



OFFICIAL REPORT
AITHISG OIFIGEIL

Environment, Climate Change and Land Reform Committee

Tuesday 31 January 2017

Session 5



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ENVIRONMENT, CLIMATE CHANGE AND LAND REFORM COMMITTEE
4th Meeting 2017, Session 5

CONVENER

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DEPUTY CONVENER

*Maurice Golden (West Scotland) (Con)

COMMITTEE MEMBERS

*Claudia Beamish (South Scotland) (Lab)
*Alexander Burnett (Aberdeenshire West) (Con)
*Finlay Carson (Galloway and West Dumfries) (Con)
*Kate Forbes (Skye, Lochaber and Badenoch) (SNP)
*Jenny Gilruth (Mid Fife and Glenrothes) (SNP)
*Emma Harper (South Scotland) (SNP)
*Angus MacDonald (Falkirk East) (SNP)
*Mark Ruskell (Mid Scotland and Fife) (Green)
*David Stewart (Highlands and Islands) (Lab)

*attended

THE FOLLOWING ALSO PARTICIPATED:

Richard Dixon (Friends of the Earth Scotland)
Dr Rachel Howell (University of Edinburgh)
Andy Kerr (Edinburgh Centre for Carbon Innovation)
Fabrice Leveque (WWF Scotland)

CLERK TO THE COMMITTEE

Lynn Tullis

LOCATION

The Robert Burns Room (CR1)

Scottish Parliament

Environment, Climate Change and Land Reform Committee

Tuesday 31 January 2017

[The Convener opened the meeting at 10:07]

Decision on Taking Business in Private

The Convener (Graeme Dey): Good morning and welcome to the fourth meeting in 2017 of the Environment, Climate Change and Land Reform Committee. I remind everyone present to ensure that mobile phones are switched to silent for the duration of the meeting.

Agenda item 1 is a decision whether to take items 4, 5 and 6 in private today and to consider in private at future meetings further evidence and the committee's report on "Draft Climate Change Plan: The draft third report on policies and proposals 2017-2032" and on deer management and our response to the Presiding Officer's commission on parliamentary reform. Do members agree to do so?

Members *indicated agreement.*

Draft Climate Change Plan (RPP3)

10:08

The Convener: Agenda item 2 is the second of the committee's oral evidence-taking sessions on the Scottish Government's "Draft Climate Change Plan: The draft third report on policies and proposals 2017-2032" or RPP3, and we have been joined by a panel of stakeholders to discuss the overview of the plan and climate change governance. I welcome to the meeting Richard Dixon, Friends of the Earth Scotland; Dr Rachel Howell, lecturer in sustainable development, school of social and political science, the University of Edinburgh; Andy Kerr, executive director, Edinburgh centre for carbon innovation; and Fabrice Leveque, climate and energy policy officer, WWF Scotland. As we have a lot to cover this morning, it would be helpful if members and witnesses kept their questions and answers as succinct as possible.

Alexander Burnett (Aberdeenshire West) (Con): I will start off proceedings with a general question. What benefits and challenges do you see in the new approach compared with that taken in RPP1 and RPP2? What contribution did you have to the scenarios in the TIMES model? What is your view of the outcomes, particularly the variation in sector reductions? I would just like a general synopsis of your view of the process.

Richard Dixon (Friends of the Earth Scotland): How many hours do we have?

The Convener: You do not have any.

Richard Dixon: On benefits, you will probably hear us all say that the use of the TIMES model is a good systematic approach. A model is only as good as the data that is put into it and the way in which the results are treated, but the TIMES model is a good way of trying to make the process more systematic and to make sure that departments of Government that might have had little scrutiny in the past receive more. The aim is to make the distribution of effort fairer; I should say that it is fairer, but it is still not very fair in terms of the outcomes.

The challenge of the TIMES model is that it has taken a very long time to get up to speed, to work and to produce useful results, and that has meant that other parts of the process that were initially envisaged did not happen. Initially there was a big plan to have public consultation and major engagement with stakeholders, but almost none of that happened. One big stakeholder event was held in December, but most things had already been decided by then. The amount of effort that

has had to go into the TIMES model has held up a number of things.

As far as overall output is concerned, the model has been useful, but it has limitations. For example, it does not cover transport in any systematic and detailed way; instead, it relies on Transport Scotland's model to feed numbers in, so it has not been able to say, "Why don't we do something more progressive?" All it has been able to say is, "There will be lots more cars, so let's make them electric." However, that is another form of carbon. The model does not say, "Let's get some of those people out of their cars and get them to do something else." One of the big limitations is that it is up to Transport Scotland to suggest that or not.

As you would expect—and as is right—there have clearly been trade-offs between ministers and cabinet secretaries in discussions at Cabinet, but the end product of the discussions and the deficiencies of the transport side of the model is that some sectors have still got off much more lightly than others. A graph in our submission shows that the big sectors, which include transport and agriculture, are going really slowly in terms of the 3 per cent a year changes that we need over the next decade and a half, whereas some of the small sectors are doing a lot more. We have not really found big gains in the big sectors where we would try to look for them. To be fair, transport has done almost nothing since 1990 or since the Climate Change (Scotland) Bill was passed in 2009, so the fact that it is now doing something is progress, but I would like to see it do a lot more. I hope that at the end of the four committees' scrutiny, the areas of transport and agriculture in particular will be tightened up.

Dr Rachel Howell (University of Edinburgh): I have not been working in Scotland for long, so I have not contributed to any scenarios. However, I have been paying attention to some of the stakeholder engagement processes that have fed into the plan—for example, the climate conversations that have been held with the general public.

One of the benefits of the plan is the use of the ISM—individual, social and material—model. It is a strong improvement on other models, which focus solely on rational choice, and I am glad to see that it has given more understanding of how social and material processes shape behaviour. However, I do not think that it is being used very well, and I hope that I will get a chance to return to that point when we come to discuss behaviour change.

As for outcomes and ambitions, the ambitions for behaviour change are very weak. The targets for some sectors, such as transport, are quite weak, because there is not enough use of

behaviour change ideas and too much of a focus on technological solutions in the plan. There is not enough recognition of how social and material factors shape and produce behaviour instead of just impacting on choices, and there is too much focus on individuals making deliberate choices, which does not reflect the whole of reality. Both the model and the climate conversations have produced interesting results that have not been fully taken up in the plan's design.

Fabrice Leveque (WWF Scotland): With regard to benefits and challenges, I echo what Richard Dixon has said about the TIMES model's providing a much more robust initial approach to defining sectoral envelopes and attributing effort between the different sectors of the economy. Where the plan is weak is partly a result of the process that has been gone through. There is a strong link between the envelopes and the policy outcomes, which describe the physical changes that we need to see such as the number of electric vehicles or fabric efficiency improvements to buildings, but the link between the policy outcomes and the policies that will bring them about is much weaker. For example, there is no information on the abatement that the policies in the plan are expected to produce.

It is hard to add up all the policies to see whether they equal the policy outcome and, in turn, whether that outcome matches the envelope for each sector. That is a big problem with the plan's credibility. A lot of focus went into the TIMES modelling, which was great, but unfortunately it is clear that less effort went into the part where we decide on the policies to deliver the changes that we need. That is one of the big challenges, and it has led to a missed opportunity. It is disappointing that the climate change plan was launched with no new policy.

10:15

The United Kingdom Committee on Climate Change has repeatedly told the Scottish Government that we need to hit future targets, strengthen our policies and introduce new policies, particularly in relation to heat, transport and agriculture and, in that respect, this seems to be a huge missed opportunity. When we add up all the plans in the climate change plan, we find that there is nothing new there for us to consider that might bring about some of the changes that we need.

Elaborating on that final point, I think that the plan describes big technological and social changes, but it is hard to see whether the policies will come about if we add them all up. That is partly a result of the process that the plan has gone through. A key weakness is the final stage, which involves decisions between different

departments and ministerial decisions about the kinds of policies that could be put into the plan.

Andy Kerr (Edinburgh Centre for Carbon Innovation): I am a co-director of ClimateXChange, Scotland's centre of expertise on climate change, and we were heavily involved with the analyst teams in the Scottish Government to support that work. That included a number of individual researchers across different institutions in Scotland. I was also on the TIMES advisory group as it was brought into being.

I echo the points that have already been made. In comparison with RPP1 and RPP2, RPP3 has contained a degree of rigour, cross-sectoral analysis and coherence that did not exist before. It has clearly forced ministers to have some difficult conversations, because they have not been able to get away from the fact that, if we do not deliver emissions reductions in one area, we will have to find them somewhere else. That has been a powerful and welcome change in approach. I am sure that we will come on to governance, monitoring and evaluation later on, but I will say that a lot of the building blocks are now in place to take that forward, which is good.

Echoing some of the other points that have been made, I think that it is inevitable that the type of modelling framework that we are discussing ends up looking like a technocratic approach. If we as a country are going to deliver 60 per cent-plus emissions reductions by 2030 and onwards, we cannot do that just by using technologies and a top-down Scottish Government approach. We have to build much more effective partnerships with cities, businesses and so on. That is what is missing: partnerships with the stakeholders who are going to deliver the measures. We will pick up on some of the issues around behaviour change later.

Mark Ruskell (Mid Scotland and Fife) (Green): My understanding is that, in other countries where the TIMES model has been used, it has been hosted by academic institutions, and it has therefore been possible for stakeholders to access it and perhaps to plug in their own assumptions or policy interventions. What has been your experience of engagement with the TIMES model in this particular setting, where it is clearly Government that holds and facilitates the model?

Fabrice Leveque: On the level of engagement that we have had in understanding the inputs, I point out that the value of energy models and such exercises rests mostly on the assumptions that we make about technology costs and the speed at which things are expected to happen. The Scottish Government has not shared a great deal of information with the outside world with regard to the inputs that went into the model and the

assumptions that have guided the outputs, and that is most apparent when we consider what is in the climate change plan itself.

The TIMES model has produced lots of information about expected abatement from new building regulations, improvements to energy efficiency and the roll-out of renewable heat. However, although much of that is in the model, it is not in the climate change plan itself. There is still some way to go with regard to sharing that information, which would make it easier for us to look forward to the changes that are expected and—to return to the monitoring aspect—to see the trajectory of change that we need and to monitor that against progress. The information in the climate change plan is currently so vague that it would be very hard to come back to it in a year's time and track what progress had been made.

Mark Ruskell: So the information is there and policy options have been fed into the model. What is not transparent is why they have been rejected.

Fabrice Leveque: That is right.

Andy Kerr: It is worth saying that the whole process of commissioning the TIMES model, making it stable and feeding in effective assumptions has taken up a huge amount of resources in the Scottish Government's analytical team and, as a result, it has not carried out the stakeholder engagement that it had hoped to carry out.

We have been working with the Government to bring some of those developing the model out on secondment to the universities to help the universities understand all the assumptions in detail and, as in other countries, allow them to start playing with the model, test the assumptions, push it hard and so on. That seems to be the next process. I hope that this committee, among others, can hold the Government to account on that—in other words, make sure that it happens. The intention is there, but it is fair to say that the Government has struggled resource-wise to deliver what it wanted to.

Richard Dixon: I agree with the previous comments. The climate change team and the analysts had the good intention of sharing more, but time has run away from them and they have not been able to do as much as they had wanted. At one point, they were talking about producing an online calculator version of the tool, so that people could plug in their own numbers. That might happen, but there has been no time to do it. It is, however, frustrating that we are discussing the draft plan with the committee without having the numbers or the opportunity, as Fabrice Leveque has suggested, to question the assumptions that have gone in. The bigger frustration for me,

besides not knowing what all the assumptions are, is that we have not seen the full outputs either.

The start of the plan shows graphs of where Scotland's emissions will be in each year up to 2032 as well as by sector. Each sectoral chapter says what emissions reduction is being aimed for, but there is no number attached to each policy. Clearly, the TIMES model has added up all the numbers to produce the overall graphs and numbers, but we are not being shown the numbers that attach to each policy. As has been suggested, that makes it hard for us to interrogate whether the numbers are credible; we might look at them and think that they are too small or too big and too ambitious.

We have secondary measures, such as the expected increase in the number of electric vehicles, but we do not have the carbon numbers to be able to tell whether the policy is credible and whether it will deliver that much. Consequently, year-to-year monitoring will be difficult. As has been said, the monitoring plan has been well thought out, but without the numbers, it will be hard to be able to say, "Yes, in this year we did this much on this policy and that is the right amount", because we will not know how much we should have done in terms of carbon numbers.

The Convener: We will now develop the issue of policy assumptions.

David Stewart (Highlands and Islands) (Lab): With regard to some of the bigger issues behind the assumptions, you will be aware that the European Union plays a crucial role; in fact, seven policies in the draft plan refer to EU policy. The fact is that you would need to be the Brahan seer to work out the detail of where we are going in Europe. What are your thoughts on making such large assumptions about an area that will be subject to what will, at the very least, be fragile negotiations?

Richard Dixon: You are exactly right—some brave assumptions have been made. However, the plan contains no real commentary on the danger of a particular assumption or why such an assumption has been made. In some cases, it is only possible for the Government to say that it will work with Europe, that it will try to work with Europe or that something helpful will come from Europe, but there should be some commentary on the risks involved in making the assumptions.

The key assumption relates to the transport sector. Obviously, other committees will look in detail at transport, but as an illustration of how the plan is put together, the top policy—in other words, the biggest policy and the one that is supposed to do the most—is on vehicle emissions standards. The plan talks about working with the EU and the United Kingdom. The current

standards come from the EU, and it is developing new ones. When we leave the EU—assuming that that happens—that discussion will be had with the UK Government, which might have talked to Donald Trump and have adopted rather poor emissions standards so that we can sell cars to America. There are all sorts of scenarios in which Scotland could be stuck with something that would not deliver at all on that policy.

Furthermore, we do not have the numbers to say how much it should deliver or any commentary about what happens if that scenario comes about, so you are right that the EU is—

The Convener: I am sorry, Mr Dixon, but I will play devil's advocate. A number of you have commented on the fact that the process has not been what you expected it to be, because officials were so caught up in doing the volume of work that they had to do. However, do you accept that had they done what you expected, we might have ended up with a document that was 360 pages long, which would have been even more problematic?

Richard Dixon: Yes, of course. I was only looking for a bit of commentary that says that Brexit is a risk and gives the areas of vulnerability and a little sketch of a plan about what might be done if something goes in the wrong direction because we leave Europe. I agree that people could spend ages on all sorts of scenarios that might never happen, but a little bit of commentary would have been helpful. When the minister is before the committee, you could ask her what Brexit means and what the contingency plan is.

Andy Kerr: The key issue for the Government in the past—and RPP1 and RPP2 both captured this—has been the traded sectors, and there is a question about the extent to which we will still play by the rules of the EU emissions trading scheme once we are out of Europe. That picks up on the point that Richard Dixon just made. I certainly agree that any critical assumptions ought to have been flagged, and they are not. However, equally, there is such a lot of uncertainty in this space that it would be difficult to say much beyond, "We think it's a reasonable assumption that we are going to have to retain European standards and frameworks, which our industry will have to operate within," in particular in respect of industry emissions.

David Stewart: Another large assumption is on carbon capture and storage. My colleague Mark Ruskell might wish to come in on this point, as well. Obviously, you are all aware that the United Kingdom Government in effect ceased the £1 billion of funding for that. Although carbon capture and storage is an excellent initiative, where will it happen in Scotland if that massive amount of funding is lost? How will we contribute to the plan?

Andy Kerr: One of my big concerns about the assumptions relates to the electricity sector. The assumption there is that, by 2027, we will have negative emissions, which implies that we will have biomass, or bio-energy, that is being both carbon captured and stored within 10 years. That is an incredible assumption.

We need to be aware that Scotland is not where the technology/innovation learning rates—in other words, what will bring the costs down—will happen, apart from in one or two sectors, such as marine energy; mostly, that will depend entirely on what happens in other parts of the world. Whether CCS becomes commercially viable within 10 to 15 years—in 10 years for the plan to work—will depend on whether there is the learning rate and the cost reductions from work that is done elsewhere, and I have my doubts about that.

The major cost reductions around the world in different markets are still in solar and onshore wind energy, battery storage and smart grids. That is where I expect to see the real benefits. We are not seeing benefits like that yet in CCS, so I think that the assumption is rather optimistic. Obviously, the TIMES model is driving that as the only way in which to find the least-cost path, but it depends on a bunch of assumptions about CCS being commercially viable by the late 2020s, which I think is unlikely.

Fabrice Leveque: I share those reservations about CCS and find it quite surprising that it would generate negative emissions. The plan relies on CCS to extract emissions from the atmosphere. It would be interesting to find out exactly why that has happened in the model. The rate is certainly far faster than bodies such as the Committee on Climate Change would recommend, and what is said suggests to me that, in going very hard on electricity to get negative emissions, less will be done in other sectors. Therefore, CCS is a concern from that point of view.

There is also a broader point. I go back to the credibility gap in respect of the climate change plan. CCS and electric vehicles represent external changes that are expected to happen in the wider world—the expectation is that they will come in and we will be able to ride off the back of them. The climate change plan rests a lot on such external technology breakthroughs, but there is very little new initiative to ensure that those technology innovations take place in Scotland and that Scotland is able to reap the benefits of them.

Unfortunately, it looks like CCS is giving a free pass to some sectors and like we are relying on external changes, whereas we could do far more with the technologies that we are able to do, such as energy efficiency and heat technologies.

10:30

David Stewart: It is quite clear that transport is one of the most worrying areas in relation to emissions; that has been shown in Richard Dixon's paper. Dr Dixon was quite critical of Transport Scotland—to paraphrase, he said something about car-loving and road-building Transport Scotland—and of the plan for having 40 per cent low-emission vehicles by 2032. He cited Belgium, the Netherlands, Germany and Norway as planning to have 100 per cent by 2025. Would Dr Dixon like to say a bit more about that? Presumably, over the next decade, transport will still be top of the emissions league, so we have to conquer that issue if we are to succeed in achieving future targets.

Richard Dixon: Yes, indeed. As others have said, I am convinced that we need to do more than just apply technical measures, but we do need technical measures. The standards for petrol and diesel vehicles that come from Europe—or, in future, from our own resources—are very important, and how we do on electric vehicles is very important.

I was disappointed to see what looks like a very unambitious number in the plan of 40 per cent of new sales being electric or ultra-low carbon vehicles by 2030. The UK Committee on Climate Change has recommended that we should be aiming for 65 per cent, so the plan is well below what our own advisers are telling us and, as I mentioned in my paper, there are several countries in Europe that are aiming much higher. Some of them, such as Norway, are much further ahead of us already, but some of them are in about the same place as us on the number of electric vehicles.

There are live discussions about by when 100 per cent of all vehicles sold in each country should be electric, with dates from 2025 to 2030 being discussed. In some cases, there are now real policies and not just discussions. Therefore, there are people in Europe who, for some reason, think that they can do much more than we do. If that is the Germans, the German car manufacturers will be brought in, which means that electric vehicles will appear on a large scale at quite cheap prices because of the scale. Indeed, it might actually be the German car manufacturers who drive the change in Europe, rather than anyone's policy.

It is a shame that we are not setting a very ambitious policy. I am not sure where the 40 per cent by 2030 number came from. Clearly it is a big improvement on the position today, but it is not as much as our advisers recommend and it is not as much as others are aiming for. We would have liked to see much more on that.

Dr Howell: I would add that not only are the targets not strong enough on the proportion of vehicles that will be electric, but it is not enough of a policy and it is actually inimical to other policies in the plan.

The transport policies seem to rely entirely on technological changes, moving to greener vehicles and encouraging people to take up active travel, with no recognition whatever that in order to get people to take up active travel, we need to have policies to reduce car use. The expectation is that we will reduce car use by encouraging people to take up active travel, but that is the wrong way round. There is an idea, expressed on page 162 of the plan, that

“becoming less reliant on a car will only happen if individuals change to walking, cycling, public transport and car sharing”,

but people will change to those modes only if they can become less reliant on cars. Therefore, as I am sure Richard Dixon would agree, this is not just about improving the targets for the number of energy-efficient cars; the assumption in the plan that there will be an increase in the number of cars will not work with other policies on transport.

Andy Kerr: Can I flag the sleeping giant here, which is air pollution? What we are seeing—particularly in other European cities, but we will see it in cities around the world, too—is people starting to assert that certain types of cars, particularly diesel cars, should not be allowed through cities beyond a certain period, for example after 2025. Big cities are starting to be very explicit about the need to move away from diesel and petrol.

That comes back to whether we are working properly with our cities, which have air pollution issues too, and working in partnership with local authorities to develop some of the more radical proposals that we are seeing in other countries. As Richard Dixon said, car manufacturers will respond to that very rapidly.

David Stewart: My final point—as I know the convener is conscious of the time—is on low-emission zones, for example in London. I am quite taken with the analogy between those and congestion zones, which bring in the income to ensure modal shifts—more buses and so on. There are plans for low-emission zones in Scotland, but the question is when those will happen.

Andy Kerr: Yes.

Richard Dixon: I will respond to that briefly. A number of measures exist. In the programme for government we have a commitment to a low-emission zone—the first one is to be somewhere in Scotland, in an urban area, by 2018. In the climate change plan, there is a commitment to add

a climate change dimension to that work, but there are other policies, such as workplace parking levies, that are not really in the plan but get a passing mention. Of course, no local authority can actually implement one of those policies without primary legislation, and there is no plan in here to provide that opportunity. The Government could legislate to give local authorities the powers—although that does not mean that any of them would actually do it—but there is no proposal even to do that.

In the Scottish Parliament information centre’s paper, there is a helpful summary of research on transport measures that was done in 2009. It shows that workplace parking levies are one of the cheapest things—in terms of pounds per carbon saving—that we can do in transport to get carbon reductions. They do exactly what Rachel Howell was suggesting: they discourage people from driving and, when they are going into the city and thinking about how they will do that, make them think, “I’ll have to pay a bit extra to park at work, so perhaps I will go on the bus or the train, or I will cycle.

Those kinds of measures are not in the plan in any meaningful way—they are not in as proposals that will happen—because, in order for them to happen, they would need primary legislation. They should be in the plan in a big way, but they are almost entirely missing.

The Convener: I guess that the measure that you have just articulated—being hit with a parking levy—also hacks people off. If I were to play devil’s advocate, I would ask how that influences the mindset of individuals to change their behaviours. It might prompt them to do it grudgingly, because it hits them in their pocket; but, overall, is it helpful to the direction of travel?

Richard Dixon: Clearly, there are winners and losers with any of these measures, but we need to change the way that we do things. That means that some people will not be happy while others find that they benefit from the changes. However, if the overall impact is that public transport is better and cheaper because more people are using it, most people will see a benefit.

The place in the UK where that has been done on a decent scale is Nottingham, which has raised enough money through a workplace parking levy to extend its tram network. People can see the very direct benefit: there is a new tram because some rich lawyer is now paying to park at his or her work. Therefore, there are probably some people we could pick on to pay who would not be very popular—[*Laughter.*]

The Convener: Members of the Scottish Parliament.

Richard Dixon: —but we do need to be careful of the social consequences of any of the measures in the plan. There might be details of a scheme that you would change, which would make it quite sophisticated, but, more broadly, we should be thinking about parking policies, workplace parking levies, low-emission zones and so on on a wider scale.

The Convener: It is useful to get that example on the record. That is very interesting.

Andy Kerr: To come back to your point, we are not in a static situation. In south-east Scotland, for example, we have another 60,000 to 100,000 homes coming in the next 10 to 15 years. If we think of the increase in induced transport from having another 100,000 people driving in and out of and around Edinburgh, for example, we can see the effect on congestion and so on. It is not as though we can just carry on as we are: we are going to have to rethink how we move people around and between cities. That is part of the wider package of measures that is needed.

Dr Howell: One of the findings from the climate conversations was that people are very keen on improving public transport. The Government has work to do to explain that doing that is part of changing the whole transport system.

The other important point to make is that there is a difference between policies being unacceptable before they are introduced and being accepted afterwards. The perfect example of that is the London congestion charge. If we were to look at a graph of attitudes towards it, we would see that before it was brought in, the majority of people were against it. As soon as it was brought in, the levels in the graph swapped over: the charge was accepted, although it had not been acceptable. I think that policies like the ones that we are discussing are likely to show that kind of pattern.

The Convener: Okay, good. Mark Ruskell has a question.

Mark Ruskell: On the back of that, to what extent have those policy options actually been put through the TIMES model and assessed for both their cost and their ability to reduce carbon and effect behaviour change? Another example is switching the default speed limit in residential areas in Scotland from 30mph to 20mph, which could have a big impact on reducing emissions at the tailpipe but could also incentivise active travel. Do we have the data on those types of policies to feed into the TIMES model? Has the model actually looked at those options?

Richard Dixon: As I have mentioned, the initial plan was for the TIMES model to include its own transport model, so that it would be able to suggest sophisticated transport choices. However,

because of time and complexity, that did not prove possible. It now takes input from Transport Scotland's transport model, which means that the level of sophistication of the policy analysis is up to Transport Scotland—and it does not look like that analysis is very sophisticated. What has been fed in is that, up to 2035, road kilometres driven will increase by about 23 per cent; however, over the past decade, they have increased only by about 4 per cent, so the assumption that has been made is already a very big one.

The document mentions workplace parking charges in a way that suggests that the policy was once in but has mostly been taken out—occasionally, it says that a policy might interact with the proposed workplace parking levies, for example. However, no one is proposing them; in fact, no one can, because the primary legislation that would let them do so has not been passed. Therefore, what has been suggested can never actually happen until the Government acts.

It is not clear whether any of those policies have been fed into the transport model that then feeds into the TIMES model or whether they have just been ruled out by Transport Scotland or have been deemed unacceptable in some political discussion and never actually modelled—we do not know.

The policies in the transport chapter of the document are almost entirely about technical fixes, new emissions standards and switching to electric vehicles, and there is also a very amusing bit about how more people cannot use public transport because there is not enough infrastructure. If you applied the same thing to roads, you would say, "Well, there's only so much road space, so there can't be any more cars because there isn't enough room for them." That is not the Government's approach, however; instead, over the next few decades, it is spending tens of billions on building lots more road space, so that there can be more cars. However, when it comes to buses or trains, that does not seem to be the approach; instead, the Government is saying, "Oh, well, they're limited by capacity, so we can't have any more." Such an approach is utterly crazy.

According to the information that we were shown at the stakeholder event in December about the starting assumptions going into the TIMES model—including the 23 per cent increase in car kilometres that I mentioned—the figure for buses was absolutely static; there was no change at all. Moreover, trains, walking and cycling did not appear on the chart, so there seems to have been no thinking about them.

I can assume only that the world that we are living in is that of 20 years ago, because 22 years ago, reports by the Standing Advisory Committee on Trunk Road Assessment and the Royal

Commission on Environmental Pollution both said, "If you build lots of roads, traffic will appear to fill them up." It is a self-fulfilling prophecy—a predict-and-provide way of running the world. That seems to be where Transport Scotland still is; it is saying, "There'll be this much development and this many more people; more people will have cars; and so we'll build more roads."

If you build more roads, more cars will appear and more miles will be driven. If you say, instead, that that is unacceptable—or ask, as Andy Kerr has said, where the cars are going to go on Edinburgh's congested streets, in Glasgow or in our other urban areas—you start from a very different presumption and you can ask how you can stop that happening: "What other things and what behaviour change can we invest in to ensure that we do not have 23 per cent more road kilometres being driven in 2025?"

We cannot accept such an increase, on climate grounds. It is just not good enough to say that there will be more electric cars or much nicer and tighter standards for diesel and petrol; we need to be braver and say that we are going to change how people make their transport choices. They will still be able to drive cars but, for many people, that will be the second rather than the first choice, because we will have changed the way in which we think about and do transport.

Fabrice Leveque: The discussion neatly illustrates one of the draft plan's key weaknesses, which is that the policies need—to borrow a horrible business acronym—to be SMART; they need to be specific, measurable, ambitious, realistic and time-bound. Those are the key principles that we would be looking for in any plan. If I was writing my own plan to show my boss how I was going to do my work, I know that he would be expecting to see some concrete timescales within which I would do things and the scale of the things that would be done.

In transport, for example, I note that the climate change plan contains some vague terminology about broadening out the scope of low-emission zones to consider carbon emissions, but it is completely indeterminate. We do not know when it will happen and there is no indication of the exact carbon impact that we should expect when we have the discussion. As far as trying to prove the plan is concerned, I think that we are heading towards a good idea in some of these specific areas, but we lack the fundamental information about when they will happen and what they will do.

10:45

To go back to Mark Ruskell's point, a lot of the information about these policies is out there, so it is well within the capabilities of the Scottish

Government to find out what the impact of a workplace parking levy would be and what a low-emission zone could do. There are good examples to use. For example, there is a proposal to use the low-emission zone in London to ensure that all single-decker buses are fully electric by 2020. That reflects the fact that electric buses are now almost cost-competitive with their petrol and diesel cousins, and it provides clarity to bus operators that operate throughout London that that is the kind of fleet that they will need to have. There are concrete examples that we could borrow. However, unfortunately, the climate change plan is worded in loose terms, with no specific outputs.

Andy Kerr: On Mark Ruskell's point about going from 30mph to 20mph zones, that is a classic example of a case in which it is difficult to identify the extent of the associated emissions reductions—the evidence is divided on that; but it is possible to say that there are lots of co-benefits from having slower traffic, such as the creation of more liveable cities and the encouragement of more active travel, because it is easier for people to get out and walk and cycle.

The TIMES modelling framework struggles to deal with cases involving that kind of complexity. The Government has flagged a number of additional papers that start to look at those co-benefits, but those issues need a lot of teasing out. A lot of the initiatives that we see in our cities and towns might have a co-benefit of reducing emissions, although their real benefits will be cleaner air, better places to live and so on. We need to get a read-across between optimisation frameworks, such as the TIMES framework, and the reality of what we are seeking. Work needs to be done on that.

Mark Ruskell: On residential heating and the future of the gas network, I note that the plan identifies that around 20 per cent of homes will be heated using low-carbon sources by 2025. However, the figure jumps to 80 per cent by 2032, which appears to be to do with something else being put into the gas network. What are your thoughts on the assumptions around those figures and the technological changes that are required?

Fabrice Leveque: We are pleased to see that statement of ambition on heat and a bit more description of the direction of travel towards 2032.

The penetration of renewable heat to 2020 is another example of the policy gaps that we have mentioned. There is no proposal to change any of the current policies in order to drive that change, but the trajectory to 2020 sees acceleration in delivery of those policies. My question to the Government is this: what will drive that increase in the speed with which we install renewable heating in homes when there is no concrete proposal in the plan to change any of the policies?

Mark Ruskell has also picked up that we are relying on a distant technological fix to deliver a huge amount of emissions reductions. The pathway in housing involves renewable heat building up gradually to 2020, then flatlining before suddenly accelerating to 2025. We have a couple of issues with that, the principal one of which is that it is not credible to say to industry right now that we are going to stop in 2020 and have five years of sitting on our hands before we start up again and transform most homes within seven years. Companies are looking for consistent gradual growth in the markets.

The second issue concerns how we decarbonise buildings. Before we change the heat source to something renewable, we first must change the fabric efficiency by improving insulation and installing insulation in walls and lofts. The residential pathway in the plan shows a slowing down in terms of energy efficiency—which is surprising, given that there is another imperative in respect of fuel poverty—and a long-term acceleration in renewable heat. There is very little policy detail; there is simply a proposal to have a proposal in the next climate change plan. Again, why wait three years to develop a policy that will be transformational?

Andy Kerr: I looked at the figures and talked to a number of folk about them, and they looked to us like a model artefact. In other words, the model is looking for cheap ways of heating homes; things change over time and it finds that suddenly something else is the cheapest thing, so it chucks everything into that space. That is why we see the steep rise. I think that that is more to do with the assumptions that are written into the model than it is to do with likely practice.

We have extensive plans on energy efficiency, but there is an assumption that there will be a fairly small reduction in demand for heat. That is almost the wrong way round. We expect that demand for heat will come down because we will be improving our buildings very substantially over the next 10 years, which will make it easier to deliver the low-carbon supply. The figures look more like an artefact of model runs than something that will actually happen.

Dr Howell: I will pick up on Fabrice Leveque's point about what drives uptake. That is a concern that I have about the approach that is taken in the plan as a whole. I get the impression that there is an assumption that one thing that will drive uptake of new technologies is public engagement policies making people more aware, so that they will make deliberate choices based on concern about climate change.

That has come partly from the findings in the climate conversations, in which people expressed concern and said that they want to do something

and that they want more information. It is important to make the point about such research that, when you invite people who do not normally talk about climate change to do so, you are, in a sense, inviting them to step into an alternate universe. The views that they give represent how they think and feel in response to the specific exercise of taking part in a climate conversation. I am not suggesting that they are in any way lying or misrepresenting their views—when people think about climate change, they are concerned about it and, in the moment, they genuinely want to do something and think that they want more information to do that.

However, people then step back into their own reality and lives. When we look at what people spend time doing and what they want to spend time doing, we see that finding information about climate change and what they can do about it does not figure at all. People go looking for information when they need it, in order to do things that they want to do. For example, people will not decide to take up low-carbon heating systems because of concern about climate change; a small proportion will, but the majority of the population will not. They will look for information about heating systems when they need a new heating system, and when other policies that change the structure of how we heat homes have an impact such that it is no longer a good choice to get an ordinary gas boiler. That is another example of how we need to change structures in order to drive the desire to do something different, and how we should not expect that simply raising concern and public engagement will drive uptake.

The Convener: Does that point not fail to take account of increasing awareness of the impacts of climate change? Over the past few years, we have seen more obvious impacts—for example, towns being flooded and areas that we know well being impacted on. Is there not a possibility that that will put momentum behind behaviour change and alter the current dynamic?

Dr Howell: There is definitely increasing awareness and concern. As I said, for a proportion of the population, that translates into action, but it will always be a limited proportion, and unless it gets high enough to change what is considered to be normal, the behaviour will not spread out: people do what is considered to be normal. If we can change the structures so that we change what is normal, people will follow that. We imagine that people either make a choice, or are unable to make a choice—either because they are coerced or because they do not have an alternative. However, it is important to recognise that there is a big area in between those two in which people do not make choices. That is quite hard to get one's head round, so I will illustrate by an example.

If I were to ask how many people in this room cleaned their teeth this morning, I would expect to hear that 100 per cent did. If I were to ask how many people deliberated about whether to clean their teeth and made a conscious decision to do so, I would expect that nobody did: we all cleaned our teeth as part of a routine. Many behaviours are like that—they are not choices, in the sense that they are meaningful. Teeth cleaning is a really good example of a behaviour for which, probably in our whole lives, we have never made a conscious choice, because we have been socialised into that practice from a very early age. A lot of behaviours that have an impact on carbon emissions—behaviours to do with water use, including toilet flushing, laundry, showering and bathing, and behaviours to do with transport—are not meaningfully chosen.

Claudia Beamish (South Scotland) (Lab): Good morning, everybody. In view of the remarks that have been made on assumptions, I wonder whether anyone has had the opportunity yet—I appreciate that it is still early days in the 60 days of our scrutiny—to assess any of the three evidence reviews of the potential wider impacts of the plan, and to assess how the reviews have or have not been taken into account. Having looked briefly at the transport review, I note that a lot of issues are raised that are not in the plan.

Richard Dixon: I have had a quick look at the transport review and at the strategic environmental assessment document. The transport document is useful in that it raises policies that are not apparent in the plan. The SEA is troublesome in that it does not talk about policies that might have been considered and eliminated right at the start, and why that happened. The SEA fails in what it should do, which is to explain why we have ended up with what we have ended up with, including explaining the alternatives that were considered, even briefly. There is a gap, particularly on the transport side, in transparency about what policies were considered and why they were ruled out from making it into the final plan. The two documents are useful, but the SEA would have been much more useful had it told us more about what has been eliminated.

The Convener: We are moving into the area of behaviour change, so let us have a look at that now.

Finlay Carson (Galloway and West Dumfries) (Con): We have heard an awful lot about behaviour change this morning and we have heard a range of opinions. What are your thoughts on the role of behaviour change in development of the plan? How should the Scottish Government build on its low-carbon behaviours work in finalising the document, and how can we move forward from what we have now? Where do

market forces come into it? You touched on electric cars and their impact, for example. Has that been considered with the behaviour changes that have been assumed?

Dr Howell: On the way that behaviour change has been considered in development of the plan, one of the things that stuck out for me was that the plan outlines—on page 29—key behaviour areas in respect of which there has been, in the Scottish Government, quite a long-standing ambition for behaviour change. However, many such areas are not reflected—or are only very poorly reflected—in the policies and proposals that are detailed later in the document. There seems to be a disconnect between long-standing ambitions and what is now in the plan.

I mentioned the ISM model, which is mentioned in the plan as having occasionally fed in ideas about behaviour change. The ISM model is a significant improvement over other behaviour models, but the plan still reflects the idea of deliberate behaviour choices. What is happening with the ISM model is that a good model has been developed, been used, but then forgotten. Data is gathered, but then the social and material aspects of the model are forgotten. For example, on page 165 of the draft plan is the example of an ISM consultation about use of heating controls. One of the issues that came out of that was that people find heating controls complicated and they want simpler designs, but all the suggestions at the end are about advice and information being aimed at individuals—it goes back to the idea of behaviour change based simply on information. There is nothing in there about encouraging different design of heating controls.

Similarly, page 87 mentions

“programmes that support people to overcome information, awareness, skills, confidence and attitudinal barriers to walking and cycling”.

Those are all individual barriers in the ISM model. There is nothing in the plan about the need to focus on making it objectively less dangerous to cycle, which is frequently raised as a problem. Data about all the different factors is collected, but the policies then focus once more on individuals.

11:00

The climate conversations also fed into finding out what people know and what they think. Given that a headline finding was that public transport is a consistently popular theme and there is strong support for improvements to it, I wonder to what extent those conversations have influenced the plan when, as we heard earlier, page 70 also says:

“Any behavioural switch from private to public transport is likely to be limited by capacity of the sector to absorb significant new traffic”,

yet there is no plan to increase that capacity.

It feels to me like there is a genuine desire to bring about behaviour change, but it is not being done coherently. The policies do not reflect the key behaviours and there is little ambition in certain areas. For example, there is very limited ambition for reducing heat demand, car use or air-travel demand. There is no ambition at all to reduce meat and dairy consumption, which would be part of key behaviour 9 because it would mean not only a more sustainable diet but a healthier diet—an example of co-benefits.

Finlay Carson: Is that because many of the targets can be met easily because of technological changes, and behaviour change is far more difficult to achieve? Is it that we can get acceptable outcomes by not doing much, so the behaviour targets are down the list because they are not the low-hanging fruit?

Dr Howell: That may be the perception about the technological changes, but it is an entirely wrong perception. As I already mentioned, focusing simply on making cars greener will have an impact on our ability to increase active travel.

Behaviour change can be difficult to bring about if we focus simply on trying to raise awareness and get people to make conscious choices because of concern about climate change. That is why it is not low-hanging fruit. If we look at the history of how practices change, it is clear that it can be very easy to change behaviours if we change the material and social structures that not only influence, but create them. If we make car use a lot less attractive and a lot more difficult, that will change people’s behaviours. They might not like it to begin with, but there will be a lot of co-benefits that they will like.

Finlay Carson is absolutely right about the perception that behaviour targets are not the low-hanging fruit. The way in which behaviour change is approached can make it difficult, but there is the great risk, in focusing on technology, that the Government will not achieve what it wants to achieve.

Further, there is a recognition in the plan that it matters what technologies people take up and to what extent technologies are adopted, but there is no recognition of the fact that it is also important how they use them. We cannot just put technology out there and have it magically do its own work; it is used by real people in their everyday lives. Technology is not just a simple solution that allows us to take people out of the equation. Often, we do not get the energy-efficiency benefits that engineers believe will be achieved with a particular

new bit of kit because people do not use it in the expected way.

The Convener: To allow us to make a lot of progress, I ask the witnesses not simply to endorse something that has already been said. If they have something to add, that is great.

Fabrice Leveque: We need a three-pronged approach to behaviour change: information, incentives and regulation. Policy makers have focused on technology change because it is often easier to regulate companies, because there are fewer of them and they are centralised. I will use an example. To be fair to the Scottish Government, it has put quite a lot of effort into domestic energy efficiency. Progress is being made on that, albeit that it is happening too slowly. Let us look at what the Government has tried to do on that. We have information: for example, a person who sells or rents out a house must provide an energy performance certificate that includes information to the householder about energy-efficiency improvements that they could make, as well as renewable heat.

However, we have not really tried incentives or regulation. For financial incentives, for example, we need to tackle the split between the landlord and the tenant. The landlord pays for the measures, but the tenant gets the benefits. We have to tackle that financial imperative.

Lastly, we need to use regulation. That might be difficult, which is probably why, despite being in RPP1 and RPP2, regulation as part of energy-efficiency proposals is still indeterminate and a date is yet to be fixed. Regulation would allow us to say that when a house is sold that is a perfect time to get energy improvements done, because the house is empty, and simply emptying the loft or moving the furniture are big barriers to making improvements. Regulation to say that people cannot sell a house unless it has a specific energy performance standard would tackle that problem; the standard would be agreed, and buyer and seller would arrange who will pay and when the work will happen.

We have provided the information and we are starting to think about the incentives, but there has been a lack of political will to push on regulation. In terms of what we could regulate on for climate change, I think that regulating on energy efficiency would bring an economic benefit. It is in most people’s interests to use cost-effective measures that make a house warmer, improve health and—from a social perspective—tackle fuel poverty. My call would be that we really need to do the harder bits, because we have not done them.

Andy Kerr: I come back to Finlay Carson’s question about market forces. We are going through quite extraordinary transformation in

markets. If we look around the world and ask what is the biggest transport company, it is actually a data company: Uber. We are starting to see a lot of big changes play into markets, including those that move people around, energy efficiency and so on.

Those are difficult challenges for a modelling framework to pick up, because they are as much about who takes up the technologies and how they use them, as they are about the technologies themselves delivering emissions reductions. I flag up that it is a difficult framework; we need to realise what is happening, identify where market forces work in our favour and think how to work with the delivery agents, including local authorities and local bus and taxi companies, as partners in developing a particular pathway. That approach picks up the social structures issue, rather than saying that we have an explicit example of an independent technology that will reduce emissions. The next few years will be challenging because the pace of change is so quick.

The Convener: I ask Dr Howell for her expertise on that. My question is not obviously about behaviour change. If a sector—let us take agriculture—is generally accepted to have contributed far less than it ought to have done in emissions reduction until now, what is the likelihood that continued emphasis on the voluntary approach and encouragement that has been applied will produce the improvements that we are looking for? Do we need to move more towards compulsion?

Dr Howell: We need both the bottom-up and the top-down approaches; I do not think that voluntarism will get us as far as we need to go. It can be a good start, but top-down regulation is probably more necessary.

The Convener: Let us look at monitoring, evaluation and implementation with Jenny Gilruth.

Jenny Gilruth (Mid Fife and Glenrothes) (SNP): It is clear that we need robust procedures to meet the targets set out by RPP3; there was concern about that with regard to RPP2. A large part of that process will involve the new governance body that will report direct to the Cabinet. I appreciate what Andy Kerr said at the start of today's committee meeting:

"Inevitably, the type of modelling framework ... ends up looking ... technocratic".

What are the panel's views on the role of the new governance body? How will it operate and, importantly, how will it engage with as wide a range of stakeholders as possible? Andy Kerr also spoke about the partnership relationship with stakeholders, and how to involve them and effect behaviour change.

Andy Kerr: I reiterate that I think that the monitoring framework that is proposed is sensible and clear. It is not there yet, but the building blocks are there to make it work—we were quite pleased to see what has been put down for that.

What is not clear to me is whether the proposed governance body will be entirely independent of and separate from the policy teams and have an independent viewpoint, or whether it will be a mixed body. Our view is that the body needs to be a mix of Government and independent viewpoints and that it should include key stakeholders, such as local authorities and business areas, to ensure that there is wider buy-in to and oversight of what is happening. There has to be a partnership process and it cannot be only a top-down process. Does that answer your question?

Jenny Gilruth: Yes, I think so, but I am interested to hear the rest of the panel's views on that.

Fabrice Leveque: The principles for the monitoring and evaluation framework exist, but the framework is fundamentally undermined by the lack of detail about what specific policies will deliver. I cannot imagine how we will go back and monitor the progress of policies if we have only vague words about making a change at some point in time. We are not talking about specific numbers of measures or timescales in which they should happen. That is an enormous issue for the framework, because without that information about policies, how will those concerned go about doing their job?

I am not entirely sure whether it should be the governance body's role to undertake the wider stakeholder engagement that needs to happen. There is a role for the Government in engaging with business and the wider public, which probably happened far too late in the current climate change plan process. However, that is more of an on-going role for the Government. We have a monitoring and evaluation framework because we have a climate change plan every year; we do not suddenly think about it every four years. However, for me, the jury is out on whether the governance body should have a wider role. The body has to ensure that we are delivering against the measures and actions that are in the climate change plan, or that we hope to see in the plan.

The Convener: Does the framework not create the opportunity for Parliament to be far more involved in the process? If an annual report is produced from 2018 onwards, there could be the opportunity for, or expectation that, each of the committees that scrutinise the climate change plan—and perhaps others—would dip into the report annually and hold the Government to account through that available mechanism.

Richard Dixon: I hope that that is the case and that the report will be more than something that just the committees will use. However, it is not clear what the status of the report will be or in what part of the cycle it will be published. Obviously, the Climate Change (Scotland) Act 2009 requires reports to be produced, including one every time that there is an annual target result. Will the new report be an appendix to such a report? That would be useful. Will it be published before the budget discussions so that it can inform those discussions in terms of whether, for example, policies are performing or have not even started because budget money is required for them?

I am sure that the new report will be useful, but its status is not clear. Will a minister stand up and release it by means of a statement in Parliament, where it will be debated? Will it simply slip out in committees so that we would have to spot it and do something with it? The report is potentially very useful, but we need more clarity on exactly when and in what form it will be released.

At last week's meeting, the committee asked the civil servants about the governance body and who will sit on it—that is not clear. The committee asked whether non-government organisations would sit on the body. I do not know whether the civil servants have answered you in writing yet.

The Convener: Not yet.

Richard Dixon: Okay. Again, though, we need clarity on what the governance body's remit will be and whether it will replace the internal group on which James Curran was an external person and which has not met for a long time. Will the governance body replace the Cabinet subcommittee, given that there is no commitment that the subcommittee will continue to exist? If so, do we think that the governance body is up to the job of replacing a Cabinet subcommittee? A Cabinet subcommittee certainly sounds a powerful thing and we were all pleased when it was created a couple of years ago.

The Convener: To go back to my earlier point, if we get to a position—I accept that it is an “if”—whereby the parliamentary committees view dealing with the annual report as a fundamental part of their work, organisations such as Friends of the Earth provide written submissions to tell us what they think of the figures and we hold all the cabinet secretaries to account, would that not open up a far better way of moving forward on the process?

Richard Dixon: I think that it would. We are all enthusiastic about the report, although we need more detail about it. Like you, I hope that parliamentary committees will embrace the report. I am sure that this committee will, but I hope that

other committees that scrutinise the climate change plan will also feel that they have ownership of the report and will want to come back to it.

Dr Howell: Going back to Jenny Gilruth's question about governance and engaging with a wide range of stakeholders, I want to comment on what more would need to be included if our recommendations about more ambitious behaviour change policies are accepted. It is very important that there is a continuing conversation with the general public. A climate conversation should not be a one-off intervention; there should be a continuing conversation with people who would not necessarily respond to written consultations. Among the questions for the Government would be whether it can be seen to adapt policies in response to feedback from the people on whom they impact and whether it can listen and learn on those policies.

11:15

The Convener: When it comes to feedback from people who are not the usual suspects, how important is it that we engage with young people on the formulation of such plans? Last week, the committee had a session with groups of young people from across the country with an interest in climate change, but it strikes me that the process does things unto young people—we lay down proposals and policies for 20 or 30 years' time that will impact more on them than they will on many of us. Are we coming up short in that regard?

Dr Howell: It is absolutely essential that policies engage with young people and that young people are allowed to shape at least part of the agenda. It should not be the case that only questions that the Government wants answered go to young people; they should be asked to tell the Government what they want to say. Young people are really concerned about climate change, but they are also locked into ways of life that, in some areas, are particularly high carbon. For example, 20 to 29-year-olds are the group who are most likely to take flights. They are living in a world that has been shaped by an older generation. I would not say that they despair—the young people I teach tend to be quite hopeful; in fact, a lot of the time they are more hopeful than I am—but there is a certain level of frustration with what they perceive as a lack of engagement.

I think that there definitely needs to be more engagement with young people, but I stress the importance of allowing young people to partly shape the agenda. For example, just yesterday I spoke to a very engaged student of mine who is going to run a climate conversation. She has the template to run it, but she said that quite a lot of the questions were just not relevant to students.

What is the point of asking certain questions of people who do not own their own homes and have no capital? We must not just ask young people questions but must allow them to shape the dialogue.

Andy Kerr: In Scotland, we are very lucky, because we have a whole series of groups such as the 2050 group, which I think the committee met last week, that are creating amazing networks in different cities. In that sense, we have everything that we need to engage much more effectively in future.

The Convener: The question is how we engage more effectively.

Andy Kerr: Yes, it is. Because of the way in which it has been framed, it has been something of a top-down system. Again, I ask Parliament to hold the Scottish Government to account. The climate change plan will be delivered only if we work in partnership with young people, local authorities, certain business sectors and social enterprises. When it comes to whether it will work, that is the determinant. The committee needs to ask the Government, "What are you doing in this space?"

The Convener: Thank you for that.

Emma Harper (South Scotland) (SNP): What suggestions do you have for further engagement with stakeholders? I am thinking of groups such as Young Friends of the Earth. Richard Dixon, how would you engage with young people through that? Andy Kerr mentioned engaging with businesses and said that we should not just follow the technocratic model. I am sure that each of the witnesses probably has ideas on how we can further engage with people.

Richard Dixon: I received a very good report back from Young Friends of the Earth about the meeting that the committee held last week on stakeholder engagement, particularly with young people. It was extremely positive about that. That was the beginning of a journey, and the members of Young Friends of the Earth are very willing to engage in that process. That meeting was about how to engage rather than what they thought of the climate plan. They are perfectly capable of writing a response to tell the committee what they think of the climate plan, as anyone in Scotland is entitled to do.

Having more structured engagement with the members of the group that the committee met last week on what they think of the plan and—as Rachel Howell suggested—letting them devise some of the questions would be a really good start in the committee's process of accelerated engagement with young people. After all, the climate change plan and the forthcoming climate bill are two of the things that Parliament is doing

that will most affect young people—they are the things with the longest horizons that will have the most impact on their lives. As the committee is aware, it is absolutely essential that you make sure that you do that well.

The Convener: I turn that back on you and ask, "Do you practise what you preach?" It was suggested to us that Young Friends of the Earth had not had its views sought on the submission that Friends of the Earth made on the climate plan.

Richard Dixon: You are right. Young Friends of the Earth Scotland is a very young body within the Friends of the Earth network in Scotland. We were in a hurry to put something in, and Young Friends of the Earth was not part of the loop. We need to do better on young people too.

The Convener: Thank you for that confession.

Andy Kerr: An example of where there needs to be much better engagement is the city deals. Both the UK and the Scottish Governments are investing heavily in cities across Scotland. The city deals are putting in housing and digital and transport infrastructure that will operate in a zero-carbon world in 20 or 25 years' time. The extent to which those deals are thinking about, engaging with and writing in the type of agenda that we are talking about is very unclear. There is a real opportunity to sit down and work with the teams, city authorities and city regions that are developing those plans.

Those plans are about getting investment from the Government but also about leveraging in private sector money and developing jobs in particular areas. Engagement with business comes from a lot of the major infrastructure changes that we will be looking at over the next few years.

Similarly, there is a lot of talk in the energy efficiency plan about the £500 million that has been allocated for energy efficiency, but, to deliver the sorts of changes needed for 2.5 million households, a lot of private money will be needed. There must be engagement with businesses that are developing expertise to service that need, and also with individuals. That will determine whether the plan will work or not.

There are particular points for engagement over the next year or two with groups that have not been engaged as well as they might have been. That is a key issue, given that we are talking about putting in infrastructure that will operate for 20 to 30 years.

Fabrice Leveque: To engage young people, we need to talk about the vision and the positive benefits of the changes. Inevitably, it becomes a technocratic exercise about the number of lofts

that you insulate and the number of electric vehicles.

Messaging that really works and that is starting to be reflected in the climate change plan, is to talk a lot more about cleaner air, renewed cityscapes and the industries of the future. That is a vision that younger people and the wider public engage with. The climate change plan has to set the direction of travel: people want to know what the future is and what we are going to do once we are off fossil fuels.

In terms of business, Andy Kerr is right that we need to think about the economic opportunities, and the way that you engage business is to frame the plan as an economic strategy, with a host of incentives and regulations that will change some markets and create new opportunities.

There is a lack of seizing the benefits in this climate change plan, particularly in the areas in which Scotland has an advantage, such as domestic energy efficiency, renewable heat and things such as heat networks and electric heat pumps. They need to do much more to engage that industry and frame the plan as an opportunity, rather than thinking, "We will do a few changes round the edges, but essentially it is business as usual."

Dr Howell: It is also very important to engage people in conversations in the context of what they are interested in. For example, there must be initiatives to engage young people in deprived neighbourhoods in conversations and plans about how to improve their neighbourhood. That would be a place to have a conversation about a transport plan.

Rather than invite people specifically to climate change conversations, take the opportunity to talk about climate change where people are talking about health, neighbourhoods or whatever. Pretty much any conversation can also produce good data and ideas about aspects of a climate change plan.

Finlay Carson: Should the stakeholder group be increased, so that we are not just looking at Young Friends of the Earth or youngsters who are already involved in climate change topics? We spoke to young farmers as well. Climate change is very important to them, but ultimately their day-to-day job of earning a living off the land is their priority. In inner cities, transport is the driving force for young people on low incomes.

Do we need to look at a far wider stakeholder group to get the engagement, rather than just those that are already involved in climate change topics?

Dr Howell: Yes.

The Convener: That was short and sharp—thank you.

Emma Harper: I will continue with the stakeholder engagement theme. Finlay Carson has talked about young farmers. I am interested in farmers in general. The draft climate change plan uses language that is not definitive. It talks about "most farmers" and "many farmers" and says that "we expect" rather than "we require". There has been discussion about whether the work that farmers should do should be compulsory or voluntary. Does their role need to be enhanced? Should different language be used in the plan?

Fabrice Leveque: You are absolutely right. We have set out the criteria by which we judge the draft climate change plan. I will not go into them all, but they include match criteria and whether the proposals are measurable and achievable. Agriculture is the one area where the proposals fail them all.

I will give you an example of the woolly wording. One of the policies—I think that it is a policy—is:

"Farmers ... are aware of the benefits and practicalities of cost-effective climate mitigation".

They are "aware". That is it. We have no idea what they might do with that information, when they might do things or what benefits those actions might have.

There is a table in the agricultural section on useful milestones, which sets out the policy change over time. The same policy changes are repeated over the whole decade. There is no quantified change in how many farmers are doing things such as soil testing or are more aware of the nitrogen budgets. Agriculture is one of the areas that really need to be tightened up.

Andy Kerr: The other point that I would flag up is that we know that it will be a hugely challenging period for those in the agriculture sector. Take the sheep industry as an example. If farmers lose access to the European market, will they retain the subsidy? Such a period of spectacular change, which could be really challenging for the industry, is surely the time to engage with them to say, "We know things are changing. We don't know exactly how it's going to pan out, but within that, we can't carry on as before." We need to ask what the vision is that will deliver not only RPP3, but ensure that the farmers have markets and jobs, so that that gets tied in to being part of the conversation. As Dr Howell said, there should not be a separate conversation with the farmers, which is what there has tended to be to date; rather, it needs to be made clear that the issues are core to the future of the sector.

I echo the point that the language is woolly. The big challenge with agriculture is the vast number of

people in the sector. It is rather like dealing with small and medium-sized businesses, because each farmer is their own business. It is a real challenge to get them in a group, but if there is an existential threat to the industry because of all the change that is happening, that is when you can capture their attention and talk about what vision will also work for them.

Dr Howell: I hesitated when Emma Harper asked that question, despite the fact that I have been saying that we need more regulation.

There are places in the plan where it might be appropriate to replace words such as “expect”, “hope” or whatever with “require”, but I am also trying to get across the idea that there needs to be more in the plan that is not about expecting individuals to do things. When it comes, for example, to transport, I am not suggesting that we need more language that says that we will require more people to choose cycling over car use. Rather, we need more language that says that we will use city planning regulations, or bring in new regulations that will change a situation in which car driving dominates as a practice. Yes, stronger regulation is needed, but it need not all be focused at individuals.

The Convener: Richard Dixon made a perfectly valid point about the tight timeframe that we have for scrutinising RPP3 and the challenge that that presents to the witnesses’ organisations in getting a submission in. Should the forthcoming climate change bill amend the Climate Change (Scotland) Act 2009 to allow stakeholders and young people to have more of a say and the Parliament to have more time to scrutinise the policies by the time we get to RPP4?

11:30

Richard Dixon: Yes—that would be sensible. The TIMES model has taken more time than expected, and there were good plans that it was not possible to realise because we were running towards a deadline of getting the RPP in front of you; indeed—with your agreement—it came to you late, although that was perfectly sensible as it allowed more time for it to be finished and gave you the full time for scrutiny.

The fact that you have a short timescale in which to look at the RPP is frustrating for those who wish to feed in views. I have no doubt that it is also frustrating for you, in terms of the depth that you will be able to go into in certain areas and the inquiry that you will be able to make of ministers, civil servants and stakeholders. It would be wise if the new bill looked at that issue; it would also be helpful to build into that scrutiny some stakeholder component, or at least the space for such a component, even if it is not spelled out.

Dr Howell: The current consultation with experts is a bit thin. Being here as a behaviour change expert, I feel a lot of weight on my shoulders. I realise that there is a public consultation and that people can write in, but, in the future, it would be a good idea to have a process whereby the committee can specifically seek the views of many more experts. I know that other committees are asking more experts. In particular, there are experts from outwith Scotland. There are plenty of academic experts who have useful views on issues such as behaviour change that are not specific to Scotland. I have obtained views from another expert, whose opinions I trust, which has informed what I have said today, but I have not had time to seek wider views. If the committee needed more time to approach more experts next time round and to look outwith Scotland, that time could be built in.

The Convener: The UKCCC recommended that the Scottish Government should consider directly involving a behavioural scientist in all its work on climate change. That is a fair point.

Let us move on to consider how the plan might be improved.

Claudia Beamish: There has been a lot of valuable comment this morning about specific ways to improve the plan, and those points have been noted. Beyond those examples, and in parallel with them, I highlight the example that I gave in committee last week. In response to the concerns that I raised about the lack of information in the plan on blue carbon, Scottish Government officials agreed to consider the issue further and noted that

“the scrutiny process should throw up things that we are required to do more on and to look at further.”—[*Official Report, Environment, Climate Change and Land Reform Committee*, 24 January 2017; c 38.]

As we come to the close of this evidence session, I ask you whether there are other specific areas that are not in the plan and whether you have comments on blue carbon, on which there was a small box in RPP2. To put you all on the spot, I ask you whether there are issues that you think should be considered further.

Fabrice Leveque: That is a really good question. The committees have an important job to do in improving the climate change plan. You will have heard many criticisms today but, from our perspective, the most important things to retain include ensuring that we use the process to drive actual change.

For example, on domestic energy efficiency, we have been told for a year and a half that a new infrastructure priority is on the way and that more detail will be forthcoming in the climate change plan, yet the detail in the plan does not talk about

regulation or say when that might happen. We know that funding has been frozen to 2021. A great outcome would be obtaining more information from the Government on what the energy efficiency programme must deliver to address climate change as well as fuel poverty.

In the transport sector, there needs to be more focus on issues such as what details we have and when things are going to happen with demand-side measures, low-emission zones and workplace parking levies. The detail in the plan is too scant and too vague. We do not know if we will have conversations about those policies in the coming years, or if we will be talking about the same proposals once again in relation to the next climate change plan.

Dr Howell: At the risk of repeating myself, the three things that I think should be in the plan are proposals to directly reduce car use rather than just seeing that as a benefit of increasing active travel; proposals to reduce demand for air travel; and proposals to reduce meat and dairy consumption.

Richard Dixon: I agree with the other panel members, but I add that there should be a good questioning of the big assumptions in the plan. For instance, we have raised the issue of Brexit. We need to ask what it will mean and what the contingency plan is. There is an assumption that there will be new standards that make vehicles cleaner. However, we should learn from dieselgate that, even if there are standards, they might not work, so there is an issue of credibility, even where there are numbers.

The key thing for committees of the Parliament is to ensure that, in future, you have enough information so that, when you interrogate the annual reports from the monitoring and evaluation exercise, you can tell whether we are on track, whether we are spending the money in the right places and how much money we need to spend next time to get us on track or to keep us on track. Those are the key details for members of the Parliament to have to ensure that Scotland stays on track to deliver, but you do not have that information in the draft plan. Getting more detail in the plan will help you to do that in future.

Andy Kerr: Sorry, but I cannot comment on blue carbon.

To me, it is all about deliverability, and that cannot be achieved in a top-down way; it has to be done in partnership. The question is whether the partners not only understand but actually buy into the process. Are they taking forward measures and thinking that those are good because they will support their own areas?

Another issue is about reducing misalignment of resource spend and reducing lock-in. A third issue

is that behaviour change cannot be just an add-on. It is about how we structure our society to deliver all the benefits that we want, including jobs and a good economy, but in a low-carbon way.

Those three things are touched on in different parts of the plan, but it would be nice if they were absolutely explicit, because they are at the heart of whether we actually achieve the targets.

Mark Ruskell: One area that is not considered in the climate change plan or the energy strategy—because it is subject to a separate consultation—is fracking and the future of unconventional gas. How much of an impact could a decision either way have on the success of the plan and the policies in it?

Richard Dixon: We hope to see a fracking consultation launched this week, after which there will be four months for everybody to express their views. At some point, there will be a Government proposal that will come to Parliament for a vote, perhaps in the autumn. Of course, Claudia Beamish has proposed a bill that would ban fracking. We are pleased that neither the climate plan nor the energy strategy includes fracking or assumes that it will go ahead. Even though there has been no official Government decision, fracking is not included in either document. Although we cannot see all the numbers, the numbers that we can see add up to delivering Scotland's targets and a pretty sensible energy strategy, and that is without fracking or new nuclear. For us, two of the highlights of the energy strategy are that fracking and new nuclear are not in there.

We know from the research on fracking that the Scottish Government commissioned that the resource in Scotland is pretty small so, if fracking were to go ahead, there would be a lot of political upheaval and bad feeling for what would be a very small amount of energy. We would be disappointed if, at the end of the process, the fracking consultation process ended with a vote in Parliament to proceed with fracking, because that would take us in the wrong direction and it would increase carbon emissions.

The industry tries to argue that fracked gas is low carbon, but that only really works if it displaces coal in power stations, and we have of course closed both our coal power stations, so fracked gas would be competing with renewables or distracting us from energy efficiency, which are the areas where we should put our effort.

Dr Howell: I have two points. One is that fracking would lock us into unsustainable technologies for longer, and the other is that, in terms of public engagement and people's attitudes, what the Government does matters. Public opinion is generally behind wind power—even though locally there might be protests—and

it is generally anti-fracking. A decision by the Government in the opposite direction would lead people to believe that it is not serious about certain targets. People are influenced by that. They say things such as, "Well, if the Government were really serious about it, they would be doing this, that and the other and, if they are not, that obviously means that the problem is not that great." Therefore, permitting fracking would have an impact on how urgent and important people think it is to develop a grid that is entirely powered by renewables, for example. I think that it would make a difference to the structural things that we have talked about and to attitudes.

The Convener: You make the point that people are behind wind power. It is most unfortunate that offshore wind has been undermined by an environmental organisation mounting a legal challenge.

Andy Kerr: I think that I am on the record in front of this committee as saying that I am less worried about where the gas comes from and much more interested in what we do with it and whether we can reduce our demand for it. I am actually fairly relaxed about whether or not we frack.

The bigger issue for the committee is how we deliver low-carbon heating going forward. One option, which is being tested in Leeds, is to use hydrogen in the gas grid. To get the hydrogen, we are likely to crack methane to create it and then have carbon capture and storage. That is one of the options on offer and it is flagged in the energy strategy. Sometime in the next few years, we will reach the point at which we will have to decide whether we go down that route or the other route, which is local energy systems. I would have liked the energy strategy to have addressed more explicitly things such as the decision points for what we will do as a country: will we go down one route, which will rely on cracking methane and using hydrogen in the gas grid as a way of delivering low-carbon heating, or will we go down a very different route around low-carbon local energy systems?

Bluntly, if we go down one route, fracking has no future, and if we go down the other, it has a future, because it will support the local source of methane, which is cracked to create hydrogen. The decision will not be made now, but it is the sort of thing that the energy strategy flags as something that we need to think about collectively as a country.

The Convener: Maurice Golden has a final supplementary question.

Maurice Golden (West Scotland) (Con): Given the opposition to fracking that some panel members have expressed, would they also

advocate—from a climate change point of view—closing or drastically reducing our oil and gas production sector?

Richard Dixon: Obviously, the industry talks about North Sea oil and gas having a long future of 40 or 50 years. We would like to see the sector having a much shorter future—not ending tomorrow but in 10 or 15 years' time. Of course, as part of that we are already working with the unions, talking about a just transition and about planning the transition very carefully, instead of having a crisis when the industry shuts with no jobs there. That means working with the unions, the workers and the industry so that there are jobs for people to go to. The North Sea industry is already in crisis and losing lots of jobs, so this is the time to create alternatives and to make the transition happen.

Clearly, as a country that has very strong climate aspirations, it would be morally troublesome if we were very low carbon in future but still produced lots of oil and gas that we sold to other people so that they could create climate change.

The Convener: Are we content to leave it there?

Fabrice Leveque: We have not discussed the emissions from production and refining. The Committee on Climate Change did an analysis of the extra emissions that would come from the fracking process itself. Without strong regulation to ensure that there were no fugitive emissions, we would be talking about millions of tonnes of additional CO₂, which would mean that other sectors would have to reduce emissions by additional millions of tonnes. If we increase fossil-fuel extraction, we will have more emissions, which means that we will have to go harder and faster in transport, buildings, agriculture and everywhere else. Those impacts are one element that is missing in all this. Especially as we move beyond 2030, when emissions will have been drastically reduced, those residual emissions become quite important. When we face difficult decisions in other sectors, we need to think about the long-term impacts of what we are locking ourselves into as we head towards 2050.

The Convener: Thank you all very much for your time this morning. The evidence session has been very useful; I hope that you have found it useful too. I suspend the meeting briefly.

11:44

Meeting suspended.

11:51

On resuming—

Petitions

European Beavers (PE1601)

The Convener: Item 3 is two petitions, which we will consider in turn, starting with PE1601, on European beavers in Scotland.

The committee considered the petition at its meeting on 25 October 2016 and agreed to write to the Cabinet Secretary for Environment, Climate Change and Land Reform about the timescale for the decision on the legal status of beavers. The decision to allow the beaver populations to remain in Scotland and to extend protection under the law to the beaver as a European protected species was intimated to the committee on 28 November 2016. The committee has followed up the issue by writing again to the cabinet secretary to ask when the protection will come into law and what interim measures are in place. The petitioner has indicated that he sees no reason for the petition to continue now that a decision has been taken, although he would like the committee to continue to scrutinise that work.

I refer members to the papers and invite any comments.

Mark Ruskell: I would be content to close the petition, on the understanding that an order will come to this committee at some point. I would like early sight of the strategic environmental assessment that covers that order, so that we are aware of how the Government has considered the issue.

The Convener: We could write to the Government along those lines, to indicate that we would like early sight before the instrument comes to the committee.

As no one else has any comments, are we content to close the petition, with the caveats that we have just discussed?

Members *indicated agreement.*

Game Bird Hunting (Licensing) (PE1615)

The Convener: PE1615 is on a state-regulated licensing system for game bird hunting in Scotland. It has been referred to the Environment, Climate Change and Land Reform Committee following scrutiny by the Public Petitions Committee, which took evidence on the issue from stakeholders. Paper 4 outlines the scrutiny by the Public Petitions Committee and suggests some of the options that are available to this committee. Members may of course wish to suggest alternative actions.

I refer members to the papers and additional evidence that we have received and invite comments on the issue.

Kate Forbes (Skye, Lochaber and Badenoch) (SNP): I am in favour of inviting the petitioner to give evidence to the committee, with a view to the committee discussing whether we need to invite other stakeholders after that session.

Claudia Beamish: I take a slightly different view from that of Kate Forbes. In view of the fact that we are awaiting information on the European research, it might be helpful to write to the cabinet secretary to ask when that will come. Once there has been a brief time for the petitioner and the range of stakeholders to consider that information, it might then be appropriate to invite the stakeholders and the petitioner to give evidence.

Alexander Burnett: First, let me note my entry in the register of members' interests relating to shooting.

The petition seeks to address wildlife crime. Given the number of on-going activities on that issue, I propose that we dismiss the petition until such time as those other activities are exhausted. We have still to report back on the wildlife crime report, particularly with regard to the effectiveness of current penalties and investigation protocols, and I also contend that those who shoot are already licensed by the extremely rigorous shotgun and firearms regime. Furthermore, vicarious liability, which was introduced just five years ago, extends responsibility to those who would require the state licences that are proposed by the petition. Unless the Scottish Government has plans to regulate in this area, I see no reason to consider the petition further. However, I support Claudia Beamish's suggestion that we write to the cabinet secretary for clarification of any further intentions in this area.

The Convener: To be clear, are you saying that we should dismiss the petition or delay consideration of it?

Alexander Burnett: I think that the petition should be dismissed at this stage.

Mark Ruskell: I certainly would not favour dismissing the petition, because I think that it considers multiple issues, with wildlife crime being only one narrow aspect. I back the call to write to the cabinet secretary to try to get more definition of the word "shortly" in his indication that international research on licensing will be produced "shortly". In that letter, we need to identify an indicative timescale for when this committee will consider the petition. I would not like us to get hung up on the definition of "shortly". For example, if we were ready to go on this in March, that would give the Government enough time to respond and, hopefully, issue the

comparative study that will be important for our ongoing understanding of how licensing systems can or cannot work.

The Convener: I must say that I am tempted to go along with Mark Ruskell's suggestion. Do other members have views?

Angus MacDonald (Falkirk East) (SNP): I agree with Mark Ruskell's suggestion and would be against dismissing the petition at this stage—that would seem to me to be extremely unfair. I agree that we should write to the cabinet secretary for further information.

The Convener: You are, of course, a member of the Public Petitions Committee, which passed this petition to us.

Angus MacDonald: Yes; I should have declared that.

David Stewart: I think that Mark Ruskell makes a fair point. I am totally opposed to closing the petition at this stage. It would be useful to write to the cabinet secretary along the lines that we have discussed.

The Convener: We have a divergence of opinion in the committee, so I would like to hear some more views.

Emma Harper: People have contacted me about issues around the matter that the petition is concerned with, so I am in favour of inviting the petitioner and/or other stakeholders to speak to the committee, so that we can explore the matter further.

Kate Forbes: The reason why I suggested that we invite people to speak to us in the committee is that I am keen to give the matter the attention that it deserves. However, I support the timeframe that Claudia Beamish has set out.

The Convener: We have two proposals. One is to dismiss the petition completely at this stage; the other is to write to the Scottish Government to seek information and to invite the petitioner and, potentially, stakeholders to speak to the committee at a date that is not too far in the future.

Maurice Golden: Given the mood of the committee, it would be sensible for us to write to the cabinet secretary, as has been suggested, and consider further options once we have a response from the Scottish Government.

Claudia Beamish: We should be sure that we highlight the need to receive the information from abroad as soon as possible. However, from my previous experience of issues such as concerns around goose numbers, I would say that we should not wait for every country to respond. I highlight that because we could end up being involved in quite a long process and I agree with

Mark Ruskell's point that we need to act quite quickly.

The Convener: Are we content to proceed on the basis of what has been outlined?

Members indicated agreement.

The Convener: To summarise, we will write to the cabinet secretary to seek the information that has been discussed, working to a timeframe whereby March is roughly when the committee will come to firmer conclusions on the action that it wishes to take.

Finlay Carson: Will that encompass information on how current legislation is working with regard to the outcomes that the petitioner is looking for? Will we get further evidence on what is already in place?

The Convener: Do you mean the measures that Mr Burnett talked about? Are you suggesting that we ask about the Scottish Government's views on how the other measures, such as general licensing, are working?

Finlay Carson: Yes. We should ask how the current legislation is being implemented.

The Convener: Okay; that seems a reasonable point to make. I think that we have agreed a way forward on that.

At our next meeting, on 7 February, the committee will take evidence from stakeholders on the Scottish Government's draft climate change plan, RPP3, with regard to resource use, the water industry, the public sector, peatlands and land use. The committee will also consider draft letters to the commission on parliamentary reform and to the Culture, Tourism, Europe and External Affairs Committee.

As agreed earlier, we will now move into private session.

12:01

Meeting continued in private until 12:51.

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