that sticking turbines into the inhospitable environs of the North sea was going to lead to an acceleration of the cost curve downwards, which is fundamental to the delivery of net zero in a way that is acceptable to the public. We saw £120 per MWh in the 2015 auction, and just two auctions later it had come down to £39.50 per MWh. We have now moved to annual auctions, with the first one this year. Last year we saw 11 GW coming through that CfD.

To take offshore wind, since I mentioned it, we have—as far as I am aware—the most ambitious plans for growth in offshore wind of any country in the world. We are looking to move from roughly 14 GW today to 50 GW by 2030. We are extremely ambitious; we need to deliver it and make it happen. There are all sorts of challenges along the way, not the least being the grid. We have appointed a Minister for Nuclear and Networks in the new Department who is dedicated to delivering all this



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stuff. We have a dedicated Minister focused on that to make sure that we overcome the challenges.

Q432 **Chair:** We share your enthusiasm and the ambition for renewables, but we are concerned to hear reports that the strike price for the CfD, which you mentioned, has been set at levels that do not reflect the current environment in which the operators will be trying to build, with the significant inflation cost in infrastructure that we have suffered following the Ukraine invasion. Many companies are telling us that they simply will not be able to build that which has already been consented to, and they are not bidding in the most recent round.

Graham Stuart: I understand the point you make, and we are always alive to that. It has been a turbulent time. Some of the challenges around that actually came partly from our own success. When we took on the presidency of COP, under our colleague Alok Sharma, just 30% of global GDP was covered by net zero pledges. By the time we handed it over to Egypt, it was 91%.

The great news is that the majority of the rest of the world is recognising the need to go down this route. They are recognising the starkness of the science and the difficulty of challenging it, and seeing that they need to go in that direction. That means that there are pinch points in the supply chain. We have an awful lot of people trying to do an awful lot of the same things at the same time.

In terms of our pricing, we have a pretty sound methodology, which has been successful to date. We have our own internal assessments, we gather data—some of which is confidential, but we try and get access to that—and we commission external consultants precisely to give us an understanding of the real-world costs of delivering these projects. We recognise that the cost of finance has gone up, as well as there being other issues. I do think that our methodology is sound. We keep listening and learning, and that is another reason for having annual auctions as we continue to look at it, analyse the numbers and then see.

I would also add, as a final point, that it has been a particularly challenging time for developers, for the supply chain and indeed for my teams, but historically the industry has always said that we are not paying enough. It has always suggested that, and typically we have tended to come through with more generation in the end than people suggest we are going to. I hope we can maintain that, but in any case, we will listen and learn every round and seek to improve what we do and how we do it, and ensure that we do get that massive acceleration in renewables that we need, both for driving down cost and for delivering the net zero elements.

Q433 **Chair:** I used to work in finance; you will recall the traditional disclaimer that the past is no guide to the future, and I think that we are looking at a very different world. You have just highlighted the competition around the world now. We are not alone in developing this, and I think we need to reflect that.

A quick final point from me before I move on: you will be aware that one



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of the big blocks to the uptake of renewables, both onshore and offshore, is grid connection. We have launched an inquiry into that. We have had evidence from Nick Winser before his report. He is due to report imminently. Will you be taking up his recommendations in full? Are there any particular things that you would like us to focus on in our inquiry to help you to accelerate grid capacity?

Graham Stuart: As you say, Chair, we are expecting that to be published imminently. It follows on from the work of Tim Pick, who I know the Committee will also have engaged with. Just as Nick Winser is our networks champion, so Tim Pick was our offshore wind champion. There is quite a lot in his report that goes into this space as well. I think I have said in public before, having taken this on in September, that it seemed to me after a few months that the grid, as an enabler and facilitator of everything we need to do, is absolutely fundamental and possibly the biggest challenge facing us.

Nick Winser is looking at the transmission system, as opposed to the more local connections area. We are committed to producing a connections plan in the autumn, because there are arguably issues with, in some cases, fairly specious projects that are not going to happen blocking the queue, and that will go all the way through to the permissioning. I think it is 12, 14 years to get transmission infrastructure installed, so Nick Winser's brief was to look at ways of at least halving that.

Notwithstanding your excellent question, you will understand that I cannot prejudge the Government response to a report that has not been published yet. Suffice it to say that we recognise how absolutely central this is to delivering this, particularly in my Department, but across the whole net zero piece.

Chair: Thank you. That was helpful.

Q434 **Claudia Webbe:** Minister, are the Government committed to the Paris agreement goal of limiting temperature rises to 1.5°C?

Graham Stuart: Thank you for your question. The Government are absolutely committed to that, and we are working very hard both domestically—of course, net zero by 2050 is a legal obligation for Government—and internationally to ensure that what we do is aligned with that. Last week we had MoCA, the ministerial on climate action, in Brussels, which saw Climate Ministers coming together under the aegis of the Canadians, the Chinese and the EU, looking at our road to COP28. We need other nations to follow in our path of setting a 1.5°-aligned strategy, whether that is on zero-emission vehicles; on increasing renewables; on phasing out coal, as we have done; or on seeking to phase out unabated fossil fuels of all sorts. So yes, it is an absolute commitment of ours. I am responsible for the negotiations in Dubai, and what we need to do and what we are working hard on is ensuring that we come out of that with a really meaningful result that—as the COP President-designate put it in Brussels last week, and I was gratified to hear him say it—puts 1.5°C as the absolute lodestar of those negotiations.



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Q435 Claudia Webbe: The deadline for our nationally determined contribution is just seven years away. Why have the Government published plans that, according to their own calculations, fall short of the emissions reductions required?

Graham Stuart: Whenever we set things out for the future—they say predicting the future is a mug's game—we seek to quantify and specify enough to give us confidence and to give my Secretary of State, as is legally required, confidence in the deliverability of this while recognising that technology, prices and the like change. We are confident that we have come forward with a package of measures that sets us on that pathway. Following the legal judgment that required us to set out more detail, we have done so: we produced that in March.

You are not going to say exactly what you will do, to the nth degree, in either 2030 or 2037. It would be a little crazy to do that. What you have to do is make sure that you are on a credible pathway and that you are aware that things can change.

Q436 Claudia Webbe: It is a question, really, of how you can be so confident if the policies set out are unquantified.

Graham Stuart: It is a good question, because technology changes. In 1905, I don't know where this country was, but if you had gone to the United States, you would have found very few roads and no cars. If you had gone back 20 years later, you would have found a vast road network and a huge share of the population owning cars. You have to allow for technological advance and change. One of the things that so pleases me about our successful COP presidency is it is aligning not just billions but trillions of dollars globally with this agenda. The investment is going in to deliver the technologies and to drive that cost curve downwards.

That is the sweet spot for us, as your Committee member Chris Skidmore's report set out. How do we do this in a way that does not come as a cost? Is there a way we can do this that harnesses new technology, does not bake in old-fashioned and more expensive ways of doing things, and gives you sufficient confidence to know you will get over the line, but with sufficient leeway to be able to flex with new technologies and new approaches? It is precisely that that we are looking to do. It is part science, but part art.

Jonathan Mills: Just to give some quantification for this, the quantified savings that we have set out deliver a 67% reduction on 1990 levels by 2030, and the NDC is a 68% reduction, so the proportion that is in the category that the Minister has talked about is really relatively small; we have quantified the vast majority of those savings.

Q437 Claudia Webbe: The Government's independent climate adviser's assessment last year was that just 39% of the plans were fit for purpose. The Climate Change Committee's recent report's findings are that there are credible plans for less than a fifth of the emissions cuts needed to meet the UK's legal climate target. This is therefore down. The Climate Change Committee has identified significant delivery risks and gaps in



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plans for around half the emissions reductions required to meet the 2030 nationally determined contribution. Wouldn't that suggest that actually your confidence is misplaced?

Graham Stuart: No, I would not say that at all. As I say, we have met every carbon budget to date, and we are confident we will continue to meet them in future. We trailblaze globally in terms of our reductions in emissions and our ambitions to go further.

Jonathan Mills: To take an example that we have touched on already, one of the areas that the Climate Change Committee, in its report, marks as amber is delivery against offshore wind. As the Minister has set out, we have a great deal of progress to report over the last period, but there is absolutely a set of challenges to manage around changing cost, changing supply chains and so on. We would not shy away from saying that there are risks there, so I think it is helpful that the Climate Change Committee points those out, but that does not mean that we do not have plans and a clear sense of direction there.

Q438 **Claudia Webbe:** The Government say they will "bring forward further measures...if required." It is clear from the Climate Change Committee report that further measures are required. With only seven years to go, why wait?

Graham Stuart: We are working on a plethora of issues all the time. That is what my whole Department is dedicated to doing, whether that is looking at the review of electricity market arrangements in order to provide stimulus there, so that we have the right economic signals in the system, or whether it is the decarbonisation of industry, which goes back to one of the announcements in March. No reputable body, as far as I can see, sees a way for us to be able to do it without a role for hydrogen and carbon capture, usage and storage. On 30 March, we announced £20 billion of funding to get that off the ground. Work is going on all the time on that front. It is happening on so many fronts.

To pick another area that members of this Committee are particular champions of, not only are we taking forward the fixed-bed offshore wind, but we are doing floating offshore wind. Currently, we are the world leader in that, and there is real opportunity for us industrially as well as in emissions. You have things like tidal power as well. That is included in the CfDs as well.

Work is happening on almost every front, including energy efficiency and the establishment of the Energy Efficiency Taskforce, because the best energy of all is the energy we do not use at all because we become more efficient. We have recognised that we have had poor housing stock and a poor record to date. We have gone from 14% of homes being insulated to a decent standard in 2010—a truly parlous state of affairs—to an expectation that we will have hit 50% by the end of this year. There is still far more to do, but we are making progress and we are working on every single front to deliver it.

Q439 **Claudia Webbe:** But it is that "far more to do" that I want to focus on,



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because the Government are saying that they will bring forward further measures if required. How and when will you decide whether further measures are needed or required, and will you consult the Climate Change Committee in this?

Graham Stuart: Well, we come forward with measures practically all the time. We passed secondary legislation yesterday. It is a continuous process. There are policy papers coming all the time. There are announcements. There are changes to the law. There is the Energy Bill going through the House of Commons. So much is going on that it is fairly dizzying. We engage closely with the Climate Change Committee, whose role is to support us and advise us in meeting our statutory obligations.

Jonathan Mills: To use another example, we have set ourselves a deadline for when we want to make a decision on the future use of hydrogen in heating. Setting that deadline enables us to have built the evidence base and to make an informed decision. If we took the decision ahead of that evidence base, we would have less information to be making the decision on. In a number of areas, we are trying to strike the balance between building the evidence base and taking decisions in a timely fashion.

Q440 **Chair:** Decarbonising the economy is an enormous task, and it can be done in a whole host of ways, as you have just outlined. One we are not doing at the moment is onshore wind. Some amendments are coming to the Energy Bill from a number of colleagues to promote onshore wind. What is your personal view?

Graham Stuart: As you know, Chair, the Government have but a single view of everything. *[Laughter.]* I might have said this to the Committee before, but at least in theory we are supposed to be like the Borg, with but a single thought flowing around all our ministerial heads.

The latest figures indicate that we have about 15 GW of onshore wind capacity installed, enough to power about 10 million UK homes. I would like to see more onshore wind—

Chair: Thank you, Minister. That is absolutely perfect. *[Laughter.]*

Q441 **Anna McMorrin:** I presume that you have read the most recent Climate Change Committee progress report.

Graham Stuart: Indeed.

Q442 **Anna McMorrin:** Do you then accept its findings that the expansion of new fossil fuels is incompatible with net zero?

Graham Stuart: If you mean in reference to the North sea, we are not having an expansion; we are managing a decline in production faster than is required internationally, at I think at least 9%, if it was left as it was. With new licences, the expectation is that it will still be declining at about 7%, whereas, as you will be aware, the IEA and others say that, internationally, production needs to fall at about 3% to 4%.



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It is important to note that we are managing the decline of production in this country at a faster rate than is required internationally. We are doing so in tandem with the more important side than production, which is the demand side, by cutting demand. That is why I find it peculiar that His Majesty's Opposition believe that there should be no new—

Q443 **Anna McMorrin:** These are questions to you, Minister.

Graham Stuart: I was trying to answer. I was trying to give you some context. I find it bizarre—

Anna McMorrin: These are not questions to the Opposition.

Graham Stuart: I was not asking a question; I was making a statement.

Q444 **Anna McMorrin:** I take it then that you are accepting the Climate Change Committee's findings that that expansion is incompatible with net zero, from what you said. That means that you agree with the United Nations Secretary-General, the International Energy Agency, many members of your own party, including Lord Deben—who has been referred to—former COP26 President Alok Sharma and Chris Skidmore, whom we have here, and many other countries. That list is so long, it even includes the Pope. So you agree with all of them that the expansion of new fossil fuels is incompatible with net zero, as the Climate Change Committee sets out.

Graham Stuart: As I say, the UK is not expanding its production of fossil fuels. Both production and demand are falling, as they need to.

Q445 **Anna McMorrin:** In that case, how do you reconcile the comments you made to MPs last month when you asserted that only in a "parallel universe" should Rosebank not go ahead?

Graham Stuart: I did not say that. I would not make a specific reference to a specific project. That is not up to me or other Ministers to decide; that is a matter for the North Sea Transition Authority.

Q446 **Anna McMorrin:** Okay. So, you agree—you are asserting—that Rosebank should not go ahead, on that basis.

Graham Stuart: Chair, it would be great if the questions bore some link to reality or the words I have said. I have just said that that is a matter for the NSTA; it is not for me to make a judgment. And I did not say what the hon. Lady says; I would rather she did not try to put words in my mouth. Ask me a question, I will give you the words and you can make of those what you wish.

Q447 **Anna McMorrin:** Okay. You said earlier in Committee that you are working with international counterparts to keep that 1.5°C target alive. Are you aware that the downstream emission implications of Rosebank make it clear that that is not compatible with achieving the 1.5° goal?

Graham Stuart: As I said, Chair, the licensing of new oil and gas projects is a matter for the North Sea Transition Authority. It makes assessment, including on a net zero basis, and there is of course the climate compatibility checkpoint, and it then comes to a conclusion on the basis of



that. It is not for Ministers to make that decision. If what the hon. Lady said was true, they would not, and would not be able to, give permission for something that did what she said. If they come to the opposite conclusion, it will be because the premise of her question is wrong.

Q448 **Anna McMorrin:** As a Minister in this Department with a commitment to keep 1.5° alive, will you make your opposition to Rosebank clear?

Graham Stuart: I made no comment on that specific project. What I have made clear is that we are managing the decline of the North sea. It is declining faster than is required. Domestically produced gas has lower emissions than the alternative, which we would need because production in the North sea, as far as I can see, has no linkage whatsoever to the amount of gas that we actually consume. Those two things are not really linked. Therefore, if you do not maximise recovery of a fast-declining basin with the highest standards, you will replace UK-produced gas, which produces billions of pounds of taxpayers' revenue. Oil and gas generally employs more than 200,000 people. So you would lose the tax and the jobs, and then you would bring in gas because it would not make any difference to the amount you would use. This is—

Anna McMorrin: Minister, it is us asking the questions.

Chair: Let's not talk over each other, please. Let the Minister answer.

Graham Stuart: Thank you. And then you would bring in gas, which you would consume anyway with higher emissions than you started with. That is the parallel universe that I cannot make sense of.

Q449 **Anna McMorrin:** But not if you secure a transition, which you were just talking about, to renewables—a proper transition. This report makes it very clear that you are not doing that enough. Are you aware that emissions from existing fields operating in a business-as-usual scenario put the oil and gas industry on track to overshoot its 2030, 2040 and 2050 emission reduction targets—that is just existing ones—meaning that approving Rosebank would push the industry even further past these targets?

Graham Stuart: As we manage this fast-declining basin while maximising our own production against higher and higher standards, with lower emissions for gas than what the alternative would be, new investment is critical to allowing the industry to make the investments to clean up and deliver the North sea transition deal, which has been on track. As you will be aware, it was a world-leading voluntary commitment by companies in the basin to reduce emissions by 50% by 2030. Not only—right now in 2023—does the gas produced here have much lower emissions than that you would tanker in from elsewhere, but the hon. Lady seems to want to do more of that and less of our own production. We are actually on path, with new investment, to deliver things like electrification and other improvements, which will mean that the production here is on track for 50% by 2030 and net zero production by 2050.

Chair: You have time for only one more question.



Anna McMorris: The Minister does not seem to have read the report from the Climate Change Committee; otherwise, he would not be making those assertions, because it is about pushing forward on renewables. I did not expect a right answer from the Minister. I know that there are organisations, as well as the Government's own data, that show that even with the achievement of all emission abatement aspirations, including electrification, industry targets still might not be met. Even electrifying Rosebank would require that diversion of clean, affordable electricity that could power nearly half a million homes in a cost of living crisis caused by expensive gas.

Chair: Anna, do you have a question?

Q450 **Anna McMorris:** How can that ever sound like a good deal? I know that the Minister will have received a letter outlining, on stronger grounds, the threat that Rosebank poses to UK climate targets, proving that Rosebank would be unlawful. Can the Minister tell the Committee here today, once and for all, that he will be voicing his objections to Rosebank?

Graham Stuart: I think I have already answered this question. It seems extraordinary that the hon. Lady both complains about emissions from the production of the oil and gas that we will inevitably be consuming—

Q451 **Anna McMorris:** Do you think you could answer the question?

Graham Stuart: Perhaps she can let me answer. I find it extraordinary that she should complain about that and suggest that we import more from abroad with higher emissions, and then want to attack the very efforts to reduce the emissions further from our own basin, so that we produce at home and power Britain from Britain and do so to ever-higher environmental standards. The only alternative—because we are rolling out renewables on a fast basis, we are reducing demand and we are on a net zero compatible pathway. And even under that pathway, we will need oil and gas, and we need to produce it at home as cleanly as possible.

Anna McMorris: It is not—

Chair: I think the Minister's answer is clear. Thank you, Anna; thank you, Minister.

Q452 **Caroline Lucas:** And breathe. I want to pick up a couple of points that the Minister has made, and he will be unsurprised about that. First, Norway of course does not have a higher carbon footprint than the UK; it has a lower carbon footprint, so those imports will not have an impact in terms of driving up our emissions in the same way as our own production would. Of course, it is not just a question of whether we are choosing between one source of gas or another source of gas; it is a question of whether we are bringing on renewables fast enough. Does the Minister know how many onshore wind turbines were installed in England last year?

Graham Stuart: I thank the hon. Lady for her question. As she will know, Norway is also in the North sea basin, and its production is declining too. I know she would not want to give the impression that there is some easy



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option for us to increase gas from Norway. She is quite right that it is probably the lowest upstream emitting basin anywhere—

Caroline Lucas: I am not suggesting increasing it.

Graham Stuart: The suggestion was that we can somehow turn to Norway for more imports, but I am saying that it is a declining basin. We already have the Langeled pipeline—the longest gas pipeline in the world—which comes into my constituency. It produces a significant amount of that—

Q453 **Caroline Lucas:** Can you answer the question, please?

Graham Stuart: The hon. Lady raised Norway, and I wanted to deal with it. She suggests that it is an alternative, but I don't believe it is. We already—

Caroline Lucas: I was correcting the Minister—

Chair: Sorry, can we not shout over each other? That is not a seemly way to conduct business. Please, Caroline, let the Minister finish his answer, and then you can come back.

Graham Stuart: Thank you. I am trying to respond. If somebody raises something, I respond to it, and Norway was raised. I hope I have made that clear.

In terms of onshore wind, we have had an effective moratorium, and one of the reasons for the consultations and efforts we are putting in is to find a way forward to make sure that we can see growth in onshore wind, again, which goes with the grain of the community. In my role—

Q454 **Caroline Lucas:** Can you be a little shorter, please? I am sorry— I have only six minutes. That is why I am under a little pressure.

The reason I mentioned Norway was simply to correct something that you had said which implied that the imports we are bringing in have a higher carbon footprint. I was simply pointing out that, to the extent that we are bringing in imports from Norway, it has a lower carbon footprint. That is just for the record.

Secondly, to answer my own question, the answer to how many onshore wind installations we had in England last year is two—fewer than Ukraine. That does not speak well for the Government's record.

Thirdly, on the issue of a declining basin—I have noticed that that is the latest rebuttal that Ministers like to use—the issue isn't whether we produce less relative to some previous amount. It is whether the amount we are producing is compatible with our climate goals. That is why the CCC says loudly and clearly, "The UK will continue to need some oil and gas until it reaches Net Zero, but this does not in itself justify the development of new North Sea fields." It goes on to talk about what that does in terms of our global climate leadership, too—the idea that, actually, it sends a terrible sign to the rest of the world.



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In that context, can the Minister explain why he thinks that giving the green light to more oil and gas—without mentioning any specific fields, if he doesn't wish to—is compatible, given that the CCC makes it pretty clear that it is not?

Graham Stuart: I think I have rehearsed the argument already. We will need oil and gas for decades to come. Even in 2050, when we are at net zero, we will be using around 20% of the gas that we do today. The hon. Lady suggested that she needed to correct me in some way—

Caroline Lucas: Three times.

Graham Stuart: I don't think that that is fair. I was saying that if we cease to produce in our own basin, then given the supply we get from Norway—I do not know what other alternative she has—and that there isn't more gas to be contracted from Norway, which in my broad understanding there isn't, what is the alternative? The alternative is to tanker in more LNG from around the world. That has, as she knows, or ought to know, two and a half times the upstream emissions of gas produced here.

If you are not going to reduce by even the slightest iota the amount of gas consumed, although we recognise that we are doing everything we can on other fronts—you can challenge me to do more, but accepting that we move as fast as we can to reduce that as fast as we can, which we are trying to do—why on earth would you want to tanker in? That is the alternative. I just think it's—

Q455 **Caroline Lucas:** He will know that any oil and gas that we produce here in the UK is going to be sold on global markets at international prices, so there is nothing particularly special about producing here, because that simply gets exported.

I think one of the reasons that emotions are running so high is because the Minister seems to be deliberately misunderstanding what those of us who have a different view from his are actually saying. It is not just Anna or me; it is actually the Climate Change Committee, which is saying that notwithstanding the fact that we will need some more oil and gas in the short term, that does not justify new oil and gas licences in the North sea. There are alternatives: first of all, there is some oil and gas in that North sea basin for some time to come, and we need to make a much quicker transition to renewables, battery technologies and all those positive things. We know that the Government are not moving fast enough on those, because the CCC just sat in that very seat and told us so.

My last point—we are running out of time—is about scope 3 emissions. It seems to me quite remarkable that scope 3 emissions—in other words, the emissions from the burning of the oil and gas—are still not being calculated by the climate checkpoint. Given that 80% of the emissions from the North sea are emitted when that oil and gas is burnt, rather than when it is being extracted, can he explain why the Government's measure of whether this is compatible with climate objectives is based



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simply on the CO₂ emissions related to the extraction and not to the burning?

Graham Stuart: I thank the hon. Lady for the question. We are net importers, as I said, but of course there is an international market. It flows backwards and forwards. It depends on where refining is and on which product you are doing, but overall we are net importers. As I say, for things like gas, it is much better to produce here. I have momentarily lost my—

Caroline Lucas: I'm glad he's lost his way. He has just said it is much better to produce gas here. To the extent that we are importing gas from Norway, that is not even the case. I have just explained that if we are producing gas here, it gets sold on global markets. That is why this is such a frustrating conversation, Minister: it feels like we are in parallel realities. But actually our reality is the real one, and he is the one who is in some kind of fantasy land.

Graham Stuart: Sorry, what was her question prior to that?

Q456 **Caroline Lucas:** Scope 3.

Graham Stuart: Oh, yes. We are signed up to the UNFCCC, which is the international standard. We follow international standards, and I would have thought that the hon. Lady would want us to do so, because if we do not measure the same things in the same way internationally, I can tell you that the net zero pathway is going to be even more challenging.

Chair: I am going to move us on now. Caroline has very helpfully indicated that we have six minutes each—just six minutes each. I am sure that our guest Vicky Ford will hold to that.

Q457 **Vicky Ford:** Thank you. My question is about energy efficiency. You and I have had many conversations about how much we share this hatred of wasting money, so I assume that you share my concern about my constituents having to waste money on energy that disappears through leaky buildings. The Climate Change Committee was telling us that, in many other countries, part of the reaction to last year's energy price crisis was to try to accelerate help for energy efficiency projects. Why do you think the UK Government did not double down or re-emphasise the need to help people with energy efficiency projects last year?

Graham Stuart: I share your enthusiasm. As I said, my favourite energy is the energy that we do not use. We have set up the Energy Efficiency Taskforce and set a target for economy-wide reductions in the use of energy. We have gone, as I say, from 40% of homes to, hopefully, 50% by the end of this year reaching the EPC C standard. We are spending £6.5 billion in this Parliament to give a pipeline to people to invest and build their skills and see a future for it, which is really important, and another £6 billion in the next. So we are doing a lot.

The "It all adds up" campaign is part of the communication thing to let people know. It seems boilers are installed at the wrong temperature, when people could turn them down and save money, and the house would



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not be any colder. Those sorts of things have made a difference, and we are trying to do more to reach people. That is what the Energy Efficiency Taskforce is about. My colleague Lord Callanan co-chairs it with Alison Rose of NatWest.

Obviously, the financing piece is really important. As well as Government and industry funding, we are looking at encouraging those who can pay and giving them a nudge.

It is a complex piece. We have made a lot of progress, but I acknowledge that we have a long way to go. It would be fantastic to see those 2030 reductions in demand, because that lowers the tension and the need for so much network reinforcement, generation deployment and all the other aspects of tackling this.

Q458 Vicky Ford: To go back to last year, before you were the Minister—I know you were not the Minister until the latter months—was the Department looking earlier in the year at whether we should be trying to accelerate energy efficiency, given the rapid rise in fuel prices that we were seeing?

Graham Stuart: The Government launched the Great British insulation scheme for councils in spring this year. With a full establishment in the summer, it will run till March 2026, aligning with the current ECO4 scheme. We have the ECO4; it is worth £1 billion a year and runs from 2022 to 2026. When the scheme launched, we estimated that it would help upgrade an extra 450,000 homes, cutting their energy bills by over £600 at current prices. I am not sure exactly what conversations did or did not go on in my Department or its predecessor and/or with the Treasury.

Q459 Vicky Ford: Your carbon budget delivery plan says that we are going to have 1.5 million energy efficiency projects on properties each year by 2025. Last year there were just 200,000. How are you going to ramp up—I think you have mentioned some of the projects already—from 200,000 to 1.5 million over the next three years?

Graham Stuart: It is the nature of these schemes that they start and then they start moving up a level.

Jonathan Mills: On what the barriers are to that, one of the issues that has previously been highlighted when looking at energy efficiency schemes has been having quite short timescales for those schemes. The long-term funding commitment that the Secretary of State has talked about is part of that. The supply chain and having people with the right skills who are able to work on these is another barrier that is quite often identified. We have launched the latest phase of the home decarbonisation skills training competition, and we are delivering the national skills fund in this area. As the Minister says—the Secretary of State also says this—the Energy Efficiency Taskforce is looking at what more we can do to address those barriers. We start with looking at the barriers that are holding back deployment and preventing the acceleration that the Minister has talked about from happening faster.



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Q460 **Vicky Ford:** Between November 2020 and February 2021, you did a consultation on how lenders could help improve energy performance in domestic properties. When are you going to publish the response to that consultation? Maybe you can come back on that.

Graham Stuart: I am not sure that we said exactly when we are. I am not in a position to announce that today.

Q461 **Vicky Ford:** But maybe you could let the Chair of the Committee have that. Why do you think that the number of installations under the ECO scheme “dropped off a cliff”? That is the phrase that companies have used to describe what happened last year. Why do you think that happened?

Graham Stuart: I know that measures are now being installed at a similar rate to the start of ECO3. If I have understood it correctly, it is to do with getting the scheme going. Reports show that delivery is accelerating month on month, so it may just be the nature of a programme and the way that it grows. Fewer homes are being treated, but that is largely because the focus has changed and is more on the least efficient homes. Those homes are having more measures installed, resulting in greater savings for the households, but it is also a smaller number of units. It is about whether you go for the lower hanging fruit—which, if I have understood correctly, has typically been the ECO approach in the past—or a slight change to try to look at where we think we can make the biggest difference.

Q462 **Vicky Ford:** So you are making changes to the ECO scheme.

Jonathan Mills: We have.

Graham Stuart: We have, yes. ECO4 is dealing with the exact structure of the contracts and the incentives for the companies that deliver this. I cannot say that I am au fait with that to the nth degree, but I understand that they are encouraged and therefore moving to doing these more expensive and intense installations.

Q463 **Vicky Ford:** As a guest to this Committee, I think it would be really helpful for it to get information on the changes happening to the ECO scheme. Maybe you could arrange for the Department to let the Committee have some more details on the changes you have made to the ECO scheme.

Jonathan Mills: These are published details. We will highlight them and give them to the Committee.

Chair: That would be very helpful. Thank you.

Q464 **Clive Lewis:** Minister, I would like to turn your mind to heat, if I may—not the righteous heat of my colleagues, which you have felt while sitting here in the Committee, but the heat currently devastating southern Europe. Indeed, the desertification of vast swathes of France, Italy and Spain is taking place before our very eyes, and similar summers are increasingly likely to occur here in the UK. What are the Government



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doing in relation to these expected rising temperatures and about the estimate that about 10 new air conditioning units will be sold per second between now and 2050? That is a lot of power consumption.

Graham Stuart: Yes, you are absolutely right. Yesterday, we published the national adaptation plan from DEFRA, setting out broad policy in that respect. As you say, the impacts of climate change are real now, so as well as seeking to mitigate as quickly as we can in line with 1.5°C, we need to ensure that our adaptation approaches are correct. As the demand for cooling comes up, it will put further strain on the energy supply. That is why a lot of work has gone into trying to have passive design—I think they call it—to try to maximise cooling. It is worth noting that when the insulation work through the various schemes—on which we are spending £12.5 billion from this Parliament to 2028—is done to those high standards, it has an impact on, not so much cooling the building, as actually stopping the heat coming in. Fortunately, the insulation work complements the need to create cooler buildings and thus reduce demand for cooling.

Q465 **Clive Lewis:** In Europe, the power systems last year almost blacked out because of the demand for air conditioning and the energy it required. What are we doing here in the UK to prepare for that eventuality? We saw what happened here last summer; it is likely to happen more frequently. What are we doing on power networks and systems in the UK to prepare ourselves and build in that resilience?

Graham Stuart: That is a part of how the system operators work to ensure that we have reliable and secure supply and to recognise where growing demand would come from and manage that. We are legislating in the Energy Bill, which I very much hope and expect will go through in this Session, to create the so-called future system operator. That will come out of National Grid, whose role—because a lot of it is technical as well—will have the expertise to manage both in real time and over future years the requirement to ensure that we have a system that is fit for purpose in a changing climate.

Q466 **Clive Lewis:** It is interesting that that bit has been taken out, because you obviously consider it to be quite critical. You have taken that under public control, which is interesting, and you have left the rest to the private sector—to the energy networks. My understanding is that they need to find £350 billion between now and 2050 to achieve the net zero expectations that are required. They are not very happy with that. Some people say that they possibly will not find that money. They have been taking out vast sums since the early 1990s when it was privatised, and have been giving great returns, but now they have to find £350 billion. We can see the scale of what is required. Are you confident that they are going to find that money, or are you going to have to take more chunks of the energy system—the network and grid system—under public control, as you have just done with part of it already?

Graham Stuart: I think the hon. Gentleman answers his own question. Such is the scale of investment required that it is quite hard to imagine



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any Government of whatever colour wishing to use that much public money. Notwithstanding what they may say as the Opposition, when they hit the realities of Government, they will find that they have to provide an attractive investment environment so that investors come in. Fortunately, at the moment, under this Government, we are one of the most attractive investment environments in the world. There is no way we are going to be able to deliver the ambitions of net zero if we end up thinking that we can do so relying on the public purse.

Q467 Clive Lewis: I am going to move on to heat pumps. We know that they can both cool and heat homes in a highly efficient way, yet, before you came in, the representatives from the Climate Change Committee were telling us that we have a world record-beating appalling record on both retrofits and heat pump roll-out. We have had this Government for 13 years, and it is quite telling that those representatives are saying that to us after 13 years. Rather than smashing our carbon budgets by drilling for new oil and worsening the climate crisis for the sake of three weeks of energy that that oil would produce, why do the Government not help the public and subsidise heat pump roll-out and retrofits instead of helping a handful of oil corporations with the subsidies you are giving out? I know that the Minister is a fan of "Star Trek", so surely the needs of the many outweigh the needs of those few oil companies?

Graham Stuart: I thank the hon. Gentleman for that well-crafted question. The heat pumps have gone from 11,300 in 2018, 13,700 in 2019, 15,000 in 2020, and then to 29,000 and 32,000. We need to reach our targets of 600,000 by 2028. We need to see that accelerate further. That is why we are looking at rebalancing, because a lot of the system costs have fallen on electricity as opposed to gas. We are looking at that. I think it was one of the recommendations of the "Mission Zero" Skidmore review and the Climate Change Committee the other day, which we will be responding to later. I share the hon. Gentleman's enthusiasm for getting the system right so that it encourages that kind of take-up, because heat is a very important part of the net zero puzzle.

Q468 Chris Skidmore: I have two brief questions. You mentioned the Energy Bill, Minister, and it has been delayed yet again, into the autumn. There are a number of critical projects waiting on some business models to be passed in the Bill. Some of those industries now doubt whether they are going to be able to complete the CCUS and hydrogen opportunities that the Government has set for 2030. Do you share their concern that some of those 2030 targets for CCUS and hydrogen are now out of reach?

Graham Stuart: I certainly hope not. As I said earlier, we want to see that Bill become law in this Session. It is the largest Bill of any sort to come before the House since 2006, so it is quite big and extensive and has a lot of issues in it. It is all part of rewiring, and setting the framework for rewiring, our entire economy to make sure it is net zero-compatible. It is challenging, but I am really pleased that it has had cross-party support. There are obviously issues of difference but, fundamentally, there is recognition. I did tease Alan Whitehead that he must be the first shadow Minister in history to have written a letter to a Minister in the Government



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urging him to hurry up with a Government Bill. I welcome that, and the SNP has been similarly supportive of the broad principles, which is one of the great things about our politics here: there is a recognition of the need to act and to get in place the right frameworks to deliver.

Q469 Chris Skidmore: In terms of what keeps you awake at night as a Minister, I have been in the place where you are sat, and privately there must be certain areas where you are most concerned about being off track on net zero. Could you share honestly with the Committee where you genuinely feel concerned that we are not meeting our targets and we have no answers about how to do so?

Graham Stuart: As you have been in my position, you will know that you kind of veer from irrational levels of optimism at one stage to a kind of deep gloom the next when you come up against barriers. I try always to be an optimistic person. I think the focus and the fact that the world is pushing this—companies all over the world and investment decisions all over the world are focused on some of the technical challenges and delivery challenges here—gives me confidence.

Notwithstanding some of the “Buy American” aspects, about which we have expressed some doubts, the Inflation Reduction Act in the US is seeing the world’s largest economy absolutely driving investment—

Q470 Chris Skidmore: So you have no concerns or sleepless nights?

Graham Stuart: I was just saying that I veer from one to the other. The grid is massive. A lot of work was commissioned before I became a Minister; it is not like arriving and feeling like I was alone in seeing it. There was the Winsor review; Tim Pick was already on it; and there is a load of work going on, including the connections plan work. We have to do that politically.

You are talking about, in a very short space of time, putting in vast new infrastructure. Not only is there the question about the huge investment, and the deployment and the supply chain pinch points and all those risks, but you also have the political issue that you cannot just drive this over people; you have to do it with them, in a way. That is why we are looking at making sure that we do holistic network design—I am just staying on the grid.

Given how transformational all these changes are, it is true that there are many areas where things could go wrong, and we are trying to make sure that they don’t. You could pick almost any area, couldn’t you? Heat, transport, land use, agri. Even if you get all the generation investment coming in, what happens if you do not get the grid in time? There are a lot of challenges, and we are alive to that—we are not trying to play it down. That is why I very much welcomed your review and so many other voices. We may argue about new oil and gas licences but, fundamentally, there is a recognition of the need to move us in the direction we need to go in.

Chair: Thank you, Chris. Minister, thank you very much. We have overrun by two or three minutes, so apologies for that, but thank you for your time



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and for the lively discussions that you always get at this Committee.
Graham Stuart and Jonathan Mills, thank you for joining us.