



The Scottish Parliament
Pàrlamaid na h-Alba

Official Report

RURAL AFFAIRS, CLIMATE CHANGE AND ENVIRONMENT COMMITTEE

Wednesday 6 November 2013

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RURAL AFFAIRS, CLIMATE CHANGE AND ENVIRONMENT COMMITTEE
32nd Meeting 2013, Session 4

CONVENER

*Rob Gibson (Caithness, Sutherland and Ross) (SNP)

DEPUTY CONVENER

Graeme Dey (Angus South) (SNP)

COMMITTEE MEMBERS

*Claudia Beamish (South Scotland) (Lab)

*Nigel Don (Angus North and Mearns) (SNP)

Alex Fergusson (Galloway and West Dumfries) (Con)

Cara Hilton (Dunfermline) (Lab)

*Jim Hume (South Scotland) (LD)

*Richard Lyle (Central Scotland) (SNP)

*Angus MacDonald (Falkirk East) (SNP)

*attended

THE FOLLOWING ALSO PARTICIPATED:

Claire Baker (Mid Scotland and Fife) (Lab) (Committee Substitute)

Bob Irvine (Scottish Government)

Helen Mansbridge (Scottish Government)

Jamie McGrigor (Highlands and Islands) (Con) (Committee Substitute)

Neil Ritchie (Scottish Government)

Paul Wheelhouse (Minister for Environment and Climate Change)

CLERK TO THE COMMITTEE

Lynn Tullis

LOCATION

Committee Room 2

Scottish Parliament

Rural Affairs, Climate Change and Environment Committee

Wednesday 6 November 2013

[The Convener opened the meeting at 10:00]

Subordinate Legislation

Bee Keeping (Colonsay and Oronsay) Order 2013 (SSI 2013/279)

Loch Sligachan, Isle of Skye, Scallops Several Fishery Order 2013 (SSI 2013/280)

The Convener (Rob Gibson): Good morning and welcome to the 32nd meeting this year of the Rural Affairs, Climate Change and Environment Committee. Please switch off your mobile phones as they can interfere with the sound system.

Now that Jayne Baxter has left the committee, I thank her for all her hard work during her time on the committee. In a reshuffle, Cara Hilton will replace Jayne as of next week—we have received apologies from Cara this week. I welcome Claire Baker, who is standing in as a substitute, and Jamie McGrigor, who is here as a substitute for Alex Fergusson.

Item 1 is two negative instruments. No motions to annul have been lodged. I refer members to the paper. Does anyone have any comments?

Richard Lyle (Central Scotland) (SNP): As a bee champion, I am happy with the legislation that the Government has introduced to safeguard the black bee on Colonsay and Oronsay.

The Convener: As there are no further questions, are we agreed not to make any recommendations in relation to the instruments?

Members *indicated agreement.*

Climate Change Adaptation

10:01

The Convener: Item 2 is the Scottish Government's draft climate change adaptation programme. In the final evidence session on climate change adaptation—for the moment—we will take evidence from the Minister for Environment and Climate Change. We welcome Paul Wheelhouse and his team from the Scottish Government: Bob Irvine, deputy director for climate change and water industry; Helen Mansbridge, team leader for behaviour change; and Neil Ritchie, head of natural assets and flooding.

Do you wish to make any introductory remarks, minister?

The Minister for Environment and Climate Change (Paul Wheelhouse): I do, convener, but I will keep them brief.

We know that our climate is changing. To meet our climate change targets, a massive shift in behaviours is needed. We need to change the way in which we all live, work and travel, which will be challenging, and to engage with the public on the actions that we can all take together.

Low-carbon technologies and infrastructure will have the desired impact only if people are willing and able to adapt to using them. For example, installing a charging network for electric vehicles on Scotland's trunk roads will make no difference if people do not buy or know how to use such vehicles. We therefore have to provide people with further information.

We are making progress on behaviours, particularly one-off behaviours such as loft insulation and installation of energy efficient boilers. However, we need to do more on everyday activities such as making short journeys on foot and reducing food waste.

The initial results of two recent greener together campaigns—not far? leave the car and don't feed the bin—are positive. Around half the people who saw the campaigns felt motivated to change their behaviour.

Alongside that successful public engagement, we are strengthening the behavioural elements of our policies using the individual, social and material—ISM—tool. Launched in June, the ISM approach is already informing and strengthening the policies in the second report on proposals and policies.

Influencing behaviours is not a stand-alone piece of work, but is integrated in the policies and proposals that are set out in RPP2. For example,

the ISM approach informed “Switched On Scotland: A Roadmap to Widespread Adoption of Plug-in Vehicles”, which will help us to meet the challenge of decarbonising transport.

ISM is not just for Government, but is being used by the 2020 climate group. The ISM approach will be trialled with 2020 businesses that have signed up to the group’s transport pledges, such as the pledges to increase travel by public transport and to drive in a fuel-efficient way. That will help them to maximise behaviour change.

An update on the Scottish Government’s workshops and their outputs was published last week on the Scottish Government’s website and gives further information on what we are doing to achieve the pick-up of ISM throughout the public sector.

Influencing behaviours is key to delivering a low-carbon future. However, due to past and present emissions and the inertia of the climate system, our climate will continue to change over the coming decades. Although the aggregate impacts of climate change might be less severe in Scotland than in other parts of the world, the impacts on individuals, businesses and communities could be distressing and damaging, so it is important that Scotland is well prepared and resilient to change.

The Committee on Climate Change acknowledges that Scotland has made good progress on raising awareness of climate change and on embedding adaptation into key policies. We are building on that progress through the development of the first statutory Scottish climate change adaptation programme. The United Kingdom’s first climate change risk assessment, which was published last year, shows the principal risks and some limited opportunities for Scotland from a changing climate. We must prepare for those changes to minimise the impacts of climate change and to take advantage of any opportunities. However, I stress that, where examples of positive impacts are cited, they are often rendered meaningless because of concurrent risks in other respects.

The draft climate change adaptation programme sets out how we are doing that. We are working to achieve our national adaptation objectives not only through integrating adaptation within Scottish Government policies but through encouraging and facilitating partnership working across organisations, businesses, the public sector and individuals across Scotland. We are building partnerships to improve our understanding of the impacts of climate change.

Where we need to continue to build the evidence base, our policies need to be flexible enough to respond to new information as it

becomes available. The programme is therefore part of an iterative process, with subsequent programmes required every five years to respond to the emerging evidence base and to address the risks that are identified in future climate change risk assessments.

Despite my job title, no single minister is responsible for responding to the impacts of climate change. Climate change is a cross-Government issue, so the programme draws together work across many areas of Government. Flooding, which is in my portfolio, can create risks across a number of sectors. That is why reducing flood risk is one of the priorities for the programme. We are working closely with local authorities, the Scottish Environment Protection Agency, Scottish Water and others to produce the first round of local flood risk plans, which will help to target resources strategically to reduce flood risk throughout Scotland.

Climate change is one of my top priorities, and my role in tackling it is a responsibility that I take seriously. I look forward to this morning’s discussion of the actions that the Scottish Government is taking to engage with others and to influence behaviours through “Low Carbon Scotland: A Behaviours Framework” as well as to increase Scotland’s resilience through our climate change adaptation programme.

The Convener: Thank you, minister. Within what parameters are we working? We want to change behaviour and adapt to climate change, but what level of climate change is the policy aimed at? Is it aimed at dealing with an increase in temperature of 0.5°C, of 4°C or of what?

Paul Wheelhouse: The Scottish Government is targeting RPP2 at doing whatever we can, domestically and in collaboration with international partners, to contain increases in global surface temperature to less than 2°C. That is the objective, and the science underlying that objective has informed the targets that the Scottish Parliament unanimously adopted to deliver a reduction in emissions of 42 per cent by 2020 and of a minimum of 80 per cent by 2050. Based on scientific evidence, those figures are consistent with containing any increase in global surface temperature to less than 2°C in the future.

The Convener: Having cleared up that overarching point, I wonder how far down the chain of the civil service and officials the cross-departmental ISM tool will be used. Communication within and across Government departments at ministerial level is one thing, but to what extent will that take place within the Government’s whole structure?

Paul Wheelhouse: I fully support that point. Clearly, if we left the entire burden of delivering on

climate change targets either to me, as the Minister for Environment and Climate Change, or to our relatively small climate change team, it would be an impossible task. We need to cascade the information and that responsibility throughout Government and across different sectors such as local government and the business community. That is why it is positive that we have engagement from Scotland's 2020 climate group, the Convention of Scottish Local Authorities and other groups in support of our agenda.

A public sector climate leaders forum has also been established recently. I am not sure whether we will consider that in more detail today, but a concern during the RPP2 process was whether the governance arrangements provide us with the ability to deliver on our climate change targets and monitor performance. The climate leaders forum is important for monitoring and for delivery, but it also gives us a vehicle through which we can cascade the ISM approach throughout Government, local government and business.

We have already had a climate leaders workshop, which involved stakeholders from local government, the third sector and business as well as the Scottish Government and our agencies, to explain and explore the ISM approach so that they are aware of the approach and can take on board the messages. I invite Helen Mansbridge to comment on how we are taking that down to officer level and beyond.

Helen Mansbridge (Scottish Government): We are working with policy leaders in different areas across the Government on RPP2 and other matters. We are talking about the ISM tool, running workshops and engaging with people. We have run four workshops since the tool was launched and we have three more in the pipeline. We are also working with local government officers—we will be at the sustainable Scotland network conference tomorrow—and two local authorities are already using the tool, so we have two workshops planned with them.

The Convener: Which two local authorities are those?

Helen Mansbridge: They are Moray Council and West Lothian Council.

We are also working with organisations such as Sustrans and Young Scot, which are interested in the tool. We are providing a range of familiarisation workshops alongside workshops on behaviours. We are trying to involve as many people as possible so that, when the time is right for them to engage and to use the tool, they will have some knowledge of how to use it and can come to us for further help.

Paul Wheelhouse: The initial workshop that I described covered many issues, but a key issue

that emerged was the need for leadership. There is a tendency to think that leadership must happen at ministerial level or at Scottish Government level, but the conclusion of everyone in that room was that leadership must be demonstrated by us all, including—I might cheekily suggest—everyone in the committee and in the Parliament. We must all take a lead in identifying what we can do. We need to demonstrate that we can walk the walk as well as talk the talk, to prove that the behaviours are being implemented at a personal level as well as at an organisational level. Business leaders, local government leaders, Government ministers, politicians in general and leaders in communities can all show leadership by demonstrating to people the practical steps that they can take.

We have quite a scary task ahead of us in trying to address climate change, but by using the ISM approach we can help people to understand how they can both influence behaviours within their own fields of expertise and show leadership to ensure that the message is cascaded down.

The Convener: Graeme Dey has a supplementary question for Helen Mansbridge.

Graeme Dey (Angus South) (SNP): I very much welcome what the minister has said, but only two councils are leading the way at the moment. How confident are you that the ISM approach will be rolled out across all 32 local authorities and cascaded down from the very top of those authorities, so that the issue is taken on board not just by a local authority's hierarchy but by departments and individuals working in those departments? Obviously, that is a huge task. What are we talking about timewise—I am looking for a ballpark figure—to get to that position?

Helen Mansbridge: We must first see the feedback from the first two workshops to see how the approach has been implemented and how we might improve the workshops to make them work for local authorities. We hope to bring together a whole range of people at the SSN workshop tomorrow. Once we have provided a specific workshop for local authority officers, we will see how far and how quickly we can drive things forward.

A key issue for us will be having the facilitators in place to run the workshops as we go forward. We are aware that it is a big task that we cannot achieve overnight, but we are trying to target the resource that we have to those areas where it can have the most benefit. Once we have some case studies from the workshops, we will use them to benefit other local authorities so that, rather than roll out individual workshops all the time, we will roll out lessons as well. We are looking at how we can achieve that in the best and most efficient way with the resource that we have.

10:15

Claire Baker (Mid Scotland and Fife) (Lab):

The minister has said that he is unable to deliver the targets on his own and that activity is needed across all Government departments. Questions have been asked about the Scottish planning policy 3 and the national planning framework. How do we ensure that the policies that are advancing through the system also play their part by contributing to the reduction of climate change and that all such policies are tied up even though a different minister is leading on them?

Paul Wheelhouse: That is a fair point. As I have mentioned to the committee on a couple of occasions, I have a programme of regular bilaterals with other ministers—for example, I meet Derek Mackay, the Minister for Local Government and Planning, to discuss issues of common interest in the planning system—to explore how colleagues, including Derek Mackay, can adapt their policies to take more account of the need to deliver on our climate change targets. I have every confidence that my ministerial colleagues are aware of the issues and the need to reflect on policy day in, day out, whether that relates to capital spending decisions or resource allocation, in order to see how we can make more of, for instance, the planning system in delivering on climate change.

In my discussions with Derek Mackay we have considered how new street and housing developments can be designed to be more energy efficient, whether through a more energy efficient masterplan layout or through the use of appropriate house types. However, although flats and terraced housing are more energy efficient, they may not always be appealing to buyers because everyone seems to want a detached house. We also need to design our settlements appropriately to make them pedestrian friendly, and to support sustainable active travel to help behavioural change. We must not create the kind of estates on which I grew up in the 1980s, which were designed for cars and made it almost impossible to get from A to B by walking—people had to use a car or bus. We can do a lot, and I agree that the planning system is an important tool. Derek Mackay is aware of the issues and we will interact with him in due course.

The ISM tool could apply equally to colleagues across departments. For example, planning officials and those who are involved in forming policy could be usefully exposed to the ISM approach to ensure that they understand how they can help individuals within their social context—the material regulatory context—and have an impact on low-carbon behaviour. There are various ways in which we can incorporate such an

approach into mainstream policy, and Claire Baker was right to raise the issue.

Claire Baker: The building standards that were introduced last year did not go as far as some people argued that they should on the regulation of new builds. Are there policies on which the Government needs to legislate further? What are the weaker issues on which you have concerns about the ability make progress?

Paul Wheelhouse: I would be the first to acknowledge that some European countries have higher building standards than ours. In an ideal world, we would have energy efficiency standards similar to those in countries that have adopted that approach, such as Germany and Sweden.

Through planning colleagues, we are working with the house-building sector to see what more we can do. The sector has raised concerns about the marginal returns on investment in energy efficiency measures in new builds and about whether there should be a balance, with more investment put into retrofitting existing stock where that could have more impact. Those are valid points. The insulation of properties is a very efficient and cost-effective way of reducing climate emissions, and we need to do more of that. As Claire Baker will know, there is plenty of stock of solid wall construction—older properties in rural areas—that we have not even touched. A lot of work needs to be done on the existing stock as well as on new builds.

Under the new arrangements, new builds in Scotland will continue to have to meet the highest building regulation standards on energy efficiency in the UK. However, I am aware—as is Claire Baker, judging by her question—of voices from outside that are saying that we should do more, and I will explore with colleagues where we can push that boundary a little further.

In the long term, because the energy efficiency requirements create a level playing field, all house builders are affected equally, so they are not anti-competitive. We will explore how we work with the house-building sector to increase the rate at which we adopt such technologies.

The Convener: This is proving to be a popular question.

Jamie McGrigor (Highlands and Islands) (Con): Will the advice that the Government gives to councils include advice on the inadvisability of building houses on flood plains?

Paul Wheelhouse: I will ask Neil Ritchie to come in on the detail of that—

The Convener: Can we discuss that point when we get to flooding, Jamie? You can certainly come back with that question then.

Jamie McGrigor: Okay. I just thought it was related to planning.

The Convener: It is related to planning, but planning is also related to the ISM tool. If we can stay in order, you will get a chance to come in during the section on flooding, which will come later.

Minister, I have a final question on this section and then we will move on to other members' questions. If you think that there is a need to measure the effectiveness of the ISM tool, what do you think about having something that is even more important than investors in people, which was all the rage about 20 years ago? Should we be ensuring that people in all sectors of public life and business sign up to this approach?

Paul Wheelhouse: That is a good point. I am hoping that we will get to a position where people will just accept that this new way of thinking is smart and that it is a sign of good strategy that people are thinking about the context in which they plan policies.

I hope that, almost by osmosis or word of mouth, the ISM tool becomes the norm, but there might be an argument for recognising in some way—in a perhaps more user-friendly way in terms of the badging—that policy makers, businesses and other stakeholders are actually thinking about the individuals who they are regulating or, in many cases, legislating for, and about the context in which that is happening. We need person-centred policy making that understands the context in which we are asking people to implement behaviour change.

Helen Mansbridge can tell us whether anything came up in the workshops.

Helen Mansbridge: We are looking at working with the 2020 group, which deals with a lot of businesses; we will be doing some work with that group shortly. We are also looking to work with the climate challenge fund on how the approach could benefit community groups.

At the moment, the tool is very much written for policy makers because it was written to help us with our behavioural policies, but we have seen that the benefit could be much wider than just in Government. We are now looking to see how we can deliver on that. Working with the 2020 group and the climate challenge fund, we will really see how we can develop and use the tool.

We have issued the user guide and anyone can pick that up and use it, but, as we develop and move forward, we will look at how we work with community groups and businesses, so the tool will certainly become more ingrained.

The Convener: It is an ism to which we can all sign up.

Paul Wheelhouse: Indeed.

Richard Lyle: I want to stay with the point about the key behaviour change areas. I note that the Scottish Government has previously set out areas of high household emissions where action by Government and others can be taken to encourage and enable behaviour change. The 10 key carbon behaviour change areas cover home energy, transport, food and consumption, and last month the Scottish Government published a report on their uptake.

Given that the low carbon behaviour framework does not establish specific targets for each of the 10 behaviour areas, I am interested to know how the Government assesses whether the level of progress in each area is on track since, regrettably, we have not met some of the targets that we set for ourselves in the past couple of years.

Paul Wheelhouse: That is an important point. We have the 10 green behaviours, and I have examples here of the ones on which we are focusing. Those areas are backed by campaigns such as the greener together campaign, and there are subsections that deal with, for example, food waste or sustainable active travel.

We also have monitoring information about the impact on individuals who have seen the campaign and how it has affected their behaviour. Because of the advertising campaign, there will probably be a rise in the level of awareness and there will probably be a peak level of compliance with the behaviours that we are asking people to change, which will fall back a bit as time goes on. That is why we need to keep repeating the messages to get them ingrained in the heads of our fellow citizens.

In the longer term, we would hope that each time we have a campaign, the plateau to which we return is higher than the previous one. Such a campaign always leaves a residual benefit that locks in good behaviour and encourages people to keep going.

We have a number of targets and the latest indicator figures are set out in the low carbon behaviour framework. They feed into the national performance framework as well. Our overall targets include those for reducing emissions and our carbon footprint. The percentage of people agreeing that climate change is an immediate and urgent problem is a key figure that has not been tested since 2008, when it was 57 per cent.

Where we can, we will continue to monitor through survey evidence what is happening on key behaviours such as home energy efficiency. We have statistics about how many houses have been converted, so we know how many houses have been brought up to a higher insulation standard.

We know what proportion have up to 100mm insulation and how many have more than that. We can monitor those objective measures over time and make some assumptions about behavioural change.

As I pointed out earlier, we must also inform people of the implications. If someone has a more energy efficient house that saves them money, they should not then think that they can use that saving to put their thermostat up a bit and heat the house even more, because they would end up with a warmer house but the same amount of emissions.

A lot of work has to be done to inform people of the continued need to bear down on emissions, through things such as fuel-efficient cars. I am trying to drive in a more ecologically sensitive and fuel-efficient way. I have made some good progress—I will not put any formal figures out there, but I am happy with my performance. However, it would be perverse if I used the fuel that I saved to go further and increase the mileage that I drove, as that would cancel out the benefit.

We have a lot of work to do, and the question that you asked underpins the importance of the continuous programme of social research and advertising and marketing campaigns. We need to continue to monitor the impact on individuals and continue to invest in giving out those messages, so that we can keep raising the plateau and get towards a position where the good behaviours are locked in.

Richard Lyle: I totally agree with your comments. You said that we should lead by example. Several months ago, in response to a question that I asked, we found that the Scottish Parliament building's energy consumption had reduced over the past year. The very point that I am always on about is that a lot of people walk out of a room and forget to switch off the light.

In regard to the point about councils, it astounded me to find out, in response to a question that I asked some time ago, that Glasgow City Council consumes 3 million litres of fuel every year.

I am also trying to reduce my car's fuel consumption per mile, and I compliment you for trying to do that, too. If everyone followed that example, we would all contribute to the reduction of climate change.

Paul Wheelhouse: I praise Richard Lyle for doing that. The more that we talk about these issues and show that we are doing our bit—such as driving in a more fuel-efficient way, as Mr Lyle is doing—the better. I am sure that everybody around the table is doing their bit, and you need to make sure that people know about it: show leadership and publicise the good things that you

are doing. If you communicate that to the people who listen to and are influenced by you, they will pick up on the message and think, "Well, if they can do it, I can do it."

The Convener: I think that we will have a bring-and-tell session at another point. [*Laughter.*]

Paul Wheelhouse: That is a great idea.

The Convener: I will bring in Claudia Beamish.

Claudia Beamish (South Scotland) (Lab): I am not telling at the moment. Did you want me to come in?

The Convener: Yes—with the next question.

Claudia Beamish: I do have a quick supplementary.

The Convener: My brief says CB, which stands for both Claire Baker and you.

Claudia Beamish: Is it all right if I ask a quick supplementary?

The Convener: Certainly—as long as we are not bringing and telling.

Claudia Beamish: Thank you, convener. Apologies to Claire.

Good morning, minister. Following Dick Lyle's question about whether there are targets for and assessments of behaviour change, I will ask about farming for a better climate and farmers' concerns. The situation is quite daunting for farmers, as it is for any business. Will you comment on how the sector is doing?

Paul Wheelhouse: The figures set out around the time that RPP2 was published indicate that, of all the sectors, agriculture has made one of the biggest steps forward on emissions. There has been excellent progress. I could fish out the figures for the committee, if you like. It had an above-average decrease in emissions.

Agriculture is already doing a lot of good work, and we must communicate that positive story to farmers. The term used at the climate change workshop was "practical hope". Climate change is quite a daunting challenge for our society and there could be a tendency for people to have a doom-and-gloom attitude and be apocalyptic about it. People could just switch off because they think that we are doomed and that there is nothing we can do about it so there is no point in doing anything, but we can deliver on the policy. The agricultural sector is already doing great things.

10:30

Obviously, we have RPP2 targets to address issues such as the use of nitrogen and to continue to bear down on its use in farming where possible. There are farming for a better climate

demonstrator farms, one of which is Robert McNeil's Upper Nisbet farm in the Borders, which I have visited. Robert McNeil grows clover on the farm to provide feed for his cattle, but he has also reduced his use of nitrogen because of the particular properties of that crop.

There are many things that can be done and they just need to be disseminated through important networks such as the farming for a better climate network. Instead of politicians telling farmers what to do, farmers can listen to people from their own sector who are their peers and whom they respect because they are good farmers. They can be told that farmer X is doing something on his or her livestock farm or arable farm and that they are more than willing to demonstrate to people what they are doing. They can communicate through SRUC—Scotland's rural college—and other partners what is happening at farm level. I know that an ISM workshop is due to happen shortly with the farming community to look at the behavioural aspects of farming.

There are a number of drivers in terms of what is technically possible, but there might also be financial drivers that are about making farms more resilient for the future. Farmers can save a lot of money if they produce their own feed, for example, because feed costs are quite volatile, as are fertiliser costs. The more that farms can do to be self-sufficient in feed and in producing naturally the nutrients for their soil, the more money they can save themselves and the more they can be financially resilient in the future.

Claudia Beamish: Can I quickly ask—

The Convener: We will go on to land and environment very soon.

Claudia Beamish: Which is my question, so I will wait.

The Convener: Good. Next is CB—I am on the wavelength. It is Claire Baker.

Claire Baker: I want to go back to the 10 behaviour areas. Some of the evidence that the committee has received indicates that people do not think that there is enough join-up between the 10 areas and that people could select or focus on one or two areas, when in fact a more holistic approach is needed so that individuals can be engaged in all the areas. How do you think we can achieve that?

What have you identified as the main drivers to make people change their behaviour? You referred to the not far? leave the car campaign. How are you measuring how successful the campaign is? People who respond to it might already think in the way we want and the

campaign might give a message that just reinforces the direction that they are going in.

What have you identified as being the main driver for individuals? Is it cost? Is it a feeling of responsibility towards the environment? What are the key drivers?

Paul Wheelhouse: To be honest, I think that behaviour change is multifactoral. People will change behaviour for specific reasons such as altruism, because they want to help the environment and address climate change directly, but individuals are complex and might have multiple drivers.

Some might be driven by financial imperatives. For example, someone walking to a destination can save the cost of a bus fare. Further, the energy used in driving a car for a journey of less than three miles is disproportionate because the engine is less efficient over such a short journey; engines are more fuel efficient over longer distances. When the engine is warming up, it is less efficient.

Avoiding short journeys in a car and walking not only has a financial benefit for the individual but health benefits. Walking is a good form of exercise that most people can do, so it is an easy way of burning calories and making people healthier.

There will therefore be a number of different influences on changing behaviour. You are absolutely right that there is not a silver bullet that would allow us to say in each case that there is a single message that will switch everybody over to a positive behaviour.

That is why ISM is so important. We must understand the individual's tastes and drivers, and the factors that influence their behaviours. That applies to different subsections of the community as well as to individuals. We can group people into categories in some respects, which can be helpful, but we must also understand that we are all individuals and that we have different balances in our motivation. The more that we understand about that, the more we can target our policies effectively.

I will give one example of the efficacy of such campaigns. Independent research showed that 45 per cent of people who had seen the active travel campaign felt motivated to change their behaviour and 19 per cent of those who saw it claimed to have done something as a result. There is an element of awareness raising, which affects a larger group of people, and then 19 per cent of those who saw the adverts changed their behaviour as a result of the campaign. Also, 89 per cent of those who visited the fuel marketing stand that we have had at various events claimed that they had left their car for short journeys as a result of the visit.

There are some encouraging results, but I am not saying that the campaigns are perfect. As I said to Mr Lyle, we are aware that—as with any advertising campaign, whether for industry or these issues—there will be a fall-off in the effect as time goes by. We need to keep reiterating the message and hammering it home so that people get it over time.

We hope that we will take the level of awareness up to a point at which people lock in the behaviour and just think, “That is me. That is what I do,” rather than thinking that they will do it because it is in the news. We hope that doing the things that we want them to do will become natural and an instinctive reaction.

Claire Baker: We have talked about car usage as one of the key areas of behaviour change. Another concerns fuel, fuel use within the home and insulation.

We talked about house building. Does there need to be a bigger debate about what people value? One reason why the building sector did not support greater regulation was rising costs, but somebody might purchase a house if they thought that their fuel bills would be lower there. There is a need to tie up all those different areas when it comes to the individual understanding what impact such decisions can have.

Paul Wheelhouse: I whole-heartedly agree with that. We have the energy performance certificates in the new home buyers packs, which is one way of trying to influence people’s thinking so that they look at the longer term—not just the immediate, up-front costs, but the value of the technology to them.

If the committee has taken evidence from a number of stakeholders, I would welcome its views on how we work with house builders to get them to market such information to potential house buyers—that is one example, but there are other product areas that are just as relevant.

The point that I have made in many discussions is that, as these days most people buying a new house are buying off plan—the house is not even built yet—they have an opportunity to influence the specification of the house. The house builders could put the options to people. At the moment, there is very much a black-and-white world. The house builders refuse to put in such technology because they do not think that people will pay the extra for the cost that the builders would have to incur. That may well be true, but we must also test it.

We must find out the extent to which people might be willing to invest if the option is in front of them to pay an extra £3,000 or £4,000, perhaps, that might save them £10,000 over the time that they will have the house and if they have the funds

at the time. People might be willing to invest, so let us explore that. Let us determine how we can give such long-term, life-cycle cost information to people so they can make informed decisions.

The same argument is made in the marketing of solar energy products to households. When people are told that they can get a 12 per cent rate of return—or whatever it is—on a solar panel, that seems to influence them. They think, “Oh, that is quite a sensible investment,” and it changes their mindset.

If the committee has taken any evidence to date on how we might be able to do that, I would welcome its view.

The Convener: The key point about that question is that the behaviour areas should not be considered in isolation. Recycling was one isolated example. What will the Government do to present it as a whole lifestyle change?

Paul Wheelhouse: You are right, convener. That is one of the things that we need to do. Using the ISM approach across Government, particularly in the context of low-carbon behaviours, will help people to understand how all policy areas are relevant to the agenda. I am thinking not only about the delivery of services and the messages for those who deliver them but the benefits to individuals and communities.

It is a lifestyle issue. Without being too doom and gloom, we have to face the reality that life will not be quite the same. I hope that we can improve people’s quality of life in many areas, but we must also accept that we will have to make some difficult decisions. Therefore, at an individual, community, business and Government level, we have to take those decisions on the chin and inform individuals about the choices that they face.

The Convener: Angus MacDonald has a question on public sector engagement.

Angus MacDonald (Falkirk East) (SNP): Good morning, minister. We have already touched on public sector engagement this morning, and I am pleased to hear that public sector forums have been set up and workshops are under way. Helen Mansbridge mentioned that four workshops have been held so far, and that an SSN workshop is taking place tomorrow.

I am pleased to hear that Moray Council and West Lothian Council have embraced the ISM approach, for which they should be commended. I will certainly go back to my local authority, Falkirk Council, to encourage it to follow that example.

In oral evidence to the committee, there was strong support for the role that the public sector plays in delivering low-carbon behaviour change. There was clear acknowledgement of the need for innovation, and I hope that COSLA, the Scottish

Government and public bodies can work together on behavioural change.

What steps is the Government taking to support public sector bodies in their role to help in supporting practical action on low-carbon behaviours?

Paul Wheelhouse: That question gets to the nub of the issue; Helen Mansbridge touched on that area earlier. Some work has been done with the two local authorities—Moray and West Lothian—but that is not to say that there are no good examples of things that are happening elsewhere.

As I have mentioned to the committee before, I am impressed with some of the work that has been done in Aberdeenshire. There are local centres where people are able to work locally rather than travelling into a corporate headquarters. To a certain extent, there has been a trend in recent decades towards the centralisation of local government services in a corporate headquarters. In my area of the Borders—as I am sure Jim Hume will be aware—there has been a retraction from the old district council delivery centres to the central hub in Newtown St Boswells.

What is happening in Aberdeenshire is therefore quite positive in terms of reducing the car miles and transport-related emissions that are the result of workers travelling to their administrative centres. We need to find more of those examples and ensure that a suite of measures is being implemented across the public sector. People say, “Hang on—I did not realise that that is happening there; it looks interesting and relevant for us, and perhaps we can copy it.”

That might not be appropriate in every location. The ISM tool is appropriate for local government because we must take into account in discussing which behavioural changes can be effected the context in which that is being done. We need to understand that a solution that works in Edinburgh might not work in the Western Isles because of the different topography and cultural issues, so we must be sensitive to where we are doing the work. We must support local government and other public sector partners through training on the ISM tool and by rolling out practical examples and information such as good practice points that can be picked up.

Bob Irvine or Helen Mansbridge might want to comment further.

Bob Irvine (Scottish Government): I point out that the ISM tool, which we hope will be adopted and used widely, is not an end in itself. It operates only through the development of policies—usually in the housing or transport sectors—in local authorities or other public bodies.

We are keen that the owners of those policies, in both local and central Government, look at the ISM tool as a way in which they can make their policy implementation better in areas such as reducing fleet mileages, promoting better energy efficiency and usage in homes and reducing food waste. It enables them to consider questions such as, “Does this policy make a contribution? Is this a better way of thinking about how to get those behaviour changes through our delivery organisations?”

The activity that Helen Mansbridge described is about offering the opportunity to do policy work better, not because the Government says that it is a good thing but because it is meaningful in how we engage with the various constituencies. Significant activities on behavioural change are already happening, and they should continue. Perhaps they can be reinforced by the ISM tool, but it is not presented as a substitute.

We want to encourage and identify as many good examples as we can, through the support networks to which the minister referred and particularly the newly established public sector climate leaders forum. That can demonstrate good examples and join together policy areas—many committee members have expressed concern about how best to do that. We are involved in that engagement process with COSLA, local authorities and various public bodies with which we have regular contact.

10:45

Paul Wheelhouse: I appreciate that time is pressing, but I will mention a practical point. In this context, one way in which the Government can help local government is through resourcing. I appreciate that there are always calls for more resources from the Government, but we are deploying additional funding for areas such as sustainable active travel and through the climate challenge fund and other vehicles.

Communities are in the lead on the climate challenge fund—it is demand led and communities apply for the funding—but, through the ideas bank, we are helping local government to understand how it can feed in ideas that communities can pick up on. A challenge or an idea can be posed, which might fit with local government’s delivery of climate change policy, and a community can say, “Hang on—we fancy being involved in a project like that,” and it can explore using the climate challenge fund to fund a project locally. We are aware of and sensitive to the material element—the regulatory and funding environment in which our public sector partners work.

Graeme Dey: My question is about decisions that local authorities take, perhaps for financial

reasons. Like the Scottish Government, local authorities have difficult budget decisions to make. How do we ensure that council finance conveners do not make black and white spending decisions to save money here or there at the climate's expense?

Paul Wheelhouse: Under the Climate Change (Scotland) Act 2009, local authorities are signed up to the climate change public duty. Annually, they report—voluntarily—on their performance in relation to the climate change duty. A reputational element is involved. The Government must deliver on its targets, and the local government sector is signed up to helping us with that. We certainly welcome its support.

We have a role in ensuring that decision makers in finance functions have all the information at their disposal, so they know and can understand the climate change impact of their decisions and reflect on that as a key consideration when they determine their investment. The Government can give a bit of a lead in our spending priorities. We are signalling that we are increasing each year the share of our budget that goes into low-carbon initiatives. This is a key part of the Government's economic strategy. The refresh of that strategy in 2011 included developing the low-carbon economy as a key target, so that is enshrined nationally and feeds into single outcome agreements.

In theory, through the climate change public duty, local government and all public sector agencies should take such matters into account, but I appreciate that we have a role in ensuring that they have information that allows them to understand the efficacy of each type of investment project in delivering climate change. If the committee has specific recommendations on how we can make that information available, I will look at them carefully.

Through the carbon assessment of the Scottish Government's budget, we have tried to demonstrate how our spending decisions impact on climate change. I hope that that will also help to inform the process.

Graeme Dey: Of course the Government has a role, but—equally—local authorities and other public bodies need to have the mindset that they, too, have a responsibility. From your experience, how confident are you that that mindset is there or is developing?

Paul Wheelhouse: I am confident that such a mindset is developing, but I would like that to happen more quickly—that is true of the whole public sector. The Carbon Trust and others have done studies into how the public sector can contribute to achieving our climate emission targets, which helps to inform discussion.

A lot of good work is going on; we need to share those examples of good practice, as Bob Irvine was saying, so that people are aware of the positive things that are happening. That can create a bit of peer pressure, in a sense. Councils will look at what is happening and say, "Well, if that council is doing it, we'd better do it too." That will help, but I am confident that we are getting there. I have a good relationship with Councillor Stephen Hagan; he is very much a supporter of this agenda and I am trying to ensure that we engage positively.

After hearing the views of those at the SSN conference tomorrow, I will have a better feel about where we are with the agenda, but as I said, I am confident that we are getting there. Clearly, there is always scope for improvement. We have the public sector climate leaders forum and an enhanced network of climate champions will sit under that forum, so I hope that we will be able to cascade the messages from the climate leaders forum through the public sector—to local government, health, other areas, our own agencies and clearly the Government, too—and achieve that positive result.

The Convener: Thank you. Angus MacDonald has a follow-up question on the use of the media.

Angus MacDonald: I am sure that most of us round the table have found that it is not always possible for us to get the media to take the line that we want them to take—some more than others, perhaps. The view that there are particular challenges in relation to working with the media on this agenda was heard in evidence from a number of witnesses.

You have already touched on marketing. How does the Government approach working with the media to support action on low-carbon behaviour? Can you point to any specific examples of the Scottish Government using or planning to use the media and marketing to promote low-carbon behaviour change?

Paul Wheelhouse: You are right to identify that the media have a hugely important role to play. There will be various estimates, but broadly speaking about half of what we need to achieve as a society in terms of climate change might in some way be dependent on behavioural change. At one level, it is about behavioural change for 100 per cent of society. We need to make capital investment and individuals need to change their behaviour in relation to policy as well. However, I am talking about behavioural change in individuals, communities and businesses—about half of what we have to do is through that route. The media have a hugely important role in helping us to communicate messages.

There is, as you quite rightly implied, a degree of climate denial and climate scepticism in the media. People whom I know in the climate science community would say that a degree of scepticism in any area of science is healthy, because it challenges scientists and they then have an opportunity to demonstrate that they are correct. However, there are people who are climate deniers—in spite of the evidence in front of them, they continue to deny that climate change is happening and indeed that humans are largely responsible for it.

The Intergovernmental Panel on Climate Change report should dispel any notion that climate change is a false concept, because it has clearly demonstrated that climate change is happening. The IPCC fifth assessment report also makes it very clear that mankind is responsible for the majority of what is happening. There should no longer be any doubt that this is a hugely significant problem that society faces and that we need to challenge it.

You asked what we are doing in relation to the media. We ran a campaign on Scottish Television—the “Too Good to Waste” series—which was shown in April 2012. Audience figures and independent evaluation of the programme showed that that was a very effective approach to reach a particular audience and deliver a behavioural change. We plan to take a similar approach again and have another programme. Jim Hume and indeed Claudia Beamish will know that STV programmes are not broadcast in the south of Scotland—that is a continuing issue but we will try to use radio and other means of communication to get a similar message out there. In the longer term, I am exploring with colleagues whether there are any opportunities to get ITV Border to pick up the programme and broadcast it as well—certainly to the Cumbrian and Scottish part of its catchment. I believe that the signal can now be split.

We have used television as an effective tool. We can use radio—some of our campaigns are on forms of broadcast media such as local radio, which we know is very effective at delivering such messages. While driving around your constituencies listening to commercial radio and local radio, you may well hear the messages that are coming out through those channels, which are also effective.

We have a bit of a challenge with the print media, whose need to sell papers is perhaps such that it tends to go for a more sensationalist approach, which is sometimes not helpful or constructive. I appeal to our colleagues and friends in the print media to take the matter seriously and communicate the message responsibly, to ensure that we get the message across.

The Convener: This is an appropriate moment to move on and consider managing uncertainty.

Graeme Dey: We have talked about the need for buy-in from all sectors of society, including the private sector, individuals and communities. In what ways might the draft Scottish climate change adaptation programme be strengthened to ensure that advice and information is readily available for people, who need to be better informed before they make changes and adaptations to their businesses and ways of life? In what ways are individuals and local communities supported to ensure that they can engage actively in delivering the draft programme's objectives?

Paul Wheelhouse: As part of the consultation on the programme we are taking representations from various interest groups about what we can do. We are pitching to different audiences. Messages about adaptation need to be relevant to individuals, who want to understand how changes might affect them.

As I said, in the context of flood risk it is important that we communicate to people that under the current legislative framework they are responsible for protecting their property, whether it is a business or domestic property. We also need to make people aware of the steps that they can take. There is a growing network of local flood groups across Scotland, which are helping communities to tackle the challenges and ensure that they have a cost-effective way of equipping themselves to protect properties. It is about ensuring that there is sufficient information out there. Organisations such as the Scottish Flood Forum can help communities at that level.

We are modifying the climate challenge fund to facilitate community-level adaptation projects, which will help communities to deliver adaptation approaches and to communicate the importance of adaptation. There has been pilot work, for example at Lochboisdale in the Western Isles, and we can learn from that and finesse the approach so that we apply what worked well.

There are five priority areas on which we are working in the programme. One of those is support for the public sector, which is about the tools that can support public bodies as they adapt to climate change. We support climate-ready communities through direct engagement, as I said, to raise awareness of the challenges and opportunities that communities face.

There is adaptation support for business, which is being addressed through the high-level support of the 2020 climate group and is about engaging business and encouraging partnership working, to ensure wider take-up of adaptation planning in the business community. There is concern that many businesses think very much in the short term and

do not look and plan far enough ahead. Adaptation should be factored into corporate strategies in many sectors; climate change should be regarded as bringing identifiable risks, either directly to the business or to its supply chain.

There is place-based adaptation, too. There are local initiatives, such as climate ready Clyde, which brings together public bodies, community groups and private organisations to identify threats and opportunities that face the region.

We also provide support through climate information and adaptation science, and there are tools to underpin all that. However, you are right to suggest that we can communicate with individuals through community and business routes.

Graeme Dey: As well as providing advice and information, what role can Scotland's education system play? I am a constituency member, and a group of primary school pupils recently grilled me for an hour on the environment and climate change. The pupils' knowledge and passion were unbelievable. Will we use the schools network to raise awareness and build public pressure on organisations to change their behaviour?

Paul Wheelhouse: The short answer is yes. Pester power is effective—as I know and I am sure that all people who have children or grandchildren know. Fortunately, we have a good network in place in Scotland. We have the eco-schools network, and Scotland is seen as a relatively world-leading area in the development of the eco-schools movement. Four thousand schools are already participating in that programme. That is 98 per cent of local authority schools, which is a good starting point.

We are doing work on how we can take adaptation messages to schools. We have a programme to take adaptations into schools; I think that it involves workshops to teach secondary school pupils, but I will check that with Helen Mansbridge.

11:00

Helen Mansbridge: Yes, I think that that is the case.

Paul Wheelhouse: Work has been done to get schoolchildren to recognise the risks to them in their community, and to think about their consequences. Issues such as flooding can be terrifying for children. We know that previous flood incidents have had quite a profound impact on children, who sometimes struggle to understand why such incidents happen. Obviously, they cannot rationalise the risk issue in their own heads and the likelihood of an incident happening, so a lot of work is done to educate young people in communities in which there is a risk of flooding

about what the flood risk might be and the steps that they can take to protect themselves, and to understand and give them confidence that incidents can be managed. A lot of work needs to be done, but we are beginning to explore those areas and how we can tailor messages to particular audiences to ensure that things are done with great sensitivity with that particular client group.

The Convener: We need to engage with local communities, for example, on adaptation. Do you have any formal plans to get to the level of dealing with communities at a community council level without necessarily fingering the community councils as such? We would like to know about those plans, if that is possible.

Paul Wheelhouse: There are excellent initiatives. I know that a group of local authorities are now working together, and that Scottish Borders Council, which covers the area that I live in, is one of them. A number of local authorities are gathering together in a network, in which they share expertise.

The approaches that can be deployed include developing local community resilience planning. There can be work with community councils to deal with not only obvious things such as flood risks but severe weather impacts—many of the things that we probably did as a society 20 or 30 years ago before families became more nuclear, we became more car dependent, and local communities became less connected can be done. People can be got to acquaint themselves with how many vulnerable people there are in their community, and to speak to those people in advance of any severe weather or flood risk. They can say, "If something happens, would you like someone to chap on your door to see if you're okay or need help?" There can be management of the vulnerabilities in a local community, and people can co-ordinate activities to clear streets of snow, and ensure that schools are open and accessible. I know that a number of authorities do that.

There are examples of good practice. Local authorities can have teachers who live in one village but teach in another. They can stay in the village that they live in and help to open up the school there, and teachers in the other community could go to the school to which those teachers would have travelled and keep it open. There is a gender imbalance in caring activities. If we can keep our schools open, many women who work in hospitals and other vital facilities in the public sector can then go to work, and that keeps the whole system going. Something as simple as keeping the schools open can have a profound impact on a community's resilience during a severe weather event or flooding incident.

Local authorities can do a lot of proactive work for their communities, and plan for and manage local risks.

The Convener: We want to continue on adaptation programme monitoring and assessment.

Jim Hume (South Scotland) (LD): Good morning, minister. Some concern has been expressed in evidence about monitoring and assessment of the draft adaptation programme, particularly from Scottish Environment LINK, which thinks that the draft programme is vague in parts and needs more on objectives and outcomes. David Thompson of the UK Committee on Climate Change thinks that more work needs to be done on monitoring and evaluating, as does Professor Rowan of the University of Dundee, who said:

“A much stronger focus on the importance of targets—aspirational or fixed—is also needed.”—[*Official Report, Rural Affairs, Climate Change and Environment Committee*, 9 October 2013; c 2765.]

If we are to meet the aims of the policies in the Government’s draft programme, what can you do to include more clearly defined objectives, outcomes and timescales?

Paul Wheelhouse: I recognise the importance of the issues that Jim Hume has raised. Given that the adaptation programme is the first such programme, it will evolve over time—we would not want it to be a static document that is not reflected on or improved as time goes on. The governance arrangements and the climate change delivery board will ensure continuing scrutiny of our progress in delivering the adaptation programme, but it is fair to say that, for the purposes of good monitoring, we must develop a measurement of adaptation. That poses challenges in respect of the uncertainty of the outcomes and the imperfect state of our knowledge of what is happening on the ground, and in respect of the long timescales for some of the initiatives, in that the investment in capital will take some time to deliver.

It is crucial that, over time, we develop indicators that effectively measure progress towards the aims and objectives in the programme. I appreciate that, to some stakeholders, the programme may seem to be a bit high level, but we will finesse our understanding of its effects and will evaluate it as we go. There will be an on-going process to ensure that the right measures are in place to address the effects of climate change.

I can provide some information on annual reporting. Arrangements for annual reporting and monitoring of the programme are being developed. Alongside the annual report, there will be the work of the ClimateXChange. I am sure that Jim Hume is familiar with that organisation. It will, in

developing indicators to monitor climate change adaptation, focus on the risks and opportunities that are identified in the climate change risk assessment and in the priorities for the first programme. As well as monitoring changing levels of risk and opportunity and their felt impacts, it will monitor on-the-ground adaptation and will seek to understand trends in action in the context of the adaptation policies that are set out in the programme, and other important drivers of change.

As the programme becomes more sophisticated, we hope that we will become more sophisticated at monitoring and evaluating it, and that our understanding will build. I recognise that people are concerned that we follow it up, ensure that it is delivered and monitor its progress.

Jim Hume: It is good that it sounds as though the programme is to be strengthened, monitored and assessed. You mentioned annual reporting. Will that involve you reporting annually to Parliament?

Paul Wheelhouse: As the adaptation programme is a key part of our climate change strategy, I would expect a degree of pressure and scrutiny to be applied, which I am sure will be done in a well-mannered and fair way by Mr Hume. I would be more than happy to come to the committee to discuss the issue in due course, if that would help.

The Convener: Before we move on to the next question, I will take two quick supplementaries.

Nigel Don (Angus North and Mearns) (SNP): Good morning, minister.

I want to pick up on the issue of how efficiently we can drive our cars, which was mentioned before we moved on to targets and reporting. I do my level best to get to 49 miles per gallon, although I am not going to argue about the numbers. An old adage from industry is that what gets measured gets done. That is not terribly grammatical, but you know what I mean. When we are trying to drive our cars efficiently, the average miles per gallon changes about every 10 seconds. We get immediate feedback that is both meaningful and quite accurate.

Mention has just been made of annual reports. I am not trying to be disparaging about the nature of the information that is reported in annual reports, but when I contrast those two forms of information, it is self-evident that it is extremely difficult for us as a society to change very much on the basis of an annual report that is produced a significant period after the event. Therefore, I encourage the minister to think about what we can do, at whatever level, to report useful information in real time, more or less, so that we, as a society, can see what we are doing. I will make a suggestion.

How would it be if my local authority were to report the amount that was recycled from my local recycling point last week? Somebody, somewhere has that crude number, and reporting it would enable us as a society to get some idea of how good we are at recycling.

Paul Wheelhouse: Nigel Don has made the very good point that the timeliness of information is very important. We have discussed at committee before the frustration about how long we have to wait because of the rigour that must be applied to data sources. Graeme Dey made the point that the statistics and figures on climate change and emissions that we rely on to guide policy are inherently well behind where we are; I expect the 2012 figures in June next year, almost two years after the fact. The lack of real-time information is frustrating, and that frustration is probably repeated at local level.

Technology is beginning to play a role. When waste is collected, it is weighed. The trucks are becoming more sophisticated and can weigh the amount of material. They might not be sophisticated enough to tell us how much of that material is recyclable, because there are issues such as contamination and people putting in the wrong plastics.

I am happy to be guided by local government colleagues on what they feel would be appropriate. I accept the point about annual reporting versus real-time reporting. The more up-to-date the information, the more likely it is that we can effect change quickly, rather than waiting for information to emerge a year later, which can slow up the process.

The Convener: As we know, it can take anything up to 20 months to deliver the climate change figures, so that is certainly a challenge. Claudia Beamish has a short supplementary.

Claudia Beamish: Scottish Environment LINK has highlighted two points. First, what new projects are there in the first five-year programme? Secondly, Jim Dempster from Scottish Environment LINK highlighted in oral evidence the question of whether Government is doing work that goes beyond that five years. A lot of the work involves long-term projects, as you have just highlighted, minister.

Paul Wheelhouse: In developing the programme, we have trawled through Government and asked colleagues in all departments how, in terms of the risk assessment, the programme will impact on areas such as critical infrastructure—power systems, for example—and to feed back to us information on what steps can and will be taken to address that in terms of the adaptation programme. There are things going on, although I am not familiar with how much of the work is new;

I do not know whether my colleagues can advise me on that.

What was the second question?

Claudia Beamish: The second question was on long-term planning beyond five years.

Paul Wheelhouse: A number of initiatives, such as RPP2, are running over a longer period than five years. RPP2 contains a number of measures that are aimed mainly at mitigation, but some measures are addressing adaptation.

We are making very long-term investments in areas such as peatland restoration. I would be the first to admit that that will not, by any means, stop the biggest floods—a once-in-200-years flood is an exceptional event and it is unlikely that restoring peatland would have a dramatic impact on that—but we can use natural flood management and long-term investments such as forest replanting to try to take the edge off flood risks in catchments. Those are examples of practical long-term investments.

The farming for a better climate initiative is as much about adaptation as it is about mitigation. It aims to make farms more resilient in the longer term.

There are areas that are still works in progress. On coastal erosion, for example, we are carrying out background research in order that we understand the risks for Scotland that the IPCC report highlights. The report notes that there is increased risk of coastal erosion and coastal flooding, which result in damage such as we saw last Christmas in our historic harbours and ports that were affected by an extreme weather event. If the sea level rises, which is being discussed, such events will become more regular. We are looking at those things in the longer term and doing the underpinning research that is needed to inform our work.

11:15

The Convener: We have a final quick point on this issue from Graeme Dey.

Graeme Dey: What are the pathways for implementing what we learn, or for rolling out successful pilot projects across the country?

Paul Wheelhouse: We are looking at land-use strategy in a number of areas. The land-use framework pilots that are being done in two areas—the Borders and Aberdeenshire—will help to inform how we reform land-use, taking into account issues such as climate change and adaptation. The network of farming for a better climate farms is piloting approaches to dealing with the environment. Those farms cover different types of agriculture in different locations, so the

network is, I hope, giving us information that is relevant to different interest groups. We have climate challenge fund pilot projects in Lochboisdale and at another site—I cannot remember where at the moment, but I can come back to the committee on that. Those are two more pilots from which I hope we are learning about rolling out adaptation to climate change.

A lot of experimentation needs to be done. In many respects, adaptation is a new area, so it is important that we pilot and evaluate the impact of the measures and then roll them out.

Graeme Dey: What I am getting at is whether we are already thinking about the next phase, which is what we learn from the pilots, how we implement the measures and what we will do with that knowledge. Are we thinking about that now?

Paul Wheelhouse: I am confident that that is a key area for us. Neil Ritchie might like to comment on the work that is going on on flooding.

The Convener: We will come to flooding.

Paul Wheelhouse: Okay. We will come back to that, so Neil will have his moment.

Graeme Dey: I was just making a general point.

Paul Wheelhouse: It is an important point, because we need to learn and to have evidence-based policy. We must always be mindful that, in times of constrained financial resources, we cannot afford to waste money unnecessarily. We need to experiment, although there is the risk in trying something innovative that it might fail. It is important to innovate in policy, but as Graeme Dey suggests, it is vital that we learn quickly from mistakes, that we do not repeat them and that we move on to something else that might work better. I can give an assurance that that is the approach that I take to framing policy; I am sure that other ministers and officials do so, too.

The Convener: We will float quickly onwards towards land use and the natural environment.

Claudia Beamish: The minister has touched on a number of land-use issues. The committee would like to look in particular at the natural environment and at strengthening ecosystems. In evidence, a number of witnesses, including Professor David Paterson, who is executive director of the Marine Alliance for Science and Technology for Scotland, and Professor Des Thompson of Scottish Natural Heritage, have told the committee about the multiple benefits of building healthy ecosystems for a range of issues, including biodiversity and adapting to climate change. Witnesses have also suggested that agencies and businesses must come together to consider how best to deliver healthy ecosystems and to help to resolve tensions. Could more be done in the adaptation programme to reflect the

opportunities that are available to strengthen Scotland's ecosystems?

Paul Wheelhouse: I concur that that is an important topic. The points that Des Thompson and others have made about the need to work collaboratively are absolutely key. Through the biodiversity strategy, we are moving to a system in which we look more at—to put it in simple terms—ecosystem-level or landscape-scale conservation projects that have multiple benefits. We know that, by restoring habitats, we can have an impact on species, too. Often, the best way of helping a species is to improve the habitat in which it is located, so that can be a constructive thing to do. If we are to take that approach, we will need multiple partners and agents in order to deliver it.

There are some good examples of that in practice. The peatland restoration project by RSPB Scotland at Forsinard is a large project involving more than one landowner—in this case, the RSPB and Lord Thurso—so there is collaboration.

We need to develop the Scotland rural development programme and other financial tools from Government that can support such work in a way that enables us to understand what incentivises private sector or third sector parties to come on board and support us in delivering ecosystem-level projects. Ms Beamish is right that such projects can also have big adaptation benefits. The primary objective might be biodiversity or habitat restoration, but by restoring a wetland, an upland peat bog or blanket bog, we can impact on issues such as flood risk, and the project might have other environmental benefits for communities that are further downstream.

We have to be sophisticated. Resources are constrained and we need to look for multiple benefits, but we must also understand how we can bring in multiple partners and achieve the collaborative working that you call for.

Claudia Beamish: When there are possibilities of multiple benefits, will analysis be done of what effect a biodiversity project, for instance, is having on climate adaptation?

Paul Wheelhouse: That would be an important consideration for evaluation of the next SRDP. In the screening process, we will increasingly be looking for multiple benefits, although in some cases that might not be appropriate; it may be appropriate for a project to have a single focus. I am not saying that I want to shut out high-value, good-quality projects, but when we have choices we will probably lean towards projects that can deliver multiple benefits. We therefore need to evaluate when multiple benefits were achieved and what impacts there were in terms of biodiversity and adaptation, for example. I entirely

take on board that message and will ensure that we feed it into the evaluation programme for the SRDP.

The Convener: We will move swiftly on to the marine environment.

Jamie McGrigor: Claudia Beamish mentioned Professor Thompson and Professor Paterson. Professor Thompson noted that 18 per cent of Scotland's

"soft coastline is highly susceptible to erosion."—[*Official Report, Rural Affairs, Climate Change and Environment Committee*, 30 October 2013; c 2826.]

Professor Paterson suggested that coastal partnerships have a strong role to play in helping us to adapt to climate change, and that greater strategic support for coastal partnerships will be required if they are achieve that goal.

Witnesses raised the concern that it is often unclear who or which body is responsible for what action when faced with challenges or the need to respond to events. How effectively does the programme reflect the challenges and opportunities in building the resilience of coastal communities? What more, if anything, could be done? Is there scope for greater strategic support for coastal partnerships?

Paul Wheelhouse: That is one of the areas that is a work in progress. We have some evidence internally about the risk of coastal erosion and, looking further forward—this comes back to the point that Claudia Beamish made about looking not only at the short term but at the longer term—what impact that might have on flood risk.

As far as coastal flood risk is concerned, there are two separate things to consider. There is the risk of tidal erosion and there is the risk of coastal flooding. We need to reflect on the evidence from Des Thompson and the specific implications for Scotland of the IPCC report. We need to drill down into those and plan for them; I hope to have in the near future a briefing session from Alex Hill and his colleagues at the Met Office on that report.

On taking a more concerted approach in particular vulnerable communities, it would be sensible to consider a co-ordinated approach to vulnerabilities that are revealed by our analysis, and to consider whether we need to take additional steps to protect communities or vital economic assets from risk. That, too, is a work in progress. I would be happy to engage with Mr McGrigor on this if it is of interest to him. It is certainly an issue that we need to do more work on.

Jamie McGrigor: I wanted to ask earlier whether the Government will advise councils that it might be inadvisable to build on flood plains. In relation to that, is a distinction made between

flooding caused by rising sea levels in coastal communities and inland flooding caused by rainfall and snow melt?

Paul Wheelhouse: You are right to highlight that we can expect to see such impacts from climate change—there will be more erratic weather conditions and more extreme rainfall events, which will in turn increase the risk of fluvial and pluvial flooding. Separately, we have sea-level rises and the implications for coastal flooding.

I will bring in Neil Ritchie later to talk about how we are already taking climate risk into account when we plan flood protection schemes.

It is worth highlighting that objective N2-20—which is in the table on page 24 of the programme document—is "Assess and manage coasts". Some specific measures are set out in the table. I will not go through them in detail but I note for the committee's benefit that some steps are identified through the national marine plan and other measures, so we are already factoring in that we have to assess whether particular projects would have an implication for coastal flooding elsewhere. In simple terms, it is about taking into account matters such as the displacement of water in the event of a flood event. If you put in a defence in one place, does it create problems further up or down the coast from that site?

We are having to become more sophisticated and take additional factors into account in marine and terrestrial planning because of climate change and the adaptation issues that you refer to.

Jamie McGrigor: Scotland has in the region of 60 inhabited islands.

Claudia Beamish: I think that there are more than 100.

Jamie McGrigor: I am sorry—there may be more than 60 of them. Anyway, we have a lot of islands. Have you identified the ones that are most vulnerable to rising sea levels?

Paul Wheelhouse: We are in the process of doing that in the internal work that I referred to earlier. I hope that we will be able to share that work with the committee in due course. The work is beginning to unpack those issues.

We know that some local authorities face a greater risk than others. For example, on low-lying islands such as the Uists, we know that there are already coastal erosion issues and severe impacts from winter storms, so clearly, with rising sea levels and more volatile weather conditions, such areas will be more vulnerable. We need to understand the risks, and I want to meet Alex Hill, Professor Stephen Belcher and others from the Met Office so that we can unpick the issues and see exactly what the implications are for particular localities.

We are beginning to work on issues such as coastal erosion to understand the impact of sea-level rises and how that impact would translate at the Scotland level and, therefore, what the impact would be on local communities in the Shetland islands, the Uists or other places where there is low-lying territory. It is also about working out which heritage assets would be vulnerable. It is not just communities and businesses that are at risk; some of our most important tourism and heritage assets are in areas such as the Western Isles and the northern isles, which may be vulnerable to rising sea levels and the damage that we can expect from that.

The Convener: That is useful. We will come to other questions about water and all the rest of it later, but Nigel Don also had a question on flooding.

Nigel Don: The minister will of course be aware of the report "Flood disadvantage in Scotland: mapping the potential losses in well-being". I have been strictly warned not to mention my own location, and I will not, precisely because it is very clear from the report that there are many other places in Scotland where the potential social outcomes from flooding are much worse.

How are the minister and the Government trying to use the information that is revealed in the report about the real risks to communities? I am talking about not just water coming past the door but the consequences to society that that flood will leave behind. To what extent is the Government able to incorporate that information in the adaptation plan?

Paul Wheelhouse: We have made much in Scotland, both in the Parliament and in the Government, of the work that we are doing on issues such as climate justice at an international level. The report that we published recently on the impact of flood risk on vulnerable communities takes a look at such issues at the domestic level.

By dint of history, we have many communities where those who are at principal risk of flooding are in lower-income groups, in poorer-quality housing and in more vulnerable areas. We need to reflect on that and prioritise our investment to help those who are most vulnerable and least able to help themselves, if I can put it in those terms.

The report that we have just published did not get an awful lot of pick-up in the media, to pick up on Mr MacDonald's point, but it is a very significant report and it really drills down into the details.

11:30

We know that roughly 34 per cent of neighbourhoods are in some way exposed to

some level of flood risk, but when we drill down we find that we can narrow that down to about 2.8 per cent of neighbourhoods in Scotland that are very severely disadvantaged in relation to flooding. That will inform our thinking and our policy. We can target our efforts to ensure that those communities are given a high priority as regards tackling the flood risks that they face. Where we cannot implement a flood protection scheme—perhaps for technical reasons—we need to help those communities to tackle the problem in other ways, whether through property-level protection or through other approaches.

Nigel Don: Presumably you will have those conversations with the local authorities. I assume that they are the bodies that are best placed to deal with that kind of thing.

Paul Wheelhouse: Indeed. We have a partnership approach with COSLA. As I think you will be aware from previous discussions, the delivery of funding for flood protection schemes is done in partnership with COSLA and therefore our understanding of flood risk will help to inform our discussions with COSLA about which communities need to be prioritised. However, it is early days. We are building up the evidence base.

I hope that that report is a useful contribution. We are providing more local information for local authorities so that they are able to assess the issues that arise at a finer degree of granularity. The report is feeding into our publication of updated flood-risk maps as well, which will come in due course. Neil Ritchie may be able to advise you on the timescale for that.

Neil Ritchie (Scottish Government): The flood-risk and hazard maps that are currently being produced by SEPA will be published at the turn of the year.

Paul Wheelhouse: The maps will look at the velocity and the depth of water as well—we are taking a more sophisticated approach to mapping now so that we can give advice about the rate at which water may flow through a flood-risk area and therefore the potential dangers to citizens.

Nigel Don: In that context, there are not only the social implications but the financial implications. I return, sadly, to the continuing issue of flood insurance. Last week, one of the witnesses perhaps somewhat unexpectedly suggested that in an independent Scotland—a point that he raised—we might find it more difficult to insure against floods. That seems at odds with my understanding that we have less of the risk. Can the minister advise me on that?

Paul Wheelhouse: You are absolutely correct. I read that evidence with some incredulity. According to one measurement, one in 22 of our domestic properties in Scotland is at flood risk,

whereas in England and Wales, it is one in six, and in Northern Ireland, it is about one in 18.

We welcome as progress the development of the product that the UK Government has brought forward, but we were not involved in the discussion on that. We have had separate, parallel discussions with the likes of the Association of British Insurers, which has very much welcomed Scotland's approach to investment in flood protection.

In broad terms, the best estimate that we can provide is that we fund about three times as much flood protection work per property at flood risk in Scotland as is done in England and Wales. We are making investments, and we have the Flood Risk Management (Scotland) Act 2009, which I think the ABI warmly welcomed. That act is a good piece of legislation that is informing our strategic approach at the Scotland level to managing flood risk; it is also informing investment decisions with COSLA about which flood protection schemes we fund.

Insurance works on the basis of risk, after all, and Scotland has a far lower risk, given the proportion of our domestic properties that are at risk of flooding. If the witness was suggesting that we would have more of a problem as regards flood insurance, I think that he misunderstood the nature of the insurance market.

Jamie McGrigor: I asked earlier about advice to councils regarding not building on flood plains. You made the point that individuals are responsible for the protection and insurance of their own property, which I understand. However, someone may buy a house on a flood plain where the risk of flooding is just one in 100 years, or even one in 200 years. Presumably, if the effects of global warming go on, that interval between floods on very old flood plains may be reduced to one in 25 years, for example, or to one in 100 years instead of 200 years. Do you take my point? Are you prepared to tell councils not to build on flood plains?

Paul Wheelhouse: I stress that there is already additional protection against development on flood plains—I apologise to Mr McGrigor for not saying that when he previously raised the issue. I take the point about old flood plains becoming more active in the future. I absolutely recognise that we will need to take that into account.

In existing areas of identified flood risk—in potentially vulnerable areas—any application that is made for a residential property, for example, is scrutinised. In communities that I am familiar with, I have seen applications to convert offices and other commercial premises for residential uses in town centres that are vulnerable to flooding.

Such applications are given additional testing. Some go before ministers for determination of whether they would be an appropriate use of the property, given the area's flood risk, so we have an opportunity to feed in. I see some such applications when that is relevant.

We can send further detail from planning and local government colleagues of the steps that are already in the planning system to protect against the risk. I take on board Mr McGrigor's point about areas of the country becoming more at risk because of climate change. We need to respond to that.

The Convener: We will deal with the marine environment and food in a minute or two. First, we will follow up the theme of risks and emergency responses.

Jim Hume: We heard from the Scottish Fire and Rescue Service and SEPA about their work to respond to incidents such as flooding, and we have heard about work with mountain rescue teams and about farmers working with local authorities. I am aware that Lothians RAYNET—a group of radio enthusiasts—is working with Scottish Borders Council to provide resilience back-up if communications go down when a large emergency happens. What does the draft adaptation programme do to support the development of such partnerships between the traditional emergency services and the many volunteer organisations and individuals out there?

Paul Wheelhouse: Thank you for raising that point. The programme provides an overarching framework, but we need to get buy-in for that and to get local authorities and others that have contact with local groups to build on it. The Government is setting an overarching framework, which we want to be reflected in strategies that are developed locally.

Like Jim Hume, I am aware of a number of good examples of community resilience through working with local fire and police services. I have seen at first hand the operation of the SGoRR—Scottish Government resilience room—process, when a local authority emergency response team works with police, fire and health colleagues to respond to incidents, whether they are in Stonehaven, in Mr Don's constituency, or other areas. A concerted effort has been made; a team Scotland approach is deployed at one level, and there seems to be strong co-ordination of responses at local authority level, too.

There is much that we can do. Jim Hume helpfully points out that community groups—such as four-by-four clubs and mountain rescue teams—are vital parts of the infrastructure and can play a positive role.

Jim Hume mentioned communications, on which we can do simple things. I was not aware—although it is obvious when we think about it—that, if a power outage occurred, cordless phones would not work and mobile phone coverage would be down in about half an hour, because the masts need power. The modern communications technology that we rely on is not resilient in such incidents.

Community groups are vital to getting information out to people—particularly vulnerable people, such as the elderly and those who are disabled, who need help from outside. They should perhaps have a traditional phone that is connected by a cord to the phone line, so that they can continue to receive calls. Such phones will still work in a power outage, whereas cordless phones will be instantly inactive.

A lot of work needs to be done from the Government down to local community level to get such messages out. I thank Jim Hume for raising the point.

The Convener: Claudia Beamish has been waiting patiently to ask the marine environment question quickly.

Claudia Beamish: Minister, we have discussed coastal erosion and its effects on island communities. I have a broader question about the marine environment and marine ecosystems. I seek reassurance from you on algal bloom and feeding grounds for birds. I do not seek any detail—I know that those issues are highlighted in the adaptation programme in N3. The development of the marine atlas and the need to keep it up to date are mentioned on page 30. Those matters will all take funding, including marine research. Will you comment on that?

Paul Wheelhouse: I recognise that the marine environment will play a key part. As I am sure Claudia Beamish knows, because she is familiar with the IPCC report, the evidence is that the upper ocean and, latterly, the lower ocean have absorbed much of the heat that has been generated. That will have significant impacts. It contributes to the accelerated rate of thermal expansion of the seas and, therefore, a slightly higher rate of sea level increase than we had previously factored in.

Those are important developments. Initially, there was some suggestion that sea level rises would be about 2mm per year but, in some cases, we are seeing 6mm a year, so the marine environment is clearly absorbing many of the impacts of global climate change. That is one of the reasons why there was a slower rate of increase in surface temperatures over the period. It is thought that the ocean was absorbing a lot of

that energy, but it will start to go through a new phase.

The marine environment is clearly important. The changes will have impacts, such as algal blooms, which Claudia Beamish mentioned. Algae clearly pose a big risk to shellfish growing, and the temperature of rivers is already having an impact on the health of our wild fisheries. We will consider some of those issues through sectoral approaches, such as the ministerial group on sustainable aquaculture, which will need to take them into account.

Those are just a couple of examples. Claudia Beamish is right to identify issues such as feed for seabirds. We know that there are impacts on that and it is important that we reflect that in our marine plan. The marine protected areas include some coverage for sand eel populations, which are important to puffins—for which Claire Baker is a champion—and other species.

Those are important measures. I accept that there has been some criticism from outside about our approach on some of those policy areas, but we are doing what we can to try to help our natural environment to adapt to climate change and, obviously, to try to mitigate climate change in the first place.

Claudia Beamish: Are you confident that the funding is in place for those major challenges?

Paul Wheelhouse: Certainly, on measures such as the development of the marine atlas and marine planning, quite a lot of additional resource is going into understanding the issues. Partly because of the need to study the marine environment for renewables investment, external finance is coming in and that will help to maintain and build our capacity to understand some of the marine environment issues that we face.

I take the point on board. I will ensure that I relate it to my colleague Richard Lochhead.

The Convener: Claire Baker will now dig into food and agriculture.

Claire Baker: I will raise some issues connected with food and the climate adaptation plan.

Increasingly, people are identifying a contradiction between Scotland's ambitious food and drink export figures and increasing levels of food poverty at home. Nourish Scotland has said that the adaptation plan fails to address food resilience. It has a fair point, if we look at the pressures on future food markets and the predicted volatility in global prices.

How do you respond to the criticism that the adaptation plan does not address those issues

adequately? I understand that it is a draft; is there any intention to reconsider it?

Paul Wheelhouse: That is a fair point. I suppose that the agri-food sector, and the wider food supply chain, is one of the more obvious examples of a sector that should have a strategic interest in the issue. The agri-food sector, aquaculture and, indeed, our sea fisheries are of profound importance, as climate change will have a direct impact on the production of food and drink in Scotland.

11:45

Society, business and retailers need to be aware that climate change will have potentially profound impacts on the supply chain globally. We need to understand that some of the foodstuff that we take for granted may be vulnerable to the impacts of climate change and use that knowledge as consumers to inform our decisions on how we behave. Buyers and retailers also need to be aware that they have an interest in dealing with climate change because it will impact on the future viability of many of them.

Claire Baker is absolutely right in saying that there is a lot that we can do domestically, too. Her members' business debate in support of Fife diet showed what an important initiative that is; indeed, it one of the biggest local food initiatives in Europe. I am aware that Nourish Scotland and others are looking at the sustainability of our food supply chain. Those important issues must be taken into account. If the committee has recommendations on those areas, I would be happy to look at them and consider how to reflect those in the adaptation programme. I am aware that Pete Ritchie and others have given evidence to the committee on those matters.

It is clear that we need to maintain and, if possible, enhance our efforts to support the reduction in food waste. It is grossly inefficient of us to waste such a large amount of food.

We need to promote local food, where possible, taking account of certain procurement restrictions. We can do more to make people aware of their local food opportunities, such as farmers' markets. We could also help to promote seasonal food and ensure that people are aware that it is not normal to expect to have strawberries, for example, throughout the year. Great products are grown in Scotland—Scottish raspberries are one of my favourite fruits. However, people should be sensitive to the fact that, while we can get very good strawberries in Scotland—no doubt, those can be grown in Graeme Dey's constituency—other products are being flown in from around the world. They must be made aware of our vulnerability as a society should we continue to

depend on that 24-hour-a-day access to foods that come from halfway around the world.

I recognise Scotland's tremendous record as a food exporter. In the salmon market, for example, Scottish produce is seen as a high-quality, luxury item and a healthy alternative. Local aquaculture industries are being set up in developing countries and we are doing what we can to support that process through organisations such as the institute of aquaculture at the University of Stirling and the James Hutton Institute. Those organisations are helping to inform understanding in developing countries of how to develop their own domestic aquaculture sector for tropical fish and other species that are more relevant to the locale. We do not keep all our knowledge to ourselves—we are using it to help other societies have a more resilient food supply.

As I say, there is much we can do domestically to promote local seasonal foods and help our supply chain.

Claire Baker: The adaptation programme is in draft form. Will there be a further look at whether food needs to play a more central role in it?

Paul Wheelhouse: I would welcome any thoughts that the committee may have on that topic. You have heard a lot of evidence and consulted Pete Ritchie and others directly, so if there are messages that you wish to pass on, I will certainly look at them and see whether we can take them on board in developing the adaptation programme. That would be a good use of the expert witnesses that the committee has brought in. I will look with interest at what you suggest, and we will look sympathetically at any specific proposals.

Graeme Dey: With regard to agriculture's contribution to the climate change adaption programme, objective N3-1 refers to implementing the European Union reform of the common agricultural policy. I think that I am right in saying that the draft programme was pulled together at a time when we assumed that the CAP would be greener than it will be. If that is the case, how much of a handicap will a limited greening of the CAP be to our efforts?

Paul Wheelhouse: That is a valid point. As I am sure that Graeme Dey knows, we are in a position that I suspect none of us round the table wants to be in with regard to the level of funding that we have for agri-environment schemes. We also have a lower funding allocation through pillar 1 than we would like to see in Scotland.

We might well have to finesse the strategy to reflect circumstances as detail emerges about the level of funding that is available. You are right to say that the initial expectation was that the CAP would put much greater emphasis on greening

than appears to have been delivered, but we in Scotland can be flexible in our allocation of resources and through, for example, the next SRDP we will try to help make our natural environment more resilient with the kind of investment that I was talking about earlier and the influence of land managers at a local level to develop ecosystem-wide approaches that deliver the multiple benefits that we have already discussed.

I hope that we can still make progress, but clearly we are not in the position that we expected to be in or, indeed, that I would like to be in. I believe that far more resource should be available to Scotland to deliver greening measures in our agricultural sector.

Richard Lyle: We have already touched on the issue of food but I guess that my next question could cover everything. You have said that local councils tender on quality and price and that some of the firms who win contracts are quite far away. Should we change regulations to allow councils to give preference to local food? After all, according to a survey undertaken by an organisation called the Association of Public Service Excellence, £1 spent locally generates £1.60 for the local economy.

Paul Wheelhouse: That is certainly an important question. As the minister with responsibility for crofting, I would like crofters to get a fair crack of the whip in public sector procurement and there is a lot that we can do to help crofters work collaboratively in marketing themselves. I will not get into that just now, but if we can do more through procurement to secure local contracts for local businesses, local companies and local farmers it will have the sort of positive benefit that Richard Lyle quite rightly identified in that it will recycle that money through the local economy. The multiplier will certainly be higher than if the product or service in question were procured from further afield. Without getting too techy in my language, I think that the more we can reduce leakages of money out of an economy, the more prosperous that economy will become and the more that positive cycle can be maintained.

Of course, we face certain strictures with regard to European procurement rules. I know that as part of the background to the Procurement Reform (Scotland) Bill that the Government has introduced engagement and discussions are going on with partners in Europe and elsewhere about maximising opportunities for Scotland. However, that work is not part of my portfolio and I might have to come back to the committee in writing about what the legal position is and what we can actually do.

The Convener: Moving rapidly on, I call Nigel Don to ask some questions about the built environment.

Nigel Don: The UKCCC has expressed concern about our ability to make good decisions about the siting of major developments. The minister has already mentioned his conversations with Mr Mackay about the planning of new settlements, but to what extent is the Government thinking about the effects of climate change in, for example, the siting of wind turbines and renewable energy facilities in general, and broadband, for which a lot of money is literally going into the ground?

Paul Wheelhouse: It is no secret that the Government has quite ambitious climate change targets and that local government, through the single outcome agreements and the climate change duty, has a responsibility to those targets at a local level. As I have said, I have every confidence that that message has been well recognised and that local government is doing a lot of good things. Of course, that feeds into the issues that Claire Baker and Jamie McGrigor have picked up about reflecting the planning system at a local level.

Some decisions can clearly be taken at a local level, although there might be competing interests. For example, many communities will call for the undergrounding of cables for renewables projects because of the reduced visual intrusion. As statutory consultees in the planning process, SEPA and Scottish Natural Heritage would examine the impact of undergrounding on hydrology and peatlands, which are very important for the sequestration of carbon emissions.

We have to be smart about how we develop infrastructure at local level and make sure that it is sensitive to many factors, including biodiversity, climate change impacts and hydrology. SNH and SEPA fulfil that role on a day-to-day basis when assessing all planning applications. Those organisations are very aware of adaptation and climate mitigation drivers for Government and will reflect that in how they deliver.

It might be appropriate to bring in Neil Ritchie and give him a bit of a workout on how SEPA takes adaptation issues into account in framing its response to any planning application.

Neil Ritchie: SEPA and the other statutory consultees will look at the range of factors involved. For example, when they are looking at windfarm developments, they will assess and validate the carbon calculator assessment that the developer has identified as part of its application. It is also relevant to reflect that, in addition to the planning regime and the decision-making in that process, other relevant actions will be considered,

such as environmental impact assessments, which will all help the decision-makers to make a rounded and informed decision, be they the planning authority or others.

The minister used a flooding example earlier. The flood risk strategies that are being developed build in climate change projections, so the future impact of climate change in a number of areas is embedded into the decisions that we are making now.

Nigel Don: I will extend that point to ask whether we have the right mix of skills in our workforce to deal with the programmes that we have talked about. Has the minister had any conversations with his colleagues in education to explore that?

Paul Wheelhouse: Specific proposals have been made and discussions have been had throughout the education sector, and they have been led by the Cabinet Secretary for Rural Affairs and the Environment, Richard Lochhead, and others. They have been about how we respond to growth in the low-carbon economy, and some of the measures that are required to develop that, such as renewables and zero waste. Richard Lochhead is also looking at developing a circular economy.

There are a lot of areas in which we are having to adapt and change our economy to move to a low-carbon model and we are alive to the skills issues. Discussion of the adaptation programme will raise issues and reveal any skills gaps. That might be an area that we need to look at, but, to date, I do not think there has been a concerted strategy on adaptation. However I will ask my officials to confirm whether that is the case.

Bob Irvine: Not specifically, but we are looking at the requirements within each policy sector. When the flood legislation went through a couple of years ago, we set up an initiative to train more postgraduate hydrologists as a response. That kind of development does happen, but we do not have an overarching adaptation and education strategy.

Paul Wheelhouse: I can certainly commit to taking that forward to any bilateral discussions that I have with the Cabinet Secretary for Education and Lifelong Learning. I will certainly bear that in mind and make sure that those issues are addressed.

Jamie McGrigor: In evidence to the committee, David Thompson noted that he did not see

“in how the objectives have been set out, how issues around resilience of businesses and supply chains are dealt with.”—[*Official Report, Rural Affairs, Climate Change and Environment Committee*, 9 October 2013; c 2768.]

That view was echoed by Professor John Rowan. How does the draft adaptation programme mitigate the risks to supply chains that are critical to businesses in Scotland?

12:00

Paul Wheelhouse: As I said, we are doing a lot of work with Scotland's 2020 climate group, which is looking at how to make businesses more resilient to climate change. We talked about low-carbon behaviour, and as well as being encouraged to consider mitigation activity such as fuel-efficient driving, businesses are being encouraged to consider supply chain risks.

I think that I said that I am concerned that not enough businesses, particularly in sectors that we know are vulnerable, are taking on board the message that they should be planning for climate change in their corporate strategies and considering risks to their supply chains as well as more direct risks, such as risks to property. Much more work needs to be done in that regard.

If the committee comes forward with points that it thinks should be included in the climate change adaptation programme, I will consider them. Our view is that we have strong collaboration with the 2020 climate group on such matters.

My officials might want to comment on the engagement that we have had with business. There have been direct responses to the consultation from businesses. Such responses have come mainly from the energy sector, and the Scottish Salmon Producers Organisation provided feedback from the aquaculture sector. It is fair to say that the bulk of responses have come from the public sector, the voluntary sector and the transport sector—you will understand that there is interest in transport resilience.

Bob Irvine: The Government's main priority is to ensure that business is aware, so that it can do its own planning. The 2020 climate group is an important conduit and stimulus in that regard. Outside that, public bodies that engage with businesses are subject, under the Climate Change (Scotland) Act 2009, to the public sector duty to discharge all their functions taking account of climate change and sustainability, so they should be working to support and develop business a little better.

Adaptation Scotland is funded directly by the Scottish Government to work with all sectors, through a number of programmes, to stimulate, support and facilitate such planning. The organisation actively engages with certain business groups. Could it do more? It undoubtedly could, and perhaps once the programme is finalised we should consider how to develop

Adaptation Scotland's role, so that it can offer greater support and information around planning.

Claudia Beamish: As the meeting draws to a close, I want us to focus our minds on social justice in relation to climate change adaptation. Minister, you might be aware that David Thompson and John Rowan suggested that the draft programme does not adequately reflect issues associated with social vulnerability and equity. Furthermore, the Joseph Rowntree Foundation, which could not give us oral evidence, said in response to the consultation:

"There is no consideration of the differential impacts of climate change across Scotland or the nature of inequities that climate change may bring or ensuring that fairness and equity is considered in developing responses which may require targeted action".

The foundation's comments were quite hard hitting. There are issues for island communities, and Glasgow has been mentioned. We have talked about fuel poverty and food poverty, which are quite concerning. To what extent has social justice been considered in developing the draft programme? Is there scope for further action? Is it likely that the programme can be equality proofed?

Paul Wheelhouse: Those are hugely important issues. I talked earlier about climate justice in an international context and how that relates to Scotland.

The work that we have done on extreme flood disadvantage is subsequent to the publication of the consultation so there is a timing issue there. I can reassure you that a lot of work is going on as regards the vulnerability of communities, specifically to identify those that are at the greatest flood disadvantage in order to help to prioritise our investment, as I was saying earlier.

We certainly take equalities issues on board. Social justice is an issue when identifying which communities to prioritise. As regards the composite measure of vulnerability there is the social inclusion indicator to take into account, as well as the potential impacts on the community, its financial vulnerability and so on. All those factors are taken into account and inform our work. We are taking account of not just the physical risk but the risk in terms of the ability of that community to respond and to be able to protect itself.

When I went to Stonehaven in Mr Don's constituency, I saw many properties in flooding areas that were not protected from flooding and it is probably not a coincidence that many of those properties did not have flood insurance either, which meant that there was a double vulnerability. Those who are able to fund measures do so and they are probably better protected because they are able to afford flood insurance in the first place. We need to take account of those issues in our

policy on flood insurance and in other matters. However, we have to model and identify where the risks are, identify which communities are most vulnerable and act on that. There is a bit of a timing issue there as well.

We are doing a lot of the underpinning work that is covered by the recently published report on extreme flood disadvantage in Scotland, broken down by local authority. We are also informing local authorities, at a higher degree of granularity, where those risks are within their areas so that they are also able to act.

I take on board the point: there is an important issue here about ensuring that we look at the vulnerability of communities and the social justice dimension. Government and local authority partners and others can then respond to that and I will take a lead on making sure that that issue is addressed.

Claudia Beamish: That is helpful, minister. Could you say something more, either today or perhaps in writing to the committee, about how vulnerable people on a low income and targeted deprived communities will get the sort of support that they need—not just with regard to flooding but more generally—to prevent them from being left behind?

Paul Wheelhouse: I take your point. It is not just about flooding—that is the most obvious example. We know that, for historical reasons, many low-income communities are unfortunately left with poor-quality housing in areas that are naturally prone to flooding. There has been an historical link. In just the same way, during the industrial revolution, many of our cities developed with the more affluent areas in the west because the prevailing wind took the smog and the smoke away from those areas.

Socio-economic and geographic factors have led to lower-income communities ending up being most exposed to flooding because lower-income households took less good-quality land. There will probably be concentrations of different issues in the same communities—communities that are affected by fuel poverty are probably also affected by flood risk, as well as by transport and access issues and other problems. I take on board your points and I will come back to the committee with a response to the points that have been raised.

The Convener: I thank the minister and his officials for their evidence so far. No doubt they will be interested in our report, once we have reflected on this issue.

12:09

Meeting continued in private until 13:13.

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