

Energy Security and Net Zero Committee

Oral evidence: [Work of the Department for Energy Security and Net Zero, HC 396](#)

Wednesday 8 January 2025

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Members present: Bill Esterson (Chair); Ms Polly Billington; Sir Christopher Chope; Torcuil Crichton; Wera Hobhouse; Anneliese Midgley; Ms Julie Minns; Luke Murphy; Bradley Thomas; Claire Young.

Questions 254 - 344

Witnesses

[I](#): Emma Pinchbeck, CEO, Climate Change Committee; and Dr Emily Nurse, Head of Net Zero, Climate Change Committee.



Examination of witnesses

Witnesses: Emma Pinchbeck and Dr Nurse.

Q254 **Chair:** Welcome to the Energy Security and Net Zero Committee. We welcome the Committee on Climate Change, who are giving evidence for the first time to this Committee or any of its direct predecessors. A big welcome to Emma Pinchbeck, who is giving evidence as CEO for the first time. We look forward to hearing from you and from Emily Nurse. Perhaps you and Emily would say a few words of introduction yourselves, rather than relying on me to introduce you.

Emma Pinchbeck: I am Emma Pinchbeck. I am the pretty much brand-new chief executive of the CCC. I have been in post since the beginning of November. Before that, I was the chief executive of the cross-technology energy trade body, including fossil but also clean forms of generation. I have been working for well over a decade on energy policy, energy transition and related topics, largely in the private sector. I hope that is an interesting insight into what I might bring to the role at the CCC.

Dr Nurse: I am Emily Nurse. I am head of net zero at the CCC. I have been in post for a year and I have been at the CCC for three years. Prior to that I was a professor of particle physics, so very different. That's my background, but don't ask me about particles—I've forgotten all of that.

Q255 **Chair:** You are both very welcome. Emma, what are your reflections on your first two months as chief executive, and what are your priorities? How have you established those?

Emma Pinchbeck: The priorities are relatively straightforward because we have some statutory obligations to deliver; 2025 is going to be a really busy year, and I have come into that cycle. The immediate priority will be delivering our advice to the Government on the seventh carbon budget, covering the period in the late 2030s and early 2040s. We will be doing that at the end of February, and then parliamentarians will be able to scrutinise and debate that as it goes forward, hopefully into legislation. Thereafter, we have to deliver carbon budget advice for Northern Ireland, Scotland and Wales, all of whom have their own climate change targets and Acts.

Later, our adaptation committee, the Cinderella committee that we do not talk about enough, which advises the UK Government on economic resilience and adaptation, will be publishing its next major report for the UK Government on climate change impacts and what we can do to prepare the economy. That is a big job of work.

We have our annual progress report, where we scrutinise Government policy for Parliament so that you can hold Government to account in the way you see fit. That is the main stuff. It is getting all of that finalised and, hopefully, out of the door on time for all of you.



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More broadly—I think I mentioned one thing already—coming in from the outside, and looking at the role and remit of the adaptation committee, I think the adaptation work that it does could do with more light, more visibility in discussion and more visibility in Government. We see from some of the impacts that economies are facing that that is increasingly important. The public are very aware of it. I would like to give that committee more profile in the job. Similarly with the devolved nation reports, which fall out of our UK advice, all of them have their own priorities, which we should talk to more.

When I came into the job, I was interested in and wanted to bring together some of the economic transition that is happening—the very powerful energy transition and some of the economics we are seeing, such as the falling cost of batteries and renewables, as well as the knowledge I have from the energy industry and the private sector—and bring that to the work of the CCC.

Stepping back from that, separately, it has clearly been a very challenging period for people. In my last job, I spent a lot of time talking about energy bills, the cost of living and what we can do to support people through a very difficult economic period. It is about distributed impacts and the question of funding, fairness and how the costs and benefits of the net zero transition or the energy transition fall in society. That is really important and becoming increasingly important.

Emily, and others who know what they are doing, had already started looking at that for CB7—carbon budget 7—so this is just a trail for some of what you will see in CB7, which is already under way. More of that, in my time as chief exec, will be the priority. That is the high-level to-do list, and you can hold me to account for it over the next few years.

Q256 Chair: There will be lots of questions digging into the detail of what you said. You have said that you intend to support Government in the transition to net zero “in the way that most benefits people and the economy.” Do you want to say what you mean by that, how it might be achieved and what the biggest barriers are to making it happen?

Emma Pinchbeck: That is a big question. I don’t want us to end up repeating ourselves through your other questions, but in terms of high level and on the role of the CCC in our remit, I think I have worked with the CCC in all my jobs in the private sector, in the environmental movement and now as a civil servant in the CCC. Its role is not necessarily well understood.

The good thing about the job is the weight of influence that you have and the expectations people have of you—parliamentarians, the environmental movement and others—but it is really important to say that we are advisers to Government. Our job is to help and support Government and parliamentarians, but it is ultimately for you in this room to set the delivery pathway and to set out policies that get us to the targets you have legislated.



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I am keen for us to make real that advisory role, and for politicians of all kinds of colours to be able to talk to us about policy alternatives and routes through to delivery. A really important thing is to do lots of stakeholder engagement, talking to politicians with all kinds of different views about how we do this, talking to the private market, talking to the NGOs and reconstituting what the purpose of the CCC is. That will help with the next bit.

It is very clear in the Climate Change Act that we have to consider economic and social factors. We have a very clear mandate in the Climate Change Act. Our job is to offer Government, and then Parliament, advice on the five-yearly carbon budgets and advice on adapting the UK economy to climate change.

We have to show you that the number we come up with for a carbon budget is credible, and therefore we model a pathway. Then, on top of that, we have to consider economic and social factors. Broadly, what that means is that we try to offer the least cost and most straightforward pathway, and then we work with Government in the delivery. Government could choose to do something different; that is where the progress reports come in, when we hold Government to account every year, or we look at the policy options they have eventually come up with.

It is therefore in the Climate Change Act that we are meant to consider people in the economy. It is therefore in the Climate Change Act that, largely, what we are going to offer you is something that is pretty cost-effective and inside the existing economic model. We can now go further than in the analysis that we have offered previously by considering things like distributed impacts and fairness, which I have already signalled we are starting to do.

I talked a bit about the feelings of people and making sure that we reach the public and reach out to all of you. Some of that is more stakeholder engagement. This is me signalling, as chief exec, that you should come and bother me and ask me questions. I will come and talk to parliamentarians as often as I can, as well as to other stakeholders, like business.

Lastly, we have hugely benefited for the seventh carbon budget, as we did for the sixth, from talking to the public directly. While I cannot today tell you everything that is in the seventh carbon budget advice, because we are finalising it, we have run a citizens panel again and talked more directly to the public. We have also brought on to the committee in advisory roles experts in social sciences, behaviour and public sentiment. Those things are really important alongside the traditional, heavyweight economic analysis that we are already doing.

Q257 **Chair:** The last part of my question was, what are the biggest barriers that you face?



Emma Pinchbeck: I thought we might come on to that when we talk a little bit about what we said in the last progress report. Emily can interrupt me if she disagrees hugely with this. I am going to group them in a slightly different way.

If you look at the immediate period ahead, the reason why I have this job and why there is a considerable overlap between this job and my previous job, is that a huge part of the heavy lifting on decarbonisation is still being done by a big energy transition, largely moving away from fossil fuels to clean electricity on the power generation side, and to electrified demand in homes, transport systems and other things. To a certain extent that economic shift is happening in the world, I would argue, regardless of climate change targets.

Therefore, understanding energy policy and getting to grips with things like grid connection reform; planning reform, so that we can build energy infrastructure efficiently; planning reform, so that people can easily install technologies in their homes; and, importantly, making electricity as cheap as possible, so that people can see the benefit of adopting these technologies and of investing in them on the supply side, are hugely important. Hopefully, my previous experience adds real credence to that work at the CCC.

There is then a bucket of measures around investing in the new-stage technologies that we need for more complicated areas of the economy and other fuels. Those are things like sustainable aviation fuel, hydrogen, carbon capture and storage, and bioenergy and carbon capture and storage, or BECCS.

Then there are barriers in terms of communication and people actually understanding the transition and the choices available. It is also about having the technologies available and having companies that will offer the business models, the tariffs and the services for those technologies.

I'm sure I have missed something, but lastly there is investment in natural sequestration such as trees, peatland, landscapes and—the last one has gone out of my head; that's a classic Select Committee move. It will come back to me because we are going to go over them again. We have 10 recommendations in the previous progress report, which we will come on to.

Q258 **Chair:** We will come on to them in detail, so that will give you an opportunity. There are a lot of barriers that you have listed there, to be fair.

Emma Pinchbeck: Oh, it's skills—the perennial thing.

Q259 **Chair:** If you continue talking, you always get there.

Emma Pinchbeck: It is the workforce to install technologies.

Chair: We will explore all of those in some detail. Chris Chope has a



follow-up question.

Q260 Sir Christopher Chope: Thank you for highlighting the importance of adaptation and resilience, which are among your statutory responsibilities. When it comes to public investment to meet those objectives, how do you evaluate the relative benefits of taxpayer-funded investment in adaptation and resilience measures compared with taxpayer investment in going for net zero emissions?

Emma Pinchbeck: Can I check that I'm understanding right? Is the question about whether, if we focused all our resources on making the economy resilient, we would have to spend less money on investing to mitigate climate change up front by switching to newer technologies? Are you looking for—

Q261 Sir Christopher Chope: Let me give a specific example. The Environment Agency published a report at the end of December saying that as a result of climate change, one in eight properties in England is going to be in danger of being flooded by the middle of this century. The cost of dealing with that, preventing it and adapting to meet that threat is going to be enormous. There is no evidence from anything I have seen in your report so far to suggest that you are putting sufficient pressure on the Government, given the financial issues around public expenditure coming up next year, to respond to that crying need. You only have to look at the television over the last few days to see that, for most people, the threat of flooding is far more realistic than the threat that we are not going to meet net zero by 2050, which, to a large extent, is not going to make a ha'p'orth of difference to whether or not their house gets flooded.

What are you doing about that issue, bearing in mind that your own progress report in 2023 highlighted it? You then did a follow-up programme last year, in which you commented on the failure of the Government to deal with the national adaptation programme. In that commentary, you highlighted good practice. You referred to the United States investing some \$6 billion in making communities more resilient to the impact of climate change. You highlighted the Canadian adaptation strategy, which has specific aims and objectives and how they are going to be met. You highlighted the Delta programme in Holland, which has investment of €27 billion, so that by 2050 they will be able to deal with threats of flooding on the basis of a one in 100,000 year risk. In my constituency, we cannot even get sufficient investment to cover the one in 100 year risks.

You highlighted those manifest failures in your report early last year, and now you are talking about another report come October. Why aren't you doing something to ensure that what you have already put on paper is delivered as a priority? Why don't you say that this is even more important than investing taxpayer subsidies in windmills?

Emma Pinchbeck: On the last point, I think we would say that you definitely need to do both. On adaptation, I am really grateful for the question, because you are absolutely right: it has not been given enough



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attention historically in Government. We have said that on the record. I used my first interview to say it again. I highlighted it in my opening remarks as something I would like to see achieved.

There are a few reasons, in terms of the Climate Change Act, why the adaptation committee gets less profile, one of which is that it is a sub-committee in the Act and the main committee is the mitigation committee. That tells you that in 2008 adaptation was less present for people, but we are feeling the impacts now.

We are required by the Climate Change Act to offer the adaptation reporting that we do, and to comment on Government progress, but we are an independent statutory body. We are not the Government. It would be inappropriate for us to be able to have teeth to make the Government do anything. For what it is worth, I would very much like to meet the Secretary of State for EFRA. I have had an invitation to see him, and I have met the ESNZ Secretary of State already. I am waiting to see the Secretary of State for EFRA. Hopefully, they hear this evidence, and I get that invitation. We will be doing what we can publicly to hold them to account for delivery, including on a progress report.

More broadly, we would like a more comprehensive framework for adaptation. This is a bit technical, but you can measure mitigation pretty effectively. There are clearly agreed principles for that internationally, and domestically, and how you track it. It is less clear on adaptation. You mentioned the examples I have given before about what other countries do. There is some real learning from the 25 other climate committees internationally, where adaptation has been a bigger part of their remit, and they have done more thinking on it. We have said to Government that the priority for them is to get in place a framework for measurement, because if we have that, we can more effectively hold them to account.

The last thing—this is a chief executive's point—is that we are not as well resourced to do the work on adaptation as we are on mitigation. We are physically not as well resourced by Government to do the work that we do on adaptation compared with mitigation.

Q262 Sir Christopher Chope: Why is that?

Emma Pinchbeck: That is a question for Government. I imagine it is because of the relative weighting that they have previously put on the work of adaptation and the work on mitigation, but I would very much welcome that conversation.

Q263 Sir Christopher Chope: Could you let us have a note on that, because I had not realised that that was one of the excuses for not delivering on your goals under the 2008 Act?

Emma Pinchbeck: I would be very happy to give you some of that background, of course. I will follow up.



Q264 **Sir Christopher Chope:** In the meantime, we don't have to wait until October, do we, for you to get the Government to respond to the concerns that you have articulately expressed here?

Emma Pinchbeck: I should hope, with the impacts we are seeing in the economy, that the Government are going to move to make this a priority. I should say that, before Christmas, in responding to our progress report, which had an adaptation recommendation in it, the Government said that they are really keen to bring together better governance on adaptation across Government and that they are going to use the Cabinet Office and bring together Treasury, DEFRA, No. 10 and other relevant Departments to look at adaptation across the economy, because it affects the entire economy.

The other thing we would say they should do is look at bodies like the National Infrastructure Commission that offer advice on things like critical infrastructure, and bring those together too. We are very up for doing more work on adaptation. I hope it is clear that I am going to do all I can to hold Government to account on it. It will be a big theme over the next 10 years because of the impacts we are experiencing. I can follow up with a note on what more we would need to do.

Chair: Thank you very much. We are going to move to another topic. Adaptation goes a little beyond the remit of this Committee. Our main task is to hold the Department for Energy Security and Net Zero to account, and that is one of the challenges, of course. You have highlighted the multi-departmental agendas that you are commenting on and working to, and I wish you well in getting your meeting with the Secretary of State for Environment, Food and Rural Affairs.

Q265 **Sir Christopher Chope:** On a matter of fact, I thought that DESNZ was the Department that had responsibility for the Climate Change Committee. If it is the Department to which the Climate Change Committee reports, and DESNZ is basically their sponsor Department, surely we as a Committee, which is responding to that and holding that Department to account, should be able to say that we need to have more priority given to adaptation.

Emma Pinchbeck: I am very happy to follow up with a technical note, but our funding for adaptation comes through DEFRA, and DEFRA is currently the Department responsible across Government for most of the adaptation work. There is clearly a bit of blurring of the lines, in that DESNZ is our main sponsoring Department. I am conscious of time, so I will follow up on that.

Chair: That would be very helpful.

Q266 **Luke Murphy:** Could you confirm that failure to mitigate and tackle climate change will result in much higher costs and impact around adaptation, and that that is what the evidence suggests? The costs of adaptation, flooding and impacts, will be much higher if we fail to mitigate. Is that what the evidence shows?



Emma Pinchbeck: Yes, of course. The point of the carbon budgets is that they are in line with an international 1.5° target, designed to avoid the worst impacts internationally of climate change, which include impacts here. I think the point entirely is that we have to do both, not either/or. What I mean to say is that the impacts of climate change are very visibly here in the economy. For the public, there is more discussion about adaptation happening. It is absolutely right that it needs as much profile as the mitigation work we do, but it is definitely both, and without mitigation work those impacts will be worse, including for citizens in the UK.

Chair: I call Wera Hobhouse.

Wera Hobhouse: It's fine. I think we really need to move on. I was going to make a similar point.

Chair: I am glad that we are all looking at the same line of questioning. Thank you very much.

Q267 **Ms Billington:** Welcome, Emma and Emily. I should like to ask you a little about the UK's nationally determined contribution. Obviously, it was discussed at the UNFCCC negotiations. To what extent does the Prime Minister's announcement on the UK's new 2035 NDC re-establish the country as an international climate leader?

Emma Pinchbeck: I should declare a slight interest before I answer, and it is only a slight interest. I am on the board of UK100, which is an organisation that Polly founded, although I don't think we overlapped.

Ms Billington: I don't think we overlapped, but we might have done.

Emma Pinchbeck: It was just in case. Would you like to know, technically, where the NDC sits or overall—

Ms Billington: It is an assessment overall. One of the things that this Government wanted to do was to re-establish the country as an international climate leader. How much does the NDC that the Prime Minister announced to 2035 contribute to that effort?

Emma Pinchbeck: I will give my impressions of going to the COP and helping the UK Government launch the NDC there. Emily, as the chief analyst, can tell you a bit about the technicalities of the NDC; otherwise, I am just going to talk all the way through this session.

I haven't been at a COP for a few years, I admit, not since Glasgow. It was noticeable that the ambition of the UK Government was really well received by international partners and international business leaders, who I know from my previous job there. There was high visibility of the NDC at that conference and lots of people approaching us, as the committee, to ask how we had gone about setting the advice. There was a very busy UK pavilion; I have not seen that in a while internationally for the UK, so that is good. It is good soft power. I have regularly said that I think the UK Government underestimate how much we are seen as a leader in this



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space, how valued we are in the negotiations and how much that can help us with things like working with international industry. It was a really positive move in that regard.

It was also considered quite helpful, I think, for international partners. The deadline for everyone submitting updated nationally determined contributions is February this year. The UK was a relatively early mover, and because our NDC is grounded in independent advice and seen as very robust, negotiators felt, informally, that it would help other countries coming to ambitious settlements of their own. We will wait and see on that.

It was also helpful in the context of the international negotiations for the UK and Brazil to be the countries that had come out with their NDCs early, because Brazil is the next COP host. In terms of the leadership space—very visibly for me coming back into the space—it had a nice bow wave effect for UK authority on climate action, and that was positive.

Emily, do you want to talk a little about how we calculated the NDC?

Dr Nurse: Yes. I went to COP this year for the first time, and everyone was really excited about it.

Emma Pinchbeck: We made her go.

Dr Nurse: It is a number that is based on our analysis, which we are putting out in February. That analysis gives us a pathway for emission reductions from next year, 2025, all the way to 2050. It covers 2035, which is what this NDC is. It is consistent with the sixth carbon budget, which is already in law, and is for 2033 to 2037—I mustn't get these ranges wrong. It is consistent with that number. It is something that the UK is already committed to and was shown in our sixth carbon budget advice, which we gave in 2020, to be feasible.

We have updated that advice. The details underpinning it are different. What exactly happens is different, and we will give all that information in February. It is updated based on the latest evidence that we have on what is feasible and what is cost-effective. It is a really ambitious but, crucially, feasible number.

In terms of answering your question, I really felt the buzz, as Emma said, in COP. It felt like this was something people were gaining momentum from.

Q268 **Ms Billington:** It is good for the vibes, but can we go into the detail? What elements must be included in the detail supporting that headline NDC so that it is credible and world-leading, and so that the vibes turn into something?

Dr Nurse: I will talk a bit about the delivery side, and then Emma can add anything she wants. It is a credible number, but we need to show that we are delivering it. We also have a 2030 NDC. That is not long. It is



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in five years. That is a 68% reduction on 1990 levels and around a third reduction from 2023 levels. We need to up delivery.

I am sure we will get to this, but in our progress report we looked at the Government's plans going up to the sixth carbon budget, which included the 2030 NDC and of course the new 2035 NDC, which will be consistent with that, and we identified quite significant risks in the plans for that, with only about a third covered by what we would call credible plans. Around 40% was carrying insignificant or no plans at all.

The carbon budget delivery plan, which was what we assessed in our progress report, shows this pathway. It shows line-by-line policies that go from today's emissions and get you to the emissions in the target. That is going to be updated in May, or certainly at some point this year. Then, of course, we have new policies coming out. We have the warm homes plan, and so on. All these things together need to show that the delivery of the 2030 and 2035 NDCs are credible. That is really what will strengthen the signals there.

Q269 Ms Billington: Can the new target be delivered without significant behaviour changes from the UK population, do you think?

Emma Pinchbeck: The advice date is 2035, so the NDC deadline is 2035. The nature of emissions reduction to that point is the story I told you at the beginning, which is largely a lot more clean power generation and then people adopting technologies to utilise clean electricity in their homes. It involves change. People are going to have to choose different technologies at the point when they have to, or want to, replace their boiler, or at the point when they are getting a new vehicle. The big emissions chunk is in heat and transport. We are not talking about people radically changing the way they live their lives to meet this NDC. People will still have warm, comfortable homes. They will turn their heating on, as they do now, and they will still drive cars. It is just that there should be a technology change.

I am always nervous about saying everything is the same, because for people choosing different technologies, it feels like quite a big change. A heat pump is different from a boiler. I have an electric vehicle, and I will tell you for free that we forgot to charge it in the first week that we owned it, so we had to walk to go and get our children from nursery. They are different technologies, and you have to use them differently. That is one of the reasons why our progress report and our advice to Government has been, "You need really clear communication on this to the public. They need to understand the choices that you want them to make." Critically, all our other recommendations are about making those choices as easy as possible, and that includes making the technologies cheap, having businesses willing to offer finance or business models for them, and making it an obvious choice. That is why making electricity cheap is such a big recommendation for us.



The other thing to say on this is that, as you know, for the sixth carbon budget we worked with Climate Assembly UK and asked people about their views on various policy options. Generally speaking, people were all right with change. What they wanted was clarity from Government on the options available to them. That included behaviour changes such as diet, travel or some other areas of the economy. Those are not in scope for the 2035 NDC in the same way—

Q270 Ms Billington: Diet and travel are not required?

Emma Pinchbeck: For emissions reduction for 2035, the big heavy lifting is being done by heat, transport and clean power. That is not to say that you do not need to start, as Government, thinking about other areas. The carbon budget that we will be publishing this spring looks at later in the decade, but for the NDC, no.

Q271 Ms Billington: It is adopting and using different technologies for warming your home and getting about.

Emma Pinchbeck: Yes, which I would say is a change, but it is not the kind of things that are often described as behaviour change choices out there in the zeitgeist.

Ms Billington: Thank you.

Dr Nurse: Surface transport is a quarter of emissions today. Basically, it is the largest emitting sector. That is really the main one, switching to electric vehicles. It is the key one. The second biggest emitting sector is residential buildings. As Emma said, it is switching to low-carbon heating and to heat pumps. We are seeing the costs of electric vehicles really falling. We expect them to be cheaper than petrol and diesel cars pretty soon. They already have cheaper running costs. For heat pumps in homes, this is something where some policy is needed to support the transition for people, but those are the key choices that need to be made. Basically, to get to the targets things have to happen across all sectors, but they are the heavy lifters.

Q272 Torcuil Crichton: Where do flights come in that list, and what behavioural changes might be needed there?

Dr Nurse: For the NDC itself, they are not included, because international aviation is not. However, they are for the carbon budgets.

Emma Pinchbeck: There are going to be recommendations on things like aviation and other sectors of the economy in the carbon budget that we will be publishing in February. I should have said this at the beginning, but because we advise Government and then report to Parliament, until we finalise our advice to Government and advise them, we cannot tell you where we are at with our modelling and what we are likely to say.

Q273 Torcuil Crichton: It is not going to be flying more, is it?



Emma Pinchbeck: We will come back and tell you, I promise, once the advice is out in February. I have already offered to do a session once you have the advice, and you can scrutinise it. You can ask us about those. For the NDC, it is worth getting on record that that is not what we are talking about. The priority is electrification and electricity. That is why, again, our primary recommendation is that we should be making electricity cheap and making these technologies easy for people to get access to.

Q274 **Chair:** That is very helpful for clarification. Perhaps in the first instance, when you have published the carbon budget, you can write to us. Fitting in the sessions depends on—

Emma Pinchbeck: I understand.

Q275 **Chair:** I am sure you will be coming back at some point in the not too distant future.

Emma Pinchbeck: That sounds like a threat.

Q276 **Chair:** A friendly offer. We'll move on. Can you give us a brief overview of your 2024 progress report to Parliament and outline where the UK currently stands on the road to net zero?

Emma Pinchbeck: To tell you at high level, we are not on track, as we said in July, to hit our current 2030 target, which, as Emily said, is a 68% reduction against 1990 levels. That is our current 2030 NDC. At that time, we said that only about a third of emission reductions would be covered by current Government policy and that we needed action across all sectors of the economy.

This slightly relates to the previous question about leadership. You can have all the targets in the world, but if you are not delivering on them, you won't be seen as a leader. Putting on my old job hat again, as an industrialist and looking after the energy sector in the UK, often our concern was other countries moving faster than us on delivery, regardless of those countries' climate targets. India has a 500 GW low-carbon generation commitment, and 50% of new car sales in China are now electric vehicles. There is concern, both from industry in my old job and from the committee's point of view in this job, that we are not going fast enough on delivery. That was the primary message of the progress report.

Emily, would you like to canter through other things that we said?

Dr Nurse: Yes. Maybe I should say how our progress reports are generally structured. We tend to cover progress in emission reductions in annual progress reports, of course. That is in the last year, but we also do longer-term trends. We also look at other indicators of progress, not just emissions. There are things that we need to track to see how we are going for the future. I will talk a bit about that. We look at the policies



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and do assessments of how on track we are. Finally, we give recommendations.

In terms of emissions, where are we on our journey to net zero? You could say that we are halfway. Emissions are half of what they were in 1990. They have to get to net zero by 2050. We have had big success, coming mostly from the energy supply sector with the phase-out of coal and the ramp-up of renewable energy. The pace of emissions reduction has more than doubled since 2008, when the Climate Change Act came into law and when the carbon budgets were introduced. That is all very successful.

Going forward, to meet the NDC and CB6, things need to accelerate and broaden to other sectors. We have had success in energy supply. There is more to be done there for sure, and also to support the transition in other sectors, but what we need is the broadening. Most emission reduction so far is from energy supply, but around three quarters has to be from other sectors for what needs to be done up to the sixth carbon budget. For that, we need a significant increase in the pace of emission reductions for industry, surface transport and buildings. Most of that is coming from a shift to low-carbon technologies. They are technologies that exist; we just need to push them out. We have seen no emission reductions in agriculture, waste and land use in the past decade, or in aviation, apart from during covid, when there was obviously a reduction.

In 2023 we saw quite a significant reduction in emissions of 4%, which is quite a lot as an annual reduction. However, our analysis shows that it was mostly a temporary thing. It is mostly coming from the fact that we imported more electricity because, the year before, that had gone down due to maintenance of nuclear fleets in France, for example. There were also warmer than average temperatures. Things like that meant that it went down, but it may come back up. Basically, what we are saying is that we need to broaden and increase pace in a lot of sectors.

We also look at other indicators of progress. We look at the roll-out of renewable energy. With all of those, we need to increase offshore wind three times, and onshore needs to double. Solar needs to increase five times. We actually scored those as off track just because of the real increase that is needed. Heat pump installations are really off track. We only have about 1% of homes in the UK with a heat pump. That is a lot less than almost all other European countries. We installed 60,000 in 2023. That has to ramp up by a factor of 10 for the Government's own target by 2028. This is a big sector, so we really need to accelerate there. Electric vehicles are starting to ramp up. In our progress report they had levelled off, but we have seen an increase again this year. We need to be approaching 100% by 2030. Peatland restoration and tree planting are also off track.

As we mentioned before, in terms of the policy progress there was some good progress in confirming the zero emissions vehicle mandate, and



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increasing the individual and total grants for the boiler upgrade scheme, but from the previous Government we saw some real backsteps and inconsistent messaging, rolling back on things like the 2030 phase-out for petrol and diesel cars, although we have seen that that is now coming back in. There is a 20% exemption on 2035 phase-out of fossil fuel boilers. These are quite inconsistent and dialling-back messages, which reduced our confidence in delivery.

We assessed about a third with credible plans, and that is mostly coming from surface transport, where we are seeing electric vehicles really ramp up—that is the key thing there and we have the ZEV mandate confirmed—and renewable energy generation and electricity supply. We have significant risks in other sectors. I have mentioned buildings, land use and parts of industry, for example. That is where we are focusing. Of course, we also do our recommendations. I don't know if you want to get into that now.

Q277 Chair: We will move on. Your report was in July and was obviously commenting on the performance of the previous Government. We have a new Government now. You have 10 priorities and you made 35 recommendations. The new Government say they are acting, or partially acting, on all of the 35 recommendations to the UK Government. Do you agree with them?

Emma Pinchbeck: I always feel like it is the chief exec's job to be rude about a Government. Ambition is welcome. We have on the record before as saying that the tone from Government really matters. I can tell you that, for the private sector, where I have spent most of my career, the tone from Government really matters as an investment signal. Ambition is welcome. Having net zero as a key priority of this Government is welcome. When the majority of the investment for net zero is coming from the private market, we should not underestimate that the willingness to be positive will, in itself, help move money in terms of investment and help investors who want to come to the UK.

On the actions taken, there have been some positive, concrete moves. Already, planning permission has been given to some renewables projects. The clean power mission has been established. The action plan coming out before Christmas is a real statement of intent, in terms of getting some of the electricity on to the system that we need to see.

There are good commitments for consulting on at least some other key recommendations that we made. These are things like planning reform. Again, I mentioned that at the beginning, but it is critical to building infrastructure and for things like installing a heat pump in a home or charge points for electric vehicles. The Government are consulting on the ZEV mandate and whether to bring back a consumer signal in the 2030 phase-out date for ICE vehicles. There have been funding decisions made on carbon capture and hydrogen for industrial decarbonisation—again something that we signal as critical—as well as some early signalling in the direction of technologies for negative emissions and removals.



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Those are all very welcome. It is our job to hold Government to account in a formal way in June, when we publish the progress report. Hopefully by then, some of what is in consultation will turn into concrete policy. At the moment, it is all intention and less delivery.

Q278 **Chair:** So far you have said that you agree with them that they are acting or partially acting. Is there anything where they have not acted?

Emma Pinchbeck: We agree that they are at least starting to act. I think action is about when we can see concrete policies that will deliver emissions reduction on the ground. We are not there yet in many cases, but maybe by the time we report on progress we will have more information for you about what we think.

The last thing—this is some trauma from my last job, but Emily, who has been working in this space for a long time, agrees—is the need to do something about electricity and the cost of electricity, with options to move things like policy costs or levies that sit on electricity so that people can start benefiting from this energy transition, from low-carbon technologies. That is critical. People have been advising Government of this for at least the 10 years-plus that I have been working. There are very good ideas out there. Some are complex and some are relatively straightforward. That would be our primary disappointment, I suppose, and our primary recommendation is that Government do something about that, because it will really help.

Dr Nurse: It is fair to say that the response to that was a little underwhelming. This is a recommendation that has been made for a long time, and agreed with and accepted for a long time. In the previous Government, in “Powering Up Britain”, the commitment was to have that affecting prices by the end of 2024. This is really urgent because it underpins all of the shifts that we have talked about for shifting to the—

Q279 **Chair:** You recommended doing this by moving to taxation and away from levies. Is that right?

Emma Pinchbeck: No. We recommended moving the levies, but there are options available to Government about what they do. There are merits and weaknesses in both. If you put the levies into taxation, there is a cost to the Exchequer of doing that. If you put it on to gas bills, funding things through bills is regressive. People are really struggling with bills at the moment, and people who have higher gas bills are often vulnerable. There is an issue there. You would need to do that in conjunction with some kind of support, I suggest. That is speaking from my previous experience, rather than being a committee view.

Q280 **Chair:** Nesta makes quite a compelling argument that it actually helps to equalise the levies between gas and electricity, and that poorer households see a bigger benefit than wealthier ones in terms of bill savings relative to their income. Do you find that the most compelling and balanced approach? That is what they say.



Emma Pinchbeck: We have seen the Nesta report, and I think the team is looking at it in the context of the advice for CB7. I know this is frustrating, but we cannot absolutely tell you where we have got to with carbon budget 7. Overall, we have looked at distributed impacts in the economy. In many cases, low-income households benefit from being able to take on these technologies. For example, high-energy users are often vulnerable users or low-income households. If they have access to technologies with cheaper running costs, which an efficient heat pump with low-cost electricity would be, relative to a gas boiler, those houses disproportionately benefit.

The other thing we are looking at is whether investing early in those technologies, or being able to get access to them earlier in the decade, has a bigger benefit than investing in them later. Again, that speaks to how you make sure that low-income households and others can access the technologies. It is a question of fairness. It is the first time we have done distributive impact analysis, and it will be quite high level, but this kind of conversation is important. Overall, we have always been clear that the economic case for decarbonisation is really good, and increasingly we have an evidence base to show that there are benefits to low-income households.

Lastly, on the electricity point, it comes off the back of working on an energy crisis where consumer debt is at the highest level it has been in decades. Gas prices are currently the highest they have been in three years—I asked the traders this morning. Volatility is being priced into the market again because of geopolitics and political change. You are an idiot if you speculate hugely about wholesale prices, but it is not sunlit uplands for the next six months or so. Bills look like they might go up again. The primary exposure on bills for UK consumers is the amount of gas we are dependent on in our energy system, half of which goes to heat. There is very little we in the UK can do about the price of gas in international markets. What you can do is reduce your demand for that gas. Making electricity cheaper but giving people access to these technologies is likely to benefit them, particularly people who have been so exposed to the gas crisis.

Q281 **Chair:** Making electricity cheaper is one of your 10 priorities. Is it the hardest one for Government to deliver, or would you say there is another one of the 10?

Emma Pinchbeck: Have you tried doing planning reform? We are not politicians or policymakers. You guys in this room will be able to tell us what you think are the hardest things in that list to do, but unquestionably some of this stuff is challenging.

Q282 **Chair:** The reason I ask is that you homed in on the point about making electricity cheaper.

Dr Nurse: Because it is so important for the whole transition to get going.



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Emma Pinchbeck: It is so important. It is a measure of its importance to the energy transition and the economy as a whole, but also where the emission reductions are coming from for 2035, which is the primary purpose of this inquiry.

Q283 **Wera Hobhouse:** I have a small question on the cost to low-income households. We always say that the cheapest energy is the energy we do not use, so it is also about insulation programmes. Isn't there a piece that could be done around low-income families living in rented accommodation? Isn't that something the Government should focus on but have not really focused on at all? All these things are interlinked, aren't they? Is the Committee on Climate Change going into the details of where the Government can simply encourage people not to use energy in the first place?

Emma Pinchbeck: We are certainly making recommendations on energy efficiency, and we will be looking at the warm homes plan, the full detail of which we are expecting from Government, hopefully this year and before we report on progress in June.

Dr Nurse: Not just before—we've got to read it.

Emma Pinchbeck: That is a plea to Government. They have already announced some measures, which we welcome. The additional £30 million funding that was in the Budget, making a total of £180 million, for the boiler upgrade scheme is welcome. They were very clear in their manifesto that energy efficiency would be a priority too. Other than that, we are still waiting on the detail of the warm homes plan.

As Emily said, progress on decarbonising buildings is behind where it should be. Of all the areas of the economy in the 2030s that we look at, that is where we think there is the biggest gap in terms of Government ambition versus Government policy. Electrifying heat is a big chunk of that, but we also need measures on energy efficiency.

Within that, you asked about private rentals. We have made recommendations previously on things like private rental standards. You have new-build homes, and non-domestic and public buildings. In all those areas we say that more effort is needed. The warm homes plan is coming out this year and, once we have had a look at it, we will be able to give you more detail on whether it is sufficient.

Chair: I recommend the Committee's report on the same subject, which is about to be published, following the inquiry by the previous Committee, on which we did a follow-up session. We are working on that shortly.

Q284 **Torcuil Crichton:** Emily and Emma, welcome to the Committee. Thank you for your evidence. I would like to say happy new year, but your evidence doesn't give me any reason for optimism. It is less than five years to the 2030s; it is four years, 11 months and however many days.



Are we going to reach our climate change targets? Yes or no?

Emma Pinchbeck: Emily, as a former professor, won't wildly speculate about anything, which is something I am learning when you work with a team of scientists and analysts, but I am free to wildly speculate.

I have been doing this for well over a decade. Out to 2035, as we have said and illustrated, a lot of what we are expecting to change in the economy is technology: electric vehicles coming in instead of internal combustion engines, and renewables coming in rather than coal or gas plants. It is about the technologies, like batteries, that support those renewables; it is about household-level technologies, like heat pumps, and maybe even solar panels and storage.

When I was spokesperson for the energy sector I would have given you the same answer, which is that, internationally, the speed of the energy transition has been remarkable and, hopefully, in a positive direction, in that all of us, including the committee, got our numbers wrong on how fast the cost of batteries could come down; how many renewables we could accommodate on the grid; what percentage penetration of renewables would be fine with security of supply; the cost of those renewables; and the roll-out of electric vehicles, which in China and other parts of the world has been astonishing. I think the market is with us in terms of delivery. I have seen the private sector go far faster than anyone thought was possible.

The question mark over whether we actually deliver is how fast Government move to remove the regulatory and policy barriers in the way of that market and help consumers to access those technologies. Can you get your planning reform done? Can you get your grid connection reform done? Can you make sure that your renewables auctions deliver this spring and next year? Can you clarify for householders what we expect them to do in adopting heat pumps? Can you get the business models away so that those heat pumps are cost-effective? Which businesses do you want to offer green financing? Those are beyond the committee's remit, in that they are policy choices for Government, but as to whether we can do it, from our point of view, which is to assess technology availability and market conditions and work out the physics of the thing, you can absolutely do it. Our pathways are designed to be credible; that is in our mandate.

Q285 **Torcuil Crichton:** All the problems you mention are the remit of DESNZ.

Emma Pinchbeck: Yes.

Q286 **Torcuil Crichton:** You said that tone, leadership and ambition were important, but so are authority, clarity and resource. From your observations, does DESNZ have a sufficiently big role in Government to deliver net zero?

Emma Pinchbeck: Are they the right Department to lead?



Torcuil Crichton: Do they have enough muscle?

Emma Pinchbeck: I feel like I am being asked to comment on the Secretary of State. DESNZ is a huge and very important Department, and it is the right one to be enacting the policies that we need for 2035, because what we have just described to you is largely, as you said, energy policy, with some planning reform. It is absolutely right that that agenda is held by the Department. They are well resourced, they have expertise coming out of their ears on energy modelling and energy technologies and they have good relationships. I can speak personally to that from my old job with the private sector, which will need to do a lot of the heavy lifting in delivery.

A long-standing question, and something the committee has commented on, is that decarbonisation is a cross-Government effort, and certainly it will often need the heft of the Prime Minister and the Treasury to fall behind policies from DESNZ and other Departments. There is a question about how best you do that. The reason it is hard to make a specific recommendation—do you do it through the Cabinet Office Committee that brings people together, or should it be the Prime Minister’s responsibility?— is that the Government also have these new mission boards. It is too early to tell how the Government plan to do the governance on all of this. They signalled in their response to our last report that they expect to think about the delivery of the carbon budget as one of the pillars of their clean energy superpower mission, through that committee, which is chaired by the Prime Minister, so maybe that would be a mechanism to draw in other Departments.

Many of the policies that we need to deliver 2035 sit in the DESNZ remit. On making electricity cheaper, I suppose it is also about a pitch to the Chancellor to think about that, because cheap and abundant energy, regardless of anything else, is essential to economic policy, so I would expect to see Treasury having a big role in that and providing some of that muscle to DESNZ.

Q287 **Torcuil Crichton:** Are these mission boards and joint committees a help or hindrance to delivering net zero, or do you want to see a streamlined structure? You referred to a committee on net zero led by the Prime Minister. Is it a big enough priority in Government?

Emma Pinchbeck: To a certain extent, it is outside my remit as an independent civil servant, or the committee’s as independent advisers, to tell Government how to do this and what structures they need to do it efficiently. What we will do in time is tell you whether those structures are delivering emissions reduction. As we said, it is positive to see decarbonisation, the clean energy superpower and net zero as a priority of the Prime Minister, and to hear a Prime Minister and Chancellor talk about those things as essential to economic growth. It has been positive to see in their responses to us on adaptation and mitigation that they are planning these new Government structures—the mission boards, and possibly the new Cabinet Office Committee on adaptation. We welcome



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all of that. It is six months in—two months for me—and it is too early to tell, with the new Government, when it will get off the ground.

Q288 **Torcuil Crichton:** Let me put the question in a slightly different way. Is net zero sufficiently embedded across Departments in Government?

Emma Pinchbeck: I would say no, based on the time I have been working. It is a whole-economy problem. As we highlighted at the beginning of this session, it is not clear even to you as parliamentarians which Departments are responsible for things like adaptation, resilience or mitigation. We talked about surface transport. That is clearly a priority for DFT. You mentioned aviation; that is DFT. We mentioned planning reform; that is MHCLG.

Dr Nurse: Land use waste is in DEFRA.

Emma Pinchbeck: Yes. This is central to your economic strategy because ultimately it is about energy production and cost. That sits with the Treasury. We have talked about bills. That is the Treasury, but it is also DESNZ. It is truly cross-Cabinet. If your question is whether we have the mechanism to deliver that yet, no. On a personal level, one thing I have done since taking the job is write to all the Secretaries of State I have mentioned and offered to brief them as part of the formal briefing that we do on the next carbon budget, because we think it is essential that that is held as a cross-Government responsibility, inasmuch as our sponsoring Department and the Secretary of State I work with most is in DESNZ.

Q289 **Chair:** Your predecessor heads up mission control.

Emma Pinchbeck: Yes. We noticed.

Q290 **Chair:** Presumably, he is there to address the analysis you have just set out. How confident are you that that is an effective approach?

Emma Pinchbeck: It seems unfair to Chris to make another joke about marking his homework, but I am sure that he is prepared for us to do that job in time. As is evidenced from me moving over from the energy sector to this job, there is a big overlap in energy transition and energy planning and policy and decarbonisation, particularly pre-2035. I am sure that Chris will take all of his knowledge from the Climate Change Committee and deliver in that role. If he doesn't, we will tell them in due course.

Q291 **Torcuil Crichton:** Indulge me for asking one off-turf question. One Government have abandoned their climate change targets; the Scottish Government gave up on them. From what you said in your preamble, do you advise the Scottish Government on climate change as well?

Emma Pinchbeck: I think they are talking of moving to a carbon budget approach now, so they are setting new carbon budgets. It is a new system for them, so part of the committee's job will be to talk through how carbon budgets work. We are doing quite a bit of work with the



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Scottish Government on how this works overall as a mechanism, instead of the targets they had previously. Our advice to them will be coming in May—I think that date is now public—and we are confident that that will be effective, not least because it has been effective in the UK, and it also matches UK-wide policy.

Q292 **Torcuil Crichton:** Let me ask my first question in another way. Are the UK Government in danger of repeating the mistakes that the Scottish Government made with over-ambitious climate change targets?

Emma Pinchbeck: In what way?

Q293 **Torcuil Crichton:** They set a target of a 75% reduction by 2030.

Emma Pinchbeck: Are you talking specifically about the 2030 target?

Torcuil Crichton: Yes.

Dr Nurse: There is a big difference in that one, in that they went beyond our advice. That was more ambitious than we showed was a feasible pathway. So far, the UK carbon budgets and NDC targets have been set in line with our advice. We have demonstrated a feasible target, so there is a big difference there.

Q294 **Ms Minns:** To probe a little further on how embedded net zero is across Government Departments, and casting my eye at your CCC progress report, one thing that strikes me is the reduction now required on surface transport. In that context, is it the right thing for the Treasury to continue to freeze fuel duty?

Emma Pinchbeck: This is one of those unfortunate answers where we cannot tell you exactly what our updated advice will be in the carbon budget. One thing to signal, however, is that, inasmuch as we can, in offering advice to Government we endeavour not to be prescriptive about the exact policy tool Government should adopt to deliver a thing, because we are not the elected Government; they are. What we can talk about, and will say more about, are the kinds of conditions we can see in the market that will cause people to adopt electric vehicles as fast as we need. I am reluctant to say more than that, because it kind of precludes what is in the advice.

Dr Nurse: What we can say is that electric vehicles are already cheaper to run. The up-front costs are falling, and we project that they will be cheaper really soon. To your question about whether we will hit those targets, these things suddenly start happening. Once it reaches the point of being cheaper, which we think is happening, we are hoping to see a really quick transition there.

Emma Pinchbeck: We will offer a range of options to Government on surface transport. Some of this is about what the private sector is doing well. What do consumers feel confident in? Where does the state need to intervene because the technologies are at an early stage, or the regulatory framework prohibits technology adoption and so on?



Emily said earlier that it is heat where we think the Government need a much bigger role to help people access the technologies, to be clear about which technologies we want people to have and to intervene to make sure that as many people as possible can have them, versus EVs, which are slightly further down the technology development curve and are now beginning, to use an unfortunate pun, to accelerate. The UK overtook Germany last year for electric vehicle sales, which is a good sign. There are issues in that market. We are not saying that the Government don't need to do anything, but EVs feel like a consumer product that people are beginning to adopt, if they are able to. We might argue that things like making sure the charging network is available for people is as important a measure, but we will say more about that in CB7. I promise that we will write to the Committee, or you can have us back at a time of your choosing.

Chair: We will have more questions on transport a little later.

Q295 **Claire Young:** Specifically on electricity supply, how realistic is the ramp-up in renewables deployment by 2030 that is recommended in your report?

Emma Pinchbeck: This is a similar answer to one I gave earlier. From the committee's point of view, our pathways are required to be feasible, so we have to be able to have confidence that the recommendations we are making are deliverable, at least illustratively. The level of deployment we are talking about for offshore wind, onshore wind and solar in our model, as in most sister models, looks like the level of deployment that is possible based on stuff we can already see in the pipeline from industry. We can see projects of that kind of scale.

The question as to whether we get that amount of renewable capacity coming through depends on the Government getting the auctions right. Is the budget sufficient? Do they get enough projects through the next auction rounds, which are critical. We will know a bit more when the next auction happens this year about offshore wind and some of the other renewables. It is also about whether you can physically build the projects. That comes down again to how fast Government can do what they committed to do in the clean power action plan that came out before Christmas, where they describe what they are going to do on grid connections and planning reform.

It can take 15 years to get a good connection at the moment, so even if you have the project and the financing, connecting it to the grid takes time. There is no physical delay; there is no reason why we cannot go faster, apart from the fact that the regulatory system and the regulations that sit around connections are slow. It is very feasible; the models are feasible. If anything, we take a conservative approach to technology roll-out and readiness. Our models are not dissimilar to what Government can see in their models. I promise you they are not dissimilar to what I could see when I was doing an industry job with industry data. The krypton factor, if you like, is delivery and how fast Government move to do what



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they have committed to do on planning reform and the grid. Is there anything to add, Emily?

Dr Nurse: Obviously, we will have the numbers in February, but it is worth saying that in the past on onshore and solar we have seen really fast deployment. Some of the numbers we are talking about are at that level. It is just that they have slowed down and we are talking about ramping it back up, but we will give more detail on that in February.

Q296 **Chair:** Do you think it is realistic for those planning reforms to be enacted to deliver this agenda?

Emma Pinchbeck: It depends on what the Government choose to do, but to give you an example, since coming into government last summer the Secretary of State has already called in a couple of large projects, which added a significant amount of solar and wind capacity to the pipeline. The Government can move quickly. It was pre-Christmas and we have to see what it looks like in delivery, but the clean power action plan looked thorough. The clean power target for 2030 is a slightly different date from what we are assessing the Government on in the carbon budgets, which go out to 2032.

Q297 **Chair:** Is it a similar answer for grid connections?

Emma Pinchbeck: Yes. From the industry's point of view, on grid connection they indicated in the clean power action plan that they will take measures to rationalise the grid connection queue and prioritise particular projects. If they are willing to do that, there is no reason why that queue cannot speed up. There is an astonishing number of projects in the queue.

Q298 **Claire Young:** Following up one of the things you said, you talked about getting the auctions right. Can you briefly say what you mean by that?

Emma Pinchbeck: Experience of the last couple of auction rounds is that it is important that the Government, and Treasury in particular, understand what the private sector market conditions are. What you are trying to do when designing an auction is to make sure that competitive tension is maintained so that they make the allocations small enough that people have to really compete and get their project cost down to get the contract. That is important, because ultimately the cost is passed on to consumer bills. They have to design it right to get that competitive tension.

At the same time, they need to make sure that they do not squeeze the auction to the extent that no one can bid because they do not make their hurdle rates for project financing. When you are talking about large-scale infrastructure over 25 years, with pension funds and patient capital involved, you need to be very good at understanding market conditions for the long term, but getting a price that those investors think is reasonable. It is fair to say that for the fourth auction round the market was so volatile—delivery costs had gone up because of inflationary



pressures, cost of capital financing and supply chain pressures—that we did not get it fully right. They will have to get that right for the next two auction rounds.

The other thing is that it is quite clear we need a lot of capacity to meet the Government's clean power mission or, in our world, the carbon budgets. Therefore, Treasury and the Government need to work out where that tension is between getting low-cost, abundant and good-for-the-economy power in the system and the sheer volume of capacity on the system through the auctions, while maintaining that competitive pressure. Thank God, I didn't have to make those choices inside Treasury, but my understanding from Government is that they have signalled that they will take steps under the clean power action plan to make sure that the CfD is reformed such that they are better able to have access to better data and make informed choices, but we will be scrutinising the next auction round to make sure it delivers.

Q299 Claire Young: How important is the strategic spatial energy plan to achieving the ramp-up in renewables? How should that plan interact with other spatial strategies, such as DEFRA's forthcoming land use framework and the special development plan being developed by MHCLG?

Emma Pinchbeck: There are a lot of acronyms in this.

Claire Young: There are, aren't there?

Emma Pinchbeck: It gets worse if you just do energy policy. Emily, I can't remember what we said about the SSEPs specifically, or if we have yet, or if I am revealing something.

Dr Nurse: No, we haven't.

Emma Pinchbeck: It is a tool that the Government have in order to plan the energy system. It is important given the amount of change we will experience in the energy system over the next few years.

Q300 Claire Young: Perhaps you could write to us about that later.

Emma Pinchbeck: I can send you more if we are going to take a view on it.

Q301 Claire Young: It will give you more time to think about that one. In light of the power cuts caused by Storm Darragh in December, does more need to be done to increase the resilience of existing and future energy infrastructure?

Emma Pinchbeck: Again, I point to the adaptation report which is coming. One element of that report is looking at critical infrastructure, including power sector infrastructure and the likely impacts of changing conditions on that, and what we would expect the industry to do. If you like, I can follow up in more detail about what we have said about every area of the economy.



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The power sector is already thinking about this. If you are running a nuclear power station, you need to be sure, for example, that you have access to water, and things like flooding and/or drought conditions can be problematic. It is the same for other kinds of power plant. If you are trying to build offshore wind farms, understanding weather conditions is important. We have had extreme heat, which can affect both energy demand and the condition of our infrastructure.

All of these factors are being considered by the industry. We have done quite a deep dive on the power sector. We will say more about it in the adaptation report this year, and I can write to the Committee with specifics if you like.

Q302 **Claire Young:** Finally, on electricity supply, your top recommendation is to reduce the cost of electricity by removing policy costs. Where should those go instead?

Emma Pinchbeck: I think we answered this earlier. It is a question for Government about whether you move them into taxation and move them on to gas, or some other mechanism.

Q303 **Claire Young:** Turning to hydrogen and gas, in your 2023 report, "Delivering a reliable decarbonised power system", you warn that the use of blue hydrogen at scale would mean continued exposure to international gas prices through reliance on imported gas. Do you have the same concerns about carbon capture and storage?

Emma Pinchbeck: No is the short answer, in that carbon capture and storage is largely being used in a different area of the economy with a smaller gas demand. You are talking about carbon capture applying to industrial users, largely, potentially, some areas of the power sector and for renewables technology, in the case of BECCS.

The concern around gas demand in the economy is that, as it stands, the sheer amount of gas we import for heating is significant, and a lot of our exposure on prices and bills comes from the amount we import for heat and for unabated gas power generation. Over the next five to 10 years, we will be reducing those significantly in the pathway to deliver on the 2035 NDC, so concern about exposure overall to the gas markets goes down, even with them having CCUS in parts of the economy.

Q304 **Chair:** But carbon capture is part of how you make blue hydrogen. It goes to the point you made in your 2023 report about your concerns over the use of blue hydrogen, doesn't it?

Emma Pinchbeck: On blue hydrogen and hydrogen in general, we will have updated advice in the seventh carbon budget. You will be able to look in more detail at that when we publish it.

Q305 **Chair:** Our free card.

Emma Pinchbeck: I'm sorry, I warned you before I came in that it would sound like I am obfuscating. There are a number of areas from our



previous advice in the sixth carbon budget to now where we have updated our analysis. Technologies have come forward and things have become obvious in the roll-out that were not clear then. Hydrogen is one of those areas, but I don't want to tell you yet what is in the advice, because we have not advised Government. It is also, by the way, why we are not giving you the figures we gave in the sixth carbon budget; it feels silly to repeat figures on the parliamentary record that we are in the process of updating for CB7.

Q306 Claire Young: I have two further questions, and you may give the same answer to both of those as well. NESO's advice indicates that gas could still be used in 47% of periods under the Government's clean power targets, so are the Government being less than honest with the public in their suggestion that clean power by 2030 will protect them from international gas prices?

Emma Pinchbeck: Did you say 47%?

Q307 Claire Young: Yes, 47% of periods.

Emma Pinchbeck: I wouldn't want to comment on the Government's communication on their clean power mission, not least because our job is the carbon budgets rather than the clean power mission per se, and also because how the Government choose to communicate with the public is definitely not the CCC remit. On our assessment of what a clean power energy system looks like, we are talking about using unabated gas as the NESO talked about using it, which is for periods when we need security of supply, and our percentages in our model are not dissimilar to what the NESO is saying. It is 47% of periods—

Q308 Chair: Rather than criticising the Government, isn't the point that that will reduce the potential for—

Emma Pinchbeck: Import? We talked about 47% of periods, but overall in the energy system in the NESO model it is less than 5% of demand coming from unabated gas, which is a huge reduction from the 50% of generation that is gas today. That has come down a bit because we had record wind last year. The overall exposure to gas in the economy changes significantly over the next decade because we should be taking it out of heat, and we are certainly going to be taking it out of power.

Q309 Claire Young: Even though we still have this ongoing need for dispatchable power, to what extent do you think that decarbonising the power system will in fact shield customers from international gas prices?

Emma Pinchbeck: It should do hugely, and that is a message the Select Committee has had from me in my previous job. Again, I am happy to follow up in more detail on this. Others have published detailed analysis of it. Our exposure on bills and prices is largely about the volume of the import requirement, and there is a big chunk of that in power generation that will be changing. In the UK, unlike many other European countries, 85%-plus of homes are on an individual gas boiler. We will be reducing



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that import demand because we are changing over those technologies. Across all bills, you should see a benefit. The nature of prices and bills is quite complicated, as well as increasing costs to invest in renewables and so on, so I am not going to immediately promise that bills will come down today. We are clear in our models that there is a benefit for both the economy and individual households from making these changes. As far as we can see, with all the caveats around predicting bills and prices, there is a long-term benefit to consumer bills from making this change.

Q310 **Chair:** Are you going to be able to quantify what you think that saving will be?

Emma Pinchbeck: We have numbers in the seventh carbon budget advice as drafted. I would caveat that. We have talked about all the times we got things wrong as energy analysts. It is really difficult to predict bills, because a chunk of the bill is policy costs, a chunk of the bill is wholesale costs, and we are dependent on international markets that do their thing. Some of that cost will be whether Government make brave decisions on electricity. As much as we can, we have compared bill costs against the baseline of doing nothing, and we are confident that net zero 2050 provides a benefit to the householder as well as to the economy.

Q311 **Chair:** Again, we look forward to reading your analysis in a few weeks' time.

Emma Pinchbeck: I am very sorry about the timing of the session relative to the timing of our advice.

Chair: Not at all.

Q312 **Ms Billington:** This follows up on some of the conversations we have already had. It is about the warm homes plan in particular. How far does that go towards meeting the challenge of decarbonising the building sector at the required pace—what you know of it already? Obviously, they are going to come out with more detail.

Dr Nurse: We obviously need to see it. First, we are super-excited that it is being promised. It is too early to say, from what we know. It is definitely a positive step that we are having it, and there are some big numbers in there. I want to put it a little bit in the context of the scale that we need to see and reiterate the thing about electricity prices. Whatever we are doing in homes, we need to get that sorted so that we can then do the scale-ups. The boiler upgrade scheme is a good scheme, and the total amount of funding has increased for next year, but that is going to give funding for fewer than 40,000 heat pumps. I mentioned earlier that there is a target to get 600,000 by 2028. The scale of it is really big.

Q313 **Ms Billington:** Can I interrupt? Do you see that boiler upgrade scheme as sufficient in being able to drive and accelerate the reduction in costs of heat pumps and the appetite among people? I always call it the garden fence thing: people lean over the fence and say, "Oh, you've got one. Oh,



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maybe I'll have one." Is the target number and the quantum of money available sufficient to drive the adoption of this technology at scale?

Dr Nurse: We definitely need more in terms of other policies in a bigger strategy to show how we are going to get this ramped up. The clean heat market mechanism is great and has been confirmed as coming back in. It has a target of 6%, which is quite a big number, for next year. The fine on that has reduced quite a lot. We will have to see how much effect that has. There is regulation like that and then the BUS grants and making electricity cheaper; you have to have all these things together.

The other thing is public engagement, because quite a lot of people do not know what a heat pump is, and there is quite a lot of myth-busting that we need to do in that world as well. It needs public engagement, outreach and explaining the direction of travel. For market certainty, so that the market knows and invests, the Government need to be clear that this is the way we are going.

In terms of raw numbers from BUS, they are quite low in terms of the scale that we need to get to. It depends. Do we put more money into that, or do we have more in the regulation? It is not for us to be prescriptive about how it happens.

There needs to be a clearer plan. Hopefully, the plan, when it comes out, will be clear about how we are going to get to the scale that we need to see in the target that the Government have.

Emma Pinchbeck: It is worth labouring the point on electricity costs again. The suite of policy options available to Government is one thing, but there is an outstanding question for heat about whether, much like with electric vehicles or other energy infrastructure, the private market would be willing to create the business models, to offer the financing and train the installers.

Q314 **Ms Billington:** I was going to ask about that.

Emma Pinchbeck: My experience of working with the energy suppliers or the heat pump manufacturers and others is that creating the business model depends on being able to demonstrate to the consumer the savings from investing in the technology. That is critical to their ability to then offer financing models and invest in training installers and in the technology, because you have the market conditions and they can see the long term and make the costs stack up. One of the reasons we are interested in making electricity cheap, as the fuel of the future, is that if it is cheap you will get the private sector working out how to do some of the heavy lifting on how you make them an attractive product for people.

Q315 **Ms Billington:** Can I interrupt you a little? I feel like you are sitting in the framework, which I have experienced quite a lot in this sector, where people seem to think that this is going to be fundamentally about individual choices of what people do in their homes, when actually heat is going to have to be done at a more strategic level.



We have had a transformation of our gas heating within my lifetime. I was very young. We went from town gas to natural gas. That happened across the country. People who are off-grid have always been off-grid. They have always had a different way of heating homes. We need to recognise that there will be different ways of heating our homes across the country, but probably not from one house to the next, because you will need to have some kind of systematic approach in places. The idea that one person buying a heat pump with a financial product that enables an individual household to do so will be the transformational shift we require for decarbonising our homes is a misunderstanding of the nature and the scale of the task, isn't it?

Emma Pinchbeck: A lot of these choices are for Government to make. As Emily said, we are looking forward to seeing the warmer homes plan. We would like to see a strategy that we are confident gets you the delivery, which could include the role of local authorities or what you are describing—a street-by-street approach.

Q316 **Ms Billington:** Heat maps, heat planning, all of that.

Emma Pinchbeck: Yes, it could include all those measures. It could include the clean heat market mechanism. It could also include measures to make electricity cheap, which would enable the private sector to see if they can have a go at the individual replacement thing. In terms of where we are seeing deployment at the moment, the grant, in sheer volume of numbers, is not enough, but there is demand for the grant for individuals replacing their heating systems who want to have a heat pump and are often doing it at the moment through an energy supplier. There are lots of shades in the way that you do the delivery. We are saying to Government that the current suite of measures and incentives is not enough to get the emissions reduction. We would like to see a plan that the committee feels will get to that. There is a huge range of options available, and we would like to see that. I do not think it is for us to be prescriptive about what those are. Some of the measures that you have described are measures that the committee has looked at.

Q317 **Ms Billington:** You have looked at something to do with financing particularly for the able-to-pay market—green mortgages, linking loans to properties as distinct from people and so forth.

Emma Pinchbeck: Yes, there is a long-standing question about what you can do to do that. What the private sector often needs is long-term certainty and confidence from Government. You need a business case that stacks up in order for you to do the financing. A key thing there was the cost of electricity versus the cost of gas on products.

Q318 **Ms Billington:** There are also some specific changes, aren't there, to the way that mortgages are created and structured in this country that do not exist in other countries, and therefore enable people to borrow against the cost of their property over time, beyond their person? That would enable us to get greater energy efficiency measures in and indeed



decarbonised heat sources.

Emma Pinchbeck: Yes, and the committee has looked at those, and of course our colleagues at the Green Finance Institute look at this and other areas of the economy. Polly, you have been doing this a long time, too. The piece about finance that helps the able-to-pay market and things like green mortgages has been a long conversation. Speaking personally as well as speaking on behalf of the committee, it is an area where we would like to see progress made.

Q319 **Chair:** Do you think you will come up with recommendations on green finance?

Dr Nurse: I don't think we will have anything so prescriptive, to be honest, certainly not in CB7. Maybe as just a sneak preview of our citizens panel, one thing that was really highlighted was the up-front cost barriers of things, even if you are going to get a lifetime saving or you are going to save on your energy bills. That is where this sort of thing can really help, if people know that you have something that can—

Q320 **Ms Billington:** I am also aware that the costs of large wind farms and so forth have massively reduced over time, and we still have people in this House who say, "Well, why should we subsidise heat pumps?" We have subsidised all kinds of other things in order to be able to make sure that over time those costs would fall. It feels to me that, if this is to be an at-scale transformation of the heating of our homes, there is an argument for something more systematic in our support in order for those up-front costs to reduce over time.

Emma Pinchbeck: As we said—Emily said it—the implicit point that you are making is that, as with all technology roll-outs, the mass market is the thing that often creates price reduction; you get the efficiencies that push down the costs of technology. What we want to see from Government are the conditions to create that mass market. The exact tools at their disposal are many. You have listed some. We have listed some. When we do the progress report, we look specifically at any policies that have been enacted, and comment on whether they are enough.

In terms of offering advice, we try to stay non-prescriptive and look at the outcomes. The outcome we are after is a mass market for this technology, costs coming down for this technology and, as Emily says, the ability for as many consumers as possible to get the maximum benefits out of this technology as early as possible in the roll-out. How do you do that? There are actually options available. It is for Government to look at those options and decide, and then we will hold them accountable so that you can hold them accountable.

Q321 **Ms Billington:** Can I follow up with one on public sector buildings? One of the things that you recommend is a big decarbonisation programme for public sector buildings. Again, it is an opportunity, I would have thought, to significantly reduce the costs of these technologies, because they



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would be done at scale and adopted by the public sector. What would that programme look like, in your view?

Emma Pinchbeck: I am so sorry that we are repeating mostly the same answers.

Ms Billington: That's okay. That's fine.

Emma Pinchbeck: The carbon budget advice is coming.

Q322 **Ms Billington:** That is communications discipline. We welcome that, Emma.

Emma Pinchbeck: Sorry. We will say more about it when we publish our advice. There is a range of policy options available to Government, and we would just like them to take some. What we are clear on is that they are not sufficient. We were debating this in the secretariat and as the committee today. The central point about the public sector, and the non-domestic sector in general, although it might not seem it, is that the domestic sector is actually pretty straightforward in terms of archetypes of kinds of houses and people who live in those houses, and thinking about the routes to market and the routes to reach them—

Q323 **Ms Billington:** Something should have happened by now.

Emma Pinchbeck: Yes. I cannot remember how many there are, but there are not that many different types of housing in the UK, whereas when you are talking about something like the public sector, you could be talking about a hospital versus a school versus offices in Whitehall and other places around the country.

What we would like from Government is a much more strategic and thoughtful approach that differentiates those sectors and, in particular, gets the intervention points right. For example, in terms of the thing we are talking about this afternoon, in a school the likeliest time you can carry out works is in the summer. As Government, if you are looking to do that kind of programme, you need to have been thoughtful about it and target your workforce and incentives at that point of the year.

The financing of these measures looks different if you are a school or a hospital, as do the kinds of technologies that you need and when buildings are occupied. We have had quite high-level thinking on the public sector previously, and our biggest recommendation is to get a lot more detailed about what that looks like and to try to work through some of the archetypes and intervention points.

Dr Nurse: It might be about targeting the easiest but highest impact high emissions. You can look at emissions and what is easiest to get everything rolling, and have a long-term strategy and plan for how you are going to work through the different sectors.

Q324 **Ms Billington:** Finally on commercial buildings, is there enough focus on decarbonising them? Do we have a good strategy for encouraging



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commercial operations to decarbonise effectively?

Dr Nurse: Cheaper electricity.

Emma Pinchbeck: We are tedious.

Chair: We hear you.

Emma Pinchbeck: Not in every case, but in many cases, big commercial premises particularly have an energy manager who, let me tell you, with the way that gas prices have been for the last five years, will be very much incentivised to be looking at things like on-site renewables generation and will have access to the financing for those technologies, so long as you get the conditions right for them to do it.

Some of that is about communicating options. My former colleagues at Make UK used to say that there are about a billion programmes and signposts for industrial users, commercial users and non-domestic energy managers about what things they are supposed to be doing. It is about some coherence for that sector, some clear signposting, energy advisers to help energy managers, and access to finance. It should be, in that sector, less of a role for Government than in the public sector. Again, it is about enabling market conditions.

If you are getting anything from us, Polly, it is that heat and surface transport, whether that is domestic or commercial, is a really big priority for the next five to 10 years.

Chair: You mentioned surface transport, which moves us perfectly over to Luke Murphy, who is going to ask you about it.

Q325 **Luke Murphy:** Thanks very much. It is good to see you both. On the point about electricity, given how disciplined you have been in mentioning it, would you go as far as saying that you think it would be desirable to take money from other schemes, rather than reduce some of the spending on installation measures, on BUS or other things, in order to use that money and take those levies off electricity? Would you go as far as that?

Emma Pinchbeck: That is the sort of question that I would take back to the committee and ask their view on, because it is quite a significant thing. We try not to rank priorities in terms of easiest or hardest or most costly, because that gets into political territory around what Government think their overall priorities are.

I mentioned electricity being the fuel of the future, which feels true. In any other period of economic history, if you could see that the production of energy was changing, you would, as an economy, move to make sure that you had control of that energy production as much as possible, and you would move to make it as cheap as possible. That is not about decarbonisation; that is about sensible economic planning. If the Treasury Committee asked me the question about a priority for growth, I



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would say cheap electricity is a huge thing for the next 10 to 20 years, and therefore I am not necessarily sure it is about trading off one area of decarbonisation against another. This is about your economic strategy and a big decision in that regard.

If you would like me to go back to the committee and say, “Is this more important than that?”, we can, but what you are getting from us is that we think it is an essential thing. Everything is essential, but with that one, we have not seen enough from Government on it, despite how essential we think it is, whereas on other areas like, planning reform, we are seeing thinking come forward.

Q326 Luke Murphy: More specifically on surface transport, you have already mentioned that it makes up a significant chunk, and a big part of that, as you have already said, is the shift to electric vehicles. Some of the key barriers that are always highlighted, certainly by the public, or as their view of it, tend to be around price, range anxiety and availability of electric charging points. How do you think we are doing? Are you confident that by 2030 100% of market sales are going to be electric vehicles?

Dr Nurse: We will do cars first. We stagnated a little last year, but we have picked up again this year. We are expecting to see the tipping point where we reach price parity pretty soon, and then we think it is really going to accelerate. Charge points are really going well. It is still in the ZEV mandate space for some hybrids in 2030, but in our models in the past we reached close to 100% for electric vehicles.

Vans are less on track and are not growing as fast. The key thing there is to figure out why and work with the major van fleets to figure out why. We have had some anecdotal evidence on range anxiety, whether it works for their fleet, whether you have the charging infrastructure, and whether there are enough models. Figuring out what the barriers are would be key there.

With cars, we have to keep an eye on it because it is so key for the targets. It has to accelerate, and the models show that it will, but you have to track it. That is what our indicators do each year—track what is happening. We are hoping to see it really take off.

Q327 Luke Murphy: What is driving the fall in price for EVs?

Emma Pinchbeck: Battery costs.

Q328 Luke Murphy: Is it cheaper imports from China?

Emma Pinchbeck: As in on the batteries?

Luke Murphy: Yes.

Emma Pinchbeck: Battery technology across the piece has improved massively wherever they are manufactured. This is outside the committee’s remit, but there is a conversation happening for the



European OEMs for car manufacturers about how rapidly China has been able to develop very cheap and now long-range electric vehicles and what that means for exports from Britain and Europe to Asia and what they can do to compete.

There are decisions for Government in terms of industrial policy around our automotive industry that sit outside the committee's remit, in terms of whether you want to take advantage of cheap electric vehicles from other countries for our consumers, or whether we are going to move to help our manufacturers compete. All we can tell you is that, from a carbon point of view, the battery costs are coming down. They are coming down for our manufacturers. They are coming down in other parts of the world. We are confident that for consumers an electric vehicle will be cheaper than buying a new ICE in the time that we need it to be in order to hit 100%.

Q329 Luke Murphy: Does it sit outside your remit? You talked right at the beginning—I didn't have a chance to pick it up, but it is relevant to this—about the economic and social. I don't want to quote directly, but from what I recall you said, essentially, it is the CCC's job to recommend the lowest-cost option. In a world in which there is huge concern, as a result of the Ukraine war, about energy security, which is now being transferred to critical materials and the security of supply, and given the economic value that could be created through an industrial strategy that meant we could have lots of heat pumps manufactured here and many more parts of the supply chain for electric vehicles, is that not part of an economic and social assessment?

Emma Pinchbeck: I want to say two things about that, one of which I might get Emily hitting me for. There is a list of things that I would like to do as chief exec of this organisation, based on my previous experience. We talked about renewables auction costs earlier. One of the factors in the inaccuracy, or the uncertainty, around prices for projects for renewables—in fact, all energy infrastructure; trying to build anything at the moment has been challenging—is the cost of capital thing that everyone is aware of, but there was also some issue with the global supply chain and more competition for the resources we need for the energy transition. That will gather pace because other countries are doing this, as I said, regardless of climate targets. I became a bit obsessed with the materiality of projects, supply chains, commodities and other components. The committee has made recommendations on workforce capacity previously.

I would very much like us to have that kind of expertise and to be able to start thinking about supply chain constraints and supply chains more generally. For the purposes of delivering the carbon budget, all we need to be able to tell you as policymakers is that the trajectory that we are advocating is feasible. If there was a very big supply chain risk we could see to a critical component in a technology or for some other thing in the transition, we would factor that in.



When there is a decision for Government about a cheap electric vehicle for consumers from China or from the UK, with the caveats I mentioned, that is industrial policy and sits slightly outside our remit. There is no reason why Government could not ask us to look at it, but at the moment that is not the primary purpose of the pathways that we offer. We are in a very different world from the one 10 years ago. We have commented previously on the geopolitics of commodity prices in terms of gas. As I said, as CEO, it would be interesting to explore what that looks like for us without breaching our mandate.

Q330 **Torcuil Crichton:** Can I jump in quickly? Emily, what is the problem with vans? Is white van man resistant to climate change and to electric vehicles?

Dr Nurse: “What is the problem with vans?” is the question that we need to put. We have a bit of anecdotal evidence on it, but we are not 100% sure why it is quite so far—

Q331 **Torcuil Crichton:** Is it driver resistance?

Dr Nurse: It could be part of it. The Government need to talk to the big van fleets and figure out what the barriers are, and whether this is something that is just going to be fine and we will get through it and take it up, or whether it is about more investment in van-specific charging infrastructure.

Emma Pinchbeck: It is worth saying that one of my learnings on joining the committee from the private sector is that the quality of evidence that we need in order to be able to put it into our formal advice has to be quite high. We look for peer-reviewed, preferably quantitative evidence.

Dr Nurse: It can't be a chat with a driver you meet at a petrol station.

Emma Pinchbeck: Yes. When Emily says there is anecdotal evidence and we need more than that, we need something other than anecdotal evidence as the committee, and we have not been able to get it in a way that we feel is substantive enough.

Q332 **Chair:** The Transport Committee is probably in a better place to look into that. There are issues around the size of parking bays by charge points, around drivers being able to park their van at home, and whether they have access to charging at home. There are a number of aspects.

Emma Pinchbeck: If there are good datasets on this—material that is substantive enough for us to include in our advice—we would love to have it.

Q333 **Chair:** I am sure the SMMT would talk to you about that.

Emma Pinchbeck: I am sure they would.

Chair: We are probably wandering off our topic, so we will go back to Luke Murphy.



Luke Murphy: I think I am doing the next section, on public engagement.

Chair: You are.

Q334 **Luke Murphy:** Very quickly, just to complete the part on transport, do you think there has been enough focus on equitable access to electric vehicles in terms of them not just being for those who are wealthier? How is that kind of thinking shaping the seventh carbon budget?

Emma Pinchbeck: I don't think we would comment on equity per se, and have not done previously, apart from where we can see that it is a challenge to the delivery roll-out and we think that it causes public pushback to adoption, or political uncertainty or some other thing. In terms of CB7, one of the things that is new—I think we have already said this—is that we are doing a bit of distributed impact analysis for the first time, which gets to your question of fairness, on how the costs and benefits fall across different income groups or different groups in society. That is probably as much as I can say. There will be information out there from us on that. As Emily said, the team ran a citizens panel this time and tested attitudes to policy interventions, fairness and other questions. The big message from that was clarity on choices. They really wanted more information. I think I am right in saying this. Is it too much of a spoiler alert?

Dr Nurse: I don't know what you are going to say.

Emma Pinchbeck: They were relatively relaxed about some people having access to the technology ahead. They thought able-to-pay households should do more. Across the piece, that was something.

Dr Nurse: They recognised that part of driving the costs down was the early adopters.

Emma Pinchbeck: Everyone has a mobile phone in their pocket, which in my lifetime I can remember only my very wealthy friends being able to afford, but now we all have them because wealthy consumers bought them. That is one route to the mass market. There was some comfort with that.

There was some very strong sense of fairness on things that people thought were essential, and I would say heat was one of those. Because it is an essential service, there was more concern about making sure that people had access to technologies that were going to benefit them and allow them to have low-cost heat. Again, there is more detail on that in CB7 when it comes out. You will be able to see the full range of analysis.

Q335 **Luke Murphy:** We are talking about public engagement, which is a nice way to segue into my questions on it. On the point about citizen engagement, have you considered formalising the relationship between the CCC and citizens and making it part of your governance structure to have a permanent citizens panel?



Emma Pinchbeck: Fun challenge as a chief exec. I think the correct answer as a civil servant would be that it is for Government and Parliament to set us our mandate and ask us to look at things. There is no reason they could not ask us to host some sort of permanent public participation. We would probably be the right home for that if it is something Government wanted to do.

I should signal to you that, although we have done a panel this time—Luke, in your previous life, you will have worked with companies that pulled these things together—it is quite expensive to do in a thorough way. In our current resource base, we would not be able to host something like Climate Assembly UK regularly. I hope though that, regardless of much bigger theoretical conversations about what we could do, the insight that we got from doing the panel was really worth it.

We have a team in the secretariat that is thinking about distributed impacts, households and more of the kind of work that you are describing, and I would very much like to keep that. We will do some of that going forward; we will continue to do it. The scale of it is a decision for Government. If Parliament and policymakers wanted us, as your independent body, to do more, and there are the resources to do it, of course we would look at doing it. It is for you to tell us, really.

Q336 **Luke Murphy:** More broadly on public engagement, you have talked a lot about it, but how important is it to reaching our net zero goals? Do you not think it is time that the UK Government had an actual strategy around public engagement? How would you rate the Government's strategy on public engagement?

Dr Nurse: There are plans for one this year. That sounded really positive. It came in the response to our progress report. We think it is very important. The citizens panel said that. They thought that it was really important to be communicating some of the things we are talking about. Although it is very important, and it is important as a two-way dialogue definitely, the low-carbon options also need to be made more attractive. They have to be communicated, but they also need to be made affordable and good. That is part of it. The public engagement is crucial because you have to bring people along with you. People are very supportive of net zero.

Emma Pinchbeck: In my previous job, speaking for industry, there was often frustration about unclear messaging. A lot of the capital for delivering net zero will come from the private sector, which wants certainty and clarity from Government. It is probably very similar for household decisions. People are waiting to see what Government want them to do and are needing to understand products. Across the piece, just comms helps.

I also think we are in an era when there is a lot of noise and people get their information from all kinds of sources. The Government are still a very credible source. You, working with your constituents, are still very



credible advocates. As much as possible, there is a need to be clear about what expectations actually are. Even in the time I have been doing this job, I have heard people suggest the Climate Change Committee wants to do x, y or z, or that a particular technology costs x, or the impacts on the economy are y. Most of that is not true. There is a real, genuine need to engage the public on all this stuff.

Our experience—before my time—of both Climate Assembly UK and the panel that we have run for the carbon budget, plus all the polling that I have ever seen and any engagement I have ever seen with the public on climate change, is that they are up for it if they understand what it is that we want them to do. This population more than almost any other is really pro the Government doing more on climate change, not less, but where there is uncertainty is the uncertainty, and not understanding the technologies, and wanting to feel that the roll-out is fair. That is a huge role for politicians rather than us.

Q337 Luke Murphy: All of the polling shows that if people think it is going to cost them more, they don't make it enough of a priority to make the change. What is the answer?

Emma Pinchbeck: As Emily said, I don't think you can just lecture people into taking up new technologies. They have to be beneficial for people in the round as well as simply on cost. The carbon budgets are calculated on the most cost-effective route possible, with the most social benefits possible—the biggest benefit to households. That is part of the job.

Q338 Luke Murphy: A very final question. Do you think Government and politicians are as effective as they could be in communicating on climate? There are lots of ways of talking about it—reducing bills, affordability and creating jobs—but a lot of people are sceptical about job numbers. All of the evidence that I have seen shows that the most effective way of talking about it is often around talking about the benefits for the next generation. That is an effective frame for talking about it, but actually very few in government, or politicians—I am talking about over the last decade and longer—talk about it in what the evidence suggests is the most effective way.

Emma Pinchbeck: We cannot dictate to politicians how they talk about the evidence. I am not a politician, quite clearly. It is for you guys to work out the best way of communicating to your constituents what you want to do. What we do is offer Parliament, and directly Governments in the UK, the best evidence base possible in order to do that communication.

The other thing we have said, because you can see it in the market impacts, is that clear communication really helps people whenever there is a technology or economic change. Yes, of course, we would encourage, with the biggest industrial shift that most of us will ever experience, that politicians are part of communicating that to the public, but that is where



our mandate runs out. We offer you the information as policymakers, and it is for you to take forward the delivery pathway and then communicate it to the public who elected you. I would not dream of telling politicians how to do that most effectively.

Q339 Anneliese Midgley: Thanks very much, both, for coming, and congratulations on your new job, Emma. I want to go a bit into workforce, skills and jobs. I know that you have referred to these issues throughout this evidence session. In the report, you recommended a skills strategy. You have both mentioned, peppered through this session, key gaps in the workforce currently in terms of delivering on the key recommendations and hitting the targets. Can you go a bit into how you think this strategy should seek to address that?

Emma Pinchbeck: Again, I am so sorry if we are tedious. Some of the detail is for Government to determine. Overall, when you look at the quantum of stuff that has been announced on skills previously, we have not been confident that it is enough to address the barriers to the workforce and to retrain people at the scale that we need. We would like a comprehensive strategy for workers, for new industries and for industries that are going to be affected by the net zero transition. This is the question of reskilling, redeploying a workforce or supporting communities where industries are going to change. Oil and gas is the example everyone always gives.

How do you do it? We are not skills specialists at the Climate Change Committee. There is a role for Skills England. The Government have announced an intention for a new Office for Clean Energy Jobs that will get together with Skills England and the other training and accreditation bodies to work out what the strategy is for each area of the economy.

To give you a high-level example, it should be possible if you are a marine diver working on an offshore oil and gas rig to very easily move over to being a marine diver and surveyor in the renewables industry. I know the sector is doing work to make sure that the certification standards and health and safety training are aligned, but when I started in renewables 10 years ago, you used to basically have to re-qualify to do the same job. It will be like that in every area of the economy where there are things we can do to streamline what is needed for people to move over.

It obviously means working with the unions and others who are real experts. It is a bit like the public sector buildings. Everyone operates at a high level. We have had the green jobs taskforce and we have had high-level strategies, but starting to really work out actions for each area of the economy would be our recommendation. It is good, but the clean power action plan indicated that there would be this new Office for Clean Energy Jobs.

Q340 Anneliese Midgley: Thanks. I appreciate that you are not skills specialists, but I want to dig into that a bit more. You assessed the



number of trained heat pump installers and heat pump installations as “significantly off track”. In 2023, there were 4,000 to 5,000 heat pump installers, and the previous Government’s target of July 2023 was 50,200 by 2030. I know that you have touched on this, but do you think that those jobs will be good enough to attract people? Specifically, you have talked about a workforce that already exists, and there are 130,000 certified gas engineers, who have secure, unionised, well-paid jobs. We had a previous evidence session where some barriers were talked about in terms of the cost of training and the loss of earnings, compared to the £500 grant that you get to do this. In terms of promoting these jobs to new entrants looking at midlife career changes, and looking at getting that already skilled workforce skilled up on this, what are your thoughts on how we can successfully do that in order to get this job done?

Emma Pinchbeck: That was a pretty good summary of some of the intervention points. In terms of the roll-out of heat pumps, I will let Emily come in to talk about increasing demand. Installers will be trained, and are being trained, by energy suppliers who are installing heat pumps, because they can see a market where they have an opportunity to sell services to their consumers and where a branded in-house installer they have trained will help them. When you speak to the suppliers, the one private organisation that might invest in this, the thing they need is long-term certainty about policy; they need to be sure about demand in five or 10 years’ time, and they need clarity from the Government about the strategy for heat, because that enables them to go to their investors and say, “We’re going to take a risk and invest in a training centre.” At least two energy suppliers that I know of have done that, but you will get more if there is certainty about demand in the market going forward.

It is similar for installers who are trained for boiler manufacturers. There, maybe the clean heat market mechanism, when it comes in, with that kind of certainty for manufacturers about direction of travel, will send quite a strong signal to manufacturers and the independent installer workforce. The thing to say—this is really important—is that we are not expecting loads of existing installers, the kind you have talked about, to have to hugely retrain, especially those who are mid to late in their career, because the acceleration of heat pumps over the next decade is not so significant that we are not going to need gas engineers to service people’s boilers or still be looking after people who have gas boilers in their homes. We will be talking about installers who will be around for the next 10 to 15 years maybe acquiring additional skills so that they can offer advice on heat pumps as well as gas boilers. Then it is about new installers coming forward who are skilled to install heat pumps, and understanding that that is the future of their industry, and the unions understanding that that is the future of the workforce. I have sometimes seen the committee’s advice interpreted as an overnight market shift, when actually it is a gradual transition. As with renewables or other areas of the economy, it should be possible to plan for that workforce.



The last thing—Emily will speak to this—is scale. Just the number of installers we will need and the scale of the workforce is big. That is why we are pushing Government to have plans that we feel reflect the scale of that challenge and offer market certainty so that the private sector can allocate funding for installers, and skills bodies and others know what they are being asked to train people to do.

Dr Nurse: I think you have covered it perfectly. Basically, it is getting demand up, which I talked about before, and the scale of it. I gave the numbers before about how it really needs to ramp up. Once it is clear that that is happening, you have the demand and people will train.

Emma Pinchbeck: I am a new chief exec, so when the secretariat team, who are very skilled, say something nice about me, regardless of how else this has gone, that has made my day.

This is a real area of work, on skills. I have heard lots of talk on a personal level about jobs and skills in every job I have been in, for a depressing number of years now. It is getting to a place where we have to start making those decisions, so some more detailed policy, getting bodies together and really forcing some thinking would be good.

Q341 **Anneliese Midgley:** Okay, thanks. I shoved a lot of questions into that one question. I have one more that I want to finish on, which is basically from the session I referred to earlier, in December, that we held on retrofitting homes for net zero. We heard evidence from the GMB. You talked about working with the unions. They said, and it is something that another member of the Committee touched on, that there was too much individual choice moving away from gas and that we needed a national plan, pointing to the transition to North sea gas in the '60s and '70s. They have had experience of this as a union previously, and it was managed under national agreements by unions, employers and Government. Do you think that the Government need a similar co-ordinated, modern-day, strategic approach like that in order to deliver a just transition in the decarbonisation of home heating?

Emma Pinchbeck: I haven't seen those comments from the GMB. Throughout this evidence, you have heard us say that Government need a strategic approach. Our biggest concern from the committee is around buildings, and in particular heat. The warm homes plan, which we are very excited about, to quote Emily—very few people are excited about a policy on energy efficiency, but we are those people—needs to be strategic and long term, and it needs to consider all those policy mechanisms. Given that we have said that, in terms of feasibility, skilled workers are really important to the delivery of heat decarbonisation, you would imagine that a strategy to make sure that we have those workers is part of that plan. How will they do it? The governance they use, how they work with the unions and how they work with private employers is for Government to determine. But, for the committee, they do not currently have detailed enough plans for us to be sure we will get those workers or decarbonise heat effectively for 2035.



Q342 **Torcuil Crichton:** You touched on it, so I would like to know where the North sea sits in your skills strategy. Have you thought much about it?

Emma Pinchbeck: We will say more about areas of the economy, including oil and gas, in the carbon budget advice when we publish it. We have said it previously, and I have just said it here, but oil and gas is clearly one of those areas of the economy where there is enormous transition happening. For communities in Aberdeen and Newcastle, and colleagues from my old world who are working in oil and gas who will see a significant change to their careers, there needs to be a plan to support those communities and workers, and where possible for those workers who will still be working in the period of the transition, to make sure that they have access to well-paid, sustainable jobs in the new industries that are coming forward. The North Sea Transition Authority would be the people to ask about that plan—it is in their remit—in terms of delivery, but we touch on it in the advice that we are offering.

Q343 **Torcuil Crichton:** It is 200,000 jobs in the North sea. If you listen to your former colleagues, those jobs are at risk because of closing down licensing for oil and gas in the future. Do the Government need to do more to help oil and gas and the North sea workers to transition to this new economy?

Emma Pinchbeck: Our job is the carbon, and for that reason the mandate of the committee is to advise Government that we need to get fossil fuels out of the economy where we can and then use negative emissions for any residual. That's our job. With my old hat on—

Torcuil Crichton: You have a lot of experience. You know what you are talking about.

Emma Pinchbeck: With my old hat on in energy, this transition is happening and it is really gathering pace. Regardless of the Climate Change Committee's advice or any pressure on decarbonisation, there is significant change in global oil and gas markets happening because of changing patterns in demand. The oil markets responding to China's oil demand because of the roll-out of electric vehicles has been interesting to watch over the last year. There is more volatility in oil and gas markets because of changing patterns of demand. You can see renewables that are cheaper than fossil fuel generation in most countries internationally now, with solar in places where it is very sunny and wind in other places. This transition is happening.

Outside our mandate as the Climate Change Committee, if I was sitting in Treasury, I would be thinking about the industries that are going to get left behind unless there is a plan for them. I believe that the Government have an industrial strategy coming. I would be thinking about those areas of the economy because of the energy transition and because of net zero—but it is not just because of net zero—and thinking about new opportunities.



I suppose the good news is that green energy jobs, or just energy jobs, in new energy technologies and the clean economy have grown 10% over the past two years. We can see that this is a growth area for the UK. We invested early in things like clean power, so we have market advantages. We should be capitalising on that and having an industrial strategy that makes better use of those strengths. There will be job opportunities for people in this transition, too. We are clear on that. Overall, in our modelling, we can see that there is a net economic benefit in the long run of doing this. It is about proper, targeted support for communities and for old industries that we expect to decrease or to be phased out. That is slightly outside our remit because it is not just decarbonisation that is driving that transition; it is sheer market economics.

Torcuil Crichton: Thanks.

Q344 **Chair:** Thank you very much. Your final answer and indeed much of your evidence has confirmed that—

Emma Pinchbeck: We'd like electricity cheap.

Chair: I think we got that message. We have launched two inquiries. One is into the industrial strategy and the supply chain in energy, and the other is into the green workforce. Just in that last answer, you encapsulated why those are important areas for us to look at.

We very much appreciate the evidence that you have both given at length this afternoon. Thank you very much for persevering.

Emma Pinchbeck: Thank you for having us.

Chair: It was a marathon effort. It is about the time for the world record for the marathon, actually—that is how long you have been talking to us. Please write to us with the additional information that you were not able to provide today. We look forward to reading your analysis on carbon budget 7 and seeing you again in the very near future.