



Energy and Climate Change Committee

Oral evidence: [Committee on Climate Change: 2015 progress report to Parliament, HC 462](#)

Tuesday 15 September 2015

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Members present: Mr Angus Brendan MacNeil (Chair); Glyn Davies; James Heapey; Ian Lavery; Melanie Onn; Matthew Pennycook; Antoinette Sandbach; Julian Sturdy and Dr Alan Whitehead.

Questions 1-41

Witnesses: **Lord Deben**, Chairman, and **Matthew Bell**, Chief Executive, Committee on Climate Change gave evidence.

Q1 Chair: Can I this morning welcome Lord Deben, and Matthew Bell, as witnesses from the Committee on Climate Change, to the Energy and Climate Change Committee? Lord Deben, would you like to make an opening statement?

Lord Deben: Thank you very much, Mr Chairman. Perhaps I might remind us all of the position of the Climate Change Committee. We are a statutory committee set up by Parliament under the Climate Change Act. We are to be independent advisers to Parliament, and to the Government, on the cost-effective ways of reaching our statutory target of an 80% cut in emissions by the year 2050. I have the pleasure of being very independent, because I was appointed by a Liberal Democrat Member of this House, the Labour First Minister of Wales, the ScotNat First Minister of Scotland, and the Protestant Unionist First Minister of Northern Ireland. So to get a Catholic Conservative, I think shows absolute independence on this matter.

What we are concerned about at this moment—what our work is now that the fourth carbon budget has been reconfirmed—is to work on the fifth carbon budget, which by law we have to produce before the end of this year, which, as you can imagine Mr MacNeil, is not easy because the debates and discussions in Paris will take place in the early part of December. There is the spending review announcement, too, in that time, and we have to produce this at some stage during that period. So that is the prime purpose at the moment.

We have just produced our report, as we have to every year, on where the Government has got to in meeting its targets. On this occasion we were fortunate enough to produce a joint report with the sub-committee, which again is a statutory sub-committee dealing with

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coming to terms with the climate change that we have. So we have the main committee, primarily concerned with mitigation, and then a sub-committee whose purpose is to look at how we can put in place the changes that will be necessary for the climate change that will happen, whatever we do as far as mitigation is concerned. Normally, the timetable, which again is statutory, does not bring those two together. This time we did bring it together and I think that it has been widely thought that that is a better way of doing it, because the two inter-react now so specifically. We have also been given an additional purpose under a recent Act, which is to advise the Government on the environmental side of fracking, and we are preparing a report on that.

Q2 Chair: Thank you very much. That is quite enough to be going on with, and I am impressed by your cross-party, cross-nation credentials within the UK. I won't demand that your Chief Executive, Matthew Bell, has the same. Before we get into the detail of the report, I would like to ask you your views on the rumours that DECC might be abolished in the forthcoming comprehensive spending review, and I do so after having heard Greg Barker on the radio recently saying that the stabbing of DECC would send a catastrophic signal. Do you agree or disagree with that sentiment?

Lord Deben: Mr MacNeil, as you know, I am trying to be entirely independent, so that is a restriction in two ways. One is answering questions too sharply on a matter of that sort, the other is I don't give my opinions on a whole range of things that I would love to give my opinions on. As far as this is concerned, I have heard no evidence that that is a likelihood. DECC has a very particular role. It has to bring together the two crucial elements with which we are dealing; you cannot deal with climate change without dealing with energy, and you cannot deal with energy without dealing with climate change. It is a very specific remit, which I think it has carried out with considerable aplomb under both the Labour Government, who invented it, the coalition Government, and now. I think that is my view.

Q3 Chair: Thank you very much for that, a carefully trod line. Can you tell us which price of carbon you have used in your calculations? For example, when calculating the level of support required for renewables, why don't you use the social cost of carbon, which would reflect the cost to society of dealing with the impacts of climate change?

Lord Deben: I have been appointed the adviser to the United Nations on carbon pricing, so I spend a lot of time thinking about this. There really are two prices of carbon. There is the price which is the one that we use, which is designed to say what price you have to impute for carbon in order to make sense of your policies as far as renewables are concerned. That is an objective statement. That is what the carbon price has to be to make the system work. There is a second price, which is the assessment of the subsidy that we give to the carbon, instinctively and automatically, by not charging for the social costs, as you say, Mr Chairman. That price we certainly talk about and use, but we have found it best to keep to one particular measure. Both suggest that the present carbon price is too low. One suggests that it is very significantly too low.

Q4 Chair: Thank you. You estimated in your recent report to Parliament that required support for low-carbon generation would be around £9 billion in 2025. This is based on the Government's original published target objective for the carbon price floor, but the price has been frozen until 2019. What impact does the price freeze have on your estimates?

Lord Deben: If we are talking about this thing, I think we should to go back to the original figure, which was fixed at 7.6. It was fixed by the Climate Change Committee; we recommended that as the likely amount that we would have to have in order to do this next stage in decarbonisation. That was why we started off with that figure. The truth is that we have been much more successful than we thought. I do think sometimes people talk about this as if it is a kind of failure, as if somehow or other it is costing us more. It is the opposite. The truth is that offshore wind has proved to be much more efficient than was expected. Of course if it is more efficient, it puts more energy into the grid and, therefore, the difference that is paid is a bigger bill. It is also true that both solar and onshore wind have remarkably outclassed what was expected. Therefore, what the Government is faced with—perfectly properly—is the fact that the cost to the bill payer is greater than had been estimated. The advantage to the bill payer is also greater than had been estimated. It is up to the Government to decide how it is going to square that but I think for the Climate Change Committee it is very important that we should say, “This is a genuine improvement over what we thought was going to happen”. I think it is a very important harbinger for the future, because it shows that renewables have a trajectory that is very much more exciting than many—certainly the gainsayers—thought. So I find that very advantageous.

How it should be put right, if that is the case, how much we should take of that, how much we should draw that back, is a matter for Government. We said that the 7.6 was the amount that you needed to keep on track; we are doing rather better than that from this particular aspect.

Matthew Bell: I am just going to add to that, Mr Chairman. The figures out to 2020, which Lord Deben was talking about, represent clearly what we think is necessary. As you point out, we have then said through the 2020s what additional amounts would be required. Those additional amounts are clearly subject to a whole range of uncertainties, of which one is the carbon price support, and the level it will be. Another is the price of gas, and the wholesale price of electricity, and another is the success that renewables will have. One of the important things, in setting out the Levy Control Framework funding through the 2020s, is to be transparent and clear about what happens as a result of those uncertainties going one way or another. We clearly cannot know now precisely what levels each of those inputs to the calculation will be in 2025, for example. What is important is that Government sets out clearly what is required and what is available through the 2020s, but also transparently how that might be adjusted in the eventuality that carbon price supports, or gas prices, or any number of other factors, end up different from the current best guesses.

Q5 Chair: What is the view of the Climate Change Committee of the recent changes the Government announced over the summer to onshore wind and solar?

Lord Deben: First, the committee has to distinguish—and I only wish others would distinguish, too—between ends and means. There is a very clear end. That is in the budgets. That is what we set. The way of reaching those ends is a perfectly good matter of debate and discussion. The ends are not for discussion, for two reasons. One is that Parliament has committed to this, and secondly, the Climate Change Committee has a

unique position in the constitution to fix those ends. From my point of view, that means that I have to be very careful to be very tough about the ends. Whatever Government it is has to be kept feet to the fire about those ends. But it is obviously the Government's role to decide how it is going to mix and match its policies in order to reach those ends.

It is for us to say whether they have done it properly. To put it vulgarly, if they want to do it by pirouetting on their toes and discovering that there is a way of doing it, then that is perfectly all right. I am not going to have commitment to a particular means. What we will do—and do do—is constantly assess what the effects are of decisions that are made and obviously, once a year, formally present that information. We will do that on these issues as well. We do think we have a duty in two other ways. Under the Act we have the duty to keep people in full contact with what the science is saying, so we have a duty to say, “Well, actually things are looking worse than we thought” if that is the case, or better, whichever it is. So we have that element to bring in. Secondly, I think we do have a duty to remind people of the world picture, and whether particular actions undermine the potential for investment. One of the big issues that we do have to face is that we are now in a world where investment is being required in low-carbon activity almost universally. When I started in this interest, of course, it wasn't like that. We were ahead of things and we were able to attract investment because we were one of the few markets. With Saudi Arabia, for example, now going over to solar power there is a real competition in the market, so we have to say that.

On the particular group of amendments that have been made, the Government has promised its alternative programme and it would be wrong for us to comment on the minuses before we have heard the pluses. When we have heard the pluses, Mr MacNeil, we will be very tough about it because we will measure what the Government says it is going to do against the targets that are fixed and statutory. In the meantime, we have two particular concerns. One is about the replacement for the zero carbon homes, what we are going to do about new building because there is a real need for resilient homes. All sorts of things were wrong about the particular zero carbon homes—I can say that because I said it publicly beforehand, that there were difficulties, particularly about onsite generation. The other area that we want to make sure happens properly is the development of electric cars and the like, which, after a poor start, is now really under way. So we will be looking very carefully at those two things when the Government makes its announcements.

Q6 James Heappey: Gentlemen, just your thoughts on the connection between subsidy and innovation, and whether cutting subsidy drives innovation or whether there is a need for a more nuanced approach.

Lord Deben: It seems to me that subsidy has two purposes. One is to correct an unlevel playing field. In other words, if you already have subsidies for something, and you don't want to take those subsidies away, the only way you can properly get competition is to provide similar subsidies for the alternatives. So it is an expensive way of doing it, but very often that is what Governments want to do. The second purpose of subsidy is to help new ways of solving old problems to emerge in a market that is very much controlled by

large companies with built in infrastructure, so that if you want to start anything it is very difficult.

I am sure, Mr Heappey, you would agree that we constantly see the position of small companies—bright ideas—getting to the first stage but not being able to commercialise. In my view, subsidy has a real role of helping there. On the other hand, you don't want a system that depends upon subsidy forever. So I think being nuanced is absolutely the centre of it. I must say, if you find you are paying too much for what you are getting, if the price of solar has fallen very sharply, it would be very peculiar if you went on paying the subsidy as if it had not fallen sharply. So I am not sure that, in any circumstances, you should not have nuancing but merely cutting the subsidy does not create innovation.

The problem with innovation is that there is pretty good evidence that it comes from small companies, medium-sized companies and individuals, rather than big companies. The number of innovative big companies is not, perhaps, very large. If you are working in an industry like the energy industry, where big companies abound, that is a big problem.

Q7 Ian Lavery: I want to move on to the greenhouse gas emissions and some of the things that are in your report. Your report sets out to monitor the Government's progress towards the carbon budgets compared with the cost-effective path. Can you explain to the Committee what that means, your cost-effective path?

Lord Deben: I will ask Matthew to answer that.

Matthew Bell: I shall talk you through the cost-effective path. The committee's role, as Lord Deben said, is to try to understand how to meet that 2050 target of an 80% reduction in greenhouse gases, relative to 1990; how to reach that 2050 target in the least-cost way. The way we do that is we have to look, sector by sector, in a very bottom-up way, at the range of measures that are available—in the power sector, as we have been discussing, in transport, in agriculture and in buildings—how much they cost, and what a least-cost combination of measures looks like that is consistent with meeting that ultimate 2050 objective. In a sense, that is what we call the “least-cost path”. It is important to realise that, in developing that least-cost path, it is not a simple input-output model. A lot of analysis goes on around that, and in doing so the committee has to balance a range of factors. It has to balance the impact on the competitiveness of industry, on fuel poverty, and on bills to households; it has to consider the science, as Lord Deben was saying; it has to consider the fiscal position of the Government and what is affordable, so all these other factors, which the Act requires us to consider, come into mapping out the least-cost route to 2050. Ultimately, that results in a range of measures that the committee feels will allow us to arrive at that 2050 objective in a least-cost way.

That reassures the committee that it is achievable and that what we are suggesting in the carbon budgets every five years is achievable. That is different from a prescriptive path and, as Lord Deben was saying, not to confuse the ends with the means. That is different from us saying, “This is precisely what you would do each step of the way in order to get there”. That is clearly for Government and for Parliament to decide, but it reassures us that what we are proposing, and what our recommendations are, are achievable and are achievable at an acceptable cost, balancing all of factors that I was mentioning.

Q8 Ian Lavery: So you call it the least-cost effective path, not the cost-effective path?

Matthew Bell: It is the cost-effective path to reach that.

Ian Lavery: —not the least cost effective path, and I am being very pedantic, but—

Matthew Bell: Yes. It is literally the cost-effective path. It is the lowest cost way of achieving that 2050 objective.

Q9 Ian Lavery: But have you produced a blueprint for what the energy system could and should look like by 2050?

Matthew Bell: The way in which we operate is that we periodically provide the carbon budget advice. The carbon budget advice operates for five-yearly periods. It has been legislated out to 2027. In providing the advice on what was the fourth carbon budget, which goes out to 2027, we looked at the power system out to 2030 in order to understand what was possible to achieve by then. Later this year, as Lord Deben was saying, we have to produce our advice on the fifth carbon budget, which covers the period from 2028 to 2032. As part of that advice, we are also doing modelling of the power system and what it might look like out into the 2030s and 2040s.

Q10 Ian Lavery: Talking about the carbon budgets, I think the report refers to the fact that, due to accountancy changes, the second and third carbon budgets are now too generous. I wonder if you could explain how these changes would play in your deliberations about the level of the fifth carbon budget.

Matthew Bell: One of the things that characterises the carbon budgets is that, as with all budgets, they are subject to accounting and to accountancy rules and regulations. In practice, the way the carbon budgets work, there is what is called the “traded sector” and the “non-traded sector”. The traded sector, which is largely power sector and heavy industry, is covered by the European Emissions Trading Scheme. It is a scheme to trade permits across Europe, to try to achieve the least-cost way of reducing emissions in those sectors. The accountancy rules around that are such that it is difficult to predict precisely what level that traded sector component will be of the budget. When it comes to adding together the traded and the non-traded you then get the budget and, in the case of the second and third, because of how that trading system has worked, that has turned out differently from what the committee anticipated when those budgets were originally set.

None of that changes the fact that, ultimately, we are aiming for this 2050 target, which is fixed in law, and therefore there are a series of steps that the UK should take in order to continue along that cost effective path. What the committee is concerned with is making sure that the accountancy changes, while potentially meeting the strict letter of the law, don’t violate the least-cost path to 2050 and result in us incurring higher costs through the 2030s and 2040s than we would otherwise have to do.

Lord Deben: Perhaps the example, Mr Lavery, is when they decide to rebase the measurement of the cost of living. We all know that you then have different figures but, actually, the cost of living as it affects ordinary people isn’t changed by the way you do the measurement. You just change the measurement, and there is always an argument

about that. What has happened here is twofold: one is that to some extent the mechanisms have changed for measurement, in order to make them more accurate. But the second thing is that, very often—and as far as the second and third carbon budget this was so—you do not know in advance precisely what the European Union will decide in this area, so you have to make your best guesstimate of it when you are putting that together.

The one thing that we were saying—which is the important thing—is that what matters is the reality and not the measurement. Therefore, we want all the time to look to make sure that we keep to the reality, rather than say, “Oh, well, the measurement makes it look as if we can say this because it looks as if we can claim this”, and it isn’t real. So I very much hope the Committee will join with us in all the time reminding Government, and reminding politicians generally, that what matters is reaching that very specific target of reduction by 80% in 2050. If you use the measurement changes to mean that you don’t do as much when you should do it, you are actually landing the next budget with a very much bigger problem. So it is really to keep to the reality is what this was meant to explain.

Q11 Ian Lavery: Would there be any advantages or disadvantages in making retrospective changes to the second and third budgets?

Lord Deben: My big problem, always, in making retrospective changes to the budget is simply because you confuse people, and I do not want to confuse people. My own view is that you keep the budget as it is but you recognise that, in order to meet that budget, you have to use a constant measurement so that you do what the budget says you should do and it isn’t covered by some capricious and not accurate change in the methodology. You can make that very simple and very clear. We know what we have to do and all I am concerned about is that we should not bank non-existent improvements.

Q12 Ian Lavery: In 2014 the UK greenhouse gas emissions were approximately 8% lower than they were in the previous year in 2013. Your report does not seem terribly positive about that. Is there a reason for that?

Lord Deben: One year, like one swallow, does not make a summer. The first thing is—

Ian Lavery: But it is positive, isn’t?

Lord Deben: It is, yes. It cheers you up and certainly it is better than the opposite and there is some good stuff in there. But there is no doubt that there are some specific reasons that make us believe that this is not, by any means, to be taken as what is likely to happen year on year, that is all. Matthew will go through the reasons for you because it is quite interesting why we have a question.

Matthew Bell: It is important in the context of progression since 1990, it means that our emissions are about 36% down on where we were in 1990 and consistent with—certainly over that time period—a growing economy and increased manufacturing and all the rest of it. So it is important in that longer time scale.

When you look at any one particular year, we do try to break down what we think the causes of the 8% were. At a very fundamental level one of the things we always do is a

temperature adjustment and so the change from 2013 to 2014, it happened to be quite a warm year and so that brings the 8% down to about 6% change. Then we try to decompose that into: where did the savings come from? In practice, if you look at where those reductions came from, emissions from the power sector fell by about 18% over the course of that year, which is a huge fall in power sector emissions. Some of that is very much down to Government action and a whole series of actions associated with more low-carbon generation coming on to the system. Those types of changes are clearly permanent changes that we know will feed through into future years and, in that sense, we will be confident of more swallows in subsequent years.

But another significant part of the fall was down to reduced coal emissions from coal-fired power plants running a fewer number of hours over that period, gas and other power plants running for more hours. That could reverse itself in future years. As long as the coal power plants are on the system, then depending on market conditions, and on the price of coal relative to the price of gas, you get more or less coal, more or less gas generation and emissions change around. So in future years some of that might come back and it results in more emissions. There is a combination of factors in the power sector that resulted in that, some of which we think are permanent, some of which are temporary.

Q13 Ian Lavery: Is this a spike, do you think?

Matthew Bell: Because of the market conditions there was much less coal generation that year than there had been in previous years and much more generation of other forms. So whether that will continue is hard to predict. It is certainly not something you could count on and bank in that sense, in terms of emissions reductions, absent further action.

Lord Deben: There is no doubt that it was a better year and we should be pleased about that. The one I would underline very much is the weather thing. As you understand, Mr Lavery, it is particularly true that if you have a very cold winter people's consumption of electricity rises very considerably. If that happened to coincide with a period in which it was cheaper to generate by coal, and we had not taken the coal off the system, you would have exactly the opposite effect. What we wanted to make sure was that people did not take this as a kind of harbinger, that everything was going to be all right and we wouldn't have to do anything. There are so many factors here that could change. That is why perhaps we weren't as chirpy about it as you would want us to be.

Q14 Ian Lavery: With regard to the types of infrastructure programmes, which I think your report indicates need to be done for decarbonisation—that is transmission and distribution, the smart grid, pipe work for the carbon capture and storage pipes, electric vehicles, which you mentioned before, disparate heating—is there a role for Government in planning this infrastructure or, in your view, would a market-based approach be much more preferable?

Lord Deben: Clearly the market is the most powerful mechanism for achieving these things, and, if you have the pull of the market of people wanting to buy things and wanting particular services, that is the most powerful way of doing it. But infrastructure always has to have an important Government input and the Government has committed itself to promoting the infrastructure changes that will be necessary. I think it is a balance between them.

The timing is always interesting. What you really want is a system whereby the Government plays its part in enabling the market to take on the biggest part but very often the Government has to make the move before the market is ready to do that. I try to remind people that the problem with the market is that it does not have a time in it. It is not good at time. It is good at immediately reading what immediately people want. Once you move to, “What will that mean in 10 years’ time?” the market is not good at reading it and my comparison is—having been the Minister for Fisheries for longer than anyone—that as long as there are fish there, people will fish them because the market needs them. It is very difficult for the market to say, “Leave them there so that they can grow, because we want fish next year and the year afterwards”. You have to intervene to make sure that happens and we have that sort of situation here. So I think it is a mixture between the market and Government intervention.

Matthew Bell: The other issue on infrastructure is the Government does have its national infrastructure plan, which is a combination of things that the Government itself is trying to do and things that the private sector is bringing forward and investment that the private sector is making. One of the things that we are pointing out in the progress report is that a number of infrastructure measures, which would reduce emissions, would be consistent with that national infrastructure plan. In developing the future vision for that plan under this current Government, it is important that those are taken into consideration in how that is developed.

Q15 Dr Alan Whitehead: Could we move more specifically to the fourth carbon budget? The introduction to your report to Parliament states, “Without significant new policies progress will fall behind what is required to meet legal obligations through the 2020s”. I take that to be a fairly specific arrow at the fourth carbon budget and the extent to which policy programmes would be required to be put in place fairly early in order to meet the requirements of the fourth carbon budget. You could say that there have been some policy announcements but, arguably, they go in precisely the opposite direction to those that I think you might have imagined in your introduction. Perhaps specifically, as you have already mentioned, the zero carbon homes announcements and the renewable subsidies—particularly onshore wind announcements—arguably could look like they will have quite a lot of ongoing impact. Are you looking at that in the Committee on Climate Change, in terms of what the contra impact of those policies announcements is, and to what extent does that mean that the gap, which you mentioned in your introduction, now looks wider than it was when you wrote that introduction?

Lord Deben: First of all, the gap is of two kinds. The first gap is that a whole range of policies, which we expect to continue—and indeed which in some cases the Government have said will continue—will cease in 2020. So the first gap is that as people are deciding on their investment programmes they cannot think beyond 2020 with the same certainty as they can before 2020. What we said to the Government is that, “You really cannot leave it like that because here we are in 2015, 2020 is tomorrow”. For people who are investing in, for example, generating power or anything of that sort it is a very, very short time. The first thing we asked for was that we should have certainty further into the period so that we get the investment. That is the first gap.

The second gap is that, if you put together all the measures that are underway, they don't look as if they will reach the target to which the Government is committed. It is committed in three ways. It is committed because that is the target that has been set by the Climate Change Committee. It is committed because Parliament has made that the target and, indeed, has reconfirmed that as the target, and it is committed also because the Prime Minister—in line with the other leaders of political parties—restated their commitment to it. So there is no question about the commitment to that.

That second part, of course, you have to play in the changes that the Government has made but, as I said, Dr Whitehead, I do not believe that the Committee can properly assess that until we see the things that the Government intends to put in their place. They may have very extensive plans that they will carry out. We are assured that those plans will be announced relatively soon. When we have those together, of course, we will report on what we think that will do. How near that will get. What are the areas to fill any gaps that then still exist? We will press for two different things. One is the extension of the system, so that the period of investment is covered. The second is to ensure that the system is sufficiently robust to deliver the targets that we have committed ourselves to. But I don't think we can make a statement about the impact of the present changes until you see what they put in place.

I have one other thing I would say. I think that it is proper for the committee to insist that, if the Government decide to take measures that are not the least-cost mechanisms, they have to tell the public what the cost is. If, for example, you decide that you are not going to use, after 2020, onshore wind, and if that were part of a least-cost scenario, you must explain what the public is paying for that political decision. The reason for that is: first, because transparency is crucial, and secondly, I don't think it would be proper to say that the cost of decarbonisation is X when part of X was because you decided not to decarbonise in the most cost-effective way because you had a particular reason why you didn't. Perfectly reasonable for the Government to decide they do not want to do this or do not want to do that, but it is important for the public to know what the cost of those choices is. If you went through my former constituency, you would see big posters up saying, "Not onshore but offshore". I don't mind people making that judgment, but I do think it ought to say, "And therefore we are prepared to pay X if that is what the cost is". This is very important for the transparency and the integrity of the system.

Q16 Dr Alan Whitehead: Can I try to briefly paraphrase what I think is the process here running up to the fourth carbon budget in terms of the policy gap? That is, if certain things are taken out, something else needs to be put back, in order for progress to be made on assessment of reaching or otherwise the fourth carbon budget. In order to make a judgment, in the fullness of time when those new policies have come forward, about what is put back in, the judgment then needs to be made, I guess, on the extent to which what has been taken out has been countered by what has been put in as far as those new policies are concerned. In order to do that, presumably there has to be an idea of what has been taken out, its extent, the likely damage to the figures by those things that have been taken out and, indeed, whether things that perhaps were, you might say, thought to be in the bag, as far as the second and third carbon budgets are concerned, may then start altering in appearance. I assume that, somewhere in the Climate Change Committee machine, there is someone doing that

calculation. How does that pan out, in terms of both the fourth carbon budget and also the collateral damage for earlier budgets?

Lord Deben: Clearly, the report that will be next year's report, equivalent to the one that we published three months ago, will make exactly those assessments. It is bound to make those assessments. It is bound to say, "Where are we now and what does that mean?" That assessment will include what the Government proposes to do and what the Government has already or will be changing in the meantime. You work that thing through and, indeed, there are people working on the beginnings of that. But you cannot do it until you have the second half of it—we have one bit and then the other—and it will be very clear. If certain measures that have been taken are more deleterious than the measures that have been taken in the other direction, then that will be very clear.

If there is a bigger gap we will show that there is a bigger gap. That is what our statutory duty is because every year we have to make that assessment. The only reason that I am not being previous to it is that it is very important for the committee to be seen as being absolutely authoritative. At the moment, if I made an assessment of what this will mean, when the Government has specifically said that that is the first part of what they are going to do and then they are going to do another series of things, I think that would be an improper thing. But it would not be improper if the Government didn't produce anything else—that would be different—or if they took so long to produce everything else that we would have to say, "Look, unless you are producing this then, frankly, we are going to have to make an assessment of where we are, since you know how much you have to produce" but I don't think that is going to happen.

Q17 Dr Alan Whitehead: That leads me then to the question of: at what point and over what period do those new policy arrangements come into play? Because, for example, in the documents relating to the fourth carbon budget you have specifically drawn attention to, say, progress on insulating homes and providing programmes for energy efficiency, solid wall insulation and various other things such as that. You made an estimate in that budget document of the extent to which that programme should have been completed—2 million homes I think it was—by the early 2020s.

We know from the ending of ECO 2017, and what rolls on in terms of new homes, the end of the zero carbon homes programme that that is very likely to be almost laughably—not the right word—missed over the next period, and it would require some pretty extensive new policy commitments to get that back on track I guess. Do you have a view then on over what sort of period those new policy commitments need to come in? If by, say, 2020, bearing in mind the fourth carbon budget is coming in fairly shortly afterwards, and there apparently had not been anything in order to rectify those particular issues, you would express some alarm, whereas if there was a suite of new policies in, say, next year, that would look different?

Lord Deben: Dr Whitehead, the timing is statutory. We have to produce a document at a particular time next year, and the document we produce is an assessment of what the Government have done and what the situation is. That is what we will do. In a sense, if the Government have not done the things that replace the ones that they change, that will be

the statement at the time. We will also be stating what we think has to be done, or the amount that has to be done to rectify any downside and to meet the gap that is already there. That is a date that the Government knows as well as we do; that we have to produce that. If it decides not to make any of those changes there it will be a pretty bleak report and then people will have to start thinking about what they have to do.

Q18 Dr Alan Whitehead: Very briefly, Lord Oxburgh suggested recently that Britain might lose its moral authority on the international stage and perhaps at Paris, if those new policies don't come forward fairly soon and we are left in the run-up to December with apparently a number of policies facing in the opposite direction, do you think there is anything in that suggestion of moral authority being presented particularly at COP21?

Lord Deben: It is very difficult to suggest that Britain has other than a very clear moral authority. We are the exemplar in terms of our structure. There are now many more countries that have taken on our system of having a Climate Change Committee and such like. That is growing in a very significant way. Britain is looked to as being a key player in this. It is quite clear that the Prime Minister has taken that view. The Opposition takes exactly the same view. These changes are not fundamental in that sense and it will depend, of course, upon the way in which Britain presents that.

We have committed ourselves to a very significant target and that we would stand by in the debates. It would be a mistake to make it more difficult for the Government to do what it clearly wants to do and in that it is an all-party thing. It is very valuable to be able to have a consensus here that it is an all-party desire to have the very best result we can in Paris. It is a desire that the Prime Minister has personally taken and that the Minister takes as well. It is a desire on which I understand the new leader of the Labour Party takes exactly the same view. On this occasion I think that is where we should leave it. I am all for us having arguments about what is the best way but the consensus must hold and be seen to hold, as far as the international negotiations are concerned, because that is more important than anything we may argue about zero carbon homes.

Q19 Antoinette Sandbach: Achieving those targets comes at a cost in terms of public expenditure and subsidy, and this Committee has been provided with very different figures for the amount that has been spent under the Levy Control Framework. Your report said that spending is roughly on track to hit £7.6 billion but the Permanent Secretary said it would exceed £7.6 billion but remain within 20% headroom. The OBR has said that we are going to exceed the 20% headroom, so which figures should the public trust?

Lord Deben: First, if I may say so, there are two different elements in that. What we have said is—taking the moment we were talking about—it is on track for it. We had to make an assessment because we had provided the original figure. The two other figures are figures that are prognostications about where we might reach, and, like all prognostications you can have different views. But there is a particular reason why there is a difference there but I would ask Matthew to explain that.

Matthew Bell: First, yesterday we put out on our website our full assessment of the Levy Control Framework for people who want to see it. We produced that assessment as the independent advisers to Parliament. We have spoken with Treasury. We have spoken with

DECC. We have looked at all the various calculations that everybody has done and tried to set out, transparently and clearly, where we think we are now and where we think we are going to be in 2020.

As Lord Deben said, the £7.6 billion figure is the amount that the committee felt was necessary by 2020 to be consistent with the carbon targets. There are a range of reasons why you might end up above that. Some of that has to do with over performance, either because more renewable investment has gone in than was anticipated or because the renewable investment that did go in has performed better, has generated more electricity than we anticipated.

Those are issues that might lead to an overspend and, therefore, for us to be ahead of target. There is a question then about, do you pull that back and say, “No, we only wanted to do this much” or do you allow those to go through? In terms of strictly meeting the carbon budgets, you don’t have to incur those expenses and a big reason for the discussions clearly, and the announcements that have been made, is that we were over achieving and the decision was to pull it back. Other reasons that might lead to an overspend are the fact that the wholesale power price might be lower than anticipated, gas prices might be lower than anticipated. Those types of things were precisely why the headroom that you mentioned was created because we are not sure. It is hard to forecast those things. The headroom was always there as a way of trying to say, “Do we or do we not?” If there is excess expenditure, we have made provision for that.

Our best view, based on the range of analysis that we have done, is that we won’t over achieve, we won’t overspend that budget, based on that headroom price of gas, price of wholesale power argument. There was a danger that we would overspend because we were being more successful than anticipated and, therefore, you could pull it back for those reasons. In some sense, what is more important is what the commitment is post-2020 and how that is set out because, ultimately, currently the investments that are in the pipeline and are, effectively, committed we know pretty much where we will be in 2020 in terms of renewable generation. What we don’t know and what nobody knows is post-2020. That is where it is important to set out both the next stage and the Levy Control Framework but also these types of issues about how it gets adjusted in a transparent way, rather than unexpectedly springing announcements on investors and others, in a transparent way how it would be adjusted in the future if things don’t turn out in the way we predicted.

Lord Deben: The key thing, if I may say so, on the overspend is to distinguish, therefore, between that which has arisen because we have been better at it, and that means we have done better. You could say if you wanted to, “We don’t need to do better”, so we could do that. To distinguish between that and that which is a result of a lower gas price, where it is merely the differential—and it isn’t because you have done better—that is in the system; that is why you have that. You don’t want to say, “We can’t spend that bit” because that would mean that you have done worse. You have to make that distinction and that is what we have tried to do on the website.

Q20 Antoinette Sandbach: Obviously, you have called for the Levy Control Framework to be extended beyond 2025 and called for a £9 billion figure, which obviously impacts on consumers. But given the impact of the gas prices, is there a way of tweaking the Levy

Control Framework so you take out that gas price differential and then see the success that is coming from greater efficiency and better delivery? You reward the good thing and take out the differential. Is there a way of doing that?

Lord Deben: There are mechanisms, of course. You just do it differently. This is a result of the mechanism that we have chosen. I am always instinctively conservative about changing the mechanism because then you cannot make comparisons and the like. But certainly, in my view, you are right that we need to be very much clearer to people so that they can understand that. We also have to remind people that, in terms of the effect on bills, particularly in a falling energy market, this is a relatively small element in it and also it is a very important element in protecting people about future bills. Sometimes there is a one-dimensional argument about bills, but all of us spend money on bills to get the infrastructure that we need to be able to have whatever it is we want in 10 years' time. Part of this is what we are doing there. The other thing, of course, is our particular help, which we do through the bills, with fuel poverty and that is another element of that. Sometimes that is ignored when it comes to looking at the bills.

Matthew Bell: Yes, it is clearly possible to be more transparent and explicit about which bit is variable because of fossil fuel prices and which bit is because of success. An important element of that, clearly, are the auctions that have been put in place and the Contracts for Difference. The Government are able to use competition through those mechanisms, in order to drive down the costs as much as possible of new low-carbon generation coming on to the system, but also to set very clear reserve prices, maximum prices they are willing to pay, which could be on the basis, for example, of the price of a new gas-fired power plant, facing a proper cost of carbon, because that is the maximum we are willing to pay, compete below that for technologies that are currently mature. Then, as we heard earlier, there might be separate reasons, to do with innovation and other things, why you might want to top that up from new emerging technologies that we want to get to the point where they can compete on that level plain.

Q21 Antoinette Sandbach: In July the Secretary of State told us that that decision to stop onshore wind subsidy saved consumers money. I appreciate that there has been greater uptake and efficiency in terms of renewables. You said it could add £1 billion a year to bills. Can you explain that difference of opinion?

Lord Deben: I think we are talking about two different things. I think the Secretary of State was talking about the fact that she had seen that the Levy Control Framework was likely to cost more because of success and that therefore, if you allowed this to go on without having any kind of restrictions, that cost would continue to rise. That is a perfectly reasonable thing to say.

The point we were drawing attention to is that it is widely acknowledged that onshore wind is now the cheapest of the renewables, and if you do not have the contribution of onshore wind, you are going to have to have another contribution. The point we were trying to make was that, if you make the comparison between onshore and offshore wind, the additional cost of taking that contribution on offshore wind is significant. We were seeking, not to establish that cost for ourselves but to say that it is part of the whole proper dialogue in politics, if you make what we all know to have been a political decision. It

may have this adjacent thing but the reason for this was a manifesto decision of one party that it did not want to have any more of this. That is perfectly reasonable. That is what Government is about; making decisions of that kind. No criticism of anybody for doing that.

But if you do it, then it does seem to me incumbent upon you to say what the cost is so that people can say, “Yes, we accepted that that was something we wanted. We did not want any more of these things, and we have accepted that the cost to us was this”. What I do not think is acceptable is to do it, but not to give the figure. That seems to me to be the crucial issue.

Q22 Melanie Onn: The Government recently denied permission for an offshore wind development to be built off the coast of Dorset, and your report recommended supporting offshore wind until further innovation causes costs to fall to a point where subsidies can be removed. Can these decisions that have been made over the last two and a half months, since the new Government came in, on both onshore and offshore wind, decrease investor confidence, in your view, and possibly result in public subsidy being required for a longer period of time?

Lord Deben: First of all, one has to acknowledge the amazingly fast way in which these prices have come down. If you think about some years ago when I was involved in offshore wind, in those days we were talking about 150. We are now talking about 110. It really is an astonishingly remarkable confirmation of what we all hoped would be true, which is that if you provided a market for offshore wind, and solar, and the rest of it, the price would fall very sharply. The success has been very notable.

It was always true that Governments could—and insisted upon—make what you might call planning decisions. It is not for me to say whether this was the right planning decision or the wrong planning decision. But this was not a decision made about offshore wind; it was made about the placing of it in the particular place that it was. The Government decided that was not a suitable place to have offshore wind. I think that is a perfectly reasonable thing for Government to do. You have to assess it over the broad side: what have the Government done in their spending on offshore wind? I think most people recognise that Britain is a leader in this now because of the very considerable sums of money that are being spent. But you are absolutely right, if a Government, on whatever argument, constantly made it impossible for you to have offshore wind then you would give a signal that would be entirely unacceptable. I don’t think this particular signal about this particular offshore wind proposal will have deterred people, because so much has been agreed and people recognise the Government’s support for it. I do not think this specific thing would. But you are right that, if a Government went on doing it—I see no sign that the Government are going to do that—that would obviously have an effect on investment. If you had an effect upon investment, the constant fall in the cost of offshore wind would be stopped, and that would keep the subsidy rate up, yes.

Q23 Chair: Thank you. Before I go back to Antoinette, I should point out that time is running. We are gathering good evidence and good information here. I will come back to Antoinette. I am aware, Julian, that you too want to come in on this section. But if you could be mindful of time, because I think, Lord Deben, we have agreed with you that you can go at

11 am. Ideally we will be finished by 11. am, but as a fallback, if not, Matthew, are you able to hang on a little longer?

Matthew Bell: Yes.

Lord Deben: We can hang on for as long as you like.

Q24 Antoinette Sandbach: I think you have answered this already, but in terms of the transparency of the Government about their decision to end onshore wind subsidy, do you think they have been transparent? By implication, your answer previously was that there is potentially a £1 billion cost to the consumer for doing that.

Lord Deben: I believe very strongly in the consensus on this front. We have to keep together because if we don't, if this becomes party political division and discussions, we will not achieve the end. This is a threat to humanity, and we have to make sure that consensus happens. I do not think that you can keep that consensus as effectively as you can unless you are very frank about the figures.

If I go back to an example; I had to intervene during the election campaign when the Conservative Party repeated a figure about the cost of having a 230 carbon intensity target, which is entirely untrue. It was invented by the TaxPayers' Alliance, and is wrong, compared with the detailed figuring that the Climate Change Committee had done. I intervened because I do not think we should be having a debate on the wrong figures. What we need to do, to keep the consensus together, is also to have a consensus about the figures that you use. Then we can have an argument. One party can say, "I want this and I don't want that". There are many ways to skin this cat. The fact that the cat has to be skinned has to remain, if I use so inelegant a term—and it is all over Twitter. My Twitter is filled with people—I am not suggesting we should skin cats; let me put that very clearly.

Q25 Antoinette Sandbach: I am very glad to hear that.

I want to go back to James Heappey's point. I realise that onshore wind may be the most cost effective, but by stopping its subsidy for technology that has already got to a very cost effective point, does that not give an opportunity to encourage the kind of innovation and investment in alternative low-carbon technology?

Matthew Bell: There are probably two things linked to that point and linked to the earlier point. First of all, we do have to be very clear about what we mean by a subsidy. There are two things that get confused in some senses when we talk about a subsidy. One is making sure that conventional generation, conventional petrol and all the other things, face an appropriate cost of carbon to reflect the impact and the cost that they impose on the world. As an economist I would not call that a subsidy. I would call that making sure that everybody faces the proper cost of production.

Then there is a separate thing that clearly is a subsidy, which is: over and above facing a proper cost of carbon are there reasons—that we were discussing earlier—whereby you might chose to subsidise things because the nature of innovation is such that if I come up with a bright idea somebody else might steal it. So you have these different types of spill-overs and, therefore, I might not invest enough in my new idea because I am worried that

the company down the road will steal it. There is potentially a role in certain circumstances then for subsidies to encourage those ideas to be created, so that everybody can benefit from them.

First, it is important to be clear about those two different definitions, ways of thinking about subsidy. I think they get confused in the debate. The second thing is around innovation. There are clearly a whole range of things that drive innovation. It may be that if you have those types of circumstances, where I am worried that my idea will be taken by somebody else and I don't put enough effort into generating it, that it is sensible and there is a role for a subsidy. Certainly, that is what we have seen on things like offshore wind and carbon capture and storage, where there is the technology. Once somebody has invented a turbine that is twice as long as the next person's it is very easy for another company to come along and replicate that. So there are reasons for these subsidies.

But there are also a whole range of other things that clearly drive innovation. One is knowing that there is a market out there and there will be demand. That is why one of the central recommendations in the progress report is: let's be clear about the ambition and what we are putting in place for 2020 so there is confidence that there is a market, and then people can invest off the back of that. Is there a market? Will there be demand? What are other people doing? How is the world evolving? How do I pick out trends? All of these things, potentially, alongside subsidies, have a big impact on whether innovation takes place. It is the combination of all of these things, rather than just whether you have that additional element of subsidy, which will determine whether we get new ideas and new innovations coming to the market.

Chair: Thank you. Such is the enthusiasm about this section that I am going to call three other Members who want to add supplementary questions. But I think, if it is okay, we will take the three questions together and we will go back to the panel then to answer them. So Julian Sturdy, Glyn Davies and James Heappey, you have indicated to the Chair you would like to ask them; Julian first.

Q26 Julian Sturdy: Thank you, Chair. If I may, Mr Bell, it is a short question, but I want to take you back to something you said earlier on when you were talking about the Levy Control Framework and the particular excess in expenditure. You said that this could be down to performance, which I fully accept. But is there scope for the Government, when we are talking about this discrepancy, to overestimate that performance. When I say "scope", would you say that the Government are overestimating that performance?

Glyn Davies: Most of the questions that I wanted to ask I think we have pretty well covered already. The question I do want to ask is certainly tangential to what you said before, and it may have been covered, but it is this consideration of the cost related to the Levy Control Framework and the extra cost if you do not go forward with the cheapest option. If we have a particular interest in bringing forward—and it isn't always just innovation—say, the tidal lagoon in Swansea, which is hugely expensive, if it was on its own, it probably would not even be considered, but it has the potential for other lagoons to come and it may be the development of a new technology. Do you think there is a danger of focusing on just the cost and the benefits of going for the lowest cost, which would be onshore wind, of making it more difficult to go forward with a new innovation—tidal

lagoons—that, in the longer run, say 10 or 20 years, may be a tremendous innovation that will make a huge difference?

James Heappey: Great minds think alike. I had marine generation opportunities in mind when I was going to ask you for your views on whether there were any areas of renewable generation that you think are underexploited in the UK.

Lord Deben: Why don't you answer the specific question that James had?

Matthew Bell: I will do that. I will start, and then you can pick up on the others. On that specific question, clearly it is a forecast about performance, given that, if I am going to put a solar panel on a roof, or a wind turbine either on land or on the sea, I am not quite sure how much electricity it is going to generate until after the fact when I find out how much wind blew or how much the sun shone. Relatively conservative assumptions were made about how much wind would be generated, particularly from the offshore wind turbines. It has turned out that they are generating more than was anticipated. That much we know because it is history. We know that over the last few years they have generated more than was anticipated. Whether they will continue to generate more than anticipated, yes, we don't know and it is possible to get that wrong.

That goes back to the discussion we were having earlier: the important point is being transparent about the basis on which something like the Levy Control Framework would be adjusted, and that people have visibility over the rules that would result in a Levy Control Framework either going up or going down. As much as it is saying it will be £9 billion in 2025, or £7.6 billion in 2020, let's be clear on what basis it will go up or what basis it will go down. Because some of those things we will know only in the fullness of time, but we have to make our best estimates now based on historical evidence, historical data, and what investors, manufacturers, and everybody involved in the industry think is possible going forwards.

Q27 Julian Sturdy: Do you think the Government have overestimated?

Matthew Bell: We don't know. Post 2020 we don't know what the Government are estimating yet, because we do not have an estimate for what the Government think the Levy Control Framework should be. In terms of between now and 2020, I don't know precisely what they have estimated are the performance figures, so I cannot say.

Lord Deben: If we turn to the other, which I think is a fascinating question that you have put, Mr Davies. I believe that we should have as wide a range of opportunities as possible. I do not believe in prescription, and I want to have a system whereby we can encourage all sorts of mechanisms to come forward. Who would have thought that solar would move to the position that it has? Even people like me, and I have more or less spent my life being interested in these subjects. It really is very exciting. So you have to give opportunity. If we had not given the opportunity to solar it would not be. I remember people saying, "Oh, the sun doesn't shine in Britain, so we don't need to deal in it". We had all that. We know how difficult all that is.

But I do think there is a danger that we talk about costs in a one-dimensional way. I think we have to be honest about: if something is cheaper than something else at this moment, then tell people. But you can perfectly well say, and I am not opposed to this, “Frankly, we think in the circumstances we are not going to go on doing that, because we think that could work anyway and we can always come back to doing that”. It is a perfectly good argument. But we do think that something like tidal lagoons may give us an opportunity. If we do not help there, which is quite expensive, this vision that they have, which is that because of Britain’s remarkable tidal range you need six of these—is the argument—and then you would have baseload electricity. Lots of things have been said like that that do not turn out to be any good, but if you don’t try, you don’t have a chance.

To take Mr Heappey’s point, I gave up all my connections with the energy industry when I became Chairman, but one has one’s memories. I am very conscious of the fact that I have always thought that we have not spent the time that we ought to have spent on tidal and water-based renewables. One of the reasons for that—I am not proposing it, because it would be improper for me to do so—imagine that somebody did build a Severn barrage. Once you have paid the very high cost to do it, you get practically free electricity for a very, very long time. What is more, you know exactly when you are going to get it because the tide is absolutely discernible. You know the two hours of the day in 2072, the two hours of the day that you are not going to get it and, therefore, you know the 22 hours that you are going to get it.

For me, in the world of imagination, I want to say to myself, “Is there something about our accounting methods that make it impossible for us to understand that you ought to be able to create something that says, ‘Yes, for 25 years it is going to cost you rather more than it would to put a lot of onshore wind on it, but after that you don’t have to replace it’?” I suppose what the radical in me keeps on saying is, “Should we not be trying to find an accounting method that takes into account that kind of issue, instead of putting ourselves into the position in which we are held up all the time by the specifics of the locality?” What so excites me is we can now put turbines in Morecambe Bay, or wherever one might be thinking of it. You can put in slow turbines that don’t eat up the fish, so one of the reasons why you could not do it has now gone. We now know so much more about how water operates that we can do things that we could not do four or five years ago.

Matthew Bell: Just to add two things to that.

Lord Deben: Yes. You are going to tell me I am wicked to suggest such a terrible thing.

Matthew Bell: No, no, not at all.

Lord Deben: It is outside my remit. I know what you are going to do.

Matthew Bell: No, I have a more minor point and a more substantive one. On the more minor point, that type of analysis is clearly what we are trying to do. It is subject to all kinds of uncertainties, but what we are trying to do in developing the least-cost path is precisely to understand some of those trade-offs between a short-term investment of known effect, and known size and magnitude, versus a longer-term programme and what the trade-offs are between them. Leading up to the fifth carbon budget advice, which as we

said we will deliver at the end of the year, we will publish a range of different power sector scenarios; again, not being prescriptive about any particular technology but a range of different ways in which through the 2020s we can reach the ambition, of which tidal is clearly one, trying to examine some of those trade-offs. That is the more minor point.

Potentially the more important point is on the question of: is there something that we are overlooking? Clearly, there is always the temptation to focus on the supply side when we talk about: are we overlooking something? It is at least equally important to look at the demand side and to say that a big thing that drives whether we need more generation and more different types of generation is: what is demand going to look like in the future? We were talking about things like energy efficiency. We were talking about things like measures that people can take with their homes and actions that businesses could take, but also a range of technological solutions, whether it is smart meters, or better controls, demand side participating in some of these auctions that we are talking about, where companies can come in and manage your demand on your behalf, because it is difficult for you to do by yourselves, so that the demand better matches the available supply.

Arguably, more effort should go into thinking about: how do we make sure that demand is managed as efficiently and effectively as possible, as the effort is clearly going into making sure that the supply is at the right levels.

Lord Deben: If I may say so, Mr Chairman, this Committee has a great role there, because one of the problems of this whole business, I have begun to believe, is that there is what I call the “boys’ toys” thing. It is always more attractive to build something; to have a big thing. Much of what we have to do is not like that. It is about the incremental, small changes that mean so much, which you have to get right, about energy efficiency; about behaviour. Why do people behave in particular ways? Is there a way that you can help them to behave in a different way and still have the sorts of lives they want? All those things, but they are not headline catchers. They do not provide political parties with pictures. It is much more difficult. I think that your Committee has a particular role in pulling people back all the time to what are not very Hollywood-like things, but that in the end add up to something really very important.

Chair: I think you make a very good point there, Lord Deben. What you are saying—if I can paraphrase it—is look after the pennies and the pounds will often look after themselves; look after the small things.

I am going to move us on now to the next section, progress and decarbonisation of the power sector, and ask Julian Sturdy to lead that area.

Q28 Julian Sturdy: Thank you, Chair. Your report highlights the need for a credible carbon objective for the power sector beyond 2020. I wonder whether you could set out what you believe that vision looks like.

Lord Deben: I will do the principle. The principle is that we cannot reach our target of the 80% unless by somewhere in the middle of the 2030s we have decarbonised the power sector. We think that everything else hangs on that. So what we are looking at is an orderly and cost-effective movement from where we are to that point, which is why as a

committee we have proposed something that is not always popular, which is a decarbonisation target for 2030. The reason for that is that, to us, it is the least prescriptive way of making sure you have a step between where we are now and 2050.

Any of us who have been businessmen—I have been a businessman all my life, and I know perfectly well that businessmen don't think about 2050. It does not matter what you do about it, there is no point in thinking that that is going to drive anything. It drives us because we have to do the programme to it, but it does not drive investment. So you need to have a structure that enables you to get the sort of investment that you want to end up with, a decarbonised system in the mid-2030s.

So there are two elements to that; one is the system has to be continued and we have to know more about what is going to happen in the early 2020s if we are going to do that. I think we would be better off also having a non-prescriptive target. But you don't say how you are going to do that. You just say that anybody who is dealing with decarbonisation knows that the conditions in which we will be operating in 2030 will be conducive to their developing technology, whatever it is. That is all you are trying to do. But in detailed terms you might want to add—

Matthew Bell: In detailed terms, there are different ways of trying to provide that certainty. As Lord Deben said, providing a carbon intensity target in 2030 is a signal—in the way we were discussing before—about what drives innovation and what drives investment. That would be a clear signal to the market: there is a demand out there and that demand then could be met if you come in at a competitive level.

There are other ways of providing that signal. The debate over whether a carbon intensity target in 2030 is appropriate or not appropriate is part of the reason why the progress report focuses on providing more certainty around the Levy Control Framework out into the mid-2020s because, if you are not going to go forward with that kind of vision, allowing investors to see over a 10-year time horizon the types of funding that could be available, if they are competitive and if they cover the cost, is another way of providing that certainty.

Another thing that the Committee has emphasised and talked about, in the context of the progress report, is being more explicit about your strategy around commercialising things like carbon capture and storage and offshore wind. What is the Government's programme? We discussed earlier that, hopefully, it is forthcoming over a relatively short period. What is the ambition of the programme for different areas of technology, again, through the course of the 2020s? So there are different ways in which you can try to provide that increased certainty to investors and to people making these decisions. But, again, the important point is that outcome. The outcome is that we want to provide that degree of certainty.

Q29 Julian Sturdy: I entirely agree. I think there needs to be that certainty and that clear signal for investment. Moving on, there seems to be some uncertainty if or when the next auctions for CFDs will take place. We had the Secretary of State in front of us in July; and she certainly gave the impression that there was quite a lot of uncertainty over when that

might take place. So what impact would there be if those CFD auctions were delayed, or even cancelled?

Matthew Bell: Again, I think it goes to your point about the importance of investors knowing that, if they are competitive and if they come in at lower cost, there is a market there for them. Our understanding is there was a plan to have the next round of CFD auctions this year. That is probably quite unlikely right now. So then the question is: when will it happen? Again, I think it is important that the Government are able to be clear about when it will take place and the rules and conditions under which it will take place. But the Committee has certainly been very clear that the CFD auctions, alongside the capacity auctions that are taking place, are a very important part of that least cost, because they are a competitive way of seeing which technologies come through at the lowest cost to deliver the low-carbon energy that we need. So the Government being clear about when they will take place is very important.

Lord Deben: I think politicians are very often—I have been one for a very long time—capable of underestimating how difficult it is for people outside to handle and deal with the government structure. In our constituencies, one of the things you find often is that people do not understand how the system works, and some bits of the system that you thought were absolutely clear. In this area, the Government do have to be very clear that the world out there is always looking for nuances and alterations and things, “Are we really going to? Is it going to be—” Therefore, being clear, having no doubt in those areas that it can be, is hugely important. People can always read into what is merely an administrative decision something very much deeper. I think one has to be warned of that, and this is an area where it is particularly important.

Q30 Julian Sturdy: Moving on to gas and the shale gas, the Government have come out and said that the national need to explore shale gas is exceptionally important and that we need that gas to replace coal and nuclear plants that are due to close. That would mean that we are going to have to build a number of new gas power stations. Can we build those gas power stations in time? What are the constraints about meeting the fourth carbon budget within that?

Lord Deben: The fourth carbon budget envisages a continued use of gas, and we envisage a continued use of gas to the early part of the 2030s. The use of gas in itself I think is not the issue. There are two issues. One is that you produce the gas or you import the gas in terms that are as environmentally friendly as possible, because obviously you could produce gas in a way in which the mechanism itself increased the damage done as far as emissions are concerned. The second is that you do not create yourself an infrastructure that then means that you cannot get off it, a very serious issue that sometimes you go on doing things you know you should not be doing, but you do it because you have all this money spent on infrastructure. We have taken a very clear view, which is that there is nothing contrary to the targets of getting some of our gas supplies from shale gas in this country. There are obviously advantages if you could do that, but not if you are going to either do it in a way that is itself damaging to the environment—and that is a real issue—or in a way that means you build an infrastructure that means you cannot get off the habit; two very important things.

My own view is that I would add a third one. It is a personal one, but I do think it is very important to remember that we are trying very hard to have a portfolio of mechanisms and, therefore, we should have the same view about people's ability to get planning permission and suchlike right across the board, that that should not be a means whereby we make choices. It should be as near a market as we can make it. Anyway, we will be providing the advice that the Government have asked for, and that will be—

Matthew Bell: By 1 April.

Lord Deben: 1 April?

Matthew Bell: Yes. We will set out in more detail the links between the exploitation of what is officially onshore petroleum—it is largely gas but also includes other things—the impact of onshore petroleum on the carbon budgets. It is important to recognise that in that respect our scope is limited to the impact on carbon budgets. There are clearly wider environmental issues, around water and around a whole range of hypotheses and debates that happen that it is not for us to comment on. We will focus on the carbon budgets.

It is also important to remember that the important role for gas in some senses after 2030 is in heating and how we move away, through the 2030s and 2040s, in order to get the 80% target away from gas-based heating to heating through other forms. Although gas plays a role in the power sector and an important role—because part of balancing the system is making sure you have some of these plants that can ramp up and ramp down quickly—a big source of the future demand for gas is in heating. Whether it is shale gas or other forms of gas, it still has a significant role post 2030.

Julian Sturdy: Thank you.

Q31 Dr Alan Whitehead: Just briefly, DECC had a go at this in terms of what number of new gas plants would be possible if one kept within the 100 grams per kilowatt hour target for 2030, which is very relevant to the fourth carbon budget particularly. They suggested that the maximum capacity of new plants that would be possible to put on the system in that way would be 26 gigawatts, but running at a very low load factor and, therefore, quite possibly not investable without quite a lot of subsidy. Then they have an alternative scenario, which is if you run them at a reasonable amount of time and you bust the carbon budget very substantially, 200 grams per kilowatt hour, you could put 37 gigawatts of new power on to the system. Does that accord with your analysis of what the scope for new gas plants is, or do you have further thoughts on that?

Matthew Bell: Our analysis depends, clearly, not just on how much gas plants are on the system but also how much coal is on the system, how much nuclear is on the system and how much a whole range of other low-carbon sources are on the system. I think it is difficult to say, “In isolation, we could put this much gas on the system and the carbon budget would be X”. You also have to say what is happening with all the other technologies. That is what we will set out and what the Committee will set out in the lead-up to the fifth carbon budget. It will be a range of different scenarios, some with more or less gas, some with more or less nuclear, some with more or less CCS, more or less of

other technologies, a range of different scenarios, all of which result in a level of emissions in 2030 that we think are consistent with that cost-effective path.

Going back to the discussion we had earlier, precisely which combination you choose will clearly be a combination of decisions that the Government can make, as long as they are consistent with that least-cost path, and outcomes in the market in terms of which technologies end up being competitive and who ends up generating how much at particular hours of the day based on the prices that they bid into the various auction mechanisms. I do not know how much gas that will result in. Under most scenarios, you would have some gas still generating on the power system in 2030.

Chair: Thank you very much. To take us to the next section, we have Matthew Pennycook who is going to covering emissions from buildings.

Matthew Pennycook: Chair, I am going to have to leave in five or so minutes, so I will ask a few brief—

Chair: I am sure that Matthew timed it right.

Q32 Matthew Pennycook: A few brief questions on this. Your latest report recommended that the zero carbon homes standard should be implemented without further weakening, yet we know that the Government scrapped it. I will just start by asking, were you as surprised as people in the sector—and I think the Secretary of State herself—that the Government made that move?

Lord Deben: Yes. I am no longer surprised by anything much, but I knew that the Government were going to have to look at the actual details of it. I went to see 16 homes done to the passive home standard by the remarkable housing group, Hastoe, and they were level 5 and not level 6. I said, “Why are they not level 6, because these are remarkable? They are really doing exactly what it wants”. They said, “Because they use so little energy that the idea that you would have to generate the little that they use onsite does not make sense”. Successive Governments had altered the rules in such a way that it was a bit of a dog’s breakfast, what we had ended up with. Clearly, the Government were going to have to have a different system to deliver this, and they have decided that they will not deliver it that way at all. I am now looking to see how the Government are going to deliver what I think is a better phrase, which is “resilient homes”, in other words homes that will not require retrofitting in the future, which will be able to deal with the climate change that we are experiencing and expecting. That is one of the things that we will be looking for.

Q33 Matthew Pennycook: Until they come up with a replacement or an alternative path to that, what do you think the impact is on emissions? Specifically, there are three district heating schemes in my constituency, and the energy companies have said this has ripped up their five, 10 and 15-year investment plans. It comes back to that point on investor confidence again. In the short term, what do you think the impact is?

Lord Deben: I think that is an unusual, extreme situation. Obviously, if people move from thinking something is going to happen to not knowing what is going to happen, you are

less likely to invest. That is obvious. It does not seem to me that in the long term they need to be concerned about that because obviously, in order to meet the heat requirements, which are clearly there, the Government have to have a system and disparate heating in some places is absolutely right and the sensible way forward. When one gets to that side of it, I think most of us feel quite strongly that a more nuanced, more geographically-based approach as against the Renewable Heat Incentive—something that is better tuned—may well be a sensible answer.

Again, we will expect that from the Government. The Government have a target to meet. The great advantage of having a target is that you cannot avoid it. You can say, “I don’t like that very much”. Then what are you going to bring in instead of that? That is what we will be looking for. You are quite right, the longer it takes to do that, the more people are at sea.

Q34 Matthew Pennycook: It is quite clear that the Government are not going to meet their 2020 ambition on renewable heat. The Secretary of State was quite clear that there is a problem in that particular area. You were talking about ends and means earlier. Do you have an opinion on what sectors should take up the slack if they are not going to meet that target?

Matthew Bell: It is useful to be clear about the distinction between the 2020 target and the carbon budget. The 2020 target is clearly an agreement that was made across the EU. It was made by previous Governments and it is a commitment of the UK in terms of an EU-level target to try to reduce emissions from energy, and there are different components to it. There is the heat component, there is the renewables component, and there is the transport and using biofuels in transport. That was a commitment entered into by Government in the European forum.

That is distinct from the carbon budgets. The carbon budgets that the Committee has recommended, which run for five-year periods; the period that encompasses 2020 is the period that goes from 2018 to 2022. If you meet that 2020 EU target, you probably are on track to meet the carbon budget, but it does not necessarily apply the other way around. You might miss the European target but still hit our domestic carbon budget targets. It is important to keep that distinction in mind when we are talking about there are lots of targets floating all over the place.

What underlines both of those, though, is that so far we have made relatively little progress on low-carbon heat, and that is why the European target got called into question but also why a gap emerges in the fourth carbon budget in the middle of the 2020s. In a way, the difficulty we have with that 2020 target now is that it is so close that it is quite difficult to do an awful lot on the heat front very quickly in order to meet that target. We do not want to be in a position where the same thing happens with future carbon budgets and we get to a point that is so close that then it is very difficult or very expensive to act quickly in order to try to meet the carbon budgets, and that is why it is important and that is why the recommendation is in the progress report that the Government articulate a clear action plan around low-carbon heat, which has the types of characteristics that Lord Deben was talking about, that is potentially more geographically differentiated or more differentiated by types of homes. Heat pumps might be cost-effective if you are not on the gas grid or if it is a new home. Heat networks might be appropriate if you have a densely-

populated area and you can distribute them. Using the existing National Grid but with low-emissions sources of gas—biofuels and things—may be appropriate if you are on the gas grid, but it is important that that is set out and that we have a way of progressing towards that, such that we don't find ourselves two or three years out from a carbon budget commitment that then becomes very expensive to meet because we do not have the time to adjust.

Q35 Matthew Pennycook: Thank you very much. Last question from me. This committee said very clearly it would like to see the Renewable Heat Incentive extended to 2020. All the signs are it is not going to emerge from the spending review in robust health, let's say. What would be the implications for that if the scheme ended next April?

Matthew Bell: To be clear on what we said, we said to either extend the Renewable Heat Incentive or an equivalent programme that achieves those ends. Again, it is partly back to this question about if the Renewable Heat Incentive—which has done some good things but also has clear issues with it, in that it has not delivered what it was expected to deliver or the technologies it was expected to deliver—is changed, what is important is that what replaces it is something that is consistent with achieving the carbon budgets.

Lord Deben: For me—again, this is one of the means and ends issues—the Renewable Heat Incentive does have some obvious faults. If the Government come up with something that is different from the Renewable Heat Incentive but which provides a better answer, then I think we should not be fanatical about defending the system that we happen to have. We should be looking to assess how good that proposal is. I hope that if you were looking at that, there are many ways it seems to me in which that could be improved. One very soft way: we have to learn a bit more about why certain behaviours do not happen in this country. Why is it that in many countries in the rest of Europe heat pumps are generally widely used? In this country, you would have thought you were talking about some magic thing from Mars. It just has not got into the system. Why is that? It seems to me we are very bad at trying to understand the behavioural thing. We all have our anecdotal reasons for it, and that is one of the reasons why we are adding to the Climate Change Committee—we are recruiting now—somebody who is a behavioural scientist. More and more, we have to look at some of these issues and ask ourselves the question, “Why doesn't it work here when it worked somewhere else?” or “Why doesn't this obvious fact not feed its way through, and is there a tipping point at which you can—” like we found with energy efficiency, once you told people how efficient things were at the point of purchase, it changed the market so you no longer have a G or an H for anybody going to buy. It is all A+, A++. That is because we got the moment right. The only moment in which people seem to care about this at all is when they buy a new refrigerator or whatever it is. I think we have to get better, particularly on the renewable heat area. We have to get better at understanding how people's behaviour affects the choices that they make, and that must be part of what the Government think here.

Q36 Chair: I think, a remark you made earlier in that answer about your committee's work of not being too thorough and not being too stuck on a particular way to achieve a target. It comes across that the committee, maybe inadvertently or openly, sees itself more as a referee towards Government, not telling the Government how to pay and what policies to choose

from, so long as those policies are adequately measured and going towards the target itself. I think that is clear.

Can I ask also: the Government, having effectively ended the Green Deal, are now having discussions about a new and better energy policy for home energy efficiency? What do you think such a policy should contain as a replacement for the Green Deal? A big question, and from what you just said before—

Lord Deben: Yes, we might be here for very much longer than you are prepared to be on this subject—

Chair: Some bullet points then.

Lord Deben: —but I really do start with the behavioural matter. If you want people to be more efficient in the home, first of all it has to be easy. I do think much of this stuff is so complicated. Anybody who has tried to turn down the air-conditioning in a hotel room knows what I mean, you either turn the whole thing off or think you have broken it or you turn it up. It is very difficult, and one of the great—

Chair: Every system is different in each room.

Lord Deben: Every system is different. I do think we have good chances of doing this now because modern technology is making it much easier. I am all for realising that more people are savvy with things on the iPhone than they are in any other way, so don't forget that. I think we have to make a big step forward in recognising that this is about how you make it easy to be good. That is the key thing. That means all sorts of very simple things that I do not think we have yet been prepared to do. I think we have to get the Puritanism out of it. This is not a moral question. You don't want to feel good. You just want to do things in a way that automatically reduces your energy consumption. The key bit is understanding the consumer's behaviour and understanding how to make it easier for people to use less energy. That is partly knowledge and information, but it is partly ease of electronic access.

Q37 Chair: An observation before I move on to James and the next section is that in my own constituency, because under the ECO scheme and the amount of insulation you gain, the amount of carbon saving of the insulation scheme is given, fraud was suspected, and therefore almost in every case they are having to further supply more and more evidence to justify what they have done, time and time again. That is counterproductive because it stops people doing it because they have to justify the gains they have made. They are astonishing gains, but they are unusual gains in a mainland context but in an island housing property context they are quite normal gains.

Lord Deben: Can I just leave you with this concept? Going to this passive house, I met a woman who turned to me and said, "This is absolutely wonderful. I have always put aside £30 a week during the year to deal with my winter heating, and I went on doing it. During the winter I put my £30 aside. I then got my bill and it wasn't anything and I had £300 for me, for the first time ever". I do think we have to be better at understanding, when we are talking about people's bills and the like, that if you can find ways of people reducing their

bills, the cost of climate change protection becomes incidental compared with what can be done to make people able to live at a reasonable level at a reasonable cost. We have to get that mix right, and it is more important than anything else, and I want to see a lot more women looking at me and smiling and saying, “It is better” and men, in case I get into trouble again—which is back to the cat.

Q38 James Heappey: First, to ask about industry, your report stresses the need for urgent action on developing carbon capture and storage for industry. What is the scope for industry linking into planned CCS projects in Yorkshire and Aberdeenshire?

Lord Deben: In my view, there is very considerable scope. It has taken an awful long time to get this under way. There is a sort of immobility about this. It is very important to get this right. For a nation that is thinking seriously about gas production, it is particularly important. But we having been doing some work on it and, Matthew, would you like to perhaps give the detail?

Matthew Bell: Yes. In terms of the detail, DECC undertook under the previous Government this exercise around roadmaps for industry and trying to set out what are very difficult decarbonisation decisions for lots of energy-intensive, heavy industries, how best to map out between now and 2050 where they should be and what they should be doing. For a number of industries—certainly not all of them—carbon capture and storage is a very important way forward. As we know, there are two proposals on the table for developing carbon capture and storage. Both of them currently link to power stations or the coal station in Yorkshire, gas-fired plant station up in Aberdeenshire, and partly demonstrating that technology and taking the learning forward from those technologies so that we know what it looks like.

The big cost savings from carbon capture and storage potentially come not so much from the learning but from the economies of scale and putting in place the infrastructure and then allowing lots of other emitters to hook into the pipes and the wells and everything else, the infrastructure that you create. That is the opportunity for industry. The opportunity for industry is being able to hook in, for example, around development around Teesside, and Teesside Collective there, who have proposals to hook in to the existing CCS infrastructure and, thereby, deliver the carbon savings that industry could deliver. In fact, if you look, some of forecasts—clearly they are all forecasts at this stage—around the potential savings from CCS in that Teesside area would be of the order of the ones that the Committee is looking to achieve in that 2030 timeframe. Providing industry being able to hook into that infrastructure is part of that least-cost way of reaching our 2050 target.

Q39 James Heappey: I hate to use something as contentious as the badger cull to illustrate my point, but there is an argument that because it is only being piloted in two areas, you are unable to learn the proper lesson about its efficacy. Is that something you would share, that there is a danger that if you do it in Aberdeenshire and Yorkshire only, there will be lessons learned that do not perhaps illustrate the wider benefit and we, therefore, need to expand the demonstration scheme wider and bring it closer to more industry?

Matthew Bell: There are different aspects to that. First of all, the pilots have been designed to try to make sure that we do get some relevant learning, so it is one coal-fired power

station with CCS and another gas-fired with CCS. That is deliberate in order to look at different things. There is a hub of industry around the Yorkshire plant that allows us to get some of that learning. We know that the cost reductions come from those kinds of economies of scale, so potentially the way to do this at least cost is to build a relatively few number of hubs and let people attach to them, rather than building lots of different infrastructures around the country.

Having said that, you clearly learn more the more you do. One of the things that we should make sure that we do is that a number of other projects, both on the industrial side and on the power station side, are being set up around the world as well. It is important that the UK also learns from those, and the UK has been supporting some of those. We know China is investing in CCS quite heavily, and it is important that we learn from those as well. We have the steel plant that should start running in 2016 with CCS in Abu Dhabi, and it is important that we learn the lessons from those. It is also important that there is a range of these different initiatives around the world and that we get the lessons from them.

Q40 James Heappey: Lessons learned on schemes elsewhere in the world will be easily translated across into the UK market?

Lord Deben: Not easily.

Matthew Bell: Yes, not easily.

Lord Deben: Not easily, but can be.

Matthew Bell: Some lessons more so than other lessons. There is always learning that is specific to the UK and there is always learning about the technology that is more general. The key thing about CCS, potentially—unlike something like solar, for example—is that a lot of the savings are about economies of scale and hooking into the existing infrastructure. Clearly that does not help us when it gets built somewhere else, so you do have to build it in the UK to get the cost savings associated with the scale, which is unlike something like solar, where a lot of the learning is about the innovation in the technology itself, and therefore you can bring that on board.

Q41 James Heappey: Secondly, can I just steer you towards transport for a second? Your report in June said that there should be a greater differentiation between vehicle excise duty rates for high and low-emissions vehicles. A week later, the Chancellor replaced graduated VED with a flat rate. What effect do you think this is going to have on transport emissions?

Lord Deben: It is one of the things that I have signalled as something we have to look at. There are real arguments about what the effect will be. This at least is something that, now they have done it, we know that we can measure it. If it turns out not to help the advance of low-carbon vehicles, then it is something that we will certainly report on and something that we will press for change. Again, I am not closing my mind to the Chancellor's argument that this will be sufficient to do what we need to do and that the first year is crucial in this purchasing thing. There is no doubt that the movement to low-carbon vehicles is much faster than many people thought it was going to be. We started off by me being rather the opposite of bullish about it when I first took over, because it seemed to me

that the figures were not looking right. I am now much more enthusiastic, it does seem to be moving, and you are beginning to find not only real evidence but anecdotal evidence, as you see these things and you see people making the choices, and the sorts of people who make the choices turn out not to be the ones you would expect. Some pretty remarkable people are making the choices for low-carbon vehicles, which is very cheering. It may be that he is right. We will test it, and if it is wrong we will say so very powerfully.

Matthew Bell: The important thing is that VED is only one component of the purchasing decision, and it is important that the other components are also in place and there is up-front financial support to purchase electric vehicles, which is still quite important. Again, in the same context as we were talking about the Levy Control Framework, it is important that there is some visibility over that, both about the levels and also about where it goes through the 2020s. Also, perhaps most important of all, there is agreement at a European level—there is lots of car manufacturing market at a European level—about the targets to 2020 on emissions, and there are current discussions about what that 2030 emissions level should be, and it is important that that is set at a level that is also compatible with bringing forward investment and bringing forward emissions. VED is one component, and we have to assess across everything whether transport will meet the part of the carbon budgets that it has to.

James Heappey: Thank you.

Q42 Chair: Thank you very much. Thank you for the philosophical, factual and thoughtful morning. I would also like to say for the avoidance of doubt that no cats or fish were hurt in the making of this evidence session at all, despite allusions earlier. Can I thank you especially for hanging on longer and sharing your wisdom and words with us? And I would like to offer you the opportunity of having the final word.

Lord Deben: I just want to say to the Committee I think we are—as somebody once said—all in this together. There is a real need for all of us to try to make more people understand more clearly what it is that we are trying to do, that transparency is central to this, and it is very difficult. It is very difficult because, although we may be enthusiastic about it, to most people this is a very minor part of their lives, so any way in which we can try to make people more understanding of what we are trying to do, we should take, because it is something that will only work if the whole nation takes part in it. Secondly, I do believe very strongly that making it easier for people to do good is the only way forward. Making it less easy for them to do bad is a second way forward, but just making it easy to do good is the answer to our problems, really.

Chair: Thank you. Wise words.