

Public Accounts Committee

Oral evidence: Achieving Net Zero, HC 935

Thursday 28 January 2021

Ordered by the House of Commons to be published on 28 January 2021.

[Watch the meeting](#)

Members present: Meg Hillier (Chair); Sir Geoffrey Clifton-Brown; Barry Gardiner; Peter Grant; Mr Richard Holden; Sarah Olney.

Gareth Davies, Comptroller and Auditor General, National Audit Office, Simon Bittlestone, NAO, Alastair Heffernan, NAO, and David Fairbrother, Treasury Officer of Accounts, HM Treasury, were in attendance.

Questions 1-84

Witnesses

I: Julian Critchlow, Director General, Energy Transformation and Clean Growth, Department for Business, Energy and Industrial Strategy; Steve Field, Director, Climate, Environment, Energy, HMT; Sarah Munby, Permanent Secretary, BEIS.



Report by the Comptroller and Auditor General Achieving net zero (HC 1035)

Examination of witnesses

Witnesses: Julian Critchlow, Steve Field and Sarah Munby.

Chair: Welcome to today's Public Accounts Committee sitting on Thursday 28 January 2021. Today we are examining the challenging target that the Government set of achieving net zero by 2050. Of course, this comes at a pertinent time as the UK prepares to host COP26 in November.

We know that this target is ambitious and we will ask the officials appearing before us today how it will be achieved by working across Government and what the impacts will be on people's lives, because achieving this target will affect everything that we do. We also know, of course, that the overall costs are uncertain, but the price of inaction is surely higher. So, we will probe officials on how they are assessing those costs.

To help us to do that, I am delighted to welcome our witnesses today. We have Sarah Munby, the permanent secretary at the Department for Business, Energy and Industrial Strategy—welcome back to you. We also have Julian Critchlow, the director general for energy, transformation and clean growth in the same Department, and Steve Field, director for climate, environment and energy at the Treasury. Of course the Treasury has a critical role in ensuring that the Government across the board deliver on these very stiff zero carbon targets.

Without further ado, I will go to Sir Geoffrey Clifton-Brown, who has some preliminary questions, before we go into the main session. Sir Geoffrey—over to you.

Q1 **Sir Geoffrey Clifton-Brown:** Good morning to all our witnesses. Mr Critchlow, could you tell us how well your preparations for COP26 are going and what the major challenges are?

Julian Critchlow: The preparations, obviously, are going well. We are still planning on an in-person event in November in Glasgow. Obviously, the environment that we are working in has substantially improved recently, with China's commitment to net zero by 2060 and the US returning to the Paris agreement. So, we feel very optimistic about what we can deliver this year. It is still a huge challenge, but the preparations are going well and obviously we have contingency plans, depending on what happens in the global environment and the pandemic over this year.

Q2 **Sir Geoffrey Clifton-Brown:** With our former Secretary of State, the right hon. Alok Sharma, being in charge, how is he getting the necessary resources from across all Government Departments to get the input that is needed for this very important international conference?

Julian Critchlow: He obviously has a dedicated unit set up by the Cabinet Office—the COP26 unit—that supports him day to day with the logistics, but



he also draws on the broader resources of Government through the Cabinet Committee and through the Climate NSIG, which I chair.

- Q3 **Sir Geoffrey Clifton-Brown:** You mentioned at the top the US coming back into the Paris accord and China's 2060 carbon neutral target. What are the real challenges of getting more countries on board, for example India, and not only on board but realistically signing up to the goals? How do you expect to meet these challenges?

Julian Critchlow: Obviously, one of the core goals of this particular COP—five years on from Paris, although delayed because of covid—is to get raised ambitions on each of the nationally determined contributions, or NDCs, that each country submits, with their detailed delivery plans.

We are obviously hopeful that we will get those increased commitments, given the momentum that we have seen in some of the major countries. Clearly, we are doing our bit by raising our NDC to 68% and showing leadership as the host of COP. Given the positive environment that we are seeing globally, we hope we will see a number of the large countries—all countries if possible—submitting raised ambitions so that we can push towards the target of the 1.5° to 2° that Paris aimed for.

- Q4 **Sir Geoffrey Clifton-Brown:** We will clearly be asking a range of questions today, but do you see the British contribution having increased? By the time we get to COP26, do you think you will be able to report even better news on our national contribution?

Julian Critchlow: Our nationally determined contribution is globally leading at 68%. We have raised it substantially, as we are asking all countries to raise theirs. What we are doing also is producing one of the most detailed plans globally that will support how we are going to deliver that by 2030. So it is not only a very ambitious target, but we are also pulling forward detailed plans, sector by sector, that will demonstrate to other countries how we intend to deliver it over the next 10 years. We have sectoral plans coming out at the beginning of this year. We have already started with the Prime Minister's Ten Point Plan and the energy White Paper last year, and that will culminate in a net zero strategy just ahead of COP.

Sir Geoffrey Clifton-Brown: Thank you. Others will no doubt wish to come back on some of the detail of that. Thank you, Mr Critchlow.

- Q5 **Barry Gardiner:** I just wanted to ask about the energy White Paper. Alok Sharma described it as "a decisive and permanent shift away from our dependence on fossil fuels, towards cleaner energy sources". How permanent was that shift when the next thing we saw was the Government going back on its commitment to power past coal and allowing the Whitehaven deep coalmine to go ahead?

Sarah Munby: If I can come in there, first of all I think it is important to say that the energy White Paper builds on an enormous amount of progress over time. It is not as though the energy White Paper is the beginning of a decisive shift; it is actually a continuing decisive shift. Over the last 10 years,



carbon emissions from the power sector have dropped by 62%. It is an incredible success story for the country.

Specifically on what happens now and whether we think it has been permanent or not, the example that you are picking up on, which is ultimately a planning permission question for a local authority, is not about the use of coal for power. It is about coking coal that is used, for example, in the steel sector and even in heritage railways, so it does not go to the question of the use of coal for power. It goes to—

Q6 Barry Gardiner: Of course it does. It is quite a ridiculous argument to say that it is not about power because, of course, it is about what is needed to power our steel sector. It is not about electricity production— you are absolutely right—but our emissions do not come simply from our electricity production. My mother always used to tell me that I should finish what I had on my plate before I asked for more. I am delighted that you have set a new 68% emissions reduction target, but the reality is that you are failing to meet the fourth and fifth carbon budget that you needed just to achieve the previous 57% target. What makes you confident you can achieve the new target when you have been off track and—I stress this, given what you have just said—underperforming since 2011? You have been off track for the fourth and fifth carbon budgets.

Sarah Munby: Maybe if I could just close the point around coking coal, because it is important, and it is a good point. Clearly, the steel sector is one of the sectors that needs to transform. It will transform later than the power sector, so there is a legitimate use for that kind of coking coal right now. Of course, in order to meet our net zero obligations over time we need to move to clean steel, and that is why the Government has put money into the clean steel fund, for example, and is working closely with the steel sector. We need to acknowledge that that transition needs to happen.

Q7 Barry Gardiner: But you still haven't published your industrial decarbonisation strategy. You say your net zero strategy will only be announced before COP26, and the North sea transition deal, which the now Secretary of State promised very early in the new year, is still not with us. What action is Government taking to get back on track to achieve its emission targets for 2023 and 2032? The Committee on Climate Change has said that you will have to achieve a further 10%. That means a 78% reduction by 2035 to stay on target for net zero by 2050. Should you not have had those tools in place already, if not a long time ago?

Sarah Munby: Going back to your second question, after the coking question, which was around carbon budgets 4 and 5, I think it's worth spending 30 seconds on history here, to make the point that carbon budgets 1 and 2, which are now in the past, we exceeded—that is, we did better than—and by 14% in the case of carbon budget 2. Carbon budget 3, the one we are currently in, we are, again, projected to do better than.

It is absolutely the case that we still have a gap to close to meet carbon budgets 4 and 5, and the very systematic process of publishing sector



strategies over next year, culminating in the net zero strategy, as Julian has described, is absolutely the process by which we will put in the additional policies that are needed to close the gap to carbon budgets 4 and 5. We absolutely acknowledge it: there is definitely more work to do. That is why we have such an ambitious programme of work coming up next year. We fully expect to be held to account for that.

Q8 Barry Gardiner: But Ms Munby, the point here surely is that carbon budgets 4 and 5 were set when we had a target of an 80% emissions reduction from 1990 levels by 2050; we now have a net zero target by 2050, and we are not even meeting the interim targets to achieve that 80% reduction. That is my point to you. All the things that I mentioned—the industrial decarbonisation strategy, the net zero strategy and the North sea transition deal—we are waiting for.

You are right: on the first and second carbon budgets, pre-2012, all went fine. We are now over-achieving the third, but nowhere near getting to the fourth, which has to be delivered by 2023. So I think that, really, a lot of this work that you are saying is coming now is coming too late, and this is a 10-year period, when in fact you are then going to have to make as great a shift again in a five-year period, in accordance with the Committee on Climate Change.

Sarah Munby: Absolutely; there is a huge transformation to undergo here. The thing that gives us confidence in our ability to make that transformation is our success to date in having delivered a world-leading reduction in carbon emissions. So yes, it is not going to come without work and without further policies, going across all the sectors of the economy, alongside those strategies, as you describe, but that is the work we are thoroughly engaged in.

Q9 Barry Gardiner: Well, let's deal with those strategies; let's look at them. Let's talk about the North sea transition deal. Can we expect to see an end to new licences for oil and gas, given that the industry has committed to cutting emissions in half by 2030 and by 90% by 2040?

Sarah Munby: We will confirm the new policies around the North sea when we publish the deal. For all these strategies, we are not going to be able to tell you today all the policies that we are going to put in place over the next year. That is why the strategies—

Barry Gardiner: I am not asking for all of them; I was not asking for all the policies.

Chair: Mr Gardiner, we can come to this later. I do need to bring in Sir Geoffrey Clifton-Brown, so I will do that and then we can get into the main session.

Q10 Sir Geoffrey Clifton-Brown: Ms Munby, may I turn to the housing stock? It is estimated that the housing stock could contribute up to 20% of all our emissions. I have a ten-minute rule Bill that, among other

things, would make sure that all new housing stock—all new houses that were built—would have to meet proper insulation standards, be wired for



HOUSE OF COMMONS

broadband and have an electric charging point. Surely we could move very quickly to require new housing stock to have a much lower, if not zero, carbon footprint.

Sarah Munby: I will pass to Julian to talk about the future homes standard and the work we are doing in that area.

Julian Critchlow: Clearly, as you are aware, we have set a future homes standard, which will come in in 2025, as part of the Ten Point Plan. Indeed, we are looking to accelerate with some interim Part L regulations to try to move in that direction, working with MHCLG, which leads on this, to ensure that all homes are from 2025 effectively ready to be zero carbon. That is very much consistent with the direction of your question.

Q11 **Sir Geoffrey Clifton-Brown:** But given, as Mr Gardiner has drawn out, we are already behind our targets in total, one of the areas where you could very quickly make a difference would be new houses. Surely 2025 is far too long to require developers, in building new houses, to meet these standards.

Julian Critchlow: That is why we are bringing forward the interim changes to move in that direction. We are ensuring that we get the volume, the quality and the low-carbon housing that the Government have committed to. Obviously, we need to make sure that we signal enough time ahead to ensure that the supply chains and the builders can construct those homes to the high quality that we are laying out in the building regulations.

Q12 **Sir Geoffrey Clifton-Brown:** Can you give us a sooner date than 2025 when you expect that to happen?

Julian Critchlow: We will be bringing forward some proposals on the interim standards, but 2025 is the date that everything has to be in place by.

Sir Geoffrey Clifton-Brown: Well, I will let others pick that up. Thank you, Chair.

Chair: Thank you. Back to Mr Barry Gardiner, as we are now getting to the meat of the main session.

Q13 **Barry Gardiner:** Maybe this is a good point to pick up on what Sir Geoffrey was saying and to talk about the green homes grant. This is a shambles, isn't it? The contractor, ICF, reports that renewables companies are having to lay off workers amid severe delays. People cannot get their grants approved. Here is part of what is supposedly the flagship of the Ten Point Plan, and within two months it is already running into the ground.

Chair: Who is going to take that?

Sarah Munby: Julian is going to take that.

Julian Critchlow: The economic stimulus package you are referring to came out with four schemes, of which the green homes—



Barry Gardiner: I am talking about the green homes grant, Mr Critchlow, so maybe you could address that.

Julian Critchlow: The green homes grant has two components: one is delivered by local authorities, and we are on track to deliver about £500 million of investment through local authorities; and the second part is the retail offer you are referring to—we have 100,000 vouchers applied for, and are processing those as fast possible. We are also building the supply chain to be able to do that work in a high-quality and certified form, with TrustMark-approved and PAS-certified suppliers. We have both built the supply chain through this programme and created a scheme that we hope will drive a lot of low-carbon measures into homes. It has been a challenging process in an environment that, we appreciate, has been challenging through lockdown, and we hope that, as we come out of lockdown, we will see more demand for the vouchers.

Q14 **Barry Gardiner:** It is really not good enough, Mr Critchlow. You knew that we were in lockdown and that covid was happening when you announced this scheme, and actually you have not got the supply chain of skills in place. That is why ICF, the contractor, is saying that the companies are laying workers off and that there are these severe delays.

Julian Critchlow: We have ¹nearly 800 suppliers in the supply chain. We have also relaxed the—

Q15 **Barry Gardiner:** Then why can't people get their grants approved? Why aren't they getting enough people to come and do the inspections to get it signed off? If there all these people out there, are our homeowners simply lying about this? You are saying everything in the garden is fine, but what both the contractor and the public are telling us is that it is not.

Julian Critchlow: I am saying that we are processing the vouchers as fast as we can. We obviously have to ensure that the quotes are high quality and good value for money, and that we prevent any fraud in the scheme. We need to make sure we have good verification of each of the applications, and that requires us to collect information from the customer about their quote and the installer, to ensure that their quote is valid. That has been taking longer in this period than we would have hoped, and we have had some processing issues, but we are working very rapidly to resolve that and get the vouchers out. We have 17,000—nearly 18,000— vouchers already out there for redemption.

Q16 **Barry Gardiner:** When do you think the scheme will be back on track? Give us a date for that.

Julian Critchlow: We are working as fast as possible to process the existing vouchers that have been applied for and to be able to process quickly any new vouchers that are applied for in the coming months. In the vast majority

¹ 'CORRECTION: BEIS has notified the Committee that at the time of the hearing (28 January 2021) there were 898 registered installers.'



HOUSE OF COMMONS

of cases, we have processed the voucher, rejected it or gone back to the customer for a—

Barry Gardiner: Mr Critchlow, I just asked you for a date; I didn't ask you for a thesis.

Julian Critchlow: I think we are making good progress in processing those. I am not able to commit to a particular date, because it obviously depends very much on how fast the consumers and installers come back to us.

Q17 **Barry Gardiner:** Okay. Perhaps I can go back to the perm sec and pick up where we left off. We were talking about the North sea transition deal, perm sec, and you were saying that we are obviously not going to announce anything now. I asked a very specific question, which was about the end to new licences. Given that we know that this industry is already committed to cutting its emissions in half by 2030, how could it make sense for the Government to issue new licences?

Sarah Munby: I will be happy to come back to you in writing about new licences.

Q18 **Barry Gardiner:** Okay. Let's move on. Let's look at an area of relative success—the decarbonisation of the power sector. It is responsible for 56% of the overall decrease of emissions that took place between 2008 and 2018. That was done through a detailed plan—the energy market reform plan—but there is no date set in the energy White Paper for building zero-carbon homes and for shipping and aviation, which are not included in the UK emissions total. At the moment, renewable energy accounts for only 2.4% in transport and 7.2% in domestic heating. Surely you need to outline the plans for these areas and how you propose to scale up and improve efficiency on all those schemes, such as the green homes grant. Surely it should have been in place already. Isn't that the point?

Sarah Munby: Absolutely we need to outline those plans. The energy White Paper and the Ten Point Plan put us in the right direction, but there is more detail to come. That is why we will shortly be publishing the heat and buildings strategy.

We would have liked to have published many of those strategies. In the NAO Report, there is a very helpful chart showing original dates and current dates for publications. We would have liked to publish them months earlier than they are actually likely to be published. That reflects a major reprioritisation of Government activity in response to the coronavirus crisis, but what offsets that is that the crisis has also acted as a galvanising moment for ambition and focus. We are very confident that those strategies, as they come out, will be stronger than they would have been and will reflect a greater degree of political commitment. Indeed, as Julian has already discussed, they will be coming out into an international environment that is much more promising.

Yes, had things been different it would have been better if those documents had come out months earlier—we are not talking about anything more



HOUSE OF COMMONS

extreme than that. We are in very good shape to get them published early next year, and of course they will absolutely need to lay out the sorts of policies that you are describing to add more detail and greater clarity around timing and process, particularly on the big areas of emissions where we need to make more progress, including buildings, transport and, as you say, industrial decarbonisation.

Q19 Barry Gardiner: The latest report to Parliament by the Committee on Climate Change said that the heating and industrial sectors had not made enough progress in setting their plans in place. Of course, we are now seeing transport as the largest emitting sector; I think it is 115 million tonnes this year, which is the latest year that we have figures for.

When will the plans that have been promised actually now come out? If we look at all the plans that you have committed to, can you give us the dates for when they will be produced? We were told that some would be out very early in the new year. Can you give us a publication programme over the next 12 months?

Sarah Munby: You can expect to see the heat and building strategy—I am reading to make sure I give you the full list—and the fuel poverty strategy very soon, followed up by the industrial decarbonisation, hydrogen and transport strategies. The nature strategy will come later in the year. These will all be in place before the net zero strategy, which will come before COP26.

I am not going to be drawn on the exact months that individual strategies are going to come out. We will put them out at the right time, when they are ready. That programme of work, leading up to the net zero strategy in advance of COP, is something that we are absolutely committed to.

Can I also give an important framing thought? Not all the sectors need, or are expected to or planned to, decarbonise at the same time. The fact that we have seen a big drop in power does not mean we need to make an equivalent drop in transport. We haven't done it yet because we are late; we haven't done it yet because it hasn't been the right time.

First, you want to have changed your electricity system, so that when electric cars come in, they are using clean energy. Secondly, you need technology to mean that people are able to buy electric cars at the right cost. We are quite close to the tipping point where electric cars first become cheaper than internal combustion engine vehicles over their whole lifetime, and then become cheaper at the point of purchase. We expect that as those transitions happen, we will see a rapid shift in transport emissions. I just want to frame that we don't expect straight lines; we expect these transitions to come in sequence, as different sectors hit the tipping point.

Q20 Barry Gardiner: It is a good point, and a fair one. It is worth making so that the public understand that. I think that is absolutely right. You would concede, perhaps, that more progress should already have been made in the energy efficiency sector. The particular example you chose of the



HOUSE OF COMMONS

electrification of the transport sector is a fair one, but much more progress should already have been made in energy efficiency. That is one where there is real cause for alarm.

Let's move on. How do the Government propose to ensure that the impact of our actions, in terms of emissions overseas, does not mean that we are exporting our emissions, because of our consumption patterns? How are you dovetailing emission reductions work in Government with consumption reductions work in Government, so as to ensure that we are not simply seeing a corresponding rise elsewhere in the globe? As far as the atmosphere is concerned, it doesn't matter whether a tonne of carbon is produced in the UK or elsewhere; it has the same impact on all of us.

Sarah Munby: Absolutely. It is a very important question that you raise, and one that we think very seriously about. I preface my answer by referring everybody to the Committee on Climate Change's report, which discusses our historical record in this space in some depth and, to synthesise much detailed work, effectively says that to date, exporting carbon emissions has not been the reason for the reductions in the UK. Our success has not been about pushing carbon emissions abroad; it has been about real change, particularly in the power sector but also in the industrial sector. Although you said there is more to be done, over the last 10 years emissions have reduced by 29%, and the largest reason for that has been improvements in energy efficiency in industry. Those are real changes, not shifts in the composition of what we do.

We measure our consumption emissions—they are difficult to measure, which is why they are not used as the core target for what we do—so that we can look at this issue and understand what we are doing. When we think about policy, it actually comes down into the detail of the design of what you do, because depending on how you go about reducing emissions in a particular sector you either will or will not have the effect of genuinely changing the carbon make-up of what we use in this country. For example, if you regulate products on the market that does not export carbon. If you simply regulate what can be done in this country versus what can be done overseas, you risk pushing carbon abroad.

There is no macro answer to how you make sure that we are not doing that wrong. You monitor it carefully by making sure that we are measuring consumption emissions and, as you do the policy work, you have to think through in each specific case whether the policy will result in exporting carbon. We have been very successful to date in not taking the easy route out.

Q21 **Barry Gardiner:** The Government are clearly looking at a carbon border adjustment tax. What are your thoughts on that, and how progressed is that work?

Sarah Munby: I might bring in Steve here.



Steve Field: We are thinking about the whole issue of carbon leakage in the context of the net zero review that the Treasury is undertaking, and we published an interim report just before Christmas. Clearly, there are a number of ways you can think about the carbon leakage problem, and there are a range of potential options for dealing with that. Climate diplomacy will obviously be critical, because if other countries are also decarbonising, as we are, the risk of carbon leakage goes down.

On the issue of carbon border adjustment, clearly there is a debate ongoing on that issue. I think further investigation of that proposal is required, and we would have to think about how such a proposal would be implemented and whether or not it would comply with WTO rules—and of course how effective it would be too. That is a live debate, certainly internationally, and one that we are thinking about, as I say, in the context of the net zero review.

Q22 Barry Gardiner: The WTO is always reluctant to intervene when the rationale for something like this is an environmental one, isn't it?

Steve Field: I am not an expert on the WTO. I think the European Commission is preparing a proposal for a carbon border adjustment mechanism, and we would expect it to take its thinking to the WTO at some point. I think we will learn more then.

Q23 Barry Gardiner: Okay; thanks very much. Finally, and quite briefly because it has already partially been touched on, I want to check with the perm sec about the progress towards the net zero strategy. We recognise that there are problems with covid in pulling together that plan and making sure that it encompasses all sectors and has the relevant targets and milestones. How confident are you, perm sec, that prior to COP—and sufficiently prior to COP—you will be able to have achieved a level of buyin, not just within Government, of course, but from the public, and an understanding of the importance of this strategy and their role in it? How confident are you that you will be able to do that in good time?

Sarah Munby: I am very confident about publishing that strategy in advance of COP. Of course, we reserve the footnote for if there were a genuinely new major development in the pandemic, but on current expectations we are very confident.

Q24 Peter Grant: Ms Munby, I want to ask you some questions first. The conversation is about net zero, which implicitly accepts that there will still be carbon being produced, and that steps will then be taken to mitigate that—presumably through some form of reabsorption. In the past that has tended to mean planting trees, but the researchers from Kew Gardens pointed out earlier in the week that if we plant a lot of the wrong kinds of trees in the wrong places, it does more harm than good. What steps are the Government taking to make sure that the mitigation steps that are added into the calculation to prove that we have reached net zero will actually be beneficial to the environment and will not end up doing more harm than good?



Sarah Munby: It's a great question. We absolutely acknowledge that there will be particular sectors where the transition we talked about happens in part after 2050. Aviation would be the classic example where we expect there to be residual emissions that need to be offset. On the specific question about how we run the offsetting in a way that is most beneficial to the environment, I will bring Julian in.

Julian Critchlow: Our plans are very much an integrated whole, including tree planting and negative emissions technologies along with all the abatement actions we have described. During the transition—going back to previous questions—we will obviously still be using a lot of technologies, such as gas, for our back-up to our renewables that we are doing in the power sector. But tree planting obviously has a very important role, as does planting the right trees in the way you are describing. That is why DEFRA will be bringing forward an England tree strategy later in the year, to lay out how we are doing that and making sure it is both the right quantity and the right types of trees.

Q25 **Peter Grant:** Are you assuming that all of the mitigation will be by planting trees either in England or in the United Kingdom, or will you take into account statements by businesses that they have supported tree planting elsewhere?

Julian Critchlow: A very important part of the UN negotiations is on article 6 and creating appropriate offset markets. We believe that there is a role for high-quality offsets, but we do not believe that those should be our first port of call, and we believe that we should be, as much as possible, eliminating at source where it is economic. But as the permanent secretary describes, there will be some residual emissions, perhaps from agriculture or from international travel, which it is not feasible to economically mitigate. We may address that through sustainable fuels, or we may address it through offsets and tree planting. It is a full package, both in the end point at net zero and all the way down through the waypoints that the carbon budgets represent.

Q26 **Peter Grant:** One of the things that the researchers pointed out this week, which I think we all knew, is that if a business is either directly or through financial support planting a lot of trees somewhere, the variety of species that get planted in order to be beneficial to the environment are not the economically most advantageous to the person planting them. Do you intend to publish, or have you already published, guidance to make it clear to businesses what would be required of them if they want to claim to offset their carbon production by tree planting? Is it something that the Government intend to do on their own, or are you looking to have Europe-wide or global guidance, so that everybody is playing by the same rules when they claim to have offset their carbon emissions?

Julian Critchlow: As I say, it is something that we feel very passionately about, in the sense that nature-based solutions could represent about a third of the answer globally. But at the moment they do not receive as much of that investment. The point I think you are pushing on is that you cannot

do that in a low-quality way. We are actively looking at different ways we could ensure that the offsets are of high quality,

We are actively looking at different ways we could ensure that the offsets are of high quality, in the way that you are describing—that they have the right impact locally and the right impact on the climate—but also that they are used for the most appropriate reasons. Where we could mitigate the emissions in other ways, we will still use those first, before we go to look at offsets, and they are truly used for only the most difficult sectors to abate.

Q27 Peter Grant: It will take some time for businesses and entire sectors of the economy to prepare themselves for the offset measures they want to adopt. When do you intend to publish guidance so that they know what rules they will be expected to comply with?

Julian Critchlow: As I say, our focus domestically is to try to have a fully integrated strategy that relies as much as possible on domestic action to deliver our domestic trajectory all the way down to net zero. The plans we are bringing forward do not currently rely on international offsets; we are looking to do that through domestic action. One of those will be the England tree strategy, which will lay out the right kind of tree planting to help, as a contributor to our overall net zero strategy.

Q28 Peter Grant: I don't know if I missed it, but when will these documents be published?

Julian Critchlow: As the permanent secretary said, we plan to have them being regularly published as early as possible this year, building up to the net zero strategy just before the conference of the parties in November.

Q29 Chair: You talk about producing all these documents. Will there be a regular place where anyone can go to see what progress has been made, on the individual documents and on the whole, so that we can see the milestones and the troughs that Ms Munby described?

Julian Critchlow: Ultimately the net zero strategy will be the document that pulls them all together, just ahead of the conference of the parties. That will be the index, if you wish, but we are obviously looking to have a co-ordinated series of publications that effectively are all the chapters that build up to that overall net zero strategy.

Q30 Chair: The key thing is, will that get updated regularly so that we can see progress year on year?

Julian Critchlow: Those strategies will lay out our overall plan. We have the carbon budgets and our waypoints along the way. We will obviously be legislating for carbon budget 6 well before the June deadline. We publish on an annual basis our performance against those and our projections against those.

Chair: Okay. We will come to this in a bit more detail later on.



Q31 Sarah Olney: You are obviously facing here a group of MPs who are all very interested in and committed to the path to net zero, and that concern is obviously shared across the House. One issue I have encountered in trying to hold the Government accountable for this is the extent to which the various strategies for delivering net zero are really scattered, for want of a better word, across a number of different Departments. For example, MHCLG has responsibility for the heating of our homes; the Department for Transport has responsibility for reducing vehicle emissions. The NAO Report really does bring out the extent to

which the sharing of responsibility across Departments is really creating a barrier to tracking progress towards net zero.

It is a question for all of you, but starting with Sarah Munby, what are you doing to ensure more effective co-ordination across Departments so that you are all working towards this net zero goal together?

Sarah Munby: If I may, I would like to step back from the question about what we are doing right now—I will come back to it—to make an important point. I don't think that the root cause of the challenge is that we don't have a different institutional set-up. The root cause of the challenge is that, as you say, this is a very complex problem, which affects lots of different parts of Government. It is absolutely right that when we think about decarbonising the transport system, the thinking about that is properly integrated with all of the other transport thinking that happens in Government. We can't extract net zero as a separate problem and give it to somebody to own. It actually needs to be embedded into individual Departments, because this has to be an absolutely mainstream part of how the whole of Government operates. Much as we all worry about value for money, we all across the system need to be worrying about value for carbon. The complexity here is not caused by our institutional arrangements; it is real complexity, which we have to find a way of managing.

Now, what are we doing about it? First, we have made huge strides forward. The set-up that we have now—the Cabinet Committees, fed by the NSIG, which Julian chairs—means that we have real clarity across the whole picture of emissions on who owns which slice. That means that each Department can be held to account for what it is doing on its own slice, and we in BEIS can be held to account for the full picture, adding up all the different slices.

As that gets more complicated, when we start getting into more in-depth strategies in the individual pieces of the puzzle, meaning greater interdependencies between the different pieces, as the NAO rightly emphasises, that governance will have to continue to evolve, strengthen and grow. Examples of that include the fact that we have put in a net zero governance team specifically to work—in partnership with the NAO, actually—on how to enhance our reporting of the different delivery programmes across Government, and so on.



There is definitely more to do, but the governance system is growing in parallel with the complexity and scale of the challenge that we are operating against. How does it feel right now, inside the system at least? It feels like we have clarity about who owns what; we have clear ambition coming from each Department; and we know what people need to deliver. As we have already discussed today, we have been challenged, a bit, by covid, which has been a real pressure. I think the fact that we still got the Ten Point Plan out shows you that this is still receiving real focus across the system.

On all the recommendations that the NAO has made about strengthening our governance and the way we work together, we absolutely appreciate them and have found them extremely helpful, and we will be working very closely with the NAO to put them in place. In principle, we very much accept the direction of the Report. There are some individual pieces for which we should talk about the detail of how to do that, but we are absolutely on the same page.

Sarah Olney: The same question to Mr Critchlow, please.

Julian Critchlow: The permanent secretary has articulated very clearly the journey that we have been on. Over the last 18 months, since we created the national strategy implementation group, we have been bringing together all the different parts of Government, which has allowed us to work in a very collaborative fashion to develop one single integrated plan that has all these different chapters.

Indeed, as we went into the spending review period this year, the Cabinet Office, No. 10, the Treasury and I, as chair of the NSIG, instigated a process where we reviewed all the spending review bids to ensure that they work in tandem with their individual sectoral strategies, so that spending review bids actually support the delivery of the individual strategies. Obviously, not everything is about money; some of it is about regulation and the fiscal changes that Steve Field referred to in terms of the net zero report that will come out of the Treasury. This way of working in a very integrated, single-plan view, with lots of different elements, is a big step change, and the Cabinet Committees have obviously been a big part of that.

Q32 **Sarah Olney:** Ms Munby, earlier in the session you spoke about electric vehicles and the Department for Transport needing to put in place policies to make that switch happen. Do you think that you, as permanent secretary for BEIS, have sufficient power to compel the Department for Transport to do what it needs to do on that agenda, to ensure that it delivers against net zero? Do you have enough power to overrule, if you like, that Department's other priorities?

Sarah Munby: I will come to the bigger question in a second, but specifically on transport, we have a joint unit between our Department and the Department for Transport—the Office for Low Emission Vehicles—which works specifically on the question of electric vehicles, partly because improving the charging infrastructure has great implications for the grid and for power generation, so we have to work very much in tandem. On that



HOUSE OF COMMONS

one in particular, we have a direct interest and involvement, which makes me confident.

To the broader question of whether I have the power to make any given Department do something different, that is not ultimately where the source of accountability and power lies in this system. It is not me phoning up a fellow permanent secretary and demanding that they do something differently. This is ultimately about a shared plan across Departments that has been signed off by the Cabinet and by the Prime Minister, who is chairing the CAS—the Climate Action Strategy Committee.

If Departments are consistently falling behind what they need to deliver in order to enable the integrated plan, we would expect the accountability and pressure to run in the normal way, from the Prime Minister and the Cabinet to the Secretary of State and to the Department, to drive through action. That has worked very well because there is, I think, clear commitment to this agenda from across the Government, the Cabinet and Departments.

The dynamic here is not BEIS spending its time harassing other Departments to do things; it is lots of Departments working constructively together to build a plan that recognises that one part of the system might under-deliver, because something turns out to be harder than we thought, and another part of the system might over-deliver, because it goes faster than we expected. We have to be able to hold that shifting, integrated picture together and ensure that, overall, it delivers against the carbon budgets, the NDC and, ultimately, net zero.

The answer is no, I do not feel that I have that power, but I do think that as a system we have ways of ensuring that everybody acts, not least because it is a legal obligation. Steve could talk about the Green Book and how that means that in every decision that Departments make, they need to take into account not only the financial implications of their decisions, but the extent to which those decisions are compatible with the Government's net zero target.

Sarah Olney: Mr Field, would you like to comment on that?

Steve Field: Maybe it is worth also saying a little bit about what the Treasury has been doing more generally in this space. My post is a new one and we are thinking about how we can ensure that we are devoting the right resources to this set of issues. As Sarah says, this is an economy-wide transition, and therefore the process of transitioning to net zero will touch on every part of the Treasury's business, whether that is our responsibilities on financial regulation, tax or spending. Every team that I can think of across the Treasury will be affected in some way.

In order to ensure that we are properly joined up in the Treasury and that policy thinking is properly joined up, we have put in place a climate board, chaired by the second permanent secretary within the Treasury, to oversee that work and ensure that we are thinking about these things effectively. In addition, we have the net zero review, which is an opportunity for us to



think through some of these issues and how we may address them in future. We will not answer every question through the net zero review, but we will at least map out the questions we will have to answer in the future.

On the issue of the spending review, we tried to do something slightly different last time, as Julian mentioned. We had process meetings where we brought the experts from BEIS alongside the spending teams in the Treasury to scrutinise departmental bids. I think that was quite a good innovation and quite effective in ensuring that the spending review processes were aligned with the broader process for considering our net zero strategy and our net zero plans. I think that was a good innovation.

We also asked Departments explicitly, on top of what is in the Green Book, to provide some assessment of the climate impacts of their capital plans. I think it is fair to say—I think colleague Mr Duffy picked up on this issue, when he was before the Committee on the environment plan—we did not get results from every Department, and there is more that we can do to help Departments working with BEIS, to ensure that they have the tools and capabilities to properly assess the climate impacts of their policies and plans at an early stage. So we are in the process of taking stock of what happened at the last spending review, looking in detail at those returns that we got from Departments, and we will be going back to Departments soon to open up that conversation ahead of the next spending review; so hopefully we can do better next time.

Q33 Sarah Olney: Ms Munby, one of my concerns is that there will need to be trade-offs. There are some difficult decisions to be made in the future as we transition. For example, my colleague Mr Gardiner mentioned the Whitehaven coal mine, and he has talked about oil and gas licences. It does not feel as if the net zero target is being prioritised in those decisions. What more can be done to give net zero greater prominence in certain Departments when these kinds of decisions are being made? It feels as if some Departments may be relying on other Departments in making that sort of trade-off. What would you say about that?

Sarah Munby: I don't think I would recognise that characterisation, actually. It is of course true that not every decision solely focuses on net zero, and net zero needs to be seen in the context of other Government goals. Julian already talked about this: in the case of buildings, for example, we are trying to balance getting enough homes with getting the right homes, and sometimes those two things can't be achieved entirely in tandem. It is a matter for collective decision making—and that is why we have Cabinet Committees to do this—to make, in a big picture sense, the trade-offs between different buckets of emissions and work out what the right order to go after them is.

Each Department knows the envelope of emissions that it is responsible for, so individual decisions that perhaps don't bubble up to the Cabinet Committee because they are too small to merit individual discussion— every decision that the Government make impacts net zero in one way or another,



and not all of them can be discussed by the Cabinet Committee. The implications that they have go directly—if you are in Transport each decision that you make goes to your envelope, which is the transport emissions, and you need to take responsibility for balancing those decisions over time and, as it were, there is no cheat. You are going to be found out if you don't do the right things, because we measure that bucket of emissions over time and we can see what is happening. So it is not really the case that there are Departments who are attempting to dodge their obligations. It is the case that there are Departments who are running parts of the system where it is really hard, in the near term, to reduce emissions, often because the technology isn't yet there. We have to accept that they are going to be a bit slower, which means we have to go faster on the things we can do—just as we have seen with power coming down so dramatically over the last few years.

Q34 Sarah Olney: I wanted to quickly pick up on that point, though, because one of my other concerns is that what will be needed to provide that real step change in emissions reduction is for hundreds of thousands of members of the public to change some of their individual behaviour; but they will need to do it in a number of different ways. They will need to change the vehicle they drive, or perhaps choose more active ways of travelling or swap to public transport. They will need to change the way they heat their homes. That might be one for several years down the line, but nevertheless, not buying a wood-burning stove now could have an impact, for example. You just mentioned envelopes there, and those two examples of coming from different envelopes. What is not clear to me is that we currently, yet, have a co-ordinated way of communicating to the public about the individual behaviour change that they need to make or need to consider—all these things I am talking about are big personal investments, so your next car, or changing your boiler, or whatever. I just wondered whether you think it is a weakness of the current approach that we are not providing that co-ordinated message to members of the public about what they need to be thinking about when making choices.

Sarah Munby: That point is very well made, and it comes alive at the moment because a lot of the changes that we have made up until now have not required major behavioural change, and many of the changes that are coming up will require more behavioural change. It is worth pointing out that we will, where possible, look for solutions that do not require excessively drastic behavioural change.

It is worth pointing out that we will, where possible, look for solutions that do not require excessively drastic behavioural change. That is why, for example, electric vehicles are so important. Although we need to reduce the number of journeys done by car, we recognise that that will still be part of the picture, so we need to find a zero-carbon way of doing it.

We have established a public engagement team exactly to look at the question of the integrated picture of public engagement. I would say that we are not there in that space yet. We have more to do. It is on us in BEIS



HOUSE OF COMMONS

to be the driving force behind that integrated engagement strategy that draws on all the Departments' requirements and needs. Julian, I don't know whether you have anything to add on that specifically.

Yes, it is a challenge and, yes, we need to do more work. We have established a team to begin doing that, and we certainly need to make good progress this year. The launch of "Together for Our Planet" is a good step in the right direction, but it is not enough.

Q35 Sarah Olney: Before Mr Critchlow comes in, I obviously listened carefully to what you said about why things are in different envelopes, stove pipes or whatever language we are going to use, but do you not think that that creates a barrier to the sort of integrated public communication that we really need to see?

Sarah Munby: This is not the only example of communicating across Government on an issue that affects lots of Departments. That is true of most of the major issues that we need to communicate with the public on. I don't think it is beyond the wit of the system, as it were, to integrate a communications campaign across multiple different parts of Government. Indeed, that is something that we are pretty experienced with. We have just had a jolly good rehearsal for communicating around the end of the transition period. It needs work, and we are not doing enough now, but I don't think it is structurally impossible.

There is an implicit question in your question, which is whether it would be better if we had some kind of integrating separate Department or central Department, for example, running these things. I come back to what I

said: the work on net zero is inherently in different parts of the economy. It is inherently cross-economy, so the right answer is not to try to separate it out; it is to fix these co-ordination and systems issues so that all Departments can work together on it.

Q36 Sarah Olney: Can I really quickly come back? We were talking about the coal mine and the licences for oil and gas. Do you not feel that when these things hit the headlines, they are sending the wrong message to the public about the Government still wanting to continue these kinds of activities? In the absence of a dedicated campaign to speak to the public about their own individual consumer choices or behaviour, when we do things like commission a new coal mine, or if the Government does not step in to stop that, does that send a message to the public that it doesn't really matter that they are not really committed to carbon reduction, and therefore people, in their own choices and lives, don't need to be that concerned about it either?

Sarah Munby: A broader public engagement strategy is really important, because those messages need to be seen in a broader context. If we just take oil and gas from the North sea, for example, it is really important for people to recognise that we cannot switch off the North sea tomorrow. That wouldn't be the right thing to do. In fact, those companies have a really



important role to play, as we go through this journey, in reducing emissions from the rigs, for example. We are not yet ready to make the switch-off.

By 2050—net zero—we are going to have had to have made a very big transformation, but it comes in stages. We need to get people to appreciate that broader picture, the importance of some of the high-emitting industries today and the role that they play in employment and the resilience of our energy system. Those things matter, and we haven't got enough of an integrated story that brings all that together so that the public can see individual actions in their context. That will be part of the work that we need to do on public engagement. There is a risk of overcomplicating this whole thing, but that is the underlying reality.

Julian Critchlow: We also are very much in it for the long haul. The average car lasts 14 years and the average boiler lasts 16 to 20 years. Changes in behaviour have to come at major transition points—for instance, the sale of a house and so on. Your point is very well made—that we need to integrate this and be able to communicate on a consistent basis—but we are in this for the very long haul, in terms of making lots of small changes along the pathway to net zero.

Sarah Olney: Thank you.

Chair: I will turn to Richard Holden MP for a couple of quick points and then we will go back to Mr Gardiner.

Q37 **Mr Holden:** This is just to Ms Munby, really. I see this situation with the new coal mine slightly differently from Ms Olney. Obviously, one of the big issues that we face, as the Report goes into, is the fact that we have this issue of imports not being included in our carbon reduction targets. I have people in my constituency who will probably go and work in that coal mine. But the key issue, Ms Munby, is how we communicate to the public the fact that we will still need, for a period of time, coking coal, coal for cement and coal for the heritage rail industry, and that we do not end up doing really strange things, like not having coal being dug in the UK but instead importing coal, which is obviously a bulk product, from across the world, in some form of offshoring of our carbon emissions and greenwashing of our actual agenda, which, as the Report shows, we are making really good progress on. How do you ensure that that is communicated, so that we do not make cheap decisions within Departments to try and say, "Oh well, if we do this, it'll be really difficult, and instead we'll just offshore our carbon emissions"?

Sarah Munby: I think you did a jolly good job right there in communicating exactly the message that we need to get out around this issue. It is absolutely the case that we will take some actions that involve continuing high-emission activities in the short term, because they will come off the schedule over time. I think it is the same as my answer to Ms Olney, which is that we have to tell that story in a more integrated and more effective way, and that is why we are putting investment behind doing so. However, I couldn't agree more on the specific example.



HOUSE OF COMMONS

Chair: Thank you very much. I think this perhaps goes to the point about when and how you are reporting. You have described very clearly, Ms Munby, that things go in a sequence and that you will have sudden actions in some areas. However, the public and this Committee need to know what those plans are, so that that story can be better explained.

I now turn back to Barry Gardiner MP.

Q38 Barry Gardiner: Ms Munby, I will just pick up the point about the public engagement and public buy-in, which my colleague Sarah Olney talked about. The Select Committee for your Department, along with a number of other Select Committees, commissioned the Climate Assembly UK and the work that was done there in that report. Were you surprised that in

some areas the public were actually ahead of where the Government were prepared to go?

Sarah Munby: No, I do not think we were surprised. It was very useful material, and I might ask Julian to comment on it more detail, but no, I think we would absolutely expect that in some cases the public would be a bit behind and in some cases the public would be a bit ahead, sometimes reflecting the fact that parts of this agenda really affect individuals and parts of it fall much more on businesses, and individuals do not necessarily see the complexities in making the transition. That goes to the point about public engagement: that, over time, we need to match up the views of the public with the underlying reality. Sometimes that will mean that we need to go faster to meet the public and sometimes it will mean that we need to demonstrate to the public why we are going at the pace we are going.

Julian, you might want to talk about the broader lessons that we took from that report.

Julian Critchlow: There was a bit of a conundrum in a lot of the research that was done with the public. Often, there is a very high passion for taking climate action but not always for taking the very first step. What I thought was particularly insightful from the Citizens' Assembly UK was that, by delving into the detail of what it will take, the assembly really got to the essence of things.

For instance, the assembly reinforced the picture that the Climate Change Committee and the NAO would confirm and that we have, namely that 2050 is a challenging date, but obviously it is a good thing to be challenged to hit it. However, the assembly did not necessarily say that the date should come forward to an impractical date, reflecting the need to make continuous and challenging changes but not unreasonable ones.

The assembly reinforced a lot of the elements that we also believe in, such as the importance of nature and the importance of taking everybody with us, which we have obviously spent quite a lot of time talking about. It felt, because they had delved into it in such depth and with some great



HOUSE OF COMMONS

witnesses, that they really came out with some things that would definitely reinforce the approach that we are using.

Q39 Barry Gardiner: Look, I think it was very positive, particularly given that this was a genuine cross-section of views; it was not all people who were self-selective.

I want to talk, perm sec, about cross-Government co-ordination and how we co-ordinate beyond simply central Government to other public bodies. The reality is that public bodies and local authorities simply do not have any idea of what Government want of them yet, do they? You have failed to set out the relevant roles and responsibilities. The Local Government Association tells us that you have certainly failed to set out any estimate of the costs, let alone offered to make the resources available that local government will need to achieve the net zero target. How do you justify that failure to co-ordinate with local authorities and other public bodies?

Sarah Munby: I am going to ask Julian to answer that.

Julian Critchlow: Yes, I think you raise an important issue. Ultimately, the changes have to happen as an individual consumer or individual business, and certainly in a co-ordinated and local way. We are obviously very cognisant of that.

The local authorities are very important partners in delivering a lot of the schemes that we have talked about today—the green homes grant, or the local authority delivery scheme, which is delivering £500 million-worth of investment into homes in their local areas. We have very broad engagement with that. Similarly, local authorities have a lot of the planning capabilities and statutory duties. That is very important as we think about things like heat networks. Again, we have extensive investment in the heat networks programme on that. Finally, on ECO, it is supplier delivered, but we wanted to ensure that 25% of it was flexed to allow local authorities, which know the local areas best, to be able to target the measures on the right places.

I think what you are getting at is that, over time, as we get these sectoral strategies out with much more action happening—we have things like carbon capture, hydrogen plants and trials, transport trials—all these are having to be deployed at a local level. So, we believe that it is increasingly important over time to have that engagement that you are describing with local authorities, and we do have local energy hubs to enable them. We have been putting out toolkits to raise the capability and capacity within local authorities, but as the NAO highlighted, this will be a continued focus for us going forward.

Q40 Barry Gardiner: You have set out a number of areas where, quite rightly, you have identified the need to have that local involvement and, in particular, involvement by local authorities, but the LGA is saying that they need an outline of national responsibilities, including an alignment of the regulatory system and the setting out of local responsibilities in relation to that. It also wants to know how Government will co-operate with those



local public sector bodies. If you look at the Committee on Climate Change and its “Local Authorities and the Sixth Carbon Budget”, it recommends a duty on local authorities to act in accordance with net zero and talks about providing coherent cross-departmental support on climate action, but everyone is saying that this has simply not been integrated. Government have not even conducted an assessment of the costs for local authorities, far less spoken to them about how they will facilitate them, or provide the regulatory framework or the resources in order to get them to do it.

Julian Critchlow: As I say, fundamentally I agree that the increasing role of local authorities in delivering this is absolutely uppermost in our minds. I would say that we do engage a great deal on individual policies. I think what you are highlighting is that as they now come together, with all the initiatives that we are taking across the economy, there is a need to think about the place-related aspect to this, and how local authorities can be involved in co-ordinating those changes to the transport system, the energy system—

Q41 **Barry Gardiner:** Mr Critchlow, this is really just a plea. When we started preparing for this session I went straight to my local authority and I asked, “Have you had any instruction or information about this from Government?” They said, “No.” I thought, “Okay—that may just be my local authority.” I went to the LGA. All I am doing is feeding you back the response that I got from Mark Lloyd at the LGA. They are deeply concerned that there is no clarity for them on how they are expected to go forward.

Julian Critchlow: That very much reinforces that, as we move forward, when we have these detailed plans on how we will move forward as an economy, we also need to engage with the local delivery partners increasingly on how they co-ordinate that delivery, I agree.

Q42 **Barry Gardiner:** When can they expect a coherent strategic framework for the action that is expected of them as local authorities, and indeed of other public bodies as well? When will that strategic framework be given to them?

Julian Critchlow: I think the economy-wide strategic framework will be available this year in the way that we have described. We need to engage with them on how that gets delivered at a local level.

Q43 **Barry Gardiner:** Their research found that the cost to local authorities to create net zero carbon emissions from housing stock alone would be £1 billion a year over the next 30 years. Have you done any assessment of those costs? Do you recognise the costs that they have come up with? What proposals do you have to make sure that they can achieve that net zero target, in line with Government recommendations? The projected funding shortfall for councils in 2021 is over £3 billion, and the LGA say that that is going to totally impact their ability to decarbonise in the way that they want to, and in the way that you want them to. There is no meeting of minds here, and there is certainly no meeting of resources.

Julian Critchlow: That is a very good example that you are drawing on. The heat and building strategy will specifically answer how we believe that



each of the different types of building—whether it is local authority, private rental landlords, social housing or owner-occupier—makes that transition. Clearly, where there is a requirement to support people who are unable to pay, we are putting in place the programmes that are described. It is not just the voucher for the green homes grant; it is also the local authority delivery scheme, which is a larger part of the delivery mechanism that we described—attacking some of the worst homes first, and addressing specifically fuel poverty. Absolutely the heat and building strategy has to say how we are going to do all of the full housing set. Specifically, we will have to draw out of that, with the local authorities, how that gets funded for the element that falls to them.

Q44 Barry Gardiner: What you are saying to me is, “Yes, it’s important. No, we haven’t had the discussion.” So when is that interaction going to take

place, so that local authorities feel that they are being listened to, and are aware of the responsibilities that you are wishing to place on them and what the funding streams are going to be in order to be able to achieve them?

Julian Critchlow: As I have said, I believe that as we publish things like the building strategy, which is a large element of what you are describing but not the only element, we will be looking to actively engage with them on how that will be rolled out, and we will use mechanisms like the forums that we already have with local authorities and the local energy hubs, which we have across England, to engage directly on how that needs to be executed.

Barry Gardiner: Let’s move on to the costs and benefits of achieving—

Chair: Before we do that, Mr Gardiner, can I bring in Sir Geoffrey CliftonBrown on a couple of quick points? Then I will come back to you.

Q45 Sir Geoffrey Clifton-Brown: May I ask Mr Critchlow a question on behalf of the right hon. Cheryl Gillan MP, who is not able to be with us? It relates to HS2. She says, “The trains are not planned to be saving carbon for many years. How many years before the carbon from the construction and trains will be recovered?”

This is a really big public sector project—a flagship project—that involves a huge amount of engineering and then the ongoing running of the trains. How do all the things that we have discussed this morning, including the Treasury’s Green Book specifications, impact on a big project like that to reduce carbon?

Julian Critchlow: As the permanent secretary mentioned, the approach is holistic. In the transport decarbonisation strategy, the Department for Transport, on behalf of the Government, will be laying out the plan to go to zero using all of the different transport modes, whether it is cycling, walking, cars, trains or planes, and HS2, as a core infrastructure project, will obviously sit within that. It has to be compatible with that overall envelope.

We do put in, in the way that Mr Field described, through the Green Book the considerations on carbon, but we do not micromanage each individual project. The Department is responsible for making sure that all of the projects add up to the envelope that they are responsible for delivering. If they go over on one project, they will have to find the savings elsewhere on others, or vice-versa. It gives them extra flexibility if they can achieve under on one project.

So HS2 is just a big example. You could have pointed out Heathrow or offshore exploration licences. Each of these examples will have to fit within the overall envelope for the sector, and they will have to be taken into consideration.

Q46 Sir Geoffrey Clifton-Brown: Given that HS2 is wholly under the Government's control, and given it is probably the biggest construction project in Europe, when can we see some practical changes in the way

that the Government lets contracts in this project so that it actually changes the way that the contractors go about doing their work?

Julian Critchlow: As I said, the responsibility from a net zero point of view is to ensure that all of the territorial emissions fall. That will include all the construction emissions as well as the in-use emissions for any major projects that fall within the envelope that we have described via the carbon budgets and our nationally determined contribution.

There is nowhere to hide; we have to be able to ensure that. Obviously, if it is a Government-let contract, we are very focused on ensuring that that fits within the delivery envelope that we have to achieve our nationally determined contribution on our budgets.

Q47 Sir Geoffrey Clifton-Brown: With great respect, Mr Critchlow, as with my housing question earlier and this question, I hear a lot of good words coming from you, but I do not actually hear precise Government action, which is needed if we are to meet these carbon targets in our carbon budgets. We need much more urgency in these things.

Julian Critchlow: I think we laid out a lot of action in the Ten Point Plan that the Prime Minister launched at the end of last year. We laid out a lot of actions in the energy White Paper. The Ten Point Plan went across multiple sectors. The energy White Paper focuses on the energy system, and, as I said, we will have individual sectoral detail coming out that the Committee will be able to question us on.

Sir Geoffrey Clifton-Brown: Chair, I will leave it for now. Thank you.

Chair: We will certainly need to see that detail. As you can sense, there is an appetite on this Committee to crawl over that. And talking of an appetite to crawl over things in detail, Barry Gardiner MP is an excellent example.

Q48 Barry Gardiner: Perm sec, since the Stern report was published in 2006, it has been clear that the costs of inaction are far higher than the costs of



HOUSE OF COMMONS

action. You might remember that Al Gore used a slide of scales. On the balance on one side was a pile of money, and on the other was the planet. He did that to show how ludicrous it was to pit the costs against the future of human life on the planet.

But there are direct and calculable economic benefits as well in health, in job creation and in new technology. Why have you not yet estimated the costs and benefits of achieving net zero?

Sarah Munby: We have published analysis of the costs and benefits of achieving the current carbon budgets. As we publish carbon budget 6, we will bring in more analysis and, as we publish the net zero strategy, yet further analysis on costs and benefits. I would emphasise one point: not only is the cost of inaction much higher, but the cost of action is falling almost faster than it can be calculated.

Q49 **Barry Gardiner:** It has been predicated by the CCC at between 1% and 2%, and each time it has fallen to 0.5%.

Sarah Munby: And now, even since net zero was set, at which point the CCC said between 1% and 2%, the latest report says less than 1%. We could publish endless calculations, but what you would see is a very fast reduction. That, in a sense, is the critical point. Whether, when we get to it, the number will be greater than zero is an interesting question that we cannot definitively answer yet, but the pace of change is so fast that, in many cases, we are increasingly seeing zero carbon solutions that are lower cost than the existing solutions, as I described with electric vehicles.

Q50 **Barry Gardiner:** Can we expect to see an estimate of the costs and benefits in the net zero strategy?

Sarah Munby: Yes.

Q51 **Barry Gardiner:** And will the net zero strategy indicate the balance of contributions that are needed from business, from households and from taxpayers to achieve net zero?

Sarah Munby: That is very much part of the intent behind the Treasury document, as Steve was talking about, to discuss exactly where the costs land. Yes, you can expect to see more detail on that.

Q52 **Barry Gardiner:** Okay. While we are thinking about where the costs land, the Government has a levelling-up agenda. One of the most important features of the transition to a new low or zero carbon economy is that it is a just transition. How are you ensuring that the plans for achieving net zero are working in line with the same grain as the levelling-up agenda?

Sarah Munby: I start by saying that we absolutely think that they are. Indeed, we think many elements of the net zero agenda are a huge opportunity for levelling up because things like carbon capture, hydrogen, wind and so on are not essentially urban technologies for the south-east, but opportunities for some of our ex-industrial heartlands—



Q53 **Barry Gardiner:** Sorry; can I be specific?

Sarah Munby: Of course.

Barry Gardiner: Where are the skills and training programmes being put in place by Government to effect a transition for workers in the gas sector into solar, for example? That is what I mean by ensuring that we are levelling up, because we are not going to get the transition if the people in the old industries are reluctant to move and feel that it disadvantages them.

Sarah Munby: Agreed, although I think it is a really important first step that the jobs are going to come in the right locations, and not just be concentrated in the south-east. So it is yes to what you say and let's recognise the positive news that lots of these jobs will be created in locations where they are needed.

To answer specifically around skills—which, as you say, will be very important—our partnership with DfE around the green jobs taskforce is currently in its discovery phase and trying to answer the questions, “How many of this kind of person and this kind of skill are we likely to need?”

And what is a sensible fit in terms of the industry that could usefully transition over?”

That is a big focus. It needs more work, but we've got a bit of time before something like carbon capture will be employing people at scale. We need to use that time to identify and integrate net zero fully into the skills strategy, and into everything that DfE is doing on skills, as one of the big opportunities for new job creation. It is not the only one, but one of the very important ones.

Q54 **Barry Gardiner:** Can I ask Steve Field about reviewing the Green Book? How is the Treasury taking on board the fact that this is in effect a metalevel challenge for the whole of Government, and how is it ensuring that that is driving what is happening?

As a subsidiary question to that, how does that fit with the Dasgupta review, which I gather is being published on 2 February? How is that review being integrated into Government thinking in this area to drive this agenda forward?

Steve Field: First, on the issue of the Green Book, as you know, there was a review and an updated Green Book was published quite recently. Within the Green Book, clearly, even if climate change and emissions reduction are not the primary objective of a particular proposal, Departments should be considering whether there is an important impact there, or whether it is a constraint on the objectives of their particular policy of programme.

As I said earlier, it is fair to say that that is not always happening on a consistent basis. We need to do more to set expectations of Departments. As I said, we are reviewing the spending process that we went through last year, trying to learn from that, and going back to Departments to be clear

about where we would expect them to consider properly the climate impacts. Over time, that will ensure that it is being properly integrated into the work of Departments and that they are considering the impacts at an early stage.

I accept that, at the moment, those things are not always assessed in the way they should be in all cases. The Treasury has a key role to play in setting the rules of the game and ensuring that the incentives for Departments are correct. That is something that we will work on to improve this year, through the spending review process.

You are correct: the Dasgupta review is being published on Tuesday. It is a very lengthy document—about 600 pages long—that also has a global perspective. Part of the reason for setting up that review was to put on the table the issue of biodiversity loss and ensure that people recognise that biodiversity loss is an economic policy issue as much as an environmental issue. I hope that the review will be able to do that.

We will obviously reflect on the review's findings over the course of the next few months, and we will come back with a proper, cross-Government response to those findings.

Q55 Barry Gardiner: What I was pushing for was more how you will integrate that into your work on natural capital as a whole, which is obviously not just about biodiversity. When are you ensuring that permanent secretaries like Ms Munby have actually read the interim report and understand the way in which natural capital needs to be integrated into the thinking about their own Department and departmental wealth, rather than simply its finances?

Steve Field: As I say, we will think about the specific proposals and findings of the review over the coming months. We are working very closely with DEFRA in the context of the 25-year environment plan. In the same way as with climate—we are trying to integrate climate considerations into policy and programme plans at a very early stage—we need to do that when it comes to broader environmental impacts. That is something that we are very focused on. Clearly, it is somewhat easier in the case of climate, because there is the common metric of carbon dioxide equivalent, but we are certainly thinking about how we will do that across a broader range of environmental objectives.

Q56 Barry Gardiner: Ms Munby, very quickly, did you read the interim Dasgupta review, and have you already pre-ordered your full copy of the report for next Tuesday?

Sarah Munby: I am pre-ordering my copy as we speak.

Q57 Barry Gardiner: Did you read the interim review last year?

Sarah Munby: No, I didn't. As you can imagine, I have a large Department where many people will have.



HOUSE OF COMMONS

Barry Gardiner: This is central to it. I urge you to.

Q58 Chair: Thank you for your honesty. I think Mr Gardiner is trying to catch you out there, because he has no doubt read everything, right through to the last appendix. You can always go to him for a quick update.

I want to quickly ask Mr Field about the whole issue of how this is accounted for in Government. We have obviously spoken to other colleagues in the Treasury, and the Treasury has shifted the way it works so that it begins to measure this better. Will we and the public be able to see—just as the NAO will audit the budgets of a Department—a better way of reflecting the progress, the challenges and, as Mr Gardiner touched on, the green capital that the Department has, so that we can see that almost like a balance sheet? Is that something that the Treasury is planning to introduce?

Steve Field: That is a really important question, and it is one that the NAO Report talks a lot about. It seems to me that it is clear that we need more and better information on our policies as we are making them, so that we can make sure that we have the right policies in place to achieve net zero. We will need more and better information to enable us to track progress and implementation over time.

Q59 Chair: On that we agree, so what are you doing to achieve those goals?

Steve Field: On the first one, I talked a little bit about the Green Book and making sure that the spending review processes are in place. I know that there is work under way in BEIS, and I know the CCC is looking at the issue of metrics for tracking progress. That is something we need to give some time and thought to.

My starting point is that it is very important that the processes that we design and the data that we produce align with our accountability framework for net zero overall through the CCC and the reporting that we do there, and align with our accountability framework for Departments and public spending. Therefore, it will take some time to make sure we do that right and design it in the right way. If we do design it in the right way, I think it will endure.

Q60 Chair: That's great. We are all pointing in the same direction. It will take some time, though. Put on your best civil service "Yes Minister" hat— what is "some time"? Months? Years? When can we see this? When can we hold you to account for it with our sister Committees?

Steve Field: You are obviously able to hold me to account any time you wish. As I said, on the first of those issues—whether we can have more and better information to inform policy making and prioritisation in things such as spending reviews—we went through a process last year. That showed that we were lacking in certain areas and we need to do more.

We will try to improve that process this year. I do not think it will be perfect, but over the course of the next few years we will get to a place where



HOUSE OF COMMONS

Departments are really integrating these considerations into their plans right from the outset.

Q61 Chair: Why I am pushing you on the time is that we know it is an iterative process. Of course, things will change over time—the strike price for wind, for example. No one would have predicted those sorts of changes. But critically, if it will take some years and we have this stiff target to reach, we could be making bad decisions without the right information. Does this mean—maybe Ms Munby could answer—a delay in some of those policy issues that will make a difference, because we do not have a good way of calculating the costs and benefits of certain approaches?

Sarah Munby: I don't think today we are being held back in making the right decisions by the lack of a fully integrated and tidy framework. We absolutely should have one, and I think you will see lots of progress in what we publish around carbon budget 6, the spending review and the net zero strategy, but I would not say that it is something that is preventing us now from moving forward in a sensible direction.

Q62 Chair: That is good to hear, and I know that Mr Grant will want to push on some of these issues.

I want to go back to you, Mr Field, on the Green Book review. We have been privy to some very useful conversations privately with the Treasury, and in public, about how that has gone. There was a decision not to include a particular requirement to explain how people were going to meet net zero, because there was an assumption that it would just come through the normal process. If someone listening read the Green Book guidance, it would scoop it up, effectively, but not be specifically named. Is that something that you had input into? Can you shed any light on why that decision was reached?

Steve Field: I think that is exactly right. As I said earlier, Departments should be considering greenhouse gas emissions as part of their appraisal of projects and policies. It is in there already. There is guidance on that specific question that sits alongside the Green Book.

There is a genuine question about capability in Departments. Lots of the expertise for making these kinds of assessments sits in BEIS. I think we have to think about how we can use that capability from BEIS to improve the capability in other Departments, to make sure that they are able to come up with those assessments. The Green Book as it stands requires Departments to make these assessments. We need to make sure that they are doing that in practice and that they have the capability to do so.

Chair: Well therein lies the rub—whether it is written in there or not, you have still got to make sure that they do it. We will be watching that too, if that is any reassurance. We may be aligned on that scrutiny. I'm going back to Peter Grant—over to you, Mr Grant.

Q63 Peter Grant: Ms Munby, can I come back to you first? You answered questions earlier on about the way that you co-ordinate the response



across different Government Departments and other public agencies such as local authorities. There is also an issue in that over the 30-year period of this strategy, if recent trends are anything to go by, we can expect to see maybe five or six different Prime Ministers, a similar number of permanent secretaries and anything up to 25 Secretaries of State in the Department, and the Department itself will probably get reorganised out of existence and back into existence again. How do you make sure that whatever Government are in charge and whatever Ministers and civil servants are in charge, the main thrust of the strategy is maintained and is consistent during that 30-year period?

Sarah Munby: It is almost like you have a window into my life. It is of course true that there is flux in the system—one of the benefits of our democracy.

I think it is important to say that actually this particular part of Government policy has got some really strong tools to drive consistency and performance over the long term. Having set the framework way back with the Climate Change Act 2008 of a long-term target, a series of carbon budgets that draw you towards that target over time and an independent assessor in the form of the CCC, that strength of framework, which by the way has been copied by a lot of other countries around the world, goes pretty far to making it very challenging for any Government to get out of the sorts of commitments we are talking about.

Recent experience in the US has made it clear that you can't bind the hand of future Governments entirely and if the people of the country chose to elect a Government that no longer wanted to stick to these commitments, they obviously could unwind, but because of that carbon budget process over time, the incentive to continue with the things that are working and push them forward is very strong. I would say, of pieces of Government policy, this is one of the ones where we have the best chance of guiding forward consistent approaches and consistent pushes, despite the kind of changing structures, people or parties in power.

Q64 Peter Grant: Does the current strategy include measures that explicitly recognise that the need for long-term consistency here is probably different from the kind of long-term consistency that would be needed in almost any other major plank of Government policy? We can afford to have changes of Government approaches to improving the health service and reducing employment. We can't really afford to have changes of direction every five or six years in our climate change and net zero strategy, because if we do that, we are not going to hit the target. Have your strategies explicitly recognised the challenges and included measures to address the challenges of keeping things going in the same direction even if there are significant changes in Government policy elected during that time?

Sarah Munby: I am going to ask Julian to build on my answer, because he might have some good, specific examples to draw on. In order to meet a carbon budget, if you are elected, you are going to find that there is a series of policies already in play designed to meet it. You have to meet it. If you



HOUSE OF COMMONS

wanted to change, you would need to be able to reinvent rapidly a new set of policies that still let you meet the carbon budget. That would be very hard to do. If you could do it, and you had a better set of policies that also met the carbon budget, that would be okay, and we could put up with it. Change isn't inherently a problem; it is a problem only if it stops us meeting our carbon obligations over time. It probably is relatively similar to improving the health service over time. Julian, do you want to talk about any specific actions that could constrain future freedom?

Julian Critchlow: I think you have covered the vast majority of them. The question really goes to the centre of what has always been faced in energy policy generally. We have always had 30, 40, 50 or 60-year investment cycles, but obviously a very turbulent set of ministerial teams, because of the nature of changes in Government. It has always been there, but now this challenge has expanded out from just the energy system to the whole economy.

The Climate Change Act was very carefully designed, in the way that Sarah described, to facilitate longer-term decisions. What we are trying to do in the sectoral strategy, and adding the net zero strategy, is give out enough runway so that people can judge the performance of different Administrations against that overall strategy. We should be able to show that any change is a change for the better, rather than a change for the worse.

Q65 Peter Grant: Related to that is the need to make sure our Government, in honouring the strategy, is doing it with the consent of the people. At some point during the process, people are going to start hurting very badly, and that is when it becomes difficult. What lessons are you learning, for example, from the communication and engagement strategy in the lead-up to Brexit, which by the Government's own admission still left 30% of companies inadequately prepared at the end of the transition period? What lessons are you learning from the current engagement strategy on covid? Despite everyone's best efforts, there is still a fairly sizeable minority in the UK and some very, very senior Back Benchers on the Government side demanding that restrictions be lifted right now. What lessons are you learning from those experiences to make sure potential Governments of the future do not feel under intense political pressure from public opinion that has just decided that it doesn't like doing this anymore?

Sarah Munby: Maybe I can start with the premise that people have to start hurting at some point in the process. While that is to some extent true, I wouldn't say that we are putting that at the heart of our strategy; indeed, it is quite the reverse. The policies that will prove sustainable are ones that will let people continue to make choices and live in the way they want to live. I talked about electric vehicles as a great example of that. We think that people will choose to buy electric vehicles over time because they are cheaper, better and more environmentally friendly. We are not there yet, but we will be. We don't think we will have to force people to buy electric



vehicles and put them through a huge amount of pain in order to do so. That is the first thing to say.

The second thing is about communications and what we learn from other processes. The first thing is that credibility really matters. That goes to exactly the question that you asked before about long-term consistency. We know that one of the challenges with communicating with business in the multiple runs-up to potential exits from the European Union or the end of the transition period is that the moment that change really happened in the behaviour of businesses was when they really believed that we were actually going and that it was actually happening on a specific date.

At a really fundamental level, the way that we get people to change gradually over time, which is how we minimise the pain that you are talking about, is by being very clear about when the changes are coming. A good example of that is that the Ten Point Plan announces the phase-out in 2030 of new petrol and diesel vehicles. That gives people enough time. They can see what is coming and they can start thinking about what steps they will take—both individuals and businesses—between now and then. Credibility, so that people believe that the change is really coming and that we are really serious about it, is the ultimate enabler of successful communications.

Q66 Peter Grant: Thank you. As well as needing to drive changes and, effectively, consumer choice, the impact of those different consumer choices will be that some industries that are big employers will disappear over the next 30 years, for example the oil and gas industry.

This question is possibly for Mr Field on behalf of the Treasury. What plans are in place to ensure that rather than have the experience we had with the closure of the mines—in which tens of thousands of people and whole communities were devastated and left alone—people are prepared to transition into different kinds of employment before their existing job is put under threat?

Sarah Munby: We talked about the North sea transition deal earlier. I think that is a great example of the sort of thing you are talking about. In advance of the transition, it looks at how to do it well and ensure, for example, that we are reusing physical assets to enable future carbon capture for example. It requires that sort of thinking ahead of time about the specific industries that will be most effective, what can come in behind them, so that we have a plan and all the skills work that I talked about can be fed in at the right moment.

By the way, because we have been clear about our long-term intent, the incentive for private sector partners to work with us on those plans, engage in those plans, and find their own commercial opportunities and hence job creation opportunities for their existing colleagues is really high. I think that is working well. That is not to say that we have covered or solved all of the cases where that will be true. We will have to roll out that sort of thinking into new areas.



That is why we have been so keen for example in car manufacture. The transition in car manufacture could go really well, and there is an opportunity for the UK to really take a leadership position in the manufacture of electric vehicles, or it could go less well, and you could see electric vehicle models moving offshore. That is why we have put in place the automotive transformation fund, to actively partner with the industry, to ensure that as that transition happens, we protect the UK's industrial position and hence UK jobs.

Q67 Peter Grant: Thank you. You've actually identified something I was going to follow on with when you mentioned car manufacture, because the downturn in demand for new cars over the last year led directly to the loss of 83 jobs in my constituency this week. A business that is part of the motor vehicles supply chain announced its closure.

Two questions follow from that. First, those jobs will be gone by April. How quickly will the transition support packages be in place? I suspect that it will be too late for those 83 people. Secondly, how do we determine which changes in the survival of a company are down to climate change action and which changes are due to other factors? There is no doubt that climate change is part of the reduction in new car sales, but it is not the only factor. How do you avoid getting into the same situation we are in with a lot of the covid-19 support, where it is almost arbitrary that some job losses are compensated for and others are not?

Sarah Munby: First of all, specifically on the car industry, what is happening to it right now is not primarily driven by climate change or the shift to electric vehicles, it is driven by, sadly but straightforwardly, a big drop in new car sales due to the covid-19 crisis. That has absolutely had a knock-on impact on a few firms and employment levels. We hope that that will bounce back as we emerge. Many of those firms are taking advantage of Government support schemes such as furlough.

On the second point about how we distinguish between climate-change driven cases and those that are driven by something else, I do not think we necessarily start from that premise. Whatever it is that is going to cause a large decline in a particular type of employment in a particular part of the country—that is something that we want to understand and get involved with—it is rarely going to be the right answer to “prop up” the existing source of employment. The right answer is going to be to partner, invest, think about what the new sources might look like. We would do that regardless of the cause of the situation, and the question of how much Government can put in, using what tools, whether it should, whether there are alternatives, is really specific and bespoke to the particular part of the country and the particular industry that we are talking about. But, absolutely, part of our job in the Department, quite apart from our role on climate change, is to engage in those issues very closely. As you can imagine, I spend a lot of my time doing that.

Q68 Peter Grant: One final question on this area: to give, as an example, air travel, we know that air travel is a significant source of carbon emissions,



but there are essentially three ways we can reduce that. We can reduce the number of people travelling; we can encourage or coerce them into travelling by other means than air; or we can develop ways of air travel that are less damaging to the environment. In reality we probably need to do a bit of all three, and that will apply to any of the other major carbon source—carbon emission—sectors of the economy. Do you have a picture just now of how much each of those three different actions is likely to contribute to the eventual target of having no net emissions from air travel or from energy production or from any of the other big major sectors?

Sarah Munby: I might ask Julian to come in on the detail but, I think, broadly speaking, the answer is yes, we do have ideas about that, but we also recognise—a little bit like what I said about cost; it drops so quickly—this is something that changes incredibly fast. So the question of how much of the change in emissions from aviation will come from technology is not yet resolved. We do not know the answer to that—not because of a lack of doing work, but because it depends on how technology emerges. I think it goes back to what I said about our overall strategy earlier, which is we would prefer that to be a really big lever. That is the way to make the transition most straightforwardly. But, Julian, you might want to comment in more detail.

Julian Critchlow: Absolutely. We are obviously investing very much in that technology because the UK has very strong aerospace credentials in a lot of the supply—not least in engines. As you say, there could be a number of solutions, other than people not travelling or not flying. Those might be either electric aeroplanes on short haul, different engine types for long haul, sustainable fuels or—a fourth topic that you did not mention—negative emissions technologies like direct air capture that might be paid for through people’s fares. So any one of those options, and we are putting investment very much into each of those. So there were announcements of £100 million into direct air capture. There were announcements of the efforts we are putting on fly zero, and we are obviously looking at sustainable fuels as well, with a lot of innovation spending. So the overall innovation strategy will look at all of those and we think not only will they be a good opportunity but there could be good opportunities for us to export those capabilities in the future, which is this kind of opportunity that comes from net zero, not just to decarbonise but also to create new businesses which we can export.

Q69 Peter Grant: Would you accept, finally, that the extent, for example, to which we address carbon emissions from air travel by reducing the amount of flying people do significantly affects the number of jobs that need to be transitioned out of the aviation industry into somewhere else? Again, that applies to the rest of the economy. What is the process by which we make sure, in aviation, for example, that anybody whose job is going to be at risk because of a permanent reduction in air travel is given the chance to prepare to move into a different job, possibly in a completely different sector of the economy, and is able to do that before their job in aviation disappears rather than afterwards?



HOUSE OF COMMONS

Sarah Munby: What you say is clearly mathematically true, if you see what I mean. It is absolutely the case that the extent of transformation of the way we travel by air, versus the amount, will affect how many jobs there are in the aviation industry. I would, though, come back to what I said about the phasing of different changes. Aviation, in anyone's projections—absolutely, you can see this in the CCC's material as well—goes relatively late, because technology has a long way to move.

What we do not want to do is to impose really tough aviation restrictions tomorrow, which we clearly could do. Indeed, right now we are demonstrating exactly the impact of preventing people from travelling by air, but we do not want to do that if, actually, over time, we will find a great technological solution. So, the answer is yes, we need to think about the problem that you are raising, but of all the many things that we have to deal with right now, solving what happens to the people who are currently employed in the aviation industry is not top of the list because the answer, for now, is that they carry on being employed in the aviation industry. The bigger question is what you do about the covid impacts on aviation, which is something that the DFT and DFE are highly involved in.

Peter Grant: Thank you. I am happy to leave it there.

Q70 Chair: I just want to touch, Mr Critchlow, on carbon capture and storage, which this Committee has looked at a lot, there have been a number of failed projects and lots of money down the pan, yet we are hearing about a new carbon capture and storage programme. Can you give us any confidence that this one will be successful, and by when?

Julian Critchlow: Absolutely. This is a technology that we believe has a big role. As you will have seen in the Ten Point Plan, there was an increase in commitment to it, so we are looking to get, ultimately, four clusters with carbon capture capability.

The reason is that it is not only an enabling technology for things like direct air capture and—

Q71 Chair: We know what it is does. The problem is that we have had promised after promise that there will be a plan for it, but the competitions have not thrown up much competition, the cost has been great—they failed, basically. Each of the projects so far has not got off the ground, so what is different this time? What will make it work? What is the timeframe?

Julian Critchlow: As you will have seen, there is a clear commitment of funds, and you will have seen the consultation going out and the competitions being run actively as we speak to collect those clusters. Because it is not only an enabling technology of these other things like direct air capture, but an enabling part of our hydrogen strategy, where—

Q72 Chair: Sorry, this is partly because of time. We are hearing that you are having a competition, you have money—but we have had that before. What is different this time that means you are convinced that this will lead to a successful, deliverable project, which we can see physically working?



HOUSE OF COMMONS

Julian Critchlow: All I can say is that you are seeing the action on the ground. We have hired a carbon capture and storage director to drive that programme. I cannot say what the future decisions of any future Administration will be, but as it currently stands the Ten Point Plan commits us to it and we are moving ahead as fast as we possibly can—

Q73 Chair: Roughly, what is the timescale? I am not expecting a date, but what are we talking? I imagine at least a decade before something is really off the ground, if this is successful.

Julian Critchlow: Not for the early projects. We would hope for the early projects to be commissioned much earlier than that. We are looking at 10 million tonnes of carbon capture over that decade, so we would need many more than one single facility by then. That is why we have committed to four.

Chair: So roughly when?

Julian Critchlow: By the middle of the decade, we should expect to see some operations coming on stream, but obviously they will be—

Q74 Chair: Actually working? Actually capturing the carbon and storing it mid this century?

Julian Critchlow: Roughly. I hope.

Chair: Fine. That is something we can hold you to. Some of us will still be around then, I hope. Finally, to Mr Richard Holden, MP.

Q75 Mr Holden: I want to go back a little to the levelling-up agenda. My constituents in North West Durham are as concerned as anyone else about climate change, but they are worried about the transition costs. How can we ensure that people will not have to go without in order to go green? I am thinking in particular of the switch in the use of cars.

Sarah Munby: I fear that I am going to repeat myself, which is never very helpful, but because we think that they will be able to get cars that are zero emission and also cheaper—both to buy and to run—than the cars that they buy today, we do not think they will be required to bear a heavy economic cost of that transition.

Q76 Mr Holden: I quite understand that. A lot of my housing stock, for example, is much older. We live in a much colder part of the country than, say, the south of England. We have had snow on the ground—thick snow—for the last few months. Are you going to ensure—?

Chair: We are loving the tour of North West Durham, but let's have a question.

Mr Holden: Are you going to ensure that when we consider things such as preventing heat from leaving houses that we can target some of these actions at the areas that need levelling up and where the issues around climate change are the worst?



HOUSE OF COMMONS

Sarah Munby: I think it goes to what Julian talked about earlier. In everything we do with buildings and the existing building stock, which is an important and challenging part of the picture, we are trying to target it at the people who need it most, be that because of the current heat performance of their homes or their ability to afford change privately. That is why, for example, within the green homes grant work there are different deals according to essentially how much money you have.

Q77 Mr Holden: Does that reflect different parts of the country and, say, average annual temperatures as well?

Sarah Munby: We don't currently have a regional difference in the way that the scheme is run.

Q78 Mr Holden: Wouldn't it be sensible to insulate the places in the country that require the most heating first, to reduce our carbon emissions?

Sarah Munby: It is one of the factors, but so is the current insulation performance of the relevant building. Of course we should start, where we can, with draughty buildings in cold places, but it is not as simple as doing something different in different regions.

Q79 Mr Holden: Sure, but surely the scheme could reflect that. Is it something that you would take away and have a look at, please?

Sarah Munby: Yes, although I would say that simplicity is also very important, and a scheme that people can understand—

Q80 Mr Holden: One of the simplest things, surely, is that different parts of the country are colder than others, so Scotland and the north-east would surely benefit more in terms of carbon emissions for the country as a whole.

Sarah Munby: Every new dimension you add to a scheme adds complexity for the end-user. I am happy to take that away and look at it, but I just want to land the thought that good ideas may not always lead to a better scheme overall.



Q81 Mr Holden: Right—okay. I will just flip that. Solar power is obviously better in the south of England, where you can grow grapes; we are not growing that many up in County Durham at the moment. It might be a little bit of horses for courses as well on some of these schemes, which might better reflect value for money for the taxpayer as well.

Sarah Munby: We would expect that to be reflected in the take-up of different schemes in different parts of the country; it does not always have to be engineered into the design.

Q82 Mr Holden: Okay. On hydrogen, there is a big project down on Teesside looking at it at the moment, including possible use of the natural gas grid. We already have a huge amount of capital invested in our gas grid. What are you doing at the moment to look at hydrogen potentially being part of this massive contributor to net zero?

Sarah Munby: I will give Julian hydrogen.

Julian Critchlow: Previously, I was referring to the fact that as part of the hydrogen strategy, which will again come out in the first half of this year, we will lay out how we see that developing in co-ordination with CCS. Hydrogen is not only a supply-side issue; for example, how do we get the production facilities to generate the 5 GW of hydrogen that we have put in the Ten Point Plan? It is also a demand-side issue. How do we create the industries and the different demand vectors—whether it is in industry, heating in homes or the power sector—to pull that through. So, the hydrogen strategy will address both the supply and the demand side.

Q83 Mr Holden: That will be particularly pleasing to my friends on Teesside, where this is a massive driver for them; they see a future there, and in heavier transport as well. Finally, regarding the levelling-up agenda and moneys more broadly, I will go back to you, Ms Munby. Obviously, we are seeing a switch from the European regional development fund to shared prosperity/levelling-up funds. Do you think a big part of that will be diverted towards this net zero target, so that we can see proper crossGovernment working on levelling up, particularly looking at how we can deliver it in terms of green growth?

Sarah Munby: I think we will see that, but we will also see, as has already been committed as part of the Ten Point Plan, a lot of new and additional funding, hitting specific schemes such as carbon capture, hydrogen and so on, so we would not seek to rely only on repurposing existing funds.

Q84 Mr Holden: Finally from me, one of the great things that we have seen recently since our departure from the EU is that we have led the way on the vaccine programme. Does Brexit provide a similar opportunity for us to be first and fastest, and to go further, on the net zero agenda?

Sarah Munby: We definitely want to go fast, further, and be worldleading in this space.

Mr Holden: And to be first.



HOUSE OF COMMONS

Sarah Munby: We were doing that already, and we will continue to do that. We were very pleased that the deal with the European Union really enabled us to carry on doing all the good things that we want to do. We are in a good place.

Chair: Diplomatically put, Ms Munby, and good try, Mr Holden. I think those of us who have been working in this field for a long time know that there have been a lot of attempts to get on the right track in the UK. To our witnesses Sarah Munby, the permanent secretary at the Department for Business, Energy and Industrial Strategy; Julian Critchlow, the director general for energy transformation and clean growth at the same Department; and Steve Field, the director of climate, environment and energy at the Treasury, thank you very much indeed. You can gather that the Committee is very enthusiastic about the subject, and we are working with our sister Committees, the Environmental Audit Committee and the Environment, Food and Rural Affairs Committee, to ensure that we are watching this agenda very closely, so do expect to be before us more often on this issue.