OFFICIAL REPORT
AITHISG OIFIGEIL

Rural Affairs, Islands and Natural Environment Committee

Wednesday 24 November 2021

Session 6

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RURAL AFFAIRS, ISLANDS AND NATURAL ENVIRONMENT COMMITTEE
12th Meeting 2021, Session 6

CONVENER

*Finlay Carson (Galloway and West Dumfries) (Con)

DEPUTY CONVENER

*Beatrice Wishart (Shetland Islands) (LD)

COMMITTEE MEMBERS

*Karen Adam (Banffshire and Buchan Coast) (SNP)
*Dr Alasdair Allan (Na h-Eileanan an Iar) (SNP)
*Ariane Burgess (Highlands and Islands) (Green)
*Jim Fairlie (Perthshire South and Kinross-shire) (SNP)
*Rachael Hamilton (Ettrick, Roxburgh and Berwickshire) (Con)
*Jenni Minto (Argyll and Bute) (SNP)
*Mercedes Villalba (North East Scotland) (Lab)

*attended

THE FOLLOWING ALSO PARTICIPATED:

Andrew Bauer (SAC Consulting)
Clarinda Burrell (Scottish Government)
Michael Clarke (Nature Friendly Farming Network)
Rachel Coutts (Scottish Government)
David Finlay (The Ethical Dairy)
James Nott (Scottish Government)
Lorna Slater (Minister for Green Skills, Circular Economy and Biodiversity)
Dee Ward (Wildlife Estates Scotland)

CLERK TO THE COMMITTEE

Emma Johnston

LOCATION

The Mary Fairfax Somerville Room (CR2)

Scottish Parliament

Rural Affairs, Islands and Natural Environment Committee

Wednesday 24 November 2021

[The Convener opened the meeting at 09:00]

Subordinate Legislation

Plant Health (EU Exit) (Scotland) (Amendment) (No 2) Regulations 2021 [Draft]

The Convener (Finlay Carson): Good morning, and welcome to the 12th meeting in session 6 of the Rural Affairs, Islands and Natural Environment Committee. I remind members who are using electronic devices to switch them to silent mode.

Our first item of business is consideration of draft regulations. I refer members to committee papers 1 and 2. I welcome to the committee Lorna Slater, the Minister for Green Skills, Circular Economy and Biodiversity, along with her officials Clarinda Burrell, Rachel Coutts and James Nott, who join us remotely. I am sure that this will not be the only time that we shall meet the minister. I invite her to make an opening statement.

The Minister for Green Skills, Circular Economy and Biodiversity (Lorna Slater): Thank you for making the time today to consider this draft Scottish statutory instrument. The regulations are being made to amend Scottish legislation in the field of plant health—in particular, in relation to fees payable to Scottish ministers that are associated with plant passports and phytosanitary certification for forestry products.

Provision is introduced to facilitate an exemption from the requirement to pay fees for phytosanitary certificates for forestry exports from Scotland to Northern Ireland in certain circumstances, under the United Kingdom Government's movement assistance scheme. That will serve to support Scottish exporters in the post-transition period.

As Northern Ireland remains part of the European Union plant health system, exports from Scotland to Northern Ireland are required to fulfil EU entry requirements, including phytosanitary certificates. The movement assistance scheme, which is funded by the UK Government, temporarily removes the requirement on exporters to pay fees that are associated with obtaining a phytosanitary certificate for exports of plants and plant products to Northern Ireland.

Provision is also introduced to increase the fees that are charged for export certification services for forestry products and inspections in connection with a plant passport authority for forestry professional operators, reflecting an inflationary rise in the cost of providing those services. Fees for the services have not been increased since 2004 and 2006, respectively. The provision will allow Scottish ministers to recover more of their plant health costs through fees for services, with the aim of minimising the potential spread of damaging plant pests and diseases and enabling Scotland to continue to meet international plant health requirements and standards.

The regulations also correct a minor typographical error in the Plant Health (Import Inspection Fees) (Scotland) Regulations 2014, and make amendments to the Plant Health (Official Controls and Miscellaneous Provisions) (Scotland) Regulations 2019 to deficiency fix EU law to make it operable.

I consider that the regulations are necessary and appropriate. My officials and I are happy to take questions from the committee.

Rachael Hamilton (Ettrick, Roxburgh and Berwickshire) (Con): Good morning. If the amendment expires on 31 December 2022, what happens after that?

Lorna Slater: We will need to bring it back again to extend it. The UK Government has agreed to extend the scheme to 2023, so the SSI will need to be brought again and re-amended.

Rachael Hamilton: The consultation was done informally with sector representatives. Who were those representatives?

Lorna Slater: Discussions took place in Scotland with the Scottish tree health advisory group, which is the core stakeholder advisory group for tree health matters in Scotland. Its membership includes senior expert representatives from across the tree and forest sector, who act to facilitate knowledge exchange between the Scottish Government and stakeholders. The discussions indicated that the fee increases that are outlined in regulations 3 and 4 were considered necessary and reasonable and would not have any significant negative effect on the forestry sector. It is also worth noting that the increases have already been implemented in other countries within the UK, so we are bringing Scotland into line.

Rachael Hamilton: That is helpful. Lastly, where does the specific budget for the exportation certification—which will be used by the UK Government for the provision—come from? Does it come from an EU transition fund?

Lorna Slater: I do not know the answer to that. Maybe my officials can help me with that one.

Rachael Hamilton: Thank you.

Lorna Slater: Are the officials able to say where, in the UK budget, the money comes from?

The Convener: We are not getting an answer straight away.

Lorna Slater: We will make a note of that and will certainly get back to the committee on it.

The Convener: We will write to the minister on that.

Since there are no further questions, we will move to agenda item 2, which is formal consideration of motion S6M-02211. I invite Ms Slater to move the motion.

Motion moved,

That the Rural Affairs, Islands and Natural Environment Committee recommends that the Plant Health (EU Exit) (Scotland) (Amendment) (No 2) Regulations 2021 [draft] be approved.—[*Lorna Slater*]

Motion agreed to.

The Convener: Is the committee content to delegate authority to me to sign off our report on our deliberations on the affirmative SSI?

Members *indicated agreement.*

The Convener: That completes consideration of the instrument. I thank the minister and her officials for attending.

09:05

Meeting suspended.

09:06

On resuming—

United Kingdom Subordinate Legislation

Ivory Prohibitions (Exemptions) (Process and Procedure) Regulations 2021

The Convener: Our third item of business is consideration of a notification from the Scottish ministers for consent to the regulations. I refer members to committee paper 3. Under the protocol between the Scottish Parliament and the Scottish Government, the consent notification has been categorised as type 1, which means that the Scottish Parliament's agreement is sought before the Scottish Government gives consent to the UK Government making secondary legislation in devolved competence.

Since members have no comments on the consent notification, is the committee content that the provisions that are set out in the notification should be included in the proposed UK SI?

Members *indicated agreement.*

The Convener: Is the committee content to delegate authority to me to sign off a letter to the Scottish Government to inform it of our decision?

Members *indicated agreement.*

The Convener: In a slight change to the agenda, we now move into private session and will resume in public with agenda item 4.

09:07

Meeting continued in private.

09:35

Meeting continued in public.

Climate and Nature Emergencies

The Convener: Our main item of business today is the second in a series of evidence sessions on the impact of the climate and nature emergencies. Today, we will focus on innovation and new approaches to environmental challenges in the rural economy.

I welcome our first panel of witnesses and thank them for their patience. They will discuss the terrestrial environment. We have Michael Clarke, Scotland chair of the Nature Friendly Farming Network; David Finlay, owner of the Ethical Dairy; Dee Ward, chairman of the Wildlife Estates Scotland initiative; and Andrew Bauer, head of food and footprint. Mr Bauer is replacing Rebecca Audsley.

The evidence session will take a slightly different form. I invite Michael Clarke to make a brief opening statement setting out some of the background to his innovative projects, followed by David Finlay, Dee Ward and then Andrew Bauer.

Michael Clarke (Nature Friendly Farming Network): Thank you for the invitation to come to the committee. I am delighted to be here.

The Nature Friendly Farming Network was born less than four years ago and is a steadily increasing network—a spider's web, perhaps—of farmers and crofters the length and breadth of Scotland. We include big and small operations, male and female members and conventional and organic farms and crofts. We cover all sectors of farming and we know that working with nature works for us in our businesses as food producers and part of the Scottish food system. We know that it also delivers for biodiversity and addressing climate change.

Our mission, as well as running our businesses day to day, is to try to change the mindset of more Scottish farmers and crofters, to get them to rethink the way that they farm and, we hope, to give them the confidence to come with us on our journey—our transition—to a more sustainable future for Scottish farming. I refer to a more sustainable way of farming that delivers for biodiversity and addressing climate change.

We are grateful for the chance to talk to the committee and tell you our story. I invite members, individually or as a committee, to visit any of our 275 farm and crofting members throughout Scotland, who would be delighted to show you how it works for them as a business. That number has doubled since the Covid restrictions began.

The Convener: Thank you. Before we move on to David Finlay, I declare an interest as a neighbour of his. Having had the pleasure of farming on similar ground in Borgue, I have often felt his pain. I invite him to make an opening statement.

David Finlay (The Ethical Dairy): Good morning. My background is as a fifth-generation tenant cheese-making dairy farmer in south-west Scotland. We have 125 dairy cows and all the young stock from that through to finishing or breeding, as well as 250 breeding ewes. We farm 850 acres of less favoured area. It is pretty rough stuff: 500 acres of it is moderate-quality permanent pasture, 150 acres is rough grazing and scrub and there are 100 acres of mixed broadleaf trees, most of which we have planted in the past 25 years.

I spent 10 years in the forerunner of Scotland's Rural College, acting as an intermediary between scientists and farmers, and I then came home and started intensifying the farm. I got disillusioned with that and then we started our transition to organic, then ecological and then regenerative farming, as it is called nowadays. It has been an interesting journey. It has brought us into contact with fellow travellers who are farmers, vets, research people, all of whom share our experiences. On the way, we have crossed many industry red lines and have found that many of them were myths.

We have thrown away the old textbook and are now writing our own. Instead of spending time and money on what are now seen to be damaging technologies—fertilisers, pesticides, antibiotics and so on—we are now investing in our soils, crops, livestock and environment, as well as in the people who are working here. We have tried to follow best practice over the years, and we now feel confident that we are moving towards a resilient, rewarding and environmentally-friendly net zero farm.

We have 25 years of soil carbon data, which shows that we sequester more carbon in soils than we emit from the farm. We are also resource efficient and profitable. Our most profitable years in dairy farming were after we were 10 years into organics, and that was primarily because we had driven cost out of the system. As you probably know, we have moved into the cow-with-calf approach. That has been challenging, but we are now in our sixth year of it and we can see that, within five years, we will be back to the previous level of profitability. That is pretty well where we have got to.

Dee Ward (Wildlife Estates Scotland): Good morning. I am the chairman of Wildlife Estates Scotland. I also own an upland estate in the Angus

glens called Rottal, which is Wildlife Estates accredited.

Wildlife Estates Scotland is known as WES for short, so, if I say that later, you will know what I am talking about. It is part of a Europe-wide label. Wildlife estates are independently-assessed landholdings that are accredited for wildlife and biodiversity. Scotland has the second-highest area of accredited land in Europe after Spain. We currently sit at 1.3 million acres, and we have another 0.5 million acres going through the accreditation process. We have a target of reaching 2.5 million acres by the end of 2023.

We are funded primarily by Scottish Land & Estates, with initial generous funding and on-going support from NatureScot. Most landholdings are commercially motivated, which means that they need to make a profit—we all do—but they want to improve and maintain habitats. Lots of them have been doing good work for many years, and they see wildlife estates as a way for land managers to confirm, by independent assessment, that they are doing a good job.

There are no incentives currently, bar the bragging rights of saying that you have an accredited estate, but we are working on trusted operator status and other benefits such as possible easier access to the agri-environment climate scheme or other grants in the future. The accreditation process is very onerous. It takes a lot of work and a lot of data is required. Often, because there are no incentives, although people want to do it, it goes to the bottom of their pile of stuff to do.

There are wider benefits to WES. Collecting the data is really important so that we know what we have and so that we can drive management improvements and make better decisions about wildlife and biodiversity to deliver a biodiversity net gain and sustainable farming.

We are all looking at other commercial drivers for the future or opportunities to mainstream, such as the carbon markets, peatland restoration, woodland creation, natural capital baseline and measuring improvements. I know that people in England are talking about net biodiversity gain units. There are also opportunities for things such as flood mitigation and improving water quality through riparian planting and peatland restoration. The new common agricultural policy is coming down the line and, with the talk of public money for public good, there is the potential to encourage good practice.

People are aligning themselves with doing the right thing in terms of net biodiversity gain and so on. WES is well positioned to scale up dramatically and deliver huge environmental benefits and biodiversity net gain but, as I mentioned, some tangible benefits or privileges would speed up that process substantially.

09:45

The Convener: Before I bring in Andrew Bauer, I will give him his proper title—he is the head of foot and footprint at SAC Consulting.

Andrew Bauer (SAC Consulting): Thank you very much—it is a bit of a mouthful.

My colleague Rebecca Audsley sends her apologies—something came up at the last minute. I will run through her opening statement, which is concerned primarily with farming for a better climate. Since that programme was established in 2011, it has probably been one of the more high-profile Scottish Government-funded knowledge-exchange efforts. It engaged with farmers on net zero well ahead of other initiatives. Up until 2018, the programme, through various iterations, had a strong focus on climate change. After 2018, the focus switched more to regenerative agriculture, which I will come on to in a minute.

The idea was to have focus farm hubs around the country, where farmers who had an interest or were simply intrigued by what was being discussed could come together. The 13 focus farms that were established drew people from far and wide across the country and from all different types of farms. Although discussion was an important part of the programme, it was not just about that; it was also about trials and demonstrations. In the end, more than 5,000 farmers and crofters engaged face to face at those events. There was also a suite of resources on the website and social media, and there was outreach through local and national press.

Since 2018, the focus has shifted to regenerative agriculture, which has been very popular. The shift came along just at the right time to complement the efforts of the witnesses who have already spoken. The five regenerative agriculture focus farms around the country look at everything from cover cropping to soil health, adding livestock to arable systems, minimising the damage from potatoes, reduced and minimum tillage, crop diversification and foliar feeds. In the farming for a better climate programme and, subsequently, the regenerative agriculture programmes, there has been a focus on practical innovation on farms and on exploring the bounds of what is possible in a Scottish context.

If committee members would like to visit any of the regenerative agriculture-focused farms, Rebecca Audsley has asked me to invite them and to say that she would be very happy to facilitate such visits.

The Convener: We will certainty consider that invitation. It would be nice to get out and about again, as the committee intends to do.

We now have the opportunity to ask questions until about 11 o'clock. I will ask some very broad questions. How are your projects or schemes contributing to solutions that address the climate and nature emergencies that we face right now? How scalable are your projects or initiatives? What would be needed to mainstream your identified solutions? What barriers stand in the way?

Michael Clarke: Our network has grown beyond our expectations. We need to work with the right mindset and to give farmers the confidence to start on this journey—a few of the speakers talked about a journey; David Finlay did and, I think, Andrew Bauer did—today, because inaction is the biggest threat to meeting our targets, becoming nature positive and reaching carbon net zero. We need to do something and make a difference today.

As I said, the network is like a spider's web and could be immensely scalable if we had the support from you to give us the opportunity and if we had Scottish Government policies that support wildlife-friendly and climate-friendly farming and nature-based solutions as much as technological solutions. Our members feel that we pretty much have most of the technological solutions that we need.

We may need help with establishing the baseline—carbon audits—because we need to know where we are, for starters. That is already on the agenda. Then we need to focus on soil health, with soil tests and that sort of thing, which will tell us the direction to take. Finally, we need help with knowledge transfer. Andrew Bauer mentioned knowledge exchange. A bigger pot for the knowledge transfer and innovation fund—KTIF—would be enormously helpful to us.

A lot of the responsibility has to be on farmers and crofters. I farm not that far from you, convener—I am in east Dumfriesshire. We have a responsibility to steward the assets under our management. We need to produce food responsibly and sustainably. The responsibility is on farmers and crofters, with help from the public sector; it should be a collaborative, public-private partnership.

We know that there is a wall of money out there in the private sector—almost a tsunami of money—that wants to come in to help us. If we put our heads together—the policy makers and the people who can deliver it on the ground through the likes of the network—we can encourage and get some of that money to come through.

Dee Ward: Michael Clarke's comments were very good, and I will make very similar comments in speaking about the challenges from the point of view of Wildlife Estates Scotland. I use the comparison of the integrated administration and control system form—if you do not get your IACS form filled in in time, you do not get your subsidy. Currently, Wildlife Estates relies on people's good will; they want to be accredited, but it often goes to the bottom of the pile, which means that people do not do the work, because there is no deadline to do it by—they do it when they do it. Funding is important, as is opening up private sector funding.

We talked about trusted operator status. There need to be benefits to accreditation. If someone is seen as a trusted operator by NatureScot, there is light-touch management: you have a five or 10-year management plan of what you are going to do, the trees that you are going to plant and how you are going to manage your land, and NatureScot lets you get on with it because you are seen as a trusted operator. Schemes like that will be very beneficial.

Many people are keen to become Wildlife Estates accredited but, because there are no direct incentives, it tends to go to the bottom of the pile. If we could change that, it could go to the top of the pile and a lot more people would come on board.

The Convener: David Finlay, the Ethical Dairy is often referred to in the Scottish Parliament and the work that you do is well quoted. How scalable is your project? It is good to hear that the business is now profitable and that you are looking to a positive future, but what is needed to mainstream your type of venture and what barriers stand in the way of that type of venture coming up quickly and addressing this emergency? We do not have 25 years to transform or become organic. What do we need to do to make your project a mainstream solution?

David Finlay: I would not expect everyone to follow what we are doing. However, we are in an emergency situation. We have seen how we have dealt with Covid—we have thrown billions of pounds at it. It has been very damaging to the economy and the country. We have to face up to the fact that, if we are in a climate emergency, we need to invest a lot of money in getting it sorted. There is no doubt that the people who can sort it are the land managers and that we are part of the solution.

Although I agree with Dee Ward and Michael Clarke that we need Government involvement, I am a bit more hard nosed and I think that the Government must take the lead. I know that money is a problem, but we need to create an incentive and a market. At this point in time, the incentive in the market is not there and it is moving far too slowly. If I were king for the day, I would be gradually transitioning—at least 50 per cent over a

10-year period—the rural payments budget, perhaps supported by the health or some other budget, into supporting public sector procurement. We should be feeding our children, old people and sick people the best food and it should be food that has been produced ecologically and socially soundly, too. That would create a market.

That would also give a lead to the private sector. As Michael Clarke said, there is a huge amount of money out there in the private sector, but the private sector will not move fast enough until the demand is there. Once the public sector sets the standard that food should be produced to, in terms of the environment and social welfare conditions, the private sector will follow suit very quickly.

As I said, I am hard nosed: if farmers do not want to change, that is fine and they can fend for themselves or get out. They should be incentivised to get out so that we can bring in new blood. We need new blood in the industry, because there is too much old thinking.

I would put a lot of money into a get-out scheme. I know that one has been started up down south. We have to be very careful that we do not get the next generation coming in with the same old ideas. We need new blood and new ideas. Does that answer your question?

The Convener: Thank you. That has certainly resulted in a flurry of hands being raised for supplementaries. We will start with Jim Fairlie, followed by Rachael Hamilton.

Jim Fairlie (Perthshire South and Kinross-shire) (SNP): Gentlemen, I am loving this conversation. David Finlay, I think that you and I should sit down over a number of pints and have a lot of blethers. The idea that you just proposed is one that I took to Ross Finnie almost 20 years ago and it was pooh-poohed then. We will see where it goes from here.

Dee Ward, I should register an interest in relation to you, because, many years ago, I bought a blackface tup off your shepherd.

We talk about regenerative farming, but, as a new entrant into farming, I was not bound by the same constraints of what had aye been done. I did things that I thought were right. I always had the environment in mind. I got involved in farming because I wanted to be out in the countryside and I love nature. I was growing clover 30 years ago, and it is now being talked about as a great new product, even though it is not and it has been there for ever. How out of touch is the farming industry with nature-friendly farming? I do not know who is best placed to answer that, but I will go to Andrew Bauer first.

Andrew Bauer: You have hit on something there. There are people who are already on the journey and there are those who believe that they do not need to start the journey yet, because the language that they hear is insufficiently clear and sometimes insufficiently challenging or, alternatively, too challenging in an unconstructive way.

Take soil carbon as an example. We hear a lot of farmers saying things like, "I am an upland farmer, and I know that, once you understand the carbon sequestered in my soils, I will be net zero"—that is, if they are not already saying to us that they are net zero. We have a farm carbon calculator called Agrecalc, which is increasingly being used to look at soil carbon. I am not about to say that that is the final word on the subject, but, in a lot of the farms that we are looking at, the percentage of emissions that are being offset by what is in the soil is in the mid-teens to the mid-20s.

10:00

We need to move on the discussion with a lot of the stakeholders and say, "You're serving nobody's interest well here by saying that you just need to wait until you see that particular bit of evidence and then everything's going to be fine." We must also find a language in which to talk to farmers about the issues that does not overwhelm them, because paralysis due to conflicting messages is equally a threat to action. I believe that, sometimes, we are too busy talking to one another in an echo chamber and not welcoming more innovative and challenging viewpoints. We really need to do that.

The Convener: Michael, could you address the same point?

Michael Clarke: [*Inaudible*.]—farm as a boy, and I never thought for a minute that I would be able to afford a farm, so, by ending up here, we are living the dream. However, I am not so sure that it is always a dream; sometimes, it is maybe a nightmare.

Your question is about how out of touch the industry is from nature-friendly farming. That is about the mindset that we are trying to address. It seems to us that a lot of people in the industry focus on the top line of their business. They focus on yield and on how much they can get out of their resources through using quick fixes, such as nitrogen in a bag—they see how many cuts of silage they can get from their fields by putting on more and more inorganic nitrogen.

We are trying to get across the message that people should look at the bottom line, profitability and the maximum sustainable output. One approach is to cut back on inorganic fertilisers and, as Jim Fairlie said, to put clover in the mix. There is absolutely nothing new about that

method, but I think that some in the industry have forgotten it. That is not really the industry's fault—we were encouraged by the likes of Aberystwyth to put in high-yielding Italian rye grass mixes, with the focus on the top line.

We know that more farmers across Scotland are putting in clover, chicory and plantain. If people try to out-winter their cows for longer, and if they try to really cut their inputs, the lowest-cost producer will win out as we go through this period of immense uncertainty. There is also the need for us to focus on being nature positive and keeping the temperature rise below 1.5°. We know that the network is in a very good position to scale such a mindset change by demonstrating that such approaches work on our farms and crofts.

The Convener: Thank you—

Jim Fairlie: Can I keep talking, or are you—

The Convener: Do you have another supplementary question?

Jim Fairlie: Yes. I am very interested in asking about the private funding that is coming into farming for carbon sequestration. How do you see that working? One of the things that people are up in arms about is big companies coming in, buying huge swathes of land and then saying that they are green because they own an estate in Scotland. Where do you see the private money coming in, and how would you hold it here?

Dee Ward: That is a very good question. We want to ensure that when businesses come in, they not only help us to improve what we do but help net biodiversity gain. Before they come in, they should be reducing their carbon footprint, rather than just offsetting it, which is the wrong solution that we want to avoid.

Carbon markets have huge potential. They will bring in private money. If that is taken to its ultimate conclusion, no farm subsidy from the Government will be required. The Government could spend that money on other things, because so much private money would be coming in.

There are two parts. One is that we want to reduce carbon, and the other is that we want to deliver net biodiversity gain, which is where natural capital comes in. If natural capital is to have value, you need to force people using some mechanism—I do not know what that is—not to buy land but to put money into land and farms. By valuing and putting money into the natural capital, that will help the operators of that land, and the money that goes in will deliver a natural capital benefit. Unfortunately, we have not valued natural capital forever, really—well, not since the war. If people see it as valuable they will respect it and value it more. That is a key driver.

How we will get there, I do not know. If we are not careful, the private sector will jump in, get greedy and take over. A mechanism is needed to say, "Yes, you can do that, but you have to do this at the same time."

I am sorry—that was probably not a very good answer. I am not sure how to do it, but we need to be wary. There is potential, if we can get it right.

Andrew Bauer: I declare an interest in that SAC Consulting has a forestry team that works with land managers to sell the carbon in new planting. Our focus is mainly on integrated planting on farms, crofts and estates, rather than on the larger-scale end, although we are involved in some larger projects.

It is important to disentangle the headlines from the reality on the ground. Most of the carbon sales that we do are for smaller projects. The companies that we deal with—which, I suppose, are at a further intermediate stage—are aware of the importance of having a range of products. We know that there are products coming on to the market for which the farmer retains some carbon and sells some carbon further down the line, so they have something if Government policy or their supply chain makes demands on them later on.

When something that looks like a gold rush happens, there are always risks. We need to be careful not to assume that one or two examples represent everything that is going on: there is diversity of activity. In some cases, the sale of carbon is enabling woodland planting to happen. That is not so much the case in the central belt, where there is a grant uplift, but further north it is quite often the carbon that makes something viable for us.

David Finlay: The Ethical Dairy is sequestering 5 tonnes per hectare per year, and we are emitting 4.5 tonnes per hectare per year, according to Agrecalc. If I sell that 5 tonnes of carbon credit, I am no longer net zero. I do not understand how the industry can sell its carbon credit without becoming carbon positive. That is a problem: we cannot all win from carbon credits. Somebody will have to lose. I do not see how we can square that circle.

The Convener: Thanks, David. That was useful.

Rachael Hamilton: I have two questions for Dee Ward. First, can you tell us a little bit about the integrated land management that you do alongside peatland restoration, moorland management and grouse shooting management?

Secondly, you mentioned the AECS. I have spoken to a lot of farmers who have had difficulties accessing the scheme, because of its narrow scope and the Scottish Government's having

reduced its budget between 2017-18 and 2020-21. Can you talk us through those issues, please?

Dee Ward: Absolutely. I will start with what we do. Just so that everyone is aware, I note that we have a 3,000 hectare, or 8,000 acre, estate, of which probably 6,500 acres is moorland. On that, we are doing peatland restoration, we farm sheep, we have stalking and grouse shooting, and we have hydroelectricity. We are using the same land for multiple purposes.

If you can imagine the estate in three sections, at the top is the grouse moor, and the middle band is where we are doing a lot of riparian planting and contour planting of native species, to help with flood mitigation and for wildlife and biodiversity. At the bottom, we have fields where we can overwinter sheep and so on. We have remeandered the Rottal Burn, and we work with organisations such as the local fisheries trust. There is a lot of overlay of benefits. For example, we work with the fisheries trust and with Angus Council, which is talking to us about issues including flood mitigation and improvements to the river further down. There is a lot of crossover and collaboration, which is to be encouraged.

On some of the other points that have been made, we are working on growing all that we need on site so that we do not away-winter anything—we grow turnips, for example.

We have also improved our grassland. Reducing deer numbers has made a massive difference to the amount of grass that we have available over the winter. The trees that we are planting have a lot of grass underneath them, and we run the sheep through the trees as they get bigger and they do a good job of reducing the grass. When the trees get very thick, especially with natural regeneration, the sheep are quite good at breaking that apart a bit, which is good for natural processes.

We have Highland cattle on the low ground that just trample around in the marshy and rushy ground and break it up. Since we have been doing that, we have noticed that a much larger number of waders such as snipe overwinter with us, and in the summer we get a lot of visitors including curlews and lapwings.

The approach has been really beneficial, and it all seems to work together. One problem is that we have, since the second world war, focused on food production. Fertilisers have been invented and we have forgotten how to farm naturally, which we did 100 or 200 years ago. I think that everyone who is giving evidence today is slowly learning to do that again, and it holds the key to living sustainably.

It was disappointing that, last year there was just a little budget for the AECS, but it was very specific. However, I think that, this year, a bigger budget has been declared. The thing with the AECS is that once people are in it they stay in it. It involves a five-year term that people tend to renew to do another five years, then another five. That money is incredibly valuable in allowing people to farm in a nature-friendly way.

I mentioned in my opening statement that if you want to increase the scale of wildlife estates, a lot more people would become Wildlife Estates Scotland accredited if it was easier to get into the AECS and money was available to provide nature benefits or nature-based solutions. The AECS is a fantastic scheme; basically, I just wish that it had a lot more money behind it.

Rachael Hamilton: My next question is for David Finlay, although Andrew Bauer and Michael Clarke might also want to come in. I should say that I have an interest in the issue through a family member—my father is an organic dairy farmer. My father complains to me a lot that the price for organic milk is moving towards the price for conventional milk. If we want to ensure that people, especially in urban areas, have access to high-quality nutritious food, and if we want farmers to do more to achieve net zero, that will cost money. How can we ensure that the price that farmers get relates to the costs of production?

David Finlay: At the end of the day, price is driven by the market and market demand. I will again point the finger at the Government and say that we have not educated our population to understand the benefits of organic farming. The benefits are not just about the environmental and animal welfare impacts; there are health benefits through reduction of chemical residues such as antibiotics and fertilisers in our food and water supplies. The public do not understand that there is a wide holistic benefit from organic farming, ecological farming and regenerative farming, so people are not prepared to pay the higher prices. If good-quality, high-welfare and environmentally friendly food was being provided to the public through the public sector, that would incentivise the private sector to follow suit and it would create demand. It is a demand-led situation. That links back to the previous question about how well we understand the connection of agriculture to the environment.

The problem goes back a long way. As a child, I was sent out with a tray of eggs with strychnine in them to lay them out on the farm to kill wildlife. This was a wee while ago—I got sixpence for it. That was the mindset then, and it has not changed greatly since. There is a huge disconnect at the early stages of learning on the farm and in our education system, which does not support environmentally friendly production. Therefore, we

have a whole industry that is at odds with the environmental and welfare issues.

I am sorry for straying a little from your question, but we have a cultural disconnect that requires leadership from the Government. Because no one is going to do it off their own bat, we need to re-educate—[*Inaudible*.]

The Convener: We have lost David. While we are getting him back, I will move on to Alasdair Allan's questions.

Dr Alasdair Allan (Na h-Eileanan an Iar) (SNP): My question is for David, so I will come in if he comes back.

The Convener: Okay. It seems that we have lost everybody now. I suspend the meeting.

10:17

Meeting suspended.

10:34

On resuming—

The Convener: We are back. We are not going to blame rural connectivity—I think that there was an issue in Holyrood. I thank everyone for their patience. We have taken the decision to postpone our evidence session with the marine panel, which was due to start at about 5 past 11. We now have more scope to ask questions of our terrestrial witnesses, which is a bonus.

David Finlay was in the middle of answering a question about funding.

David Finlay: That was a long time ago. I am trying to remember what I was saying. I was in the middle of a rant about something. Can you remember what I was talking about?

The Convener: To give you a start, I will ask you a question that was going to lead on from that.

Rachael Hamilton touched on the additional costs for organic, public procurement and so on. However, the prices of agricultural inputs are rising and we are unlikely to see a reduction in food costs for consumers. If we try to transition, there will be quite a squeeze. Where will that funding come from? What mechanism would allow farmers like you to continue to produce high-quality food and be profitable?

David Finlay: We were just talking about that—we had a little private discussion during the suspension.

At the Ethical Dairy, we found that, once we had got our heads around organic, we could produce our milk for the same price. The organic guys do not like me saying that. We were producing milk at 24p a litre, when it was costing our industrial neighbours 28p a litre. We are now looking at the cost of labour, fertilisers and pesticides—the whole thing—going up dramatically, while the price that supermarkets are offering to farmers for the conventional product has risen quite markedly over the past six months.

The issue was not the subsidy or the extra premium that we were getting from the market. At the farm gate, we were getting only an average of 5 to 10 per cent more than the price for the conventional product. We had our subsidy cut, because we had to cut our numbers initially when we went organic. The issue was the fact that, after 10 years of being organic, the productivity of the farm recovered. We were carrying almost the same stock as we had when we were putting on all the fertilisers and pesticides, but we had driven £40,000 of costs out of the system. We were putting on 100 tonnes of fertilisers; at £750 a tonne, that was £75,000 for fertilisers alone.

Now, in order for a business to be sustainable and resilient, people have to go towards organic. We were talking about this a minute ago. A lot of the big estates in Fife—arable and upland estates—are moving towards organic because the costs of their systems are rising while the subsidy is being reduced. Those estates are seeing that the way forward is to go organic and drive costs out of the system. That is very much what we see. In terms of resilience and being good for the environment, that has to be the way to go.

I do not think that the cost to the public should be significantly more than it is at the moment. It is about getting our heads around the system, learning how to do things properly and getting mechanisms in place for education, training and support.

We are in an agri-environment climate scheme. I asked RSPB Scotland to look at our AECS plan, because we were working on wader-grazed grasslands, ponds and stuff. It took two years before anybody from the RSPB arrived, by which time we had our plan in place, so we had no support. As a farmer, I was willing—I wanted to do it right—but there was no support or advice. A farmer ends up simply doing a plan that suits them, and everything is probably in the wrong place. AECS is well intended, but it will not deliver the outcomes, because there is no support for farmers who, like me, do not understand what they are doing.

Dr Allan: You mentioned some of the ways in which the public sector could support the outcomes that you are looking for in dairy farming, whether through subsidy or through public contracts for food. We have touched on the issue of price, but I am interested in hearing your views on supermarkets, given that they exert—traditionally, anyway—a huge influence over the

price of milk. Where do supermarkets fit into the picture, or do they not fit into it? How do we ensure that they start to take such questions more seriously?

David Finlay: We have dealt, and currently deal, with supermarkets. Their objective is to make money for their shareholders, not for suppliers. The aim is simply to keep the suppliers alive—just. A lot of supermarkets have direct supply contracts that are linked to the cost of production.

Supermarkets are almost a necessary evil, but we need to ensure that they are held to account on encouraging good standards of production. They will respond to only one person, and that is the customer. If the customer demands high-quality food that is produced in a proper, sustainable way—I come back to the point about education and the role of Government in taking the lead—supermarkets will follow.

Government has to take the lead through public sector procurement. I am very much against subsidies, which are damaging and create dependence—I would get rid of them tomorrow and create a market through the public sector. That is how I would operate. If the customer was trained, educated and informed, which they currently are not, supermarkets would follow.

Dr Allan: I do not dispute what you have said about the importance of public contracts. I am simply curious to know whether, in the meantime, supermarkets should be doing something that they are not doing just now.

David Finlay: They will move only when their customers demand it. They will not do anything that they do not have to do.

The Convener: Do supermarkets actually respond to customer demand? In the UK, the really big players in the supermarket sector dictate what happens. It is the supermarkets that put products on the shelves. There is a lack of choice. Decisions on which food products appear on our shelves are not consumer driven—it is the other way round. Is there an issue in that regard?

I will leave that with you. Andrew Bauer would like to respond to Alasdair Allan's points.

Andrew Bauer: When we were speaking in the group, I recounted the views of a colleague of mine, who came to SRUC from Denmark in the past few years. His perspective on the growth of organics in Denmark is very interesting, and I hope that I will do justice to his words. The big thing that I took away from what he said was that, in Denmark, organics were marketed as, and grew massively on the back of being, the premium choice. That is how it was pitched to consumers and, with the right support from farmers, growers, processors and retailers, organics have gained a significant market share in Denmark.

Another point that he made was that, since he came to Scotland, he has been struck by the difference in attitudes to what Government can do. His view—I hope that I will not misrepresent him here—is that, in Scotland, there is too much expectation on the Government to pick up all the pieces and do everything for the sector, but that, equally, there is not enough expectation on the Government to intervene at the retail end.

10:45

In Denmark, the Government sets rules and regulations, but the farming sector does not always ask the Government to take the lead on everything—although it does expect the Government to regulate retailers properly and to be more muscular in how it interacts with them. There is certainly something to be looked at there. I do not doubt that the retail sectors in the two countries will be different, but we almost seem to treat the retailers as something that we cannot influence, as though they are influenced only by that mystical thing called the consumer.

Ariane Burgess (Highlands and Islands) (Green): Thank you to everybody for what has been a great discussion so far.

I am trying to understand the blocks and resistance among the farming and crofting communities to moving towards organic and regenerative approaches, agroecology and so on. I have picked up a number of things from this conversation and other conversations that I have had outwith this meeting. First, there needs to be knowledge transfer. Baselining and land ownership have not really come up in this conversation yet, but I am aware of issues around tenant farmers, short-term tenancies, tree planting and so on. On farmer indebtedness, it is beginning to strike me that some farmers are probably in debt to their current practices.

That is a set-up for a few questions that I have. One is on whether regenerative farming practices are currently taught in agricultural colleges. Andrew Bauer talked about the five demonstration farms. I wonder whether there is a need for an advisory service that could arrange training on regenerative measures. One of its key responsibilities could be to support a just transition for the whole sector. I have brought up that issue quite a few times in the chamber and in conversations. What would that look like, and how could we start going about it? I know that I am inviting something of a high-level response. Some of this might need to involve the baselining that was mentioned earlier.

Andrew Bauer: I think that we should arrange to show you in more detail what is already happening. The Scottish Government funds the Farm Advisory Service. We deliver that, and regenerative agriculture is part of that. The current programme comes to an end at the end of March, and the Scottish Government is currently tendering for an additional two years. It is our intention, in the two years to come, that regenerative agriculture will form a significantly larger proportion of what we do alongside other biodiversity and climate change measures.

The Farm Advisory Service is already considering that. As I said, the farming for a better climate programme, through regenerative agriculture and focus farms, is working in this area and is providing another advisory service or extension service that is examining such approaches.

I am slightly less familiar with the level of education, which is the domain of other colleagues at SRUC, but SRUC has a long-standing organic trial set-up near Craibstone in Aberdeenshire. I have colleagues—particularly people such as Christine Watson—who have a keen interest in teaching organic agriculture. It would be fair to say that, in the past, that would have been a less significant part of the curriculum, although there will have been times in the past when it would have been more prominent. It would also be fair to say that it is rapidly moving up the agenda. I imagine that that is the case in many other places, not just at SRUC.

I am happy to talk to you separately if you want more detail on that.

Ariane Burgess: Thank you for that. Michael Clarke wishes to come in.

Michael Clarke: You started by asking about blocks and resistance to mindset change. Old habits die hard. We have had 40 to 50 years of CAP support, and people have got into a particular way of doing things, so it is not easy for them to change that mindset. We have all talked about being on a journey. This is a transition, and it will take time for us to get into the new mindset. However, we do not have that time if we are going to address these emergencies. They are genuine emergencies and we have to get on with it.

Can I make a fairly radical suggestion about knowledge transfer? Through the network, we know about the peer-to-peer learning, farmer-to-farmer pilots that have been funded to get farmers out to hear from other farmers and crofters about what works. That is a very powerful way of driving a change in mindset. The network would therefore love it if the Government could support a big uplift in the knowledge transfer and innovation fund. At the moment, it is little penny packets, and we know that the Government is open to bids for a much bigger contract, which we are not in a position to bid for.

A lot of farmers out there are in the education system. I will not mention names, but you probably know some of them. They are on the agriculture reform implementation oversight board—ARIOB—and other such boards. They are educators as well as farmers, and they know the power of farmer-to-farmer, crofter-to-crofter, peer-to-peer learning.

I also want to touch on the point about tree planting. The afforestation programme and budget give us the opportunity to do much more for agroforestry, which would be a big early win, in relation to our climate and biodiversity emergencies, by supporting hedgerow creation. Agroforestry includes hedgerows, and we would love to see more of that budget being directed to hedgerow creation, rather than the penny packets that we are getting through the AECS at the moment.

The Convener: You talked about farmers and crofters coming together for knowledge transfer. On the back of the foot-and-mouth outbreak, sector groups were set up, particularly in Dumfries and Galloway and the south of Scotland. Dairy farmers and beef farmers came together with some strange and wonderful names such as the cowboys or whatever. As far as I am aware, they were hugely successful. They were facilitated by consultants, and it was very much an open-book process in which farmers would sit around the kitchen table and discuss quite openly the challenges that they were facing. Unfortunately, the funding for the facilitators fell away and some of the groups fell by the wayside. Is that the sort of initiative that you would like to see? Do we need funding for facilitators to pull together groups of farmers from particular sectors?

Michael Clarke: I used to work with people who were members of the cowboy group. Yes, that is a great idea to get farmers to talk. These days, farmers are more able to talk among themselves without a facilitator. A facilitator might be helpful, but I think that you will find that, particularly with networks such as the Nature Friendly Farming Network, farmers are now much more up for talking among themselves and getting behind the questions that Ariane Burgess asked about mindset change and the blocks to that. Why are you not changing? How come that works for you? Would it work for me? Those are really quite soul-searching questions that involve baring your soul in quite an intimate way. Anything that helps that to happen is to be encouraged.

The network thinks that facilitators would help in facilitating bringing together clusters of farmers to help upland waders such as curlews and lapwings—those kinds of things. Species-related

biodiversity gains would be greatly facilitated by funding for facilitators to bring farmers together and get them to collaborate. You will know, convener, as a farmer, that collaboration is not a Scottish or a British trait. French farmers collaborate so much more easily than we do, but we are in a new paradigm here. Everybody realises that, with these climate emergencies, we have the pressure of costs, which you have talked about, so we need to look hard at our businesses, and we need to come up with a new business framework that works for us as businesses and delivers for biodiversity and climate change.

The Convener: I will go back to Ariane Burgess for some further questions, and then I will move on to Karen Adam.

Ariane Burgess: I just want to pick up on baselining. I want to understand that a bit more because, from conversations that I have had outwith the committee, it seems to be important. We do not really know what is out there. We do not know what we need to track with agriculture, so I would love to hear a bit more of your thoughts on that. What does baselining mean, what do we need to do, and what direction should we push the Government in to make it more useful for farmers? Does anybody want to have a go at that?

Michael Clarke: I do not want to hog the floor, but it is absolutely essential that we get this baseline. Andrew Bauer mentioned Agrecalc, which is the Scottish Agricultural College's calculator, that we and a lot of Scottish farmers use. It is good as far as it goes. It shows the emissions side of the equation, but it does not show the sequestration side. You know how much you are pumping out and what you need to have a go at, but you do not know how much you are sequestering on the farm. We need a universally acceptable Scottish model, or a computer-based assessment that you can do on farm with an adviser—it would probably take an adviser to show you how to do it—that shows where you stand.

As an add-on, it would be a good idea if you did the natural capital inventory that Dee Ward has talked about. That is a balance sheet of sorts. I am talking about something like profit and loss so that you know where you are on a year-by-year basis. We need quite a lot more work to be done on that. Andrew Bauer is probably better placed than I am to say, but there might be a lot of research and science already going into that. We definitely need something urgently so that we are all starting from the same point and we know what we have to do if we are to achieve the nature positive and carbon net zero targets by 2030.

Andrew Bauer: We have a soil carbon module in Agrecalc, but we have delayed the wholesale roll-out of that because it is a significant subject of interest and we know that, if we do not get it right, we will be crucified, quite frankly. That is why I made my earlier comment about the fact that, when people start using it, in a lot of cases they are going to be slightly disappointed in what they find because the assumption is that they all have more than enough carbon locked up in their soils to offset all their emissions, when actually we find that, in most cases, on average, the percentage is in the mid-teens to 20s.

The baseline is important. SAC Consulting's Agrecalc is a significant piece of work that draws in research colleagues from the wider SRUC. The team is growing, and interest in it is growing. I would say a couple of things about it. It is a calculator—a model—and there is always a balance to be struck between the accuracy of the result and the usability of the tool. We can give much more detailed results, but they will be far less user-friendly. We are trying to strike a balance, and our emphasis is probably more on the accuracy than the usability of the tool, although we are overhauling the user interface at the moment.

The second thing is that it is a farm-scale tool. It is designed to help farmers to understand where they are and make recommendations about where they can go. It is not designed to model the entire country as one and reach broad conclusions about the whole country. If everyone piles in and uses it, we will certainly get much more accurate results. Thousands of farmers have used it to date and we have no doubt that something like the national test programme that was announced by the cabinet secretary a month or so ago will drive further use of the tool.

I reiterate that the soil sequestration module is there and there will be a full-scale roll-out of that in 2022, but we know that we need to get it right. Soil carbon modelling is extremely complicated. As a very small error in input values can have a massive impact on the farm carbon footprint, we need to get it as accurate and as user friendly as we can. One way in which we will achieve that is by linking Agrecalc to other data sets such as that on cattle tracing to ensure that we alternate the data flow and thereby minimise the risk of input error.

11:00

Dee Ward: We need a uniform methodology, but one of the challenges with moving forward with anything like that is getting everyone to agree on what the correct methodology would be.

I agree with Michael Clarke that it is about not just carbon but wildlife, biodiversity and natural capital. We need to value that. As I said at the beginning, putting a value on things makes people

respect them. If, say, a tree has a value, people will not cut it down. Unfortunately, we humans only really understand capital values, but at least if some sort of value is put on something, it will be respected.

With regard to the baseline data, I would suggest that if woods are well managed, more carbon will be sequestered and there will be more wildlife and biodiversity. However, the fact is that people move at different speeds.

Another factor is additionality. There are people out there who are already doing a fantastic job. Indeed, I am sure that a lot of Michael Clarke's nature-friendly farmers are doing a brilliant job and have taken their farms from being average to being very good with regard to biodiversity, wildlife and natural capital. They should not be left behind because they are already doing good things, so we need a mechanism that picks up the good work that people have already done but also encourages those who are behind with this work to improve. It would be terrible to penalise people who are already doing a good job.

David Finlay: I agree with Michael Clarke and Dee Ward. When we used Agrecalc a couple of years ago, I was disappointed to find that it did not include sequestration of any sort. Neither the 35,000 broad-leaved trees that we had planted on the farm nor soil sequestration were included, and all the savings that we had made by cutting down on our anthelmintics, antibiotics and so on were not included either, as they were not considered to be significant.

Like Dee Ward, I am concerned that, if we focus too much on baselines, the major beneficiaries of any incentive scheme will be those who have been abusing their land and environment while those who have been healing the land and improving the environment will benefit least. We therefore have to be very careful. I would prefer to see benchmarking rather than baselining.

The Convener: We will move on to questions from Karen Adam.

Karen Adam (Banffshire and Buchan Coast) (SNP): The word "collaborative" has been used a few times now, and I want to ask about that, but perhaps in a different context. When I speak to farmers, an issue that comes up is the fact that new and more advanced machinery is incredibly weighty—if that is the correct term. Moreover, the physical adaptations that have to be made in converting to hydrogen can add significant tonnage. As a result, in advancing with greener and smarter machinery, we could be causing significant soil disruption. Are you working collaboratively with other industries to inform these innovative moves and to limit such unintended consequences or at least ensure that they are being considered?

Dee Ward: That is a good question. I can speak only personally and for members of Wildlife Estates Scotland on this, but typically we experiment with stuff and see what does and does not work. Like everything, this is not an exact science—it is a bit of a learning curve.

Funnily enough, on the subject of compaction and heavy equipment, we are actually looking at making our fields smaller, having more hedgerows around them and using smaller equipment. This is not the case for all farming, by the way, but I have worked out that, with a lot of livestock farming—or the sheep farming that I am involved with—you do not need big bits of equipment. You can do it with small bits, which is less impactful on the planet.

That is probably not a good answer, but that is my experience.

Andrew Bauer: The hydrogen kit that I saw just a few weeks ago up in Aberdeenshire was not particularly large and fitted on a tractor. I cannot say that every single bit of kit will be the same, but I am not particularly concerned about the impact, given what proportion of the total weight the equipment made up.

There is definitely a disconnect between, on the one hand, the move towards maximising the top line and pushing for yield, output and simplification of farms and, on the other, having more resilient farms, by which I mean "messier" farms—I put that in inverted commas—that have more hedges, margins and so on. In arable settings, however, there has certainly been a high degree of innovation, and we might be talking about bolting a few more bits of kit on to one tractor and doing just one pass over the field instead of multiple passes. I am not an expert in soil compaction, but I would think that there would be trade-offs in both scenarios.

We certainly need to move to more resilient systems. At the start of the session, I talked about the regenerative agriculture group's work on cover crops and other things that can minimise soil erosion and keep the ground in better condition. We definitely need to look at more innovative ways of managing our soil instead of just running our largest bit of kit over it once. As the climate gets more extreme, the risks to the soil grow very significantly.

The Convener: As Karen Adam has no further questions, I will move on to Jenni Minto.

Jenni Minto (Argyll and Bute) (SNP): I thank the panel very much for their time. I have found their evidence to be very informative.

I suppose that this ties in with Dr Allan's question, but I was struck by Andrew Bauer's

comments about the Danish example and the experiences of his Danish colleague, because it brought to mind a visit that I made to Sweden, where, again, the supermarkets very much put an emphasis on local produce. I also met a cattle farmer who had a particular butcher that he used, supplied the local school and, indeed, had lots of local connections.

What are the panel's thoughts about making such links with schools and communities and on how we can keep produce local while still taking it out to a wider market? As a representative of a remote, rural and island constituency, I wonder how your ways of working can be replicated in such areas. After all, it is fair to say that one size does not necessarily fit all. I know of a farmer on Lismore who is doing a lot of regenerative work, but how do we ensure that your messages get out? People might not take such things lock, stock and barrel, but just the elements that will work in their areas.

I am not terribly sure what my question is, but I would like to get your thoughts on those comments.

Dee Ward: You have made some good points. We need to change attitudes—and, funnily enough, they are changing. Indeed, Covid has made a big difference, because people have started buying locally and want local produce, and then there is, of course, the environmental element. We need to understand the true value of food production. All of this—locally produced, healthy food with a low environmental impact, and not offshoring CO_2 by buying something from somewhere else—needs education. Educating people is key. People are beginning to get the message, though.

There are huge opportunities to produce locally. Through the Scottish Land Matching Service, I have set up a joint venture with a French gentleman who lives in Scotland—he was at Pillars of Hercules, down in Fife. We have got four small polytunnels, he grows vegetables and we do vegetable boxes. We have set up a little shop, which is open only at the weekend. I suddenly thought that I could probably sell my lamb and venison and other things through the shop and make a lot more money per lamb than sending it off somewhere.

If we get people's heads round the issues and they understand the true cost of production, there are huge opportunities there. I read a stat somewhere that a carrot produced 50 years ago was X times more healthy—it had more nutrients in it—than a carrot today. When we look at delivering really good-quality food, it is not expensive when we take into account the nutrient value that we get out of it.

The other thing is that it gets people out and about. They go for a walk and come and see places, instead of just going to a supermarket or whatever. There is a big opportunity there, too.

Andrew Bauer: I went to Norway a few years ago and one thing that I was most struck by was the effort and investment put into Norway's equivalent of open farm Sunday and the Royal Highland Education Trust. It was exponentially larger than here—it was massive. Every single local community had somebody whose responsibility it was to keep that going in the farming community. I know that people involved in open farm Sunday and RHET do a great job, but we are nowhere near the scale that we need to be at to re-engage people with what goes on in farms, estates and crofts.

I am not sure how to do this, but we have to try to change the narrative about farming in a lot of the media, because it is really alienating. The constant headlines about farmers being almost criminally responsible for climate change are counterproductive. I am not disagreeing with the science behind climate change, but you will never get anyone on side if the headlines are constantly negative. Many farmers just shut down to the entire change agenda, never mind climate change, because they feel constantly under attack. We all have a collective obligation to do more to put out there both the good and the bad in a balanced way.

Jenni Minto: Thank you. You made an important point.

David and Michael, do you have anything to add?

Michael Clarke: We are on the case. We are plumbed into Nourish Scotland and are very attuned to the issue that Jenni Minto raises. We think that it is very much the direction of travel. We have an immense amount to do to catch up. My vice-chair was Lynn Cassells of Lynbreck Croft—you have probably heard of it—and that is their business model. They have food clubs and supply local people with eggs and beef. It is about the whole issue of provenance. People are much more concerned about where their food comes from and producers are telling their story in ways that people want to hear. I think that we will see much more of that.

11:15

The message that the network and I are trying to get out to people who have larger landholdings is, "Why don't you give these guys a chance?" I have 300 acres, and we have heard about the farms in Fife. Some members of our steering group have thousands of acres. If those with landholdings can make even five or 10 acres

available to people with the kind of mindset that you are talking about, we will see a naissance of local food opportunity. That will reduce food miles and give Scottish people affordable, nutrient-dense food, which is, after all, a basic human right.

Jenni Minto: I have a quick supplementary question. You mentioned hedgerow creation, and I was thinking back to going for walks when I was growing up and how we got around farms by walking along the side of the hedge. We have not really touched on biodiversity today, and I am interested to hear your thoughts on how we encourage hedgerows to come back.

Michael Clarke: I would love that—I am an absolute hedgerow nerd. Every year, I plant 1,000m of new hedge, and I have to double fence the stuff and plant seven plants per metre. I personally stick 7,000 plants in the ground every year. It is a real "Wow!" situation. I cannot tell you how exciting it is to stand beside hedges that we have planted. We have been here for 13 years, since we bought the farm. I am 6ft 4in tall, and the hedges are now twice my height. They are bursting with berries and full of birds, bees and butterflies. They are great for biodiversity and a great shelter for wildlife. As you can imagine, the wind here in the south-west of Scotland blows as much as it does up in Lismore.

The hedges also do an immense amount to sequester carbon. I do not have it to hand, but there is research that says that hedges sequester twice as much carbon as woodland. That is a pretty powerful statistic. It is probably down to the density of the hedges.

CPRE has a major programme to increase hedgerows in England. It would be wonderful if we could do something like that in Scotland. It would make so much difference to the appearance of the landscape.

We urgently need transformational change on a landscape scale. All four of us who are speaking to you today are keen to see the dots joined up and much more collaboration between farmers, landowners, land managers and the public and private sectors, all with a shared vision of a beautiful, bountiful Scotland. We can achieve that if we all work together.

Jenni Minto: Thank you—

The Convener: If Jenni Minto does not mind, I am going to butt in here, as I am also a bit of a hedge fan.

Michael Clarke: Oh, good.

The Convener: I have laid hedges and whatever in the past. We are talking about an emergency here but, sadly, while the majority of farmers are great custodians, some are still set on ripping out hedges to make it easier for big machinery to get in to cut grass or whatever. We see that daily.

Is now the time for the Government to take action and introduce legislation to stop that happening? The financial penalties for removing hedges do not appear to make any difference. This will be controversial, and I repeat that only a small minority of farmers are continuing the practice, but, given the biodiversity and climate change emergency, is there an argument that legislation should be rapidly introduced to stop the destruction of habitats, whether those are hedges, ponds or whatever?

You can carry on from where you were, Michael. What is your position on legislation to ensure that habitats are not removed?

Michael Clarke: The network does not shy away from controversy—we take the same position as you. For goodness' sake—we are in a bad place here, and we have to get ourselves to a better place pretty damned quickly. There is a case for legislation, if it comes to that, to stop people destroying what little we have left.

There have been cases of farmers removing dykes that have been there for hundreds of years. Those are part of our national heritage and to destroy them is vandalism. Hedges also come under that category. If it comes to it, we need something to stop that. The network, and I personally, would very much support that.

As I said at the outset, we are trying to get into the mindset of those people and show them that they are wrong to remove a hedge. It does not help their businesses; it is a bad business decision. As we have said at length this morning, they are focusing on the top line and the yield, not on the bottom line of profitability and what value to their business is left. Whether they are a tenant or a land owner, they have a contribution to make as a custodian of the countryside and our planet, because there ain't no planet B. We have only nine years or whatever it is to turn the situation around and to get on the right track, with an uptick towards carbon net zero and being nature positive.

The Convener: I will ask David Finlay the same question. I picked up on your point about baselining probably not being the way to go because the funding could go to people who have not done the right thing in the past, and those who have paid particular attention to the role that biodiversity plays in agriculture might not be recognised. How should we tackle the continuing—if on a very small scale—removal of dykes, hedges and so on? What should be our approach in the short term, given that we are in a biodiversity emergency?

David Finlay: As you know, we come from an area that has one of the biggest and most

intensive dairy sectors in the UK. The dairies are big. On average, dairies in that part of the world now have more than 400 cows, very few of which get outside.

All those things are joined together. We are always moving towards greater technology. When I talked to a tractor supplier the other day, he said that, nowadays, a tractor is a £60,000 piece of equipment with £60,000 of technology on it. When you spend £100,000 or £200,000 on a piece of technology, you have to make it work.

Scale is very important, because it brings economies and allows cheap food to be produced. Cheap food in supermarkets is the objective of all Governments. Price drives scale, which drives technology, which drives the need for bigger fields, which results in hedges being torn out. A £200,000 tractor cannot be put in a 10-acre field—it just does not work.

If we look around, we see hedges coming out and wetland habitats being drained and filled in. That is happening now. How do we get away from that? It has to be stopped. As you said, we are in an emergency, and we have to treat it as an emergency. Andrew Bauer said that we have to be careful not to be too dependent on Government action, but what is happening is being driven by economic factors, so how else do we stop it? Everything from the customer to the supermarket to the farmer, and the technologies that he has to employ to deliver what is required, is joined up, so the only way to address the matter is through legislation.

Andrew Bauer: I want to go back to the point about language. Recently, I was on a farm with a massive hedge, and the farmer was really proud of it, but another person there was talking about messy hedges. When people talk about landscape features, they often say that there is nothing better than a nice, neat farm. We have a job to do in changing what is valued and the language that we use, because that messy farm might have more space for biodiversity, and the nice, neat and rationalised agricultural unit that can take a massive tractor might be a factory in the countryside.

Such units do a very good job. They are driven by economics and are a response to signals that the market and Government policy have given for years, but, alongside those harder things, such as regulation, we also need to change the lexicon that we use. It is really important that we talk about resilience and margin rather than about performance and output.

Dee Ward: As with most issues, on the issue of hedges, I am a great believer in the carrot and stick. People do not want to do wrong or get penalised, but, ultimately, it will help if they are motivated to do something because they see a benefit from it. Therefore, although I am in favour of legislation, we need to take people with us on our journey by encouraging them to do the right thing, and some sort of carrot always helps with that.

David Finlay talked about farmers pulling out hedges because they cannot get their big kit into the fields and because they need to produce cheap food, but, for me, if they have pulled out a hedge, it is not cheap. We need to get away from the mindset that doing that is cheap. We need to factor in the whole cost of producing food because, if there is environmental damage, it suddenly becomes very expensive. We need to learn to respect food. If it was more expensive, people would probably not waste it. We need to get people to respect the fact that good quality food will have a price, but it will be nutritious for them and they will not need to waste any of it. That is also an important message.

The Convener: Thank you. That is really useful. A lot of the policies that we have discussed are about local procurement, local food production and reducing food miles. The Good Food Nation (Scotland) Bill, which is coming up, is pretty empty, but there is scope for it to deliver some of the expectations of stakeholders. Do we need more funding at local level to drive local policies? Should more funding be devolved to local authorities and public bodies to address the priorities in the Highlands, Dumfries and Galloway or the Scottish Borders, for example? Do we need to change the method of funding to ensure that our aspirations for reducing food miles are addressed? That question goes first to Andrew Bauer.

Andrew Bauer: As we have already spoken about, the bringing together of people in those one-to-few groups is evidence that, if we bring together people with a common interest, close to where they are, we will get a high degree of buy-in. I cannot speak to the efficiencies of channelling more funding through more regional or local routes, but I know that, when we engage people on our subject, if we make it local and relevant and people have their peers around them, we get more traction. Something that is broadcast from the centre often attracts a particular type of person in a particular type of situation. We are seeing more local procurement initiatives and we are involved in a number of them. Agencies such as Opportunity North East and South of Scotland Enterprise are putting a lot of effort into that area at the moment, and we are also involved with some of those.

Dee Ward: As has been mentioned earlier, a lot of improvements will be more market driven by things such as local abattoirs and local markets,

so that we are not moving stuff a long way to go through the food chain.

To pick up on a point that was made earlier about Denmark, why not force supermarkets to buy a big percentage of their stuff from local producers? The Government could be involved in that. I am throwing a real curve ball in here, but we have gone for a minimum price for alcohol, so why not go for making supermarkets pay minimum prices to local suppliers? Those sorts of things would have a direct impact and benefit.

Rachael Hamilton: Is the £51 million that is allocated for the national test programme for three years from next spring enough to ensure that farmers, crofters and land managers can transition, increase biodiversity and reduce emissions?

11:30

Andrew Bauer: It is a welcome start. The observation that I have made to people is that the transition to ecosystems support also needs time to grow. There are lots of networks, such as the Nature Friendly Farming Network, and organisations such as mine that can support that transition, but that change of focus will take a bit of time. We are in the process of recruiting people with different skill sets to support it.

The funding is a good start. It is part of the journey. I would not necessarily advocate two, three, four or five times as much money going in straight away because everyone needs time to get their head around what it looks like and the support structures need time to realign and start to support that work. It is a step in the right direction, but I have no doubt that more will be needed in the fullness of time.

Rachael Hamilton: Will SAC be the recipient of that money and then advise farmers how to achieve net zero?

Andrew Bauer: There is a lot of detail still to be worked out. We would be one party in it. We would certainly not be the only people advising on that output. No doubt, other groups will be involved in it, but we will be an active and constructive partner for anything that we are asked to get involved with.

Michael Clarke: To answer your first question, Rachael, no, it is not enough. It is a lot of money, though, and the question is how that money is distributed.

If we want to boost biodiversity, it needs to be linked directly and closely to how the money is spent. The most recent scheme had some pretty tenuous links to some of the objectives. Under the capital grant scheme that was available, you could get, for example, a cattle-handling system, because that might make you more efficient. There is obviously a health and safety basis for that, but I am not sure that helping businesses with only business-related objectives is the best way of spending public money when we are looking to address the biodiversity and climate change crisis.

On behalf of the Nature Friendly Farming Network, I ask that, if you have any influence on how the money is spent, you ensure that it goes towards measures that have a close and direct link to boosting biodiversity. Otherwise, we ain't gonna get there—we will not meet the targets that we set ourselves.

David Finlay: The problem that we faced when we applied for our AECS was that we are farmers. We are trained as farmers and we think farming, and we are willing to convert to a more biodiverse way of farming, but the support to help us to do the right things is limited. As Michael Clarke said, we need to do the right things rather than do what we think is right, as those things can be quite different. We need support. We need help and an infrastructure to give us the right advice at the right time.

Jim Fairlie: I have loved this conversation. I have just come out of farming and into politics, but maybe I should be back out in the field.

I love the warm, fuzzy glow that we have as we talk about the good things that we could do and so on. I have been going through this process for 20 years, with people trying to link public procurement to local food networks—we coined the phrase "buy local, eat local" almost 20 years ago—and I think that it is all great. I get it. However, public procurement spend in Scotland is worth between £150 million and £180 million, half of which is spent on Scottish produce, the Scottish farm budget at the moment is about £540 million, and the Scottish Government has a fixed budget, which will be determined by what the UK agricultural policy turns out to be. By comparison, supermarket sales of food alone in this country are £12 billion, and another £10 billion is spent in the pub and restaurant sector.

I love what we are talking about—I love to see it happen. However, the reality of those figures demonstrates that we are just tinkering around the edges, so how do you see us getting this approach into the main stream? I see Michael Clarke nodding his head.

Michael Clarke: I wish that I had the answer, Jim—I am nodding because I agree with your analysis. It is very difficult, isn't it?

In my past life, I have been involved with a big business that supplied the catering sector and I think that the answer is that there has been a change. In the industry that you have recently left and which I am privileged to be a part of—I will

hang on in there for as long as I can, perhaps until they carry me out in a box—there are new entrants. We have to ensure that those guys—a lot of them are women, and they are the ones who are driving a lot of this nature-friendly farming change in the industry; that is an interesting analysis in itself—want to do the kind of thing that we are talking about. Some of them are mothers with children in school, and they are going to ask those schools why they are not buying more local produce. The public sector needs to set a better example. That will feed through into the schools when people start to ask those questions about whether the food that is served to their children is coming from local Scottish farmers.

There is a movement towards that, but what we have to ensure is that the corporate invasion of the countryside that we have touched on, which is driven by the carbon credits that corporations think that they can get by buying up farms and planting trees in the wrong places for the wrong reasons, does not exclude new entrants—as you and I were years ago—from getting in and taking the risks that are involved in growing vegetables and producing meat, hopefully with a better abattoir network, if we can manage to get that in. I think that those new entrants are much more likely to do those kind of things if we have a bottom-up rather than a top-down approach, if we can support that.

David Finlay: We process pretty much all our milk into ice cream and cheese on the farm here. The cheese gives us access to a UK market, which is the reason why we went down the cheese route. We can sell cheese online and deliver the next day anywhere in the UK.

Local people buy our cheese, but there is an issue about the scale of production. Because our cheese is artisan cheese, the production is on a small scale and, unless the price of local food on the shelf is close to the price of the food that is produced at a large scale, people—especially in poorer areas such as Dumfries and Galloway and the Highlands and Islands—are not going to buy it, because they do not have the budget to do so. Our meat—the lamb and cattle from the farm—goes to butchers in the central belt and London; around 75 per cent of what we produce on the farm goes inside the M25. Is that local? It is UK and it is competing with the French, so that must be good. However, to get your product on to the shelf and compete with the big guys, you have to have a processor that deals with it at scale, because artisan food is just too expensive. The supermarkets will not touch us because we are just too expensive. Does that help, Jim?

Jim Fairlie: It reconfirms my fears that it is an uphill battle, particularly given that supermarkets determine what we are going to have. I agree with Finlay Carson: they make all the promises that they are all about giving people choice, and they will do that, but people make a six-second decision when they walk into a supermarket—from the time they look at the product to the time they put it into their basket—and the first thing that they look at is price. We have to change the culture before we are going to get that wonderful warm feeling that we have in here out in the public domain. I am not saying that to be negative; I am saying that that is the challenge that we face.

I want to come back quickly on a point that David Finlay made earlier on. We have to give proper recognition to the farmers who are doing it to a level that is already what you call regenerative—I would call it old-fashioned farming. I planted 2,500m of hedging because I wanted shelter belts. Stuff is already being done. We need to take cognisance of that rather than starting at the bottom and trying to bring everything up. The ones that are at the bottom should be brought up to the level of where we currently are, using the baseline of an area. One size disnae fit all, and wherever someone lives, whether that is in the west, the south, Fife or Perthshire, there will be a baseline for that area. We need to look at what it is like in that area and then at how we bring everyone else up to that standard. It is hugely complicated, but I am thoroughly enjoying the conversation.

David Finlay: The supermarkets want to put on the shelf the products that give them the biggest profit margin—that is the bottom line. There has been an interesting change in the dairy industry recently, where, as a result of deep discomfort among the customers about how bull calves are treated on dairy farms, one of the supermarket chains—others are following suit—and a milk processor are now insisting that their suppliers do not cull bull calves; otherwise, they cannot supply the supermarket with milk. All bull calves have to be raised to at least eight weeks, which gives them value and therefore means that they will enter the food chain in due course.

That has come about following pressure from the customer. That probably relates back to vegan activism and the BBC's Panorama programme "The Dark Side of Dairy", which was broadcast a couple of years ago. The pressure does not all come from the supermarkets.

Jim Fairlie: I have a brief question that I wanted to ask earlier. You are keeping the calves on the cow, so what kind of bull are you using?

David Finlay: Aberdeen Angus.

Jim Fairlie: Thank you.

The Convener: That was nice and short.

Ariane Burgess: I have a question that will procure a short answer. Have any of the witnesses

looked at the draft national planning framework, which was published earlier this month? If so, do you have any thoughts about how well it will deliver on the stated purpose

"to manage the development and use of land in the long-term public interest"

and its stated aims to

" tackle and adapt to climate change"

and to

"restore biodiversity loss"?

I believe that, to some degree, farming is missing from the picture. It is a bit of a tome. If you have not had a look at it, I would love to hear from you in the future about your perspectives on it.

The Convener: Nobody is bidding to answer that.

Ariane Burgess: Has nobody looked at it?

Michael Clarke: Thank you for the heads-up. We will get on to that. It is not something that you immediately think of when considering the future of the farming industry. We are very plumbed into regional land use partnerships. That is what we hold on to in relation to the discussion that we have been having this morning about trees in the right place for the right reasons in farming and how that fits.

Farming is probably going to have to up its game to properly stand its corner in what is becoming an increasingly interesting debate about the future of land use in Scotland. Land use is key to everything that we have been talking about. Land rights and responsibilities statements and all that stuff are very much on our radar. Thank you for the heads-up, and we will make sure that we respond to the consultation.

11:45

The Convener: As the convener, I get the privilege of asking the last question. A consultation on the replacement for the common agricultural policy launched in August and is expected to be published in spring 2022. Jonnie Hall of NFU Scotland has said that it is

"a defining moment for the future of Scottish agriculture."

Business as usual cannot be an option. We need something to ensure that farmers and crofters, regardless of size or type, will play their role in food production and their part in the climate change and biodiversity emergencies.

We have just heard Jim Fairlie give eye-watering figures on the value of the food and drink industry and say that we are just touching the edges when it comes to funding. I will put my question to everyone in turn. Can you give me your hopes, aspirations and fears for the future agricultural support to replace the CAP?

Andrew Bauer: My hope would be that we send clear, consistent and sufficiently ambitious signals to all parties that need to get them, whether that is farmers, crofters, supermarkets or policy makers. My fear is that in our natural human desire to protect one another, we will not face up to the fact that tackling the issue requires a degree of disruption. The sector cannot stay as it is or transition over decades—it must be more rapid. We must be careful that we do not kill the sector with kindness. A balance needs to be struck.

Michael Clarke: Thank you for listening to us today. We have a once-in-a-lifetime opportunity. Jonnie Hall is right to flag that up. We need transformational change on a landscape scale. We know that individual farms are changing and doing what we are trying to achieve, but that is like postage stamps stuck across the countryside. We need to find ways for farmers to collaborate. We all need to pull together.

We would like to see support for things such as agroforestry, agroecology and for some of the specific suggestions that I made earlier. We must not shy away from there being a degree of turnover in the industry. I am the old guy in the room—in the nature-friendly farming network, other options are available. We need to get young blood in, even if that means losing those people who cannot really get their heads around the new mindset—the basics that Jim Fairlie was talking about, which are the ways that we used to do it—which means looking at the countryside in a holistic way. Those people who cannot get their minds around that need to be encouraged to move aside and let new blood come in. The new farmers who get the picture are the people who will inherit the situation that we are all desperately trying to sort out.

Dee Ward: My hope is that support will be much more focused on net biodiversity gain and sustainability. We must remember that we still have to produce food for our nation. However, we need to do that sustainably. That can be done. We need the funding to reflect that and it must start soon; I do not want to wait years for that. We need to start the changes quickly, even if they are incremental over the next two or three years, to get us ready—the quicker, the better.

My fear is that there will be no or little change to the existing system and the can will be kicked down the road. That would be extremely detrimental to tackling the climate change crisis.

David Finlay: I have probably touched on my answer already. We are in a crisis and we need to change in the industry. Everyone has talked about that already: the industry will not be happy to

change, but it will have to be forced to change. I agree that there are carrots and sticks and that they can be used to incentivise change or to incentivise people to get out if they are not going to change. The incentive has to come through Government initially because nothing else will change quickly enough. There is an opportunity here. The Government has to be brave and proactive and it has to implement change in our industry that will probably be unpleasant.

The Convener: Thank you all very much for your interesting and thought-provoking contributions. I am sure that the committee shares my view that it has been very useful. I apologise for the glitches that we had earlier and thank you for your patience. We ran over time, but we could probably speak for another hour.

Meeting closed at 11:51.

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