OFFICIAL REPORT
AITHISG OIFIGEIL

Rural Economy and Connectivity Committee

Wednesday 3 February 2021

Session 5

The Scottish Parliament
Pàrlamaid na h-Alba

Wednesday 3 February 2021

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RURAL ECONOMY AND CONNECTIVITY COMMITTEE

4th Meeting 2021, Session 5

CONVENER

*Edward Mountain (Highlands and Islands) (Con)

DEPUTY CONVENER

*Maureen Watt (Aberdeen South and North Kincardine) (SNP)

COMMITTEE MEMBERS

*Peter Chapman (North East Scotland) (Con)
*John Finnie (Highlands and Islands) (Green)
*Jamie Halcro Johnston (Highlands and Islands) (Con)
*Emma Harper (South Scotland) (SNP)
Richard Lyle (Uddingston and Bellshill) (SNP)
*Angus MacDonald (Falkirk East) (SNP)
*Mike Rumbles (North East Scotland) (LD)
*Colin Smyth (South Scotland) (Lab)
*Stewart Stevenson (Banffshire and Buchan Coast) (SNP)

*attended

THE FOLLOWING ALSO PARTICIPATED:

Sheila George (Scottish Environment LINK)
Stuart Goodall (Confor)
Robbie Kernahan (NatureScot)
Nigel Miller (Farming for 1.5°)
Professor Dave Reay (University of Edinburgh)
Professor Deb Roberts (Scottish Environment, Food and Agriculture Research Institutes)
Arina Russell (Woodland Trust Scotland)
Ruth Taylor (NFU Scotland)

CLERK TO THE COMMITTEE

Steve Farrell

LOCATION

Virtual Meeting

Scottish Parliament

Rural Economy and Connectivity Committee

Wednesday 3 February 2021

[The Convener opened the meeting at 09:30]

Climate Change Plan

The Convener (Edward Mountain): Good morning, everyone, and welcome to the fourth meeting in 2021 of the Rural Economy and Connectivity Committee. I ask everyone to make sure that their mobile phones are on silent. This meeting will be conducted virtually. We have apologies from Richard Lyle, who is attending another committee meeting.

We will start with relevant declarations of interest. I have an interest in a farming partnership in Moray, whose land has trees on it.

Peter Chapman (North East Scotland) (Con): I am a partner in a farming business, whose land has wind turbines on it. That is not part of my normal declaration, but I will make that declaration today.

Stewart Stevenson (Banffshire and Buchan Coast) (SNP): I am the joint owner of a very small registered agricultural holding that is surrounded by someone else's trees, which are currently being cut down.

The Convener: Thank you, Stewart. I noticed a bit of envy there.

Jamie Halcro Johnston (Highlands and Islands) (Con): I am a partner in a farming business in Orkney and a member of a number of agricultural bodies, including NFU Scotland. I also have trees on the land in Orkney, although they are not commercial.

The Convener: Thank you.

The first item on the agenda is an evidence session on the Scottish Government's "Update to the Climate Change Plan 2018-2032: Securing a Green Recovery on a Path to Net Zero" with witnesses from across the agriculture and forestry sectors. The session forms part of a series of evidence sessions that the committee is having to inform our response to the update to the climate change plan.

I welcome Ruth Taylor, climate change policy manager, NFU Scotland; Sheila George, food and environment policy manager, WWF Scotland, representing Scottish Environment LINK; Professor Deb Roberts, deputy chief executive and director of science, James Hutton Institute, representing Scottish Environment, Food and Agriculture Research Institutes—SEFARI; Arina Russell—I hope that I have pronounced that right—public affairs manager, Woodland Trust Scotland; Stuart Goodall, chief executive, Confor; Robbie Kernahan, director of sustainable growth, NatureScot; Robbie Miller—sorry; I mean Nigel Miller. I apologise, Nigel—I have got you wrong already. I welcome Nigel Miller, co-chair, farming for 1.5° independent inquiry; and Professor Dave Reay, chair in carbon management and education and executive director, Edinburgh Centre for Carbon Innovation, University of Edinburgh.

We will move to questions. I ask committee members to direct their opening questions to a specific person, as that will help me. If any of the people who are giving evidence would like to come in, they should put an R in the chat function and I will try to bring them in. I will not bring in people on every single question—I apologise in advance for that. Hurt looks will not help, but I will certainly try my best to get people in. We have a lot of questions, and I always appreciate succinct questions and answers when there are a lot of witnesses and committee members. The first questions are from Peter Chapman.

Peter Chapman: Good morning. I have a series of questions.

I will set the scene a wee bit. We know that agriculture is the third-largest polluter in Scotland. That is not something that we like to hear, but it seems to be a fact. What are your views on the level of ambition for the agriculture and forestry sectors, as outlined in the plan? What might be the implications of additional abatement effort from agriculture being allocated to the land use, land use change and forestry sector? It appears that that sector is being asked to take up some of the slack for reducing the level of carbon in agriculture.

I would like to hear from Deb Roberts first—let us hear the scientist's view. Perhaps she could be followed by Ruth Taylor, to get the view from NFU Scotland. I suggest that Nigel Miller should go third, but you might have other ideas, convener. Can you launch off on that question, Deb?

Professor Deb Roberts (Scottish Environment, Food and Agriculture Research Institutes): Thank you very much for inviting me to represent SEFARI in giving evidence today.

I will start on the forestry target. Scotland is making a very significant contribution to the overall United Kingdom target, and the ambitions in the climate change update plan are strong.

I will say something about the nature of the target, as opposed to the level of the target, as I think that that is important. There is increasing

scientific evidence that having an area-based target can accidentally lead to unintended outcomes, and there is a growing understanding that planting the wrong types of trees in the wrong place will contribute to emissions rather than reduce them. There is something there that needs to be carefully examined. Arguably, the update does not discuss the types of trees very much, but native, broad-leaved trees are very important from the biodiversity perspective. The natural regeneration of forestry, which is an important element of mitigating climate change, is perhaps not discussed enough either. Overall, however, I think that it is quite a good plan.

Agriculture shows a very significant increase from the 2018 target, which is good to see: it has gone from a 9 per cent decrease in emissions to a 24 per cent reduction. It would be good to hear what other people say about this, but I think that there is a lack of detail about how that target will be achieved. That is my main concern about the updated plan.

A lot of the suggestions are still at a very early stage. From a scientific perspective, we would say that not enough has been taken on board regarding the need for an integrated land use approach in relation to agriculture. We very much welcome the farmer-led groups, which are great—obviously, we need farmer buy-in—but there is concern that we will end up with policies that will not deliver what is intended overall. There is not an overall, integrated perspective. That is where the regional land use partnerships could play an important role. I wish that there was slightly more urgency in the roll-out of those partnerships, which seems to have been very slow.

That is my initial take.

Peter Chapman: I have a specific question. Until today, I had always thought that the LULUCF—land use, land use change and forestry—part of the equation was going to be a carbon sink. However, we are now told that it will be a net contributor to CO_2, with something in the region of 2.3 per cent of CO_2 coming from that sector. That is mainly because of the thinking that peatlands and boglands will contribute to carbon. That was news to me today. Was that news to you, Deb, or did you always understand that?

Professor Roberts: I did not always understand that, for sure, but, basically, the emissions from peatland were not allowed for, so an adjustment had to be made, and that is why that has happened.

The targets in relation to peatlands are ambitious, but they are incredibly important, although they tend to be focused on the large peatland blanket-bog areas. Some more of the small agricultural peatland areas—peat bogs on farms—could perhaps be taken into account. There is still a lack of understanding of the potential there.

The Convener: I will bring in Ruth Taylor, followed by Stuart. Ruth, would you like to comment on the agriculture side? [*Interruption*.] Hold on, Ruth. We cannot hear you. We seem not to have unmuted you. That is our mistake.

We still cannot hear you. While the broadcasting staff sort that out, I will pounce on Stuart to stand in until you can come in.

Stuart Goodall (Confor): Good morning. I hope that it is Stuart Goodall rather than Stewart Stevenson you have called and that I am not just talking to myself in my room.

The Convener: You are not.

Stuart Goodall: Thanks for bringing me in. I asked to speak because I was worried that we might get off on the wrong foot with some of the information that we are already starting to focus on. It is really important to look at the evidence that Deb Roberts refers to. The report from the James Hutton Institute focuses on birch and on productive tree planting that was not really productive—it was very low yield class, so it was growing very slowly. That does not give us a proper assessment of what we are doing.

If we look at the Government's standard for where we plant—the UK forestry standard—we can see that, within it, there is a requirement that we measure the likely productivity of the trees that we plant and look at the sites that we are planting on. We have things such as the woodland carbon code that are actually very conservative in the way that they manage the evidence to ensure that there is positive sequestration of carbon. I flag up that we have to make sure that, where there is evidence, it is joined up. There is always the potential for individual bits of evidence to be selectively quoted.

To pick up on the theme that Peter Chapman mentioned, I certainly agree with Deb Roberts that we need to have a joined-up approach—[*Inaudible*.]—delivery as well. I have said to the committee in the past that it seems a shame to me that the forestry sector plants trees, often on former agricultural land, and gets the carbon benefit from that while the farming community does not. If we looked at it as a land use issue, we would consider the benefits of that tree planting for the rural community as a whole, rather than just allocate them to forestry. That is not just me being selfless; it is about reaching out to the farming community and farmers so that they can feel that they are benefiting from the work rather than being pushed aside.

The Convener: I will try to bring in Ruth Taylor now. I will then go back to Peter Chapman for another question. Ruth, you are logged back in. Over to you.

Ruth Taylor (NFU Scotland): Can you hear me?

The Convener: We can.

Ruth Taylor: Third time lucky. Thanks, convener.

As Deb Roberts said, the climate change plan update contains a lot of ambition for agriculture. It is important to remember that the sector has made a lot of progress since 1990, but I suppose that the recent plateau of emissions between 2017 and 2018 shows that there is a real need for action across the board if we are to move towards the target in the climate change plan update and contribute meaningfully to the targets that have been set nationally.

We believe that ambition is important, and we are committed to being an industry leader on this, but we believe that the targets need to be matched with deliverable policies that are clearly communicated, and that also needs to be matched with support for the sector. It is not going to be possible if we are left by Government to do it on our own.

On abatement effort being allocated to land use, land use change and forestry, I came back into the meeting towards the end of what Stuart Goodall said, so I hope that I have understood the context and that I am not about to agree with something that I do not agree with. However, the point about the farming community not getting the benefits allocated to it and people feeling that they have been pushed to the side is really important, and we need to remember that. There is huge concern among our membership that the action that they are taking on their farms is not being recognised, and we should not underestimate the role that recognition plays in motivating people to take further action. If we are looking to encourage more people to reduce their emissions and change some of their practices, there needs to be a fairer balance of risk and reward, and such recognition needs to be built in.

The LULUCF sector is important, but—Peter Chapman might agree with me here—renewables are important, too, and their contribution also needs to be considered. I encourage work being done to ensure that that happens, because that plays an important role not only in giving us an accurate picture of what is happening in Scotland, but in motivating the sector and encouraging people to change practice.

09:45

Peter Chapman: There is obviously a piece of work to be done on that.

Is there evidence of the Scottish Government providing leadership on efforts to reduce emissions from agriculture and forestry? Where is the leadership? I invite Nigel Miller to kick off on that.

Nigel Miller (Farming for 1.5°): Leadership is quite difficult. In some ways, the plan must be commended, because it is trying to be consensual and to use input from a diverse range of stakeholders and farmer groups, which must be positive. However, leadership—not just leadership from Government, but cross-party leadership—is needed, because if farmers are to make significant changes to their systems and make investments and look to the future, they must have confidence that those changes go in the right direction and will underpin a sustainable business in the future. It is a cross-party issue.

As Ruth Taylor said, farmers need to be sure that they will be rewarded for what they do. That means looking again at the way in which we audit farms. The inventory for agriculture obviously focuses on emissions but, in reality, things such as farm woodlands, sequestration areas, sequestration of soils, land use changes and renewable energy all come into agriculture. Agriculture must therefore be viewed as a compound and judged in that way.

Farmers must have confidence that that is the case. They must also have confidence that there is a realistic baseline. At the moment, we do not know what is on farm. We do not know what sequestration assets are or what biodiversity assets are. In agrecalc, we have a carbon accounting tool that is, in many ways, progressing extremely well and although the latest iteration looks quite exciting, it is not the whole deal. A mapping exercise needs to be carried out to find out what is on farm and to define the sequestration and biodiversity assets, and we need an accounting tool that takes those things into account.

We have looked at some quite large farms, where the woodland areas have probably been underestimated by about 50 per cent, because all that is taken into account by the counters are areas that are under agricultural or forestry schemes. Older and more natural woodlands are ignored or counted as ineligible areas. Things such as hedges are not counted, and we do not look at wetlands. Therefore, such areas fall out. When we go through a manual exercise, we can double the sequestration on some farms. With agrecalc, it is possible to look at soils. On some of the larger farms, a 20 per cent reduction in overall

emissions can be achieved through sequestration of soils.

We have to get this right so that farmers have the confidence. We also need leadership and targets. We know that we must get to net zero by 2045, but what does that mean for farmers? We need to come up with emissions targets. In the next phase, we might have to reduce our emissions by 25 or 30 per cent. We will probably also have to look at individual gases and reduce them by 25 to 30 per cent. We need solid targets, and a vision of what farming will look like. The UK Climate Change Committee has delivered its vision, which involves intensification of the best land, dietary change, reducing ruminant populations by 10 per cent or more, and freeing up land for forestry, bioenergy and short-range coppicing.

What is Scotland's vision? Does it buy into the UK CCC's vision, or does it take a more diverse view that includes nature value farming, diverse pools of sequestration and moderate forestry? If Scotland goes down the UK CCC route, there will be no future for a lot of farmers with ruminants. That is the reality. If we want farmers to invest and change, the prospect of no future is not a smart way to incentivise them. There are some big questions there, not just for Government but for the whole political system in Scotland.

The Convener: I will bring in Professor Reay, as he wanted to come in earlier, and I will then go to Arina Russell.

Professor Dave Reay (University of Edinburgh): I have a lot of answers to Peter Chapman's questions, but I will try to keep them short.

The Scottish Government is showing leadership but, as Nigel Miller said, that needs to be in tandem with industry and all the stakeholders. One welcome element of the climate change plan update is in the chapter called "Our Coordinated Approach", which involves thinking about land use and agriculture and the changes in those sectors in a more integrated way, and looking at the bigger picture. However, co-ordination of those sectors in order to tackle climate change has to work on the ground as well as in Parliament and Government.

It is tempting to fall into silos with regard to the sectors and how we report emissions. As a couple of the witnesses have said, one could say that our 24 per cent reduction target in agriculture is much lower than the targets in the other sectors. In fact, when we consider how we report—to go back to Peter Chapman's first question—and the extra burden on the land use sector in getting to the 2030 target, we see that that target does not represent trees appearing or peatland restoration on farms. If we have substantial amounts of such activity happening, we need to ensure that farmers are rewarded for it. We should not be saying, "Farming's not doing enough" simply because of the emissions reporting.

I support what other witnesses have said about the need to ensure that we represent that activity. Yes, we have to report through those sectors internationally, but in Scotland we know that there is more nuance in what happens on the ground.

I also support Nigel Miller's point about baselines; I hope that we will come back to that. The conditionality around data collection and provision needs to be looked at before 2024, so we could get going faster on that.

Finally, peatlands, which were mentioned briefly, have given the civil servants producing the climate change plan update a massive headache because that area is a huge addition to the inventory. The emissions are already there, but we are now going to count them. The key point is that we have an ambitious plan for peatland restoration, with a target of 20,000 hectares a year, but we are nowhere near that; we are at about 6,000 hectares a year. Peatlands are a significant source of carbon in our landscape, and we certainly need to hit that target of 20,000 hectares as soon as we can. We have to unblock the barriers to upping the area rates per year for peatland restoration.

The Convener: I will give all the witnesses a chance to respond to the first lot of questions, but that might not happen again.

I will bring in Arina Russell—I hope that I have got the pronunciation of your name right, because I am struggling to make sure that I do not offend you by getting it wrong.

Arina Russell (Woodland Trust Scotland): That is fine, convener; you have pronounced it perfectly. Good morning, everyone. In response to Peter Chapman's question about leadership, in the interests of time, I will make three key points, although I hope to come in later on the forestry and LULUCF sector.

First, we know that the replacement for the common agricultural policy is due to come in around 2024. That is a little bit late, and there is a lack of clarity on what will happen in the transition. We can learn a lot from the environmental land management schemes in England but, given the need for agriculture to respond to the climate and nature emergency, 2024 is a little late.

The lack of clarity on agriculture in the plan is not very beneficial, particularly for things such as agri-forestry. We know that that is one way we can support farmers to absorb carbon and increase productivity on their farms.

My second point is on the forestry grant schemes for agri-forestry. They are not suitable and we need to see well-planned agri-forestry benefits, including for timber biomass, but there also needs to be shelter for livestock, business resilience and crop water efficiency. The current forestry grant schemes need to be changed, and addressing the forestry grant schemes for agri-forestry could have been a key policy in the climate change plan update. We know that there is appetite out there, but the scheme is not really suitable for increasing farm productivity and supporting well-planned agri-forestry.

My third point is that we could utilise the woodland carbon code, which the plan wants to see increased by 50 per cent. It could expand to include agri-forestry, hedges, which would be important as Nigel Miller said, and things such as wood pasture. All those things could come under the scope of the woodland carbon code. As Ruth Taylor just said, we need to recognise farmers for their effort and the woodland carbon code would be a way to facilitate that and give due credit and recognition to the sector.

Sheila George (Scottish Environment LINK): I will touch on leadership and ambition, because they are closely linked. The key component of leadership is clarity, and others have talked about that. The 24 per cent emissions reduction target is probably in the right ballpark if we reach the 2020 baseline, but we will not know that until next year. The key thing is that if we do not reach that 2020 baseline, cuts will have to be deeper, which is why we need really clear leadership.

Professor Roberts said that the policies and proposals under agriculture do not necessarily add up to that 24 per cent, never mind any deeper cuts, so we would be delaying the inevitable and putting a world of burden on farmers in five or 10 years if we do not get the policies and proposals right now. We know what a lot of the mitigation measures that we should be taking are, and the plan is an opportunity to put some of those in place, including—[*Inaudible*]—management, livestock health and breeding and all of those things that we already know and that were mentioned in the CCC report.

However, there are conflicting leadership signals. The plan contains a commitment to a proposal for a new rural policy in 2022 that is better targeted towards climate and nature, but in this year's budget we had a 20 per cent cut to agri-environment employment schemes, which are the only component of the current system that delivers climate and nature outcomes. That is hindering farmers' ability to do things such as plant hedgerows, manage wetlands and manage species—[*Inaudible*.]—that sequester carbon and help them to adapt and respond to climate change.

Those mixed signals are removing that clarity and if you are a farmer and you do not know what the policy is going to be in five years, would you plant trees today or would you wait? Would you make the interventions that need to be made today or would you wait until you get that clarity? There is a massive risk that we do not have the leadership and the leadership does not reflect the ambition of the sector to adapt—

Peter Chapman: Can I intervene there? Will you comment on the fact that there will be no agricultural policy change until about 2024? I have been very critical of that, because we need to move a lot quicker than that. Fergus Ewing says that nothing much is going to change between now and 2024. Arina Russell touched on that; would you reflect a wee bit on that as well?

Sheila George: Yes, I totally agree, and that is something that Scottish Environment LINK has been calling for. We need to start the transition now, but to do that, we need to know where we are going. The signals are that we will see a tweaking of the status quo around the policies that we already have. There are some good signals in the climate change plan that we will have increasing conditionality on greening, but that is only acceptable if it is part of a transition—it cannot be the end point. If we add more conditionality to greening, whether that is better soil testing or carbon audits and all of those things, that is great but it needs to move towards something more significant and there needs to be a more significant shift towards public money for public goods as a larger chunk of the whole system.

10:00

Last year, Scottish Environment LINK published a paper that outlined what the future of rural support should look like. We can share that with the committee again, if that would be useful. It sets out a hierarchy, the base of which is the need to tighten up regulation. The climate change plan is quite light on regulation. It focuses very much on advice, engagement and discussion.

We need to strengthen various things in the regulation. We need all-farm plans, as Nigel Miller said. We also need non-competitive payments, such as sustainable land management payments and support for specific farms, and competitive payments that deliver specific species and habitat interventions and ecosystem management. Tweaking the edges of what we currently have will not get us to net zero. We need to start the transition.

The Convener: I will go to Robbie Kernahan from NatureScot or, as I used to know it, Scottish Natural Heritage.

Robbie Kernahan (NatureScot): By way of an opening statement in responding to Peter's question about LULUCF doing some of the heavy lifting, it is good news that we see the importance of land use coming into greater focus. However, it is difficult to differentiate between agriculture and land use, because they are often intrinsically linked and one and the same. For all forms of land use, whether agriculture, forestry or peatland restoration, increased recognition of the importance of soil health and the value of organic soils—the resilience of which is fundamental to managing the facts of changing climate—is good news, as is climate and nature being increasingly recognised as a coupled system. We obviously see the benefits of that.

However, coming back to ambition, I think that we all recognise that we need greater urgency and focus if we are to hit the targets for woodland and peatland restoration, which are—as we have heard—challenging and ambitious. We know that achieving reductions in agriculture will take a little bit of time, because of the complex set of interactions between consumers and producers. It will require a systematic approach to what we eat and drink and how it is produced through to how we prepare and supply it and—[*Inaudible.*]

We understand the need to give a little bit more time for agriculture, but we want to ensure that everybody understands that this is an emergency. Although we must not convey a sense of panic, we need to give clarity and provide some of the direction and leadership that is needed, in relation to land use, of course, but also in relation to agriculture.

The Convener: I will go back to Ruth Taylor on the issue of future policy for farming. I would also like to bring Sheila George in on that, because that was the question posed by Peter. I am afraid that we will then have to move on, Peter, as the first three questions have taken half an hour. I have been generous with time, but I might have to rein you in a bit as the morning goes on. We will hear briefly from Ruth, followed by Sheila.

Ruth Taylor: In the interests of time, I will make a brief point. There is no real need to labour the point, because everybody who has spoken before me has been really clear that we need future policy to be clarified urgently and that the sector needs direction. That goes back to what we were talking about earlier around leadership. NFUS is very willing to play a leadership role. Nigel Miller touched on the importance of us all playing a role in leadership and of cross-party leadership across Parliament. We feel that real leadership is setting out that direction and giving farmers time to plan and adapt. I also reinforce what Sheila said in that we need that clarity on future policy now.

The Convener: Sheila, do you want to add anything briefly before I move on to the next questions?

Sheila George: It might come up later, but I note that the production side is only one part of the story. We need integrated food policy and whole food system policy. The good food nation bill would have provided that framework, but, unfortunately, it was delayed. We would like to see that come forward this year, along with a national food plan, because consumption is also a massive part of the picture. The plan touches on that but brushes over it.

If we are to transition farming to more climate-friendly and nature-friendly systems, we are going to have to support that, and public procurement is a massive opportunity. Each year, £150 million is spent on food by the public sector, employing about 10 per cent of the Scottish population and feeding our most vulnerable people in schools, prisons and nursing homes. We can therefore create a market and support for that type for farming.

There are massive opportunities in change, and I think that we are missing those at the minute because we are buffered from change. However, climate change is going to cause that anyway, so we need to get on top of it.

The Convener: Thank you. The next questions are from the deputy convener, Maureen Watt.

Maureen Watt (Aberdeen South and North Kincardine) (SNP): Good morning, everybody. What a wealth of knowledge we have in the panel.

The CCC has urged the Scottish Government to

"develop a strong regulatory baseline that includes low-regret options"—

perhaps somebody can explain to me what those are—

"with incentives and a wider policy framework for further measures."

What activities would you like to be incentivised as part of the updated climate change plan, and what activities should be part of regulation? Perhaps Ruth Taylor or Nigel Miller would come in on that first.

Nigel Miller: It is quite strange that the UK CCC has pushed that on to the Scottish Government, because it has itself been quite poor at listing the areas in which people could be proactive. Those that it has flagged up have, I think, been in animal health and in the acidification of slurry, and perhaps in nitrification inhibitors for fertilisers. All those have a role, although Scotland's Rural College thinks that acidification of slurry is quite an

expensive option, so there are some regrets about the benefits that it provides.

Both the WWF and the Irish have come up with menu systems, as has our report, of a whole list of good practice and options, from rotations and break crops to the compulsory use of clover in all leys. Such things are already quite common practice but if they were taken up throughout the industry and in all circumstances, they could make a big difference. Things such as the way in which we handle and spread slurry, again, should change very quickly. If we move from splash plate spreaders to injection or to trailing shoes, we will reduce emissions by between 60 and 40 per cent.

There are some real quick wins in there. I think that that is where greening comes in—in challenging people to take up those options; in having an escalator, so that we push them harder; in quantifying the emission gains that come from adopting them; and in having a target that they must hit from the menu that they have selected.

Those are the easy wins, and they are well defined. SRUC has done a lot of work in defining their value and we need to use that. I am glad that Maureen Watt asked the question; the area is really important.

Ruth Taylor: To reinforce what Nigel Miller said, giving farmers a menu of options is really important. In our "Steps to Change" document, we listed a range of environmental measures that we would like to be identified. A lot of those have been listed by Nigel, such as animal health, slurry management, cover and catch crops, soil health and nutrient management plans. He also touched on spreading slurry and how that is done. The Scottish Government is consulting on that, and I would be happy to share our consultation response with the committee once it has been submitted.

I will touch quickly on Maureen Watt's point about regulation. We would very much caution and encourage the Scottish Government to give the sector time and space to adapt. Obviously, we recognise that we are in a climate and nature emergency, but it would be wrong and, I think, dangerous to overburden the sector or to create additional costs for a sector in which most farm businesses are losing on average about £9,000 a year. We need to ensure that while we reduce emissions we maintain productive and profitable farm businesses.

The Convener: Maureen, do you want to come back with another question or to push anyone else on that?

Maureen Watt: No, that is fine. My worry is how we feed this down to farmers. I do not know whether any of the panel were on the virtual farm tour on Friday night, when we were taken through what people such as Dave Smith are doing on their farms. I am worried that people might think, "We'll just put up a few turbines and that'll be our contribution", when we are moving from onshore wind to offshore wind. Farmers might go for easy wins, instead of looking at the things that Nigel Miller has just been talking about.

The draft CCPU commits to introducing environmental conditionality. What should that conditionality look like? What will you be looking for as evidence of effective conditionality? Perhaps Robbie Kernahan might comment on that.

Robbie Kernahan: On the balance between incentive and regulation, I agree with what Nigel Miller and others have said about a mitigation menu. We are in a really strong position, in that we have good evidence about what options farmers could introduce now to reduce emissions and there is work in hand with farmer-led groups in the beef, arable and uplands sectors. However, this is about getting the balance right between regulation and incentives to reduce emissions.

Let us not lose sight of the fact that we are trying to tackle the climate and nature emergencies at the same time. To deliver nature-based solutions in agriculture, the direction is clear, but more thought needs to be given to the level of conditionality that we might want to top up some of the basic schemes with, in terms of additional greening. We are doing quite a lot of work now to look at how best to deliver those outcomes, without necessarily the same level of prescription or bureaucracy that we might have seen in previous schemes. We are getting some quite good feedback about our outcome-based pilots; ultimately, we are interested in ensuring that we see those outcomes, both on climate and nature.

There is still quite a lot more work to be done, but through the farmer-led groups and our outcome pilots, we are learning quite a lot as we go. However, as I said previously, we need to keep the pace up.

Professor Roberts: *[Inaudible*.]—across your questions, Maureen.

The Convener: Hold on, Deb. I do not want to cut you off, but we missed your first few words, so rewind and off you go again.

Professor Roberts: I will try to link Maureen's questions a wee bit. One thing that should be pushed more is incentivising collaboration and co-operation between farmers. The best way of delivering on climate change, and the biodiversity challenge in particular, is farmers working together, particularly on biodiversity, because it matters where things happen in networks and ecosystems. We need more incentives for that

element, which is inherent in the ELMS system that is being developed down south. That would be quite good, and I am not really seeing that at the moment.

Linked to that, I wish that there would be more incentivisation of large-scale restoration projects, because we need transformative change if we are to meet the targets. There are ways of investing in natural capital that can really help in terms of the climate emergency and the biodiversity emergency. One of our recent projects at the James Hutton Institute, in collaboration with the local biodiversity action group, was to work with a farmer to re-meander a stream that had been straightened 100 years ago. It was a really interesting action-based project that visually shows not only the flood management benefits but the biodiversity benefits—there has already been a big increase in biodiversity. The most interesting thing, though, has been how other farmers in the catchment have been watching the project and want to become involved in it. We could be building on such large-scale projects that demonstrate really visually what can happen and what can change.

Environmental conditionality is really important. It could be pursued in such a way that it does not deliver the additionality that we want. It all depends on what the conditions are, which is not clear at the moment. Environmental conditionality needs to deliver positive outcomes, as Robbie Kernahan was saying, otherwise, it is income support. You can argue that there is a case for supporting the income of farmers, but there will be other implications for transition—[*Inaudible*.]. It is a big, important question.

10:15

Sheila George asked whether we are creating a transition mechanism, by giving out environmental payments that are conditional on environmental good practice as a transition towards a longer-term situation or outcome.

The question is a really good one, and that was my two penn'orth.

Maureen Watt: It is a huge dilemma to pursue food security and grow as much as we can ourselves, well, and meet all our climate change targets. I can see why the plan is taking ages.

My next question is for you, Deb. The plan proposes further research, demonstration and exploration into a number of topics such as agri-tech, precision farming, nitrogen use—which Nigel Miller mentioned—crop varieties and feed additives. Do we continue to have research gaps in those areas? Are there other areas in which further research is required that are not discussed in the plan?

I will just add that I miss being able to go to the James Hutton Institute in my constituency to get updates on those things; I used to do that regularly before Covid.

The Convener: I assume that you want to go back to Deb Roberts with that.

Maureen Watt: Yes, please.

The Convener: I point out that I have been relaxed about timings, but I will now have to start tightening up. I will give you a warning in the chat to say when I am going to cut you off. If you choose to ignore that warning, you will find yourself cut off. Consider yourselves duly warned.

Over to you, though, Deb—I do not want to stifle your input.

Professor Roberts: Thank you.

The update plan mentions a lot of areas where science is contributing and can continue to contribute to the changes that will be required in both agriculture and forestry, to develop new technologies and new, more integrated approaches across whole farms, which is really important, while supporting the uptake in behaviour change, which is just as important. There is no point developing technologies that no one will ever take up. Having a social perspective as well as a technical one is critical.

One area that I think is slightly underrepresented but that will be really important, involves science helping with the monitoring and evaluation of changes that take place. At the moment, as Nigel Miller was saying, we do not have a very good understanding of the baseline. We are rapidly developing science that can provide that—that can measure and monitor greenhouse gas emissions, that can measure not just soil carbon but soil health more broadly, which is important, too, and that can evaluate and monitor change over time. That will be an important part of the science.

More generally, there is the matter of the use of data. Science is benefiting hugely from the greater availability of data from all sorts of sources. Farmers themselves can help to provide the data. Referring back to a previous question, it would be good practice to incentivise farmers to provide good data for us to help monitor and evaluate the changes that are occurring. There are policies in Ireland that do that, for example, and they are good for getting farmers to help themselves and to help us with the monitoring.

The Convener: Stuart, do you want to comment on research and development?

Stuart Goodall: I thank Maureen Watt for the question. I commented earlier on the danger of disjointed research. For example, while somebody

might be researching what could be seen as the carbon benefits of tree planting, they may be looking at trees with low productivity. In the evidence that we looked at, productivity was around what we would score as 2 or 4 per hectare, whereas we are now seeing trees regularly produce a score of 20, or even as high as 40, per hectare. That means that there could be a 1,000 or 2,000 per cent difference in the way that we calculate those things.

From that, I take the following lesson. It is great that there are more organisations like the James Hutton institute that take an interest in forestry as part of land use and in how it delivers on carbon and other objectives. We want to encourage that. However, we make the plea that research needs to be joined up. The danger is that, in an emerging area such as tree planting and its carbon benefits and wider benefits, people will latch on to an outlier piece of research and potentially take that as being the key piece of evidence.

Thankfully, from our perspective, Scottish Forestry recently produced an information note on carbon in forestry, which looked at certain types of planting and why one might wish to plant certain trees. That was a really useful clarification.

I would encourage the Scottish Government to set out clear guidance to the research community on what its future policies are, what it is looking for and how research can help to inform that in a joined-up way. Otherwise, there is a danger that we will start tripping ourselves up.

Professor Reay: I want to remind everyone what an amazing research base we have in Scotland for the generation of good evidence-based policy. The James Hutton Institute and the SRUC, which have both been mentioned, do loads of relevant work of the type that Maureen Watt was talking about. We also have the ClimateXChange, which provides a great research base for policy in a lot of respects.

Our universities and colleges also have a role in research and development for the transition, and they have a massive role—I hope that we will have a bit of time to talk about this—in capacity building for the sector. That includes training the next generation of foresters and farmers, and upskilling people where that is required in the industry. That aspect needs a lot of attention.

Again, I will be succinct, but we have not yet talked about biomass energy with carbon capture and storage, which appears in the climate change plan and has a fairly big role in delivering our transition towards net zero and the 2030 targets. There are a lot of lines in the plan about research being required and new groups being set up. However, if we create a lot of biomass energy, that will involve using land, and it will therefore be competing with other uses of our land, which is a finite resource.

We definitely need research in that area, but we need to live up to the narrative of a co-ordinated approach that appears in the climate change plan update. We need to say, “Yes, biomass energy is producing electricity or heat, but it is coming from the land and there is a trade-off involved in how we use that land.” That definitely needs to be in the mix—we need not only research, but integrated policy.

The Convener: Maureen, do you have a follow-up question?

Maureen Watt: No, that is fine—I will let others come in.

The Convener: We will go to Stewart Stevenson.

Stewart Stevenson: I will be fairly concise, convener, because areas that I might have probed have, to some extent, been covered. I can—I hope—give you a bit of time back.

The three people from whom it might be useful to hear answers to my questions are, in order, Nigel Miller, Deb Roberts and Robbie Kernahan. We will see whether they agree with me on that.

We have heard quite a lot about the difference between the approach that has been taken at UK level and the approach in Scotland. At UK level a central view has been taken of how things will go forward, and everything flows from that, whereas in Scotland we are trying to take a bottom-up approach that involves as many as possible of the people who will have to deliver new rural policies that are formulated.

However, I am not clear about how we are selecting and progressing the pilots that will get us to the destination. There is less clarity about the position in Scotland than there is about the position in England. Nigel Miller, are you satisfied with the process for selecting pilots? Also—t touch on a point that a number of contributors have made—are you satisfied that the process will collect data in a way that can be understood by people right across the rural ecosystem?

Nigel Miller: That is quite a challenging question. As Dave Reay mentioned, we have real assets in our research institutes and our research community. Hooking our pilots to such institutes and organisations therefore makes perfect sense.

For me, the key areas are soil health and soil management, because they are fundamental not only to production but to biodiversity. We have to get smarter about how we manage our soils. There is a lot of understanding and expertise on that in Scotland, but we need to build on that.

Other key areas include genetics, which can be pretty controversial. However, understanding how plants take up nitrogen and use nitrates will be really important. If we can improve nitrate-use efficiency, we can reduce emissions. Again, that is an area in which we really must consider pilot work.

I guess that we should also consider pilots on animal genetics and animal health, which are meant to be the win-win areas. There are existing pilots on genetic progress and genetic traits, and health-management protocols are being put in place. Those pilots are being monitored to see that we get the dividends. There are also direct benefits from genetics, as far as enteric emissions go. SRUC work on those found that we could reduce such emissions by perhaps 20 per cent or 30 per cent, which would be a huge win. However, there is a wide range of traits in our livestock that we could utilise either to make them more robust or to reduce their carbon footprint. Those are areas in which we do not have expertise, so having pilots in them would make perfect sense.

The other areas in which we need pilots are systems and the adoption of a whole-farm integrated approach, both of which were mentioned earlier. We need to see how things interrelate, and how ecosystems and biodiversity assets work in the context of sequestration.

We therefore need to consider land use from multiple aspects. Land that might be used for low-intensity grazing also creates habitats that might contain woodland, which underpins our biodiversity. If we are to have, as I think we should, obligations on farmers, such as that a certain amount of their land—perhaps 10 per cent or more—should be focused on biodiversity, we need to see how that land—[*Inaudible*.]—some sort of input into production.

It is quite difficult to select pilots. I have pulled out key areas in which I think we should make progress; if we cluster pilots around those we will be able to get data.

Stewart Stevenson: I will address a question to Deb Roberts, if I may, convener.

In your first contribution you mentioned unintended consequences. We are now talking about sustaining biodiversity almost as though that is the intention in relation to climate change plans. Do we understand the climate change benefits of sustaining biodiversity? As a layperson, I have it in my mind that there should be such benefits to the climate change agenda—in other words, that the tension between the two might not be as stark as the discussion so far has suggested.

Professor Roberts: That is an important point. Increasingly, it is understood that there is no such tension—quite the contrary is the case—and that the two are actually very aligned, but not necessarily directly so. We need to understand that. A very easy example would be a woodland planting scheme that offers less wood production and more biodiversity. However, both are good from a climate perspective. It is about understanding exactly how the two relate to one another.

10:30

Again, others will come in more strongly than this, but "The Economics of Biodiversity: The Dasgupta Review—Full Report", which came out yesterday, points out very clearly how great is the biodiversity crisis that we are in. To focus purely on climate change targets would be a really big mistake; we would just find ourselves revisiting biodiversity very soon. The sooner we reconcile the two, the better.

I mean that in terms of soil-carbon targets, as well. Let us not have only soil-carbon targets; let us have soil-health targets, so that we capture biodiversity benefits at the same time. That is important in relation to the relationship between the two crises. To some extent, the climate change targets are easier to achieve in the sense that it does not matter where things occur. The biodiversity targets are harder, however, because in order to achieve biodiversity targets it matters where things happen, so the situation is slightly more complicated. An integrated approach and regional land-use planning are potentially valuable for capturing both perspectives.

On pilots such as Stewart Stevenson asked about, to complement what Nigel Miller said I add that we should, in pilots, be trying to understand the rate at which we can reach targets. That is because it will take a long time for some of the technologies and changes that we are proposing to start delivering the required emissions reductions. There are things that we can do very quickly. It might be a little like what has happened the energy sector; we need to plan in relation to what we can do quickly but then perhaps reverse and change what we are doing in the longer run in order to meet targets. I do not think that we have started thinking that way, but it might be something that we need to do in some land-use sectors.

The Convener: Robbie, do you want to come in on that?

Stewart Stevenson: Convener, if I may—this will be my final question—

The Convener: We are really up against the clock, so can you make it brief, please?

Stewart Stevenson: I am trying to narrow Robbie down, actually. I just want to know what

role NatureScot has in identifying pilots. From this point onwards, I am going to shut up, convener.

The Convener: Thank you for narrowing it down, Stewart.

Robbie Kernahan: I will try to be succinct. Building on what Nigel Miller and Deb Roberts said, I note that there is clear recognition that climate and nature are coupled systems; therefore, we need to tackle the issues and identify actions in an integrated way. The work on which we are leading on piloting outcomes-based approaches is doing exactly that. We are looking at seven different farming systems in order to identify and clarify what outcomes we want, what metrics we need to gather to inform us on how successful we are, and what measures we need to implement. Much of that needs to be well understood by farmers, themselves.

I say again that it is about focusing minds a little bit on the simple things that farmers can do. Nigel Miller mentioned improving soil health. Reducing soil disturbance, keeping soil covered, maximising crop diversity, connecting field margins, protecting and enhancing permanent areas and creating new nature-rich habitats are all nature-based solutions that will help nature and help to tackle the climate crisis.

It has not been mentioned that the big challenge in achieving all that is the just transition. We need to find a way to direct support, in the form of schemes and funding, towards expanding woodland, restoring peatlands and delivering nature-friendly farming solutions to the people who actively manage the land—tenants, farmers and crofters.

That might become a bit more challenging when we also introduce private finance—the blended-finance approach to money. Money will come from the Government, but we know that we cannot do everything with public funding. There is an increasing interest in private investment in some nature-based solutions, which will start to drive decision making as we see carbon markets emerging and evolving. We need to keep an eye on that to ensure that we produce schemes that can work hand in glove with climate investment, because there is quite a lot of interest in that, too.

The Convener: We need to move on to Emma Harper's questions.

Emma Harper (South Scotland) (SNP): Thanks, convener.

I have found the discussion interesting so far. There is so much support available to engage, help and support farmers and crofters. The witnesses have a wealth of knowledge. I am thinking about what we need to do to enable farmers to make emissions reduction possible. There are Nuffield farming scholarships, so that experts can share information, and there are monitor farms. We have heard about data collection, monitoring, research and advice. What do we need to do to enable farmers and crofters to change their practices to make climate change mitigation possible?

Ruth Taylor: There is a range of things that we can do to enable farmers and crofters to do that. I know that other witnesses will want to comment on the question.

First, we should encourage the Scottish Government to build on existing knowledge transfer, particularly where it facilitates peer-to-peer learning and peer-to-peer knowledge transfer. We have been very supportive of programmes such as those of Farming for a Better Climate. Emma Harper mentioned monitor farms and Nuffield scholarships in her question.

I will go back to some of the responses that we had on research. The second thing that we need to do is carry out research, but we also need to communicate it clearly—to translate it and make it available to people, including the practitioners who manage the land, such as farmers and crofters. A lot of work needs to go into ensuring that we are all speaking the same language. It is easy for us to come to the committee and speak in the policy language that we tend to fall into, but we need to be cognisant of that when we are communicating with the sector and with people who have a lot of other things going on. That is partly about recognising that people learn in different ways, but it is also about recognising that the agriculture sector is disproportionately affected by dyslexia, so when we translate the research, it needs to be accessible in the purest sense. When I talk about "accessibility", that is what I mean.

I want to touch on the recommendations from the climate emergency response group, which highlight the fact that we need to invest in training and employment of advisers. The Farming for 1.5°C panel discussed that, and the report touches on it.

Finally, in relation to enabling measures and providing advice and training, advice provision should be a two-way knowledge exchange. It would be helpful for policy makers and people such as me to continue to discuss what works and what does not work. That is essential in order to ensure that we are giving people the advice that they need and want, and that people are actually using it and engaging with it.

The Convener: Would Deb Roberts like to come in on that?

Professor Roberts: I do not have much to add. We have mentioned previously the importance of certainty in the policy environment. As long as

there is uncertainty, change will be restricted, especially when you are asking farmers to do things such as agroforestry, which involves their committing to a change in land use for a generation. That goes completely against the way that farmers tend to think—they work on completely different timescales. Certainty in the policy environment is all that I would add to what Ruth Taylor has said.

The Convener: Dave Reay wants to come in briefly.

Professor Reay: The Farm Advisory Service needs to be expanded. At the moment, we have a one-to-many model, which sort of works. However, given the rapid change that we need in rural support and, probably, regulation, we cannot expect farmers and land users to react effectively to changing regulations or new conditionality without that capacity building, because these are new techniques and new land management practices. Therefore, the FAS is key.

Related to that is the context of there being an ageing farming population. The career is one that suffers when it comes to how it is viewed by young people. That needs to change. Farming is an amazing career. The climate emergency skills action plan talked about where we need to get to on land use and agriculture, and NatureScot is doing a lot of work on that. The transition to net zero through agriculture and land use is a really exciting thing for young people to look at from a career point of view, so our schools, colleges and universities have a crucial role to play in realising that exciting vision.

The Convener: Getting up at 2 o'clock in the morning to calve a difficult cow when it is -15°C outside does not sound that exciting to me, but farming certainly has its excitement.

Emma Harper: I thank everyone for their answers.

Dave Reay mentioned the Farm Advisory Service. I am on a page of its website that says that farmers can get support of up to £500 to do a carbon audit. However, our briefing paper says that

"the 2019 Scottish Government CCP monitoring report ... suggests that 0.8% of Scottish holdings have carried out a carbon audit."

Although farmers can get financial support to do a carbon audit, the percentage who have done so is extremely low, so there is obviously something going on there. Is that an issue that needs to be explored?

The Convener: Who would like to lead on that? Let us try Deb Roberts.

Professor Roberts: I do not have much to say, other than to make the point that the sector is incredibly diverse. There are more than 60,000 holdings in Scotland, and more than 600 types of soil are being farmed.

There is also a huge range of reasons why people are farming. Recently, I have been struck by the fact that there is a huge level of innovation in the sector. Dave Reay presented a positive picture and rightly highlighted the support that is needed to encourage change, but it is not the case that we do not have farmer innovation; we have huge levels of it. I live in north-east Scotland, where the farmers are the most innovative I have ever come across. They are great.

The fact that the statistic that Emma Harper cited is so low reflects the fact that we need to explain the benefits of carbon audit to the sector much better and get that message out. I guess that we should do that through the Farm Advisory Service.

The Convener: Robbie Kernahan might have some information on that.

Robbie Kernahan: It is a good question that relates to the conversation about what is conditional and what is voluntary. There is increasing recognition of the importance of having good baseline data for carbon and for natural capital. We have not necessarily required that in the past, but I think that we require it now. We need to do a bit more work to build capacity and to build understanding of how and why carbon auditing is done. Perhaps we need to get to the point at which it must be done. That plays into the conversation about how we make progress and what must be done through additional support.

Ruth Taylor: I want to touch on a couple of points that Deb Roberts made, and to reinforce points from my experience of discussing carbon auditing with our NFUS members. As Deb said, it is crucial that we explain the benefits of carbon audit.

Nigel Miller mentioned agrecalc and the fact that we must continue to improve such mechanisms and systems. If people feel that they will get data that is accurate and representative of what they are doing on the farm, that will give them confidence to use tools such as agrecalc. As well as building the capacity of the tool, we need to build the capacity of people to use it and to understand its output and how to translate it so that it is slightly more user friendly. If we could do that, that would take us a long way.

Emma Harper mentioned information on the FAS website about what is available through grant schemes. I think that we need to do a better job of communicating the fact that funding is available. I

would be interested to know how many farmers and crofters know that that funding is available.

10:45

Emma Harper: It is interesting that Deb Roberts mentioned innovative farmers in the north-east. I know many in the south-west as well, so innovation is obviously huge and we may be at a tipping point. I welcome any innovation that is taken forward.

I have a quick question on what Chris Stark spoke about when he gave evidence. He said that there is not really a policy on diets. I assume that he meant human diets rather than animal feed, and that is an important part of the strategy for large-scale land use change.

It is interesting that we are being told to eat less red meat, but maybe we need to be told to eat meat that is locally produced—it is sustainable and comes from our own grass-fed beasts in Scotland, which are raised to high standards. I would be wholly behind that. What do we need to do so that people's diets can adapt, and do we need a specific policy on diet?

The Convener: Emma, whom would you like to answer that question?

Emma Harper: Usually, convener, you select whoever puts their head down.

The Convener: Nigel Miller has definitely raised a finger, but I do not know whether that is for holding his head up. Nigel, do you want to come in on that?

Nigel Miller: I might be the last person you want to talk about that. My diet and drinking habits are not to be copied.

Diet is a big part of things. There have been a lot of question marks over land use concerning the way in which we keep livestock and the emissions that flow from that. Emma Harper's point is well made. If livestock are part of a sustainable system that delivers multiple benefits not just for the community and the economy but for the landscape and biodiversity, that is a real positive and provides a balance.

For politicians and policy makers, there is a real issue about how we assess ruminant livestock, at least, and whether we adopt GWP* as the metric rather than GWP100. As you know, GWP* recognises that methane is a short-term gas and that, therefore, if we gradually reduce methane emissions, we can reduce the warming impact of our envelope of emissions from Scottish agriculture. That is probably an area that we want to look at. It is a political area that really needs to progress.

I think that New Zealand has already adopted that approach—Dave Reay is more up to speed on that than I am. It is absolutely crucial for the ruminant sector that we look not only at managing it in a more sophisticated way—including how it fits into the whole system—but at GWP* and how we measure emissions. That means looking at the international accounting systems and campaigning to get them changed. I think that, on such a basis, there would be a lot less pressure to move away from red meat and milk.

The Convener: Emma, before I come back to you briefly, I have a question for Sheila George. I think that cattle numbers in Scotland are at a 60-year low—fewer cattle are around—and sheep numbers have dipped to a bit of a plateau, which means that less livestock is using our land. Do you think that all of it is being grown in the right places? That is important.

Sheila George: We know that some areas would benefit from the reintroduction of grazing. Some really important habitats depend on grazing and are affected by undergrazing. However, there are also some areas in which grazing pressure is still too high. The question is about where—as with trees, we need the right grazing in the right place.

There is some recent research—NatureScot, through Robbie Kernahan, will know more about it than I do—in which case studies show that, if we reduce livestock numbers and increase support for the delivery of nature conservation in hill sheep and beef, for example, we can increase profitability in such systems, increase resilience and deliver more public goods from that. A similar report by Chris Clark showed that reducing livestock numbers in some of the most vulnerable systems can also increase profit by reducing costs. We should not necessarily be scared of reducing livestock numbers in some places, as that might benefit parts of the industry.

On how we influence people, public procurement, which was mentioned earlier, is a huge lever that we could use. We need joined-up food policy, because, if we try to change consumption while agriculture policy stays the same, we will not necessarily influence production and get the emissions savings.

The Convener: I will bring in Emma Harper with a supplementary question, and then I will go to Arina Russell.

Emma Harper: It is just a final wee supplementary, convener.

We hear a lot about how dairy farmers, in particular, are barely able to break even because the price of milk is so low. Should we be asking people to pay a few more pennies for a pint of milk and give that profit back to the farmers rather than

to the supermarkets, for instance? Herds of dairy cattle are up in the thousands now, which is obviously driven by farmers' need to break even. How do we mitigate that issue as part of developing a better food—or dairy—supply chain?

The Convener: That is not really a question for Arina Russell. I will bring in Ruth Taylor, briefly, to get her comments on it.

Ruth Taylor: Emma Harper is right about the milk price. That is not what I am here to discuss today, but there is an important point to be made about the need to focus on having a more equitable balance of risk and reward in the supply chain for farmers. That would give a lot of people greater confidence to invest and plan for the long term. It is really important that profitable farm businesses can continue to manage the landscape, and, if they are profitable, there are obviously investment opportunities out there.

I want to touch on the points that Sheila George made about procurement and wider food policy. NFU Scotland has been clear that we need to maximise the benefits of eating seasonally and locally, and we would like to see that done through procurement, in a few different ways. For example, it might involve looking at procurement tendering practices, including ingredient origin; looking at mandatory targets for central and local procurement; and looking for public bodies to report on their procurement.

As Sheila George said, public procurement is a huge part of the economy—she quoted the statistic of £150 million being spent on it every year, so there is an important role for us to play centrally in looking at where our food comes from. We also need a greater policy focus on education and what eating locally means. Some of that would mitigate, or at least go some way towards addressing, some of the issues that Emma Harper raised.

The Convener: We move next to questions from John Finnie.

John Finnie (Highlands and Islands) (Green): Good morning, panel. I have a couple of brief questions on forestry. I will direct them to both Sheila George and Robbie Kernahan.

My first question is on woodland expansion. There is generally a positive view on that, including from the UK CCC. Nevertheless, a number of organisations have told this committee that policies to ensure the effective management of existing woodlands are not evidenced in the climate change plan. What are your views on that, and what policies would you like to see as part of the update?

Sheila George: Arina Russell is probably much better placed than I am to answer that question. On the management question, there is a focus on planting, but that is only one part of the story with woodlands. We need to secure much better management of existing native woodlands, including management to secure the restoration of our protected woodlands, for example. We also need management that supports natural regeneration, which is a big issue. The James Hutton Institute's work has shown that there are huge opportunities for carbon sequestration through natural regeneration of native woodlands. In that regard, we need more deer management, but deer are not mentioned at all in the climate change plan. Deer management benefits both productive and native woodlands.

We think that the target is about right, but carbon is not always the metric that we need to focus on. That was touched on earlier. We are asking for a split of around 50:50 in native and commercial woodland so that we can balance the biodiversity benefits with the carbon benefits—the long-term capture of carbon and long-term sequestration in broadleaves.

I cannot remember what the other part of your question was.

John Finnie: You have covered it there. My next question is about deer management, in fact. First, however, I ask Robbie Kernahan to comment on the management of existing woodlands.

Robbie Kernahan: Having looked at the climate change plan update, I see that it is silent on deer management. That is quite interesting, bearing in mind the profile of LULUCF in terms of woodland expansion and peatland restoration, where the interaction with grazing animals is pretty fundamental to success. There is an omission in the update in that it does not specifically recognise the grazing of deer and other wild herbivores as a potential limiting factor or at least as a challenge.

The deer working group, in its report to Government on "The Management of Wild Deer in Scotland", made some fairly strong recommendations for change with regard to how well deer are managed in Scotland. The Government is due to respond to that report very soon, and we look forward to supporting and working with the Government in that regard. When we look at those recommendations—which were given to the Government around 12 months ago—through a climate change lens, it is clear that we need to do more not only to manage deer effectively in existing woodland stock, but to help realise the ambition and aspirations for creating new woodland.

John Finnie: I was going to come on to deer management. I will say something on it, as I would like to hear from Arina Russell on the subject.

First, I ask Stuart Goodall to comment on woodlands, because there seems to be a dearth of acknowledgment of that aspect in the plan.

Stuart Goodall: I agree with what the other witnesses have said. We do not want to focus simply on expansion. It is clear that expansion is important in locking up carbon, and it is also important from the perspective of existing industry in Scotland. We know that timber availability will fall away in the 2030s and 2040s—we flagged that up in the past when we were failing to hit our planting targets, and it remains an issue. However, there is also a real need to look at our existing woodland resource and ask how we can maximise its potential. That includes looking at native woodland resource, which—as has been said—benefits from deer management, in particular.

I also flag up the opportunity to start breaking down some of the barriers that exist, in a sense, between commercial conifer forestry and native broadleaved woodland, and the idea that one delivers biodiversity and the other delivers jobs. That is a complete fallacy—at the end of the day, there is a spectrum. Native woodland and productive woodland can exist and integrate together, and we can have mixed forestry.

As we move forward, we need, in thinking about carbon, to look at that integrated picture, but we also need to look at how we protect and manage existing woodlands with regard to their ability to produce high-quality wood. It is not just about energy—we need to decarbonise construction. We know that, through innovation, we can build using lower-quality wood, which has been a big problem for us in the past in Scotland. Our broadleaved resource is of a relatively poor quality because it has not been managed, but we can now turn birch and other species into high-quality wood products. That will create jobs, support rural employment, displace high-energy materials and decarbonise construction.

John Finnie is right to highlight that aspect, as there is a lot to consider. We are not going to get into the carbon plan now, but we should be working on that as part of public policy.

John Finnie: I think that some of my colleagues will touch on that area.

I will turn to Arina Russell. Can you comment on the final report of the deer working group and the role that deer management might play in climate mitigation? What specific policies do you wish to see?

11:00

Arina Russell: Thank you for that very good question, John. We note in our submission to the committee that a lack of investment in deer management is one of the big barriers to attaining our peatland and forestry targets and, to an extent, to achieving what we might like to see in agriculture. That needs to be addressed in the plan. It is a big barrier to some of our ambitions and priorities, and it is a big omission from the plan.

How something so important has been missed out—[*Inaudible*.]—sustainable deer management—[*Inaudible*.]—deer working group report is very much part and parcel of sustainable forest management.

The Woodland Trust, together with Scottish Environment LINK, fully supports the deer working group's recommendations—all 99 of them. The most important thing is that we have new deer legislation, which will hopefully come very early in the new parliamentary session—that is what we are calling for. Sustainable deer management should be integrated with regional land use partnerships and frameworks.

We have spoken about diet. Venison is a good, healthy wild meat for those who are not vegetarian, and we are looking to develop markets for venison as part of a good food nation agenda. Consuming venison locally here, in Scotland, comes with jobs and the opening up of deer management to communities. It means opening larders and having food available in a localised, sustainable supply chain.

The deer working group's recommendations are complex. We would like to see a policy in the plan whereby we focus on getting deer numbers down to sustainable levels, allowing natural regeneration of woodland, and that natural regeneration ties in with the resilience of ecosystems. The fact that trees are good at regenerating themselves makes them more resilient to climate change, and it is cheaper. If we were to manage—[*Inaudible*.]—reduces the cost of fencing that is required for certain schemes. We will end up spending public money on restoring peatland, but then it gets trampled by unsustainable numbers of deer. Something has to give. Something needs to be addressed or we will not meet our very ambitious targets.

I will stop there, although I could talk about deer and woodlands for the whole day. I do not know whether the convener will allow me to speak about the question of existing woodland management polices.

John Finnie: A brief comment on that would be appreciated.

Arina Russell: Thank you. I was not sure whether my internet was working there—it tends to drop when I need it not to. I will keep talking, anyway.

On policies to support the management of existing woods—[*Inaudible*.] It is very much about expansion. Our existing woodlands are carbon stores, and they will continue to sequester carbon. We need to factor the longevity of ecosystems into the climate change plan. That is a really important point. The Woodland Trust recently commissioned research from Forest Research, which showed that the average carbon stocks in ancient woodlands in Scotland are 30 per cent higher than the average woodland-type carbon stocks, yet we are losing those woodlands due a lack of regeneration. We need to look to 2030 and 2045. We need to ensure that woods will continue to be there to sequester carbon, and they need to be part of a mix of forestry and other land uses in Scotland.

It so happens that those ancient woodlands are also some of the best habitats for biodiversity. We can have a win-win situation if we manage deer, as the existing carbon stores will continue to sequester carbon and provide habitat for biodiversity. That creates a resilient ecosystem, which helps to mitigate and adapt to climate change. In our rush to expand, we keep forgetting about our existing woodlands, and I would love to hear conversations on woodland expansion and restoration—not just expansion—in the same policy.

I hope that you can see why such a policy would need to be introduced, why deer management needs to be addressed as part of planning and why the longevity of ecosystems is extremely important when we are discussing nature-based solutions to climate change in addressing both of the crises that we face.

John Finnie: Thank you, convener. I have finished my questions.

[*Interruption*.]

The Deputy Convener (Maureen Watt): It seems that we have lost the convener. I think that Stewart Stevenson is next to ask questions.

Stewart Stevenson: Thank you—I had spotted that the Highlands had captured another invader.

I had a couple of questions, although I think that we have already covered the second one, which was on the integration of forestry and farming, unless someone has a different view.

I will just ask one, quite narrow, question, which should not take too long to cover. I direct it to Stuart Goodall, perhaps with secondary comment from Dave Reay. It is on a subject to which Stuart started to make reference: the use of timber in construction. The narrow question that I am interested in is about what the climate change plan update says about that. Are there enough policies and proposals in the update—perhaps they have been discussed elsewhere—to support and encourage the use of timber in construction?

Stuart Goodall: I am really glad that you asked me that question, as this is one of the things that I am most excited about as a forestry and timber nerd. The climate change plan update has started to recognise the downstream benefits of growing trees. This has relevance to the issue that we have just discussed. This is not a conifer or hardwood issue or a native production issue; it is about our opportunity to turn the wood that we grow in Scotland into a carbon store, and then to grow trees to replace the carbon that has been sequestered on the land and to continue the cycle.

We know that we get the greatest benefit when we use that wood for long-term purposes such as construction. That point has been overlooked. There is a challenge and an opportunity. The challenge is that, if we do not record the carbon that is harvested and then locked up, we get the impression that the carbon has somehow been lost back into the atmosphere just because it does not exist in a woodland. However, that is inaccurate, and it undermines our carbon reporting. The benefit lies in the opportunity to displace high-energy materials such as concrete and steel. That is the positive thing.

Your question is about whether that is taken far enough—how we do more of that, and how we make it happen—which requires a lot more work. There is recognition of the opportunity, but there is not enough in the plan about the practical means to achieve it.

I can give a quick example. A new hotel is being built in the centre of Edinburgh using cross-laminated timber. That is a fantastic product, and it allows us to use wood of all different qualities, including Scottish wood—we have proved that it can work and we can create massive wood buildings, as we call them. Basically, that involves replacing the whole fabric of the building with wood. That creates a huge carbon store, it is very thermally efficient and it allows us to build very quickly, with building done offsite. There are lots of benefits to it.

We need to change the construction industry's approach so that it embraces those new ways of doing things, rather than doing business as usual—in other words, what firms are used to, what their supply chains are set up for and what they feel comfortable doing. That is where the Scottish Government and local authorities need to step in, because we need to provide confidence to those who are involved in the supply chain and give them signals that they will be seeing more of that approach. To follow the example that I have just given, if we do that, the cross-laminated timber will get created and manufactured in Scotland. It is imported at the moment, because

we lack that confidence and an end market. That is the kind of thing that can make transitional change happen, creating well-paid jobs and locking up more carbon in Scotland.

Stewart Stevenson: Stuart Goodall has introduced the subject of thermal efficiency in wood buildings. I wanted to ask Dave Reay about the insulation value that comes from having more timber in construction, on the assumption that he might be able to answer my question. Do we understand the relative thermal efficiency of using timber in construction in comparison with alternative materials, such as steel and concrete? Do we count that so that we get the proper credit from it? I assume that Dave Reay will be able to answer that, or might be able to point us to someone who is better able to answer it. [*Interruption.*]

The Deputy Convener: I do not know who was speaking there, but please continue, Professor Reay.

Professor Reay: Unfortunately, I have too much knowledge about the subject, because I am trying to build a CLT house. I can vouch for what Stuart Goodall said. In our case, the CLT comes from Austria and the cladding comes from Russia. There is a real issue with the supply chain downstream, although there has been some good stuff on tree growing.

To answer Stewart Stevenson's question, the SAP—standard assessment procedure—reports that have to be done when planning a house include good data on energy performance, but they do not have data on how much carbon is embodied. I am measuring that because I am a carbon geek, but that is not done as standard. What is done as standard is calculation of the energy performance and the kind of heating that will be needed in the building envelope. CLT performs really well, and it is just one example of the many timber solutions that are out there. I guess that, ultimately, it shows up in our space heating demand down the line. There is room to quantify the carbon storage component of an increase in timber buildings, which Stuart Goodall mentioned, as well as the substitution benefits.

Ultimately—this is definitely speaking personally—I would really like it to be easier to build such buildings. I would like builders to understand that it is not a weird technology. I would like it to be supported within the country through the supply chain and the skills, not just in producing CLT frames and other timber frames but from the perspective of architects and the people who produce SAP reports. In theory, we have the supply chain. Personally, I would love that to be delivered, but that is because the issue is causing me a big headache at the moment.

The Deputy Convener: Colin Smyth has the next question. I will pass back to the convener.

The Convener: Over to you, Colin.

Colin Smyth (South Scotland) (Lab): Thank you, convener, and well done to Maureen Watt, who would make a good television continuity presenter.

My first question is for Arina Russell. The Woodland Trust's submission highlights the importance of biosecurity as a tool in climate change mitigation. Will you expand on that and highlight any specific policies that we have not covered in detail and that you would like to be in the climate change plan?

Arina Russell: The point about biosecurity is an important one, which we have not yet touched on. My reply will bring me on to talk about nurseries, too. I am sure that Stuart Goodall would also like to contribute, if the convener could perhaps bring him in afterwards to complete my answer.

11:15

Introduced pests and diseases have a significant impact on trees and woods, some aspects of which can be exacerbated by climate change. It is therefore important that biosecurity forms part of our response to the call to expand tree cover. We need to stop the almost constant introduction of diseases that enter our country, which add pressure to many native tree species as well as commercial species. We need to support the nursery sector to produce more trees that are sourced from and grown in Scotland or the UK. However, by managing overgrazing and letting trees regenerate naturally, we can also alleviate the pressure that our targets might put on them. That would also allow trees to be more resilient to pests and diseases. We could also create resilience in our woodlands and forests, both new and existing, by ensuring that they are diverse.

My final key point concerns the example of ash dieback. It is predicted that we will lose a lot of our ash trees because of that disease, which has entered our country. We need to replace those ash trees, which are a carbon source. However, we also need to learn from that situation, which is why we should include biosecurity in our response to growing tree cover and why we should offer support to nurseries. That approach would contribute to the green recovery, which would create more jobs in the sector, which in turn would provide it with the support that it needs to grow trees here really well.

Stuart Goodall: I thank Arina Russell for asking me to add to what she said, in which she raised an important point.

A good aspect of the plan update is that it is starting to consider the challenges that we will face if we are to achieve our planting target in forestry and increase carbon sequestration through trees, whether through new planting or existing trees. One such challenge that it identifies concerns nurseries, seedlings and young plants. We will see significant increase in demand, which will require the nursery sector to invest.

I echo Arina Russell's point about the benefit of our growing trees here: a biosecurity risk is associated with importing, so we want to grow them domestically if we can. However, the nursery sector has had a chequered experience with demand for young trees, especially that driven by the grants systems. It has experienced boom and bust, so we need a much smoother profile of planting. We have targets rising to 18,000 hectares of planting by 2025, which are ambitious but achievable. However, we also have to see steady, predictable growth. The nursery sector would benefit from investment, which would give it the opportunity to become more resilient.

My final point concerns predictability. When people put in applications for approval to plant, ideally they should be contacting nurseries to say that those trees will be required. However, it is difficult to enter into a contractual relationship with a nursery at that point, as they might not know for two, three or four years whether an application for a large scheme will be approved. We are getting better at that aspect, but we must keep focusing on it so that we can help nurseries to grow and maintain their profitability and also to be resilient.

Colin Smyth: You both mentioned nurseries. Are the current financial policies such as woodland grants and encouraging private investment through carbon credits, for example, sufficient to support work in nurseries, and are they generally sufficient to support forestry's role in reducing emissions?

Stuart Goodall: There is no doubt that private investment will make tree planting more attractive, whether for carbon or other natural capital benefits. It helps with the part of the equation about how we make tree planting attractive, how we fund it and how it is driven forward to achieve the target.

However, it does not provide additional funding to nurseries. In essence, nurseries are reliant on having a business model by which they can grow for demand and do so profitably without suffering the vagaries of reduced demand or potential biosecurity risks.

Ultimately, at the moment, it requires the Scottish Government to work with the nursery sector to consider how it can make public investment. It involves relatively small sums of money, but it is a vital cog and if it does not work, the whole thing does not work. The solution is basically the public sector, at this point.

Colin Smyth: There is a general point, which we touched on earlier—it is about the research that is taking place. Do we have any knowledge gaps around climate change mitigation and forestry? Are there any areas on which we have enough evidence to show that we need to take different action or are there areas where action will risk adverse outcomes because we do not have the knowledge base and research in place?

Stuart Goodall: To repay Arina Russell's earlier favour, it would be good if she could pick up on that issue as well, because the Woodland Trust has a lot to say about it.

The key thing to highlight is that we have a lot of good evidence on the carbon impact of growing trees. We have been looking at that for many years, but we can always learn more and ensure that we have the latest evidence available.

Another key thing to flag up relates to a theme that we touched on earlier, which is that we want to achieve our climate change ambitions but we also want to avoid unintended consequences and we want to tackle things such as the nature crisis.

The big gap that we have in the evidence base is the biodiversity value of different types of woodland and forestry activity, because there is a continuing overhang from the 20th century that says there is no biodiversity benefit from having a productive forestry approach. When we did some work on that last year, there was masses of evidence that showed that that was entirely wrong. The challenge is that if I say that, people respond, "Of course you would say that, but that does not necessarily make it true." Therefore, we need universities, Forest Research and Scottish Forestry to assess and validate that evidence. That would make a huge difference in deciding how Scotland can tackle those twin challenges.

The Convener: It seems that while I lost my connection a tag team developed in which witnesses tag each other in. I am not sure that that will work. However, Arina, you can come in, very briefly, followed by Sheila, and then I am afraid that I will have to push Colin for his last question.

Arina Russell: I will be very brief in response to the question on research and knowledge gaps.

Cultivation and planting techniques may be one area where we need a bit more clarity—for example, on different types of soil and the appropriate techniques to cultivate trees on those different types of soil. As soon as carbon stops being sequestered because we have disturbed the soil and released too much of it through an inappropriate technique, it takes much longer for

that carbon to be absorbed. We need to understand that area better and provide guidance to those who are doing the work on the ground. I am sure that there are a lot more areas of research to suggest but cultivation seems particularly relevant for me to flag up in the brief time that I have.

Sheila George: We have quite a good understanding of the impact of planting on deep peat, but we could do with there being a lot more long-term research on the impact on shallow peat. We will probably find that it is easier to plant trees in areas of shallow peat than in areas of deep peat. The only research that we have been able to gather shows that it might take two rotations to break even—that is, to restore the carbon that we started with. However, we are massively lacking in long-term research on that.

Colin Smyth: The impact that different tree species can have has been touched on. The Woodland Trust has called for 50 per cent of trees that are planted in the fight against climate change to be native trees. Why is it important to have that target instead of just having a general target for tree planting?

Arina Russell: Thank you for bringing that up. It is not only the Woodland Trust that is calling for that; the just transition commission, Scottish Environment LINK, WWF, the RSPB and others are calling for diversity in the woodlands that we are creating to address the climate emergency. Doing that would also give us policy coherence, because we are also trying to address a nature emergency. We are not just going for carbon sequestration; we also want to provide nature-based solutions and use nature in the best possible way to address those crises.

The current targets for native woodland are lagging far behind the overall target. We are concerned that we could end up with a split that would mean that we would have more of the same kind of woodland that we have at the moment. Native woodland covers only 4 per cent of Scotland's land area. That is not acceptable in a climate and nature emergency.

We would like there to be a split that ensures that native woodland is part of the mix of forestry in Scotland. As Stuart Goodall has said, it is important to value the productivity of trees not only in terms of the provision of timber but in terms of amenity value, genetic diversity, resilience, biodiversity, flood management and so on. Long-term carbon capture is a good use of public money. If we have a 50:50 split, which we know has also been modelled by the UK Committee on Climate Change, it is totally possible that we will achieve our targets, while, at the same time, providing for biodiversity.

I will stop there, as I am probably out of time.

The Convener: Thank you. You are right—we have to move on.

Angus MacDonald (Falkirk East) (SNP): This has been a helpful and useful session so far. I would like to address the issue of policy coherence. The draft CCPU touches on a number of policy areas and highlights the need for an increasingly co-ordinated approach. It also commits to nature-based solutions as

"a key part of our overall coordinated approach, which aims to bring together climate change, biodiversity, infrastructure, planning, land use, marine and economic strategies."

Do you see evidence of that co-ordinated approach in the plan with regard to nature-based solutions in the agriculture and forestry sectors? Perhaps Robbie Kernahan can start, as he touched on that issue earlier.

11:30

Robbie Kernahan: We think that there are some strong signals that the CCPU can and will deliver a green recovery and help with alignment. It is easy to think about green recovery in terms of energy, transport and heating but, as we continue to make progress in those sectors, as we have done for some time, the importance of land use comes into greater focus.

NatureScot recently published a report illustrating the scope and potential for skills and jobs in the nature-based economy. Transforming agriculture, forestry, peatlands and other land uses—and marine uses, which we have not talked about today—will require skills and jobs over many decades to reinvigorate rural communities. I think that those are all positives.

We have not touched on the blue economy action plan. Marine natural capital is very important in helping to drive green recovery in rural communities around our coasts and seas. However, as you said, alignment is key, including the extent to which the CCPU drives the Government's economic strategy, regional economic partnerships and spatial strategies.

The national planning framework is key to all of that and activity across the public sector will respond accordingly, including through institutions such as the Scottish National Investment Bank and the annual programme for government. The initial signs are very good overall, but it is early days and, as we have touched on through the session, there is still an awful lot to be done to realise that ambition and to ensure that policies and practice are sufficiently aligned and are being driven with sufficient ambition. I think that the initial indications are good.

Professor Roberts: I will back up what Robbie Kernahan has just said. I think that Scotland, in lots of ways, is very well placed to lead on this integrated approach. As far as I am aware, we were the only—[*Inaudible*.]—land use strategy back in 2013. We piloted two areas to trial taking an integrated approach, in which different stakeholders in land use came together to discuss it and to take a partnership approach. We have the land rights and responsibilities statement, which provides a good framework for partnership working and collaboration, and again, thinking about integrated land use and sharing plans, we now have the regional land use partnerships planned. That is all set out in the CCPU, which is brilliant.

I just wonder whether we are addressing this with enough urgency. We have come back to the point that has been made before—are we going fast enough here? We are now planning to pilot two of these partnerships areas this year, but if we are going to approach this in a cross-sectoral way, which tries to really address the challenges that we face, perhaps we need to move a bit faster.

Angus MacDonald: I have a general question for all the witnesses. Would you say that, in general, the Scottish Government policies are coherent with climate change ambitions for agriculture and forestry?

The Convener: Wow, Angus—if that is for all the witnesses, it is a yes or no answer, which I am not sure will take you any further.

Angus MacDonald: Perhaps just Professor Reay could answer the question, then.

Professor Reay: Thanks for picking on me for that question, Angus. It is a good one. The answer is that we cannot tell yet. There is not enough detail in the policies for the agriculture sector to know that we can deliver the 24 per cent reduction by 2030.

The Scottish Government needs to run the policies and proposals through models and quantification to work out what they would deliver if everything went well. I have not seen that level of detail. I cannot find it in the CCPU, which does not set out what a policy or proposal will deliver. We need that information and if that all adds up to the 24 per cent reduction for agriculture or the increase in sequestration for land use, the answer will be yes, but at the moment I do not think that we have enough information to be able to answer that question with a yes or a no.

The Convener: Thank you, Dave. I also thank Angus MacDonald for allowing me to move on to the next questions, which come from Jamie Halcro Johnston.

Jamie Halcro Johnston: I am very conscious of the time, so I will be quick. The topic that I want to ask about has already been touched on. Sheila George spoke about some of the missing opportunities in food procurement and Ruth Taylor talked about what we need to see in future policy. The plan update notes the development of cross-cutting approaches to food through the good food nation policy. Will Ruth Taylor and Sheila George describe what changes in the wider food system are needed to support a just transition to low-carbon food production and consumption? Should there be policies in the plan to support that? Do you have any issues or concerns in that regard?

Ruth Taylor: I have already touched on some of the procurement issues and what we would like to see from future policy on that. That includes reviewing tendering practices and reporting targets for local procurement. There is also an education aspect and looking at how we can have a broader discussion as a wider society on what eating locally seasonally means.

On a just transition—this goes back to some of the earlier comments on policies around diet—my organisation welcomes the acknowledgement in the climate change plan update that emissions are inherent in food production and that we need to find a balance to ensure that we reduce them while food production continues. That is an important part of what a just transition will look like.

We need to be cognisant of the role that agriculture plays in the rural economy in supporting around 70,000 jobs and in supporting upstream and downstream industries. We need a just and fair transition not only for food systems but for the communities that are involved in producing food. It is up to those communities what that looks like, and it will be important in developing future policies that those communities are consulted and engaged with.

We also need to be aware that we should not export our problems. When we are looking at reducing meat and dairy consumption, we should not just export our problems to places where environmental or animal welfare standards might be lower and, ultimately, offshoring our emissions in terms of food policy or future agriculture—[*Inaudible*.]—the end goal of the climate change plan and policies that are introduced in Scotland.

Sheila George: Again, a lot of the issues have been covered, but I will mention some of the key changes that are needed to tighten up the plan update. A lot of the proposals in the plan touch on some of the right things for reducing emissions but they need to be tightened up and delivery focused.

If we talk about investigating the benefits and barriers of leguminous crops and rotation, we

need to look at the secure uptake of leguminous crops and rotation. We need to secure uptake of covers on slurry stores. We need to tighten up the proposals.

Future rural policy will be key and we need to see the conditionality that we are attaching to greening as part of a transition, not an endpoint.

We need transformative food policy. We have a commitment to a non-statutory statement of food policy, because the good food nation legislation has been delayed. We need the statement to lay the foundations for a statutory national food policy that allows us to look at the whole food system in the round and align our priorities with good food, the food and drink ambitions to double the value of the food and drink sector, our climate targets and our nature targets.

As Deb Roberts mentioned, we just need to get on with delivering the land use strategy. We had a commitment in the programme for government to roll out regional partnerships across all Scotland this year. We now have a commitment to run a couple of pilots. We are going backwards. The land use strategy is our way of looking at land use in the round and identifying ways in which we can depolarise the debate between issues such as trade and farming, and look at integrated approaches that deliver both-—[*Inaudible*.]

The Convener: I go back briefly to Jamie Halcro Johnston.

Jamie Halcro Johnston: This is my last question, convener. You might want to direct it to whomever, but perhaps Professor Roberts could respond. The update proposes large-scale land use changes to meet land use needs for food production, forestry, peatlands and biofuels, as we have covered. Is there evidence in the policies and proposals of how that process will be managed? If not, how can the management of land use change be strengthened? Obviously, we have heard quite a lot about the lack of clarity on some of the future policies. How can we make sure that this is done better?

Professor Roberts: We have not dwelt as much as we could have done this morning on the potential for non-policy-driven support for large-scale restoration. In other words, I am talking about ESG—environmental, social and governance—funding for restoration projects. The climate change plan update talks about the woodland carbon code and the peatland code, which are brilliant, but there is potential for large-scale restoration projects to be funded by the private sector. There could be more in the climate change plan update on that and on ways of supporting it. Robbie Kernahan might have a better answer, but it strikes me that there is a huge opportunity to get additional help to make the large-scale changes occur.

The Convener: I am afraid that I cannot bring in Robbie Kernahan, purely because of the tightness of time. The next question is from Stewart Stevenson.

Stewart Stevenson: We have covered a lot of the ground that I might have explored, so this will be fairly brief. My question is for NatureScot in the first instance. Does the plan adequately provide for the contribution that the rural economy can make to a green recovery and a just transition from the status quo ante to the future that we are seeking? If I get a full answer from NatureScot, I will leave it at that.

Robbie Kernahan: I tried to answer that in my answer to Angus MacDonald. There are strong signals in the CCPU about a green recovery in land use. The plan is ambitious and challenging, and I have highlighted where the opportunities lie in relation to skills and the nature-based economy.

On the just transition, I previously commented on the need to ensure that those who are doing the hard work are the ones who receive support. An awful lot needs to be done on capacity building in agriculture and on clear policy signals to drive cultural and behavioural change, not just among farmers but in the Farming Advisory Service and, indeed, Government, as regulator of the schemes.

To come back to the important point about behavioural change, the CCPU shows ambition, but we must not shy away from recognising the cultural challenge in transforming land use. There are huge opportunities. A case in point is regional land use partnerships. There is an important opportunity to progress and provide absolute clarity. On paper, those are being piloted this year and are to be in place by 2023. Will the pace be fast enough to help strike the right balance between what are often competing priorities in the same place? That is ambitious. I think that the message from NatureScot is that the Government and everybody else who is involved in land use need to get our skates on.

The Convener: That is probably a good place to finish. I am bitterly disappointed that the parliamentary broadcasting systems excluded me from asking questions. It was annoying, because I was cut off just at the critical moment. I cannot remember who was going to answer at that point, and I do not know whether or not they should be thankful, but I will leave a passing thought. My concern is about achieving the balance between food security and security of resources for our industries, in particular forestry, and security of our environment. We have heard from everyone this morning that achieving that is a huge challenge.

Robbie Kernahan's comment that we need to "get our skates on" is an appropriate place to finish.

I thank all the panel members for their input. I thoroughly enjoyed the 98 per cent of the meeting that I saw, and I am disappointed that I missed 2 per cent in the middle. I thank Maureen Watt for taking over at that point.

Subordinate Legislation

Common Agricultural Policy (Simplifications and Improvements) (Miscellaneous Amendments) (Scotland) Regulations 2021 (SSI 2021/9)

11:45

The Convener: Item 2 is consideration of a Scottish statutory instrument. No motions to annul have been received in relation to the regulations. Does any member wish to comment on them?

I see no indication that members have comments. Is the committee therefore agreed that we should make no recommendations in relation to the regulations?

Members *indicated agreement.*

European Union (Withdrawal) Act 2018

Food and Drink (Miscellaneous Amendments Relating to Food and Wine Composition, Information and Labelling) Regulations 2021

11:45

The Convener: Item 3 is a consent notification in relation to a UK statutory instrument. The instrument has been laid in the UK Parliament in relation to the European Union (Withdrawal) Act 2018. As our papers point out, the committee is asked to consider only the elements of the instrument that relate to wine, and the Health and Sport Committee is considering the remainder of the issues.

Does any member wish to make any comments?

As I do not see any indication that members wish to comment, does the committee agree to write to the Scottish Government to confirm that it is content for consent to be given to the SI that is referred to in the notification?

Members *indicated agreement.*

The Convener: We will now move into private session to discuss the evidence that we have heard.

11:46

Meeting continued in private until 12:05.

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