



OFFICIAL REPORT
AITHISG OIFIGEIL

Environment, Climate Change and Land Reform Committee

Tuesday 8 September 2020

Session 5



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ENVIRONMENT, CLIMATE CHANGE AND LAND REFORM COMMITTEE
20th Meeting 2020, Session 5

CONVENER

*Gillian Martin (Aberdeenshire East) (SNP)

DEPUTY CONVENER

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

COMMITTEE MEMBERS

*Claudia Beamish (South Scotland) (Lab)

*Angus MacDonald (Falkirk East) (SNP)

*Mark Ruskell (Mid Scotland and Fife) (Green)

*Liz Smith (Mid Scotland and Fife) (Con)

*Stewart Stevenson (Banffshire and Buchan Coast) (SNP)

*attended

THE FOLLOWING ALSO PARTICIPATED:

Professor Dieter Helm (Advisory Group on Economic Recovery)

Benny Higgins (Advisory Group on Economic Recovery)

Professor Dave Reay (University of Edinburgh)

CLERK TO THE COMMITTEE

Lynn Tullis

LOCATION

Virtual Meeting

Scottish Parliament

Environment, Climate Change and Land Reform Committee

Tuesday 8 September 2020

[The Convener opened the meeting at 09:00]

Decision on Taking Business in Private

The Convener (Gillian Martin): Good morning, and welcome, everyone, to the Environment, Climate Change and Land Reform Committee's 20th meeting in 2020.

Agenda item 1 is to decide whether to take in private agenda item 3, which is on the working group to improve budget information. Do members agree to take that item in private? Anyone who does not agree should type "No" in the chat box.

As no member objects, we agree to take agenda item 3 in private.

Green Recovery Inquiry

09:00

The Convener: Under agenda item 2, we will begin to take evidence from stakeholders on the committee's green recovery inquiry. Today, we will hear from three experts in three separate sessions. First, I welcome Benny Higgins, who is the chair of the advisory group on economic recovery. Good morning, Mr Higgins. It is nice to have you with us.

Benny Higgins (Advisory Group on Economic Recovery): Good morning. It is a pleasure to be here.

The Convener: The programme for government was published last week. It has an awful lot of asks, given that we are in an economic and health crisis. We have the three goals of a transition to net zero emissions, rebuilding a robust and resilient economy that has been assaulted by Covid-19, and equity and fairness in society. What are your thoughts on whether the programme for government can achieve all three goals? If it cannot, what is missing from it?

Benny Higgins: That is a good question. In our report, "Towards a Robust, Resilient Wellbeing Economy for Scotland: Report of the Advisory Group on Economic Recovery", which we published in June, we were very clear that we need to build

"a robust, resilient wellbeing economy".

We chose all those words very carefully, because they all matter. That is not an easy task, and it would not be an easy task in any circumstances. The Covid situation and the health crisis have only intensified the difficulty.

It is important that we measure our progress properly. The national performance framework is among the most progressive measures that the Scottish Government has adopted, and I am a big fan of it. However, in our advisory group report, we suggest that we adopt the four pillars of capital approach to looking at Scotland's balance sheet, as we progress. The pillars are financial and physical capital, natural capital, human capital and social capital.

The Scottish Government's response to doing that was very clearly positive, so I was, to be honest, therefore a little disappointed that the approach is not used or referred to in the programme for government, as far as I can see. I hope that that is not a sign that it has been dropped as quickly as it was picked up, because it is an important way to consider the balance sheet of a country.

There is a great deal in the programme for government, as there should be. The challenge is not in announcing things that are planned or are to be done; it is in whether they get done. We have never lived in a time when the execution of plans and change has mattered more than it matters now. The test is not in writing it down; the test is in doing it. We need to see quick progress on the things that matter most, in order to give us confidence as we move forward.

The Convener: You mentioned

“quick progress on the things that matter most”.

What are they?

Benny Higgins: I have said a number of times that young people—people in the mid-teens to mid-20s—are vulnerable in the Covid crisis. As we build a wellbeing economy that is based on a green spine and is about fairness, we must ensure that we create opportunities for young people to be trained and subsequently employed. We not only have to do that in the context of the green recovery and be focused on the net zero emissions target, but we have to create the jobs and education-led recovery—the training and reskilling recovery—that younger people need.

When I think about what we need to do, my primary focus is on building an economy that is resilient and green, and which has a wellbeing mantra and wellbeing characteristics. However, right now, I am fearful for young people. It is in that context that we must ensure that we protect and shelter their future.

The Convener: Other countries have responded to their economic situation, particularly after what we hope is the height of Covid-19, by investing a percentage of their gross domestic product in their green recovery. To me, that seems to be necessary, because it will take a lot of investment to get us out of this situation. Does the Scottish Government have the levers to make such investment? If it does, where do you see those levers working, or not working, in the PFG? If it does not have them, what levers does the Government need in order to make the investment?

Benny Higgins: You make a good point. I am on record as saying that the Germans are not a bad guide to what we might do in the circumstances. After the emergency steps, they are investing stimulus of 4 per cent of GDP. Four per cent of Scotland’s GDP would be £6 billion, but within the fiscal framework we are restricted to investing £450 million, which is 0.3 per cent of GDP. Frankly, we do not have the levers to invest the amount that would reasonably be required as stimulus in coming out of the crisis.

It is not reasonable or feasible for us to imagine that we could change the whole fiscal framework in a timeframe that is consistent with the emergency that we face. Somehow, we have to find a way to work with the Westminster Government to get it either to invest an amount that is commensurate with the crisis and to spread that through the devolved nations, or to find some other mechanism.

There are a lot of things that we can do, but the heart of the matter in Scotland is that we do not have the capacity unilaterally to invest 4 per cent, or even 2 per cent of GDP, which would be £3 billion. The amounts are a long way from the amounts that are being invested elsewhere. We can talk about programmes and other things, but we have to pay for them.

Finlay Carson (Galloway and West Dumfries)

(Con): I will pull us back to focus more on what this session is about—the green recovery. We all understand that there needs to be a just transition; I will focus on some of the environment policies. We all know that Covid has changed how we live, and a lot of it has been for the better. We are travelling less and are more conscious about the miles that we travel, and people are working from home and so on.

One of the headline policies that has been around for a while is on increasing afforestation—we are looking to plant far more trees across Scotland. That policy would appear to have an immediate impact, because it is something that we can do quickly. I want to ask about short-term gains and long-term sustainable gains. How much work is being done to consider such gains? With forestry, we have to look at a range of issues including the pitfalls, the change in use of land from agriculture to forestry, biodiversity and water quality. I am concerned that we might not be doing the research. Given your position on the AGER, what policies do you think would have immediate impacts but would also recognise the implications for a longer-term green recovery and our race to get to net zero emissions by 2030?

Benny Higgins: That, too, is a good question. It is difficult to talk about the Covid crisis in a positive way—doing so seems dissonant—but we need to take the opportunity of a crisis of this scale to reassess what matters most and to do the right things. We need to use the climate change challenge to support the economic recovery and create jobs.

The programme for government has a commitment to invest £150 million in forestry over the next five years. That is welcome. However, we have to think harder about what we do in the rural economy more generally. Scotland has rich natural resources and biodiversity that must be central to our economic, environmental and

wellbeing economy. Those are important elements.

We need to look hard at incentives. It comes back to what is possible in the fiscal framework. We need to look at how we can incentivise the right behaviours, whether in forestry or in the rural world.

This is a slight digression but, in terms of digital resilience, we need a stronger platform to support the home working that you mentioned. My personal opinion is that home working exclusively is not necessarily the healthiest future. However, for those of us who are lucky enough to be able to work from home, I see that as being a feature of how we will work, although it will not be the only way we will want to work.

I mentioned strengthening incentives. We also need to look at industries that are carbon dependent and how we can support them to reduce their carbon emissions. Although net zero is the international standard, we also need to look at how we target emissions.

Finlay Carson: Okay.

Research that was recently published in the *Oxford Review of Economic Policy* says that investment in natural capital is one of the highest-scoring economic recovery policies not only in terms of climate change—obviously, we are interested in that—but in terms of economic benefits. Which policy, or combination of policies, did you identify as having an immediate impact when it comes to the natural economy?

Benny Higgins: By its nature, the natural economy requires patient investment. I might come to this in another answer, but you probably know that it was almost exactly three years ago today when I was approached by the First Minister's office to put together the plan for the Scottish National Investment Bank. The bank's core target will be to play its part in creating a net zero economy. It is about mission-led investment and patient capital.

We must try quickly to engineer the right behaviours and mindset in our society and see where we can get to. Some of the most important investments will require the patience that the SNIB can bring to bear. It is one of the most important developments in Scottish economic policy for a generation, at least.

Mark Ruskell (Mid Scotland and Fife) (Green): A clear recommendation on energy efficiency is missing from your report. Countries including France and Germany are maximising investment in energy efficiency as part of their green recovery. Why is that missing?

Benny Higgins: I do not want to sound too apologetic, but we tried to cover a lot of ground in

a very short time. That said, the Government's response to our recommendation imploring it to make sure that it was a green recovery mentioned domestic energy. Although we might not have mentioned it directly, it was picked up quickly. We were not trying to make a point in not making specific reference to it. We covered it more indirectly, and it was, as I say, certainly picked up. There is no question that that is important—let there be no doubt that we recognise its importance.

09:15

Angus MacDonald (Falkirk East) (SNP): I want to examine the financial support and fiscal stimulus. The AGER report identifies that there is

“a strong case for the Scottish Government to have greater autonomy to use targeted fiscal measures to stimulate demand or incentivise behavioural change in the recovery period.”

It also states:

“We have identified a number of policy areas in which the Scottish Government could make significant progress in the recovery and renewal phase.”

We have touched on this a bit already but, in the context of a green recovery, based on your AGER work, which policy areas did you identify as ones in which the Scottish Government should have greater autonomy to target fiscal measures to stimulate demand and incentivise positive behaviour?

Benny Higgins: The stimulus needs to be of the quantum to which I referred in response to an earlier question. Let us say that we have 2 per cent—£3 billion—to invest in the Scottish economy. There must be spending specifically on the projects that will play their part in getting us to net zero by 2045, and on training that prepares people of all ages, but especially young people, for the jobs that we can expect in the mid-21st century. There is no shortage of areas to invest in that are consistent with a green recovery and with skilling Scotland to be ready for that and to be more attractive for inward investment.

We have not talked much about inward investment. The leading economies of the mid-21st century will be those that focus on wellbeing; those that focus on net zero; those that have a green spine to their recovery from Covid; those that have trained and reskilled people, young and old, in preparing for what is coming next; and those that have the digital infrastructure that is required in order to be more resilient. We do not know what the next crisis will be. Although it might not affect our generation, one thing is for sure: there will be one. Scotland, like all countries, needs to be better prepared for that.

There is no shortage of things that we could invest in, but it must be focused on a green recovery—that is for sure.

Angus MacDonald: You mentioned the Scottish National Investment Bank. I am curious to know how the SNIB should apply mechanisms or assessments to ensure that its capital aligns with the goal of delivering a green recovery and supporting a net zero future?

Benny Higgins: The fundamental premise behind the Scottish National Investment Bank is to provide patient capital that is mission related. It originally comes from the work by Mariana Mazzucato of University College London, whom I have got to know well during the past few years. Missions must be chosen that are by very definition what she would describe as grand societal challenges. There is no question but that the Scottish Government has decided—I think quite rightly—that the grandest societal challenge that we face is an economic recovery that creates jobs, and that that recovery should be a green recovery with a green spine. That is perfectly matched with what the bank is set up to do.

Some people have asked me where the bank fits relative to Covid. If we had not started building the bank almost exactly three years ago today, we would need to start building it now, in which case it would not be ready for three years, because of the parliamentary process, the state aid requirements and the time that is needed to build an institution.

I think that the bank will really support Scotland's progress post-Covid and make recovery much more likely and stronger, because the bank could not be more fit for purpose. Although it will have more than one mission in the long run, there is no question but that its sole mission, although it will touch on technologies and a lot of other things, is pretty much all about getting us to 2045 in the way that we should.

Angus MacDonald: That is certainly a bit of good news in the current climate.

Liz Smith (Mid Scotland and Fife) (Con): I found what you said this morning about the requirement for a culture change interesting. In your report, you hinted about there being a little bit of disappointment that engagement by Government with business had not always been firing on the right cylinders. What do we have to do to ensure that there is completely joined-up thinking about trying to change that culture, as well as good engagement by Government with business? Obviously, we will not succeed unless we have that.

Benny Higgins: That is true. The first point is that, as we face this crisis, which will not go away in a hurry, as well as opportunities to do things differently, there has never been a more important

time for the public, private and third sectors to work together. Too often, the third sector is forgotten, but it plays a very important role. My interactions with it have shown me that there are extraordinarily able people in Scotland's third sector, and they have a part to play in what a wellbeing economy looks like.

The second point is that it is easy to talk about working together but we actually have to do it. Cynics on all sides of all the divides think that the other side is at fault. I said to the First Minister privately, "When there is any relationship and one side doesn't think it is working, it isn't. You can't just pretend that it is working." There is a question about fault but, in almost every case, fault lies on both sides, and that is true in this instance.

To be clear, Government can and should do more, but business also has to be ready to position itself to deal better with the relationship. For obvious reasons, I will not pick on any of them, but I do not think that all trade bodies represent their sector as brilliantly as they would like to think or maybe say that they do.

Although we need to rethink the situation, nothing beats working together; that is one of the big pleas that I have made. We have enough to do, and this morning's conversation is a further illustration and reinforcement of that. We have to get people who have good private sector experience to work hand in glove with Government to get some of that stuff done. Working together breaks down the barriers.

We have to think through whether the existing framework of meetings between Government and business works. Royal visits from politicians might get mentioned many times—"We have spoken to X businesses in the past few weeks or months"—but those visits do not change the world; we need to work on real things and make things happen. In the past three years, working with Government—not full time but quite a lot—I have learned about how it works and what we need to do to get things done, and I hope that others have enjoyed working with me. It is important that we get more people to work with Government and with the bank. Willie Watt is the chair of the bank, Eilidh Mactaggart is the chief executive and they are bringing in a lot of others with private sector experience. It is not that the private sector is stronger; I have met the most extraordinarily able people in the public sector, so we just need to get them all to work together. Although there are other things that we can do, my biggest plea is that working together will make the biggest difference.

Liz Smith: I will build on the comment that you made about jobs in the 21st century, and getting people in business and Government to understand what those jobs will be. What engagement is happening with colleges, universities and those

who provide apprenticeship training to give people a better understanding of the skills that are needed for a green recovery? Is there a lot of engagement, or do we need to do much more of that?

Benny Higgins: There has been a huge amount of engagement. Nora Senior's report talked about that engagement, and a huge amount has been done, but I always come back to the same point, which is that we need to get on and do it. Often, it is easy to say what needs to be done, but it is a lot harder to do it. This is the time when we need to get on and do things.

The important thing is that it would not take anybody any length of time to work out that, in the next 20 years, we will have different kinds of jobs, so we will need different skills. As I have said a couple of times, without sounding too enigmatic about it, in some ways, inequality is a race between education, training and technology. If technology gets too far ahead of skills training and education, inequality is the consequence.

We live in a time when the Covid crisis has illuminated the inequality divide in this country and others to a much greater extent; it has even caused some inequality. As I said in our report, 90 per cent of the 50 per cent of the people in the country who earn the most can work from home comfortably, whereas only 10 per cent of the bottom 50 per cent can do so. Inequality is also being exposed in the choices that people are making as we come out of the Covid crisis. Some people have no choice other than to use public transport, while other people have choices—and so on.

We must ensure that it is an education-led recovery. The recovery being green and its being education led are the two big things that will get us to the other side—whatever that is and whenever we get there—in much better shape. Digital plays a big part. We have too much digital poverty in the country, and we do not have the necessary resilience. Rural Scotland has a big part to play, but it needs to be supported to get there. There is no shortage of the right conversations taking place. Fingers crossed, we have to get on with it with energy and gusto.

Sandy Begbie will lead the Scottish job guarantee for young people. That is the kind of thing that we need to do. We hope that, as well as getting kids jobs, that will get kids training and get them prepared for the future.

Stewart Stevenson (Banffshire and Buchan Coast) (SNP): I am beginning to see that there might be a job for me after retirement, because from my doing a presentation to Sainsbury's to our opening Sainsbury's Bank only took us six months. However, that is incidental.

I want to probe Mr Higgins on jobs in industry in particular. We face two challenges. Is the low-carbon fund big enough to help our industrial and manufacturing sector? In addition, in the oil and gas industry, we have a major industry in the north-east of Scotland—although there are many representations right across the country—that involves huge numbers of highly skilled jobs. Are we paying enough attention to that? Is there a fund to aid transition in that industry? Will the low-carbon fund in the programme for government be enough to allow us to make the transitions that we need to make for the green agenda and for the very many people whose jobs will be made obsolete by changes and who will have to find new jobs?

Benny Higgins: Again, that is a good question. Earlier, I was asked what one would do if the fiscal stimulus was more commensurate with what we are facing. The green fund would be one place that one would go to very quickly. People ask me whether £2 billion on the balance sheet of the Scottish National Investment Bank is enough, and the answer that I always give is, "Probably not—almost certainly not—but let's deploy it properly and get on with it." I think that we need to do that with the green fund. Ideally, it would be a lot bigger.

We should not shirk from saying that we need to look at the north-east and make sure that we do the right things. We can make a big difference to the net zero target by doing the right things there. There will be redundant apparatus there. Dieter Helm, who is a very able member of the group that I chaired and who will speak to the committee later, has a lot more expertise in this area than I do. We have talked about carbon sequestration and storage for a long time, but we should have no shame in thinking that now is the time to implement ideas that have been around for a long time. In my view, the idea that everything that we do to recover from Covid has to be novel is just silly. We need to ask, "What are the best ideas? Where are the areas where we have to take action and make interventions?" We have to take action in the north-east. We can make a big difference to the green agenda, we can protect jobs and we can do very sensible things. The more we can invest in that, the better.

At this juncture, we must make the most of what we have, but we must push for more, too.

Stewart Stevenson: Let me be quite specific. Are there particular initiatives that will be more likely than alternatives to move people, particularly those with skills in engineering and offshore energy, into new green jobs? Is there enough money on the table to help us to do that? There is a public good in getting those very economically active people to continue to be high contributors,

as well as that being good for the individuals concerned.

09:30

Benny Higgins: You are right. A few moments ago, I was asked a very good question about how the business sector and Government can work better together to get things done. The word “culture” often gets used—there is no harm in using it—but what we are really talking about is how we make progress together. There might be even more scope for Government to sit down with private sector firms that are active in places such as the north-east, because there we have the right balance of expertise and understanding of what is possible. As I said earlier, we should not have any shame in saying that, even though a sector might be carbon dependent, it can play a big role in taking us to net zero emissions and in understanding how we protect jobs.

I say this time and again in the context of wishing to create a fair, sustainable, wellbeing and green economy: we are facing a potential tidal wave of unemployment, and we cannot sit back and let that happen. The problem will disproportionately affect some people more than others, but it will be very widespread, given the number of people who are on furlough and are receiving self-employment support.

The bounce-back loans from the banks are coming next year. The banks have to work more closely with Government to work out how we deal with the issue. For a lot of the banks, most of the decisions get made in London. That is life, but we have to work out how Scotland can have bespoke support where it is needed.

The Convener: I will come in on the back of Stewart Stevenson’s question. In relation to the north-east oil and gas industry, there is an issue about vested interest and people not wanting to change. One small niche aspect that could lead to a change right away is to make it easier for people who already have all their training certificates in oil and gas offshore work to transfer to renewables. That problem has been going on for years. I hear all the time that there is vested interest in getting largely self-employed people to pay for new training. There is a logjam, because a lot of companies make their living out of doing all that training. How do we sort out that guddle?

Benny Higgins: There always have been vested interests, and there always will be. The power of Government is threefold. We tend to hear about the first two—financial intervention and policy intervention—much more often, and both are incredibly important, but I have become more and more focused on Government convening power and convening the right conversations

between different parties in order to get to the right place. We have the opportunity to get Government and people in the private sector who are on the axis that matters in those important areas to have proper, open conversations about what is best for everybody concerned, while recognising that vested interests will always be present.

During the period in which we produced our report—it was eight and a bit weeks, so it was a pretty quick piece of work—I spoke to a number of international Scots who are doing big private sector jobs around the world. One of them was Alan Jope, who runs Unilever. One of the most striking things was that he realised that, in running one of the biggest multinationals in the world, it was important to have the wellbeing principles that we talk about as a country in Scotland very much at the heart of what that company tries to do. He has a firm view that, if you do not create a fair, inclusive, sustainable and wellbeing multinational company, ultimately, you will fail.

Perhaps in certain parts of the country more than others, the convening of conversations between Government and the private sector needs to be about recognising how we work together. Such problems do not go away unless we work together in an innovative, open and transparent way. I am ever the optimist that such conversations can be had. I feel sure that the right outcomes are the ones that we talk about in Scotland, so we must have a very good chance of achieving those if we take the proper approach.

Mark Ruskell: Last week, we had a new round of oil and gas licensing in the North Sea, so there is expansion and not a managed decline of the industry. How is that compatible with the objectives of transition and getting new livelihoods from low-carbon jobs? Your report places a heavy emphasis on a hydrogen economy and carbon capture and storage but, years on, those remain speculative technologies. They are not actually real—you cannot get a job in carbon capture and storage in the UK at the moment. For communities that are looking to the future and thinking about where the real jobs will come from, is there perhaps a bit too much emphasis on oil and gas?

Benny Higgins: I encourage you to ask Dieter Helm about that in the following evidence session, because he has a lot more expertise than I do in carbon capture, sequestration and storage. However, based on what he and others in the field have said—this goes back to an earlier comment—we may not have made the progress that we should have done, but that does not mean that it is not possible. We have to get on with it. The redundant frameworks and apparatus in the north-east are ready made for that. We can make a lot more progress on a number of dimensions of

natural capital and green recovery—we just have to be focused and invest.

I do not know precisely what the plans are for the private sector businesses in the north-east. Recently, I was berated somewhat for mentioning that I was pleased to hear that BP had come out with an ambition to contribute to net zero. If companies such as BP do that, that is a good thing. We must be careful not to assume that such companies cannot do the right thing. Everybody is capable of working out how to make their contribution. I am not close enough to any of the organisations in the north-east or elsewhere to be specific about their plans. However, to go back to a point that I have made rather repeatedly, we have to ensure that there are incentives for companies in the north-east to move in the right direction in oil and gas and, as the convener mentioned, work out how we help people to be repositioned for the right kinds of work as we move forward.

I am not qualified to give you a precise answer to the question, but it is obviously an important consideration. The answer depends very much on the arrangements and plans of those organisations.

Mark Ruskell: The question is whether we will have a renewables-led recovery or a recovery that fits the agenda of the oil and gas industry and the corporate aspirations to maximise extraction. Those aspirations are totally understandable from the point of view of a corporation—if you are an oil and gas company, you will want to continue to invest in oil and gas. However, is that the right way round? Should we be creating jobs in other sectors that pull people over?

Benny Higgins: I agree that we need to create jobs that pull people over—there is no doubt about that. The question is what understandings and agreements there are with the corporations to facilitate that happening more seamlessly. We have to do a lot more. There has to be a renewable, green and education-led recovery, because that is the only thing that will start to tackle the big problems that we face in the country and the world around inequality, fairness and wellbeing. We have to do that, and we have to find a way through it.

Another expression that I often come back to is that things that are really worth while—there will be nothing more worth while in our lifetimes than having the right kind of recovery from Covid—are usually very difficult. It is very difficult and will require careful choices, close collaboration, and the convening power of Government, which I hope we will have, to get us there.

The Convener: I would like us to move on to discuss access to private capital, which you

mentioned briefly. Claudia Beamish has some questions on that.

Claudia Beamish (South Scotland) (Lab): Good morning, Mr Higgins. You have talked about the convening power of Government and about working together. So far, we have focused on the Scottish National Investment Bank, which you have highlighted must be mission led. I want to turn to the issue of how that can best connect with access to private capital for public goods and a green recovery.

You have banking experience, of course, and I am very interested, as are others in the committee and beyond, to find out about how to leverage in private capital—[*Inaudible*.]—so many billions in share funds, and we have BlackRock in Edinburgh. There is the risk of stranded assets, and confidence needs to be built that we can move through a green recovery to net zero. Will you share your thoughts on how Government and others can move forward on the issue?

Benny Higgins: Sure. In response to that very good question, I will build out from the Scottish National Investment Bank. When we were building the bank, it was important that we were building something that was additional and complementary to what already exists. There was no point in the Scottish Government creating a bank that simply tried to do what private sector institutions already do.

We thought that there was a material gap in two areas. One of those areas was in the scaling up of small and medium-sized enterprises in Scotland. Someone who has a good business plan who is looking for a very modest amount of money—let us say a few hundred thousand pounds; I am not saying that that is not a lot of money—in order to get going will probably get it, and a fairly big medium-sized business that is looking for tens of millions of pounds to improve and scale up its business will probably get it from one of the bigger players. However, for a business that is in the middle—one that needs single-figure millions—the situation is very difficult. That is an important issue, because it can thwart ambition. The area is one that needs to be served well.

There is also the long-term patient capital, which we have already talked about. “Patient” is the word that probably gives away why the private sector is sometimes less interested. The private sector is not patient, and the payback period and the duration of the investment are too long.

The Scottish National Investment Bank has been designed to play in both those areas. In both cases, it can create a market for private sector investment. It can also “crowd in”—to use the expression—some investment. Let us look at the example of long-term patient capital. We could

have a situation in which there is a very significant green recovery project. I was going to make one up, but I will not, because I would probably make up a bad one. Without Government investment, the private sector in its various shapes and forms might take the view that it is too risky, but if 50 per cent of the investment was made by the SNIB, with its different risk appetite, that would have the effect of changing the risk appetite of the private sector, with the result that we could have crowding in. I hope that, by starting to build up that patient capital sector, we will make a market that can be played in by the private sector.

Returning to SMEs, what is being labelled as “conditionality” will become increasingly important. As we try to build the green recovery, it is only right that SMEs that are prepared to invest in the right kinds of things are given some kind of favourable status. That would also apply to digital. I do not think that the SME sector in Scotland has embraced the digital opportunities as much as it could have done. In the current crisis, we have learned how important digital can be when we are in an environment in which it is the way to transact, the way to be serviced and the way to communicate. We need to consider how the Government, through the SNIB, can crowd in investment, create a market and, at the SME level, start to shape the right kinds of small businesses that can play the right part—the important part—in the recovery.

09:45

Mark Ruskell: in the forthcoming Scottish budget, what should the Government spend more on and what should it spend less on?

Benny Higgins: What to spend less on is one of the best questions but is also one of the hardest to answer. We have to go back to first principles and consider what is most important. Disproportionate investment in areas such as renewables, biodiversity, education and skills and training, and digital infrastructure could make the biggest difference. It is very hard to say where we should spend less. In some ways, if we work out what we need to spend more on, there will be a strain somewhere else in the system. That should not be at the expense of individuals because Scotland already has issues—as do other countries—which mean that we need to have a strong safety net for people. We need to protect people who have probably already suffered more during the crisis.

We need to invest in the future and in those areas that I mentioned. When we talk about having a modern and sustainable fair-work and wellbeing economy, we have to consider what areas we invest in to give rise to that. We also need to build a country that attracts inward

investment. The good news is that an economy that is focused on wellbeing and that is resilient through having stronger digital infrastructure will support sectors that not only have the capacity to thrive but which must thrive. A small, well developed economy cannot be good at everything. However, we need to be good at certain things: education, technology hubs and tourism and hospitality.

Dieter Helm has said to me many times that he believes that Scotland has the potential to be a world leader in natural capital and biodiversity. Those are the areas in which investment must be made and somehow or other we have to make room for that. Forgive me, but I will not try to pick things that we should put down the pecking order.

Mark Ruskell: What do you think about conditionality in relation to Government investment? The Government could say that we have wellbeing objectives and the goal of tackling the nature emergency, so if there is to be Government investment it has to be conditional on delivering those objectives, whether that relates to the oil and gas sector or any other sector. What are your thoughts on that?

Benny Higgins: We need to pursue conditionality with some vigour to try to understand how we can use it as a filter to ensure that we invest in the right places, projects and businesses that have the right focus, culture and attitude. That is important. As with many things, it is easy to say that quickly and then to move on as though what we mean is very clear. However, we need to put in a fair amount of effort to be clear in our understanding of conditionality. We also have to ensure that the outcome of conditionality is that we create jobs in the right way, in the right sectors, with the right businesses and with people with the right skills. We need to ensure job creation and economic growth as well as creating a wellbeing economy. That is what makes it complicated.

Conditionality will not be a straightforward exercise, but it will be worth the effort. It is very important if we are serious about all this.

Finlay Carson: I want to ask about policy coherence and delivery. Some stakeholders brought up the risks of a lack of cohesion in policy making. Are you satisfied that the programme for government demonstrates the requirement stated in the AGER report that climate change is

“a thread through every policy action”?

Benny Higgins: On paper, the programme for government lines up well with the desire for net zero carbon emissions by 2045 and for a green recovery as the basis of economic recovery in Scotland. However, announcements are easy—the hard bit is whether the thread is executed as a thread, as that is what makes or breaks it.

Nonetheless, by setting out a series of initiatives and areas of focus, if they are executed in a coherent way, we will have a plan that is consistent with a green recovery.

The other question that has come up in different shapes and forms this morning is whether there is enough money in the pot to achieve those aims to the necessary degree. That is a harder question to answer—I would say that there is probably not.

Finlay Carson: On a practical basis, how do you see the Scottish Government aligning its work with its partner agencies—Scottish Enterprise and South of Scotland Enterprise, for example—to ensure that the green recovery has the best chance possible?

Benny Higgins: I have come to know the agencies very well through my work on the Scottish National Investment Bank and with the economic recovery group, and I have to say that I am very impressed by the people there. Scottish Enterprise has Robert Smith in the chair, and Steve Dunlop, as the chief executive, is a very focused individual. We also have Alistair Dodds in Highlands and Islands Enterprise and Russel Griggs in South of Scotland Enterprise. They are all very keen to work together.

Now that we have a new piece of economic apparatus—the Scottish National Investment Bank, which will open its doors in the next month or two, or three—the key will be how those agencies work in collaboration. No single agency has a magic bullet. I do not want to sound like a broken record, but co-operation will be the key to unlocking those opportunities, and it will require all those organisations to work with Government and with the universities—to work across our society.

One of the benefits of Scotland's size is that we have the capacity to work in that way brilliantly well, but we do not do so. We need to work much more effectively together. All it takes for people to do so is a willingness all round, an appreciation for what the other agencies do and a willingness to be transparent and focused. I am an optimist, but I emphasise that we need to do that.

Angus MacDonald: As you know, the AGER recommended that

“The Scottish Government now needs to establish a priority on delivering transformational change with clear sector plans, where the coincidence of emissions reductions, the development of natural capital and job creation are the strongest”.

The Scottish Government has done that by setting out in its implementation plan how it intends to deliver those clear sector plans. Are the proposed plans sufficient?

Benny Higgins: We need to do more. I go back to my earlier point about the relationship between

the Scottish Government and the banks. We have two cliff edges coming up. One is the end of furlough and other financial support schemes, and the other is the end of the terms for the various business loans. Furlough ends first, and at some point next spring the terms for the bounce-back loans and so on will come to an end. Of course, you do not get right to the cliff edge before you feel the danger. We are starting to feel the danger of the furlough cliff edge, and it will not be long before we feel the danger associated with what happens next year.

I feel strongly that the Government—I go back to the word “convening”—has to convene a conversation with the banks about how we protect certain sectors and certain types of businesses. It is harsh to say this, but none of us can seriously believe that there will not be businesses that will fail. That is bound to happen, but there are certain sectors and businesses that we have to find a way to support. I have already alluded to those kinds of the businesses; I will not give all of them and thereby suggest some that should be allowed to fail, but we must ensure that businesses that are fundamentally strong and can thrive in Scotland beyond the pandemic are still there to be able to thrive.

The tourism and hospitality sector is a classic example. It is unthinkable that Scotland would not have a strong and fit-for-purpose tourism and hospitality sector. We need to ensure that that does not happen. The food and drink industry and the education sector have had an existential threat. I was talking to some people only at the weekend. We are already starting to hear about even more students who were supposed to be arriving from abroad not turning up. We must have a strong and thriving education sector in Scotland. Incidentally, that goes way beyond universities.

That is among the most important things that we must get right, and it is among the hardest things to get right, because we cannot chase down every possibility. We must be much more thoughtful about what the prospectus for Scotland looks like at the national, regional and local levels, and how to work with the right local authorities, local enterprise agencies, the Government and the private sector to try to get there. Nothing could be more important.

Claudia Beamish: In response to us, stakeholders have emphasised the lack of implementation of existing recommendations. I will give one example. In the ECCLR portfolio, there has been a great deal of talk about the Scottish nature network for a very long time, but that network has not happened. The Scottish Wildlife Trust has emphasised that that is

“a major barrier to progress and a green recovery.”

What is your view on the implementation gap that stakeholders have highlighted? How should the Scottish Government seek to address that gap so that we do not fall into similar traps that have been highlighted?

Benny Higgins: Those are absolutely valid points to make. I do not want to sound patronising but, in order to get things done, a plan and the right people to execute that plan are needed and, more broadly, the right resources are needed for the plan. In any walk of life, until there is a plan, whether anything will get done feels a bit hit and hope. For everything that really matters, we need a sufficiently detailed plan, the deployment of the right expertise and capability, and the right broader resources. The level of optimism that anything to which that does not currently apply will get done has to be diminished until it does apply.

That is simply to state a truism, but it is a very important truism. For example, as we have gone through the building of the Scottish National Investment Bank, which has probably been the thing that I have been most proud of being part of building in my whole career, we have had a plan from the very outset. We put together an implementation plan, which was presented after a matter of months, and it has been quite striking that that implementation plan has served well in the building of the bank in the past two and a half years. That is further evidence about having a plan, the people, the resources and the focus.

The Convener: I have some final questions. Mark Ruskell might want to come in on the back of this one.

At the start of this evidence session, you talked about the four pillars of capital and how we measure the wellbeing, progress and health of Scotland economically and otherwise; you said that the four pillars of capital are potential measurements of those things. As we go through the green recovery, what key indicators or milestones would indicate that we are on that path? Is it about using those four pillars?

10:00

Off the back of that question, bearing in mind that all the rest of us around the virtual table are politicians, I want to ask how compatible the short-termism of politics and the cries of politicians for things to be done quicker are with matters that require long-term vision and investment. Should politicians be more patient in how we view things and let them happen? There are a lot of questions in there, but I thought that I would open that topic for discussion.

Benny Higgins: Should I listen to address Mark Ruskell's question and try to answer all the topics

together, or would you rather I answered your question first?

The Convener: Carry on and I will bring in Mark Ruskell afterwards.

Benny Higgins: Being prepared to invest in the long run is a perennial issue for politicians; inevitably, one worries about shorter-term issues as that is where the pressure often lies. As I said at the beginning of the AGER report, if the current crisis is not a time to think differently, then nothing ever will be. This is the time to be prepared to get the right combination of long and short-term fixes. In any enterprise, whether it is a country, a business or a society, the short term matters and we cannot ignore it, but if we do not invest for the long term, we will be in a spiral that is not helpful.

The value of the four pillars of capital model is that it takes stock of where you stand now, so that you can start to assess the strengths of your society and your economy under those pillars. That approach also helpfully considers human and social capital as part of your balance sheet. For example, under the fiscal framework, any underspend on capital projects cannot be spent on revenue. Covid-19 has meant that there is a significant underspend on capital, but the four pillars of capital model would allow us to realise that investing whatever that amount is—I suspect that it is £500 million-plus—in education and training would be an investment in human and social capital.

Thinking in that way starts to change the lens through which you view where you stand and where you want to get to. That approach can work very well in conjunction with the national performance framework, but it changes the way that you think about your society in that each of the pillars of economic capital is as important as the others. Historically, that would not be the way in which economists would have looked at the progress of a society and an economy. There is great merit in that approach and I hope that the Government accepts and, when it matters most, adopts the view that it is a good lens through which to look at Scotland's progress.

The Convener: You are suggesting that we need to look at the people of Scotland as part of the infrastructure.

Benny Higgins: We do not ignore financial and physical infrastructure, but we also care about natural, human and social capital as important issues. If we are serious about a wellbeing economy, there is no alternative. The four pillars of capital model is very strong. Dieter Helm has done a lot of work on that and will give you even more expert flavour and tell you why it matters so much. I am certainly very converted to its importance.

Mark Ruskell: You have spoken a lot about the wellbeing economy, but where do you stand on economic growth being the main driver of society? Recently, you were quoted in *The Times* as saying:

“You have got the ideological zealots who would throw economic growth and jobs under a bus to achieve a much narrower set of objectives.”

Do you see economic growth as being part of a wellbeing economy?

Benny Higgins: To be crystal clear, I say that I think that we need to create an economy that grows and creates jobs in the context of a wellbeing economy. Some people, and I know some of them well, do not believe in a wellbeing economy. I do not agree with them; it is something that we must strive to create. Even within the broad church of those who believe in that concept, people are on different parts of the spectrum and some think that economic growth jeopardises a wellbeing economy. I do not agree with that view either.

We must strike the right position where we are clear that achieving net zero by 2045 is important and we start to measure emissions; we measure economic progress under the four equal measures of economic capital; we are investing in sectors with conditionality and we are creating jobs, education and training that are fit for the middle of the 21st century.

I hope that, if we can take on that difficult challenge, we can be an economy, a country and a society that is fair and sustainable and has a sense of wellbeing and less inequality; and that we have achieved that by creating the right kind of jobs.

I do not think that we have to make a choice between the two—we should strive for both. That is doable and it is possible, but there will be disagreements along the way. The short article that Mike Ruskell referred to in *The Times* followed a long interview, and it makes it sound slightly more stark than the discussion was.

I do not agree with those who do not care about the wellbeing economy. There is a broad church among those who do care about it and, within that, I am not at either extreme.

The Convener: Thank you. That seems like a good point to end the discussion. I thank Benny Higgins for his time. It has certainly provided a broad base from which to speak to our next set of panellists.

10:06

Meeting suspended.

10:12

On resuming—

The Convener: We continue with evidence for the committee’s green recovery inquiry. Joining us is Professor Dieter Helm, who is a professor of economic policy at the University of Oxford and a member of the advisory group on economic recovery.

Good morning, Professor Helm, and welcome to the meeting. You have been listening to some of what we heard from the chair of the advisory group, Benny Higgins. Mr Higgins spoke a lot about natural capital and the role that natural assets play in a green recovery. What is your view on the role that investment in our natural capital should play, as we look forward to a green recovery?

Professor Dieter Helm (Advisory Group on Economic Recovery): Thank you very much for asking me to appear at committee. I start with the observation that there is no sustainable economic growth, and therefore no sustainable consumption, without natural capital. In that sense, although it is one of four capitals, if we do not have it, we do not have an economy. Secondly, when it comes to investing in natural capital, as is the case with any other form of capital, some opportunities are better than others.

There are a couple of overriding considerations. First, it is critical that capital maintenance be done to ensure that natural capital does not decline, and that we focus on the bits of natural capital that are what we call renewables. That is not renewables in energy terms; it refers to the things that nature gives us for free, and will go on giving us for free for many generations to come. It is incredibly important that we do not extinguish them.

Regarding the enhancements that are available—once we have ensured that we are not letting our natural capital go backwards—what matters is finding the things that have the greatest benefits and staying within safe limits and thresholds, so that we do not put assets at risk.

Some opportunities are much better than others. If we put trees in urban areas, we get a lot more benefit for people than we do if we put them in the middle of the countryside. That does not mean that we should choose one rather than the other; it means that we have to think carefully about it. Unfortunately, we have a limited amount of money to invest, so we have to ensure that we get, from what we invest, the biggest bang for our buck for a sustainable economy.

10:15

The Convener: We talk about incentivising private investment in, for example, the Scottish National Investment Bank, and about it being used for long-term projects. It is difficult for shareholders to consider investing their money in something that has, in their view, a sort of altruistic benefit and less of a financial benefit, such as the example that you have just given. How can we get across to private investors, who perhaps they look at things in a more short-term way, the message that investing in our natural capital is a good idea for them?

Professor Helm: In the end, a business has to make profits, otherwise it will go bust. A business will look at the investment opportunities that are in front of it. What really matters, in terms of investing in natural capital, is the revenue. What are the benefits from such investments?

I will give an example. I am in favour of a carbon price that applies not just to emissions but to sequestration. We should remember that climate change is just the balance between two things: what we put up there and what nature takes back out. Nature has been balancing our climate for millions and millions of years. If I put carbon back in the soil—remember that soil has four times the amount of carbon that the atmosphere has—I am doing good for climate change, in the same way as I am doing good if I stop emissions from a coal-fired power station. However, no business will invest in that unless they get paid for it. That is revenue flow.

Similarly, managing natural capital has great benefits for water and the water supply. Water is treated as though it were free, but it is not; it requires habitat maintenance and so on. We also need to consider leisure, health and welfare benefits. We spend a lot of money on mental and physical health—they are a big part of budgets—but we have to make the connection between people who invest in that stuff and the spending, and revenue.

We need to think about revenue and the prices that we have in the economy, rather than try to pretend that we can ask companies to be altruistic. That is how we will get the private sector to invest. You do not keep a business working by being altruistic; you have to make a profit. Nature should be able to provide profit, like any other investment. It is because the prices are wrong and the revenues are wrong that we are getting inferior and unsustainable economic growth.

The Convener: So, the real role for the Government is to step in and incentivise that kind of investment. Do you see that as being the main driver in making private companies do the right

thing? Do other things, such as public relations, have a role in how companies invest their money?

Professor Helm: PR is a gloss on top, but if you do not get the fundamental decisions right, investment in natural capital will just be something that would be nice to do if coronavirus had not happened and your business was not in difficulty. We cannot go on treating the environment like a luxury good and hope that people are just going to be nice about it. We have to get it into the heart of the economy.

Fundamentally, that is about incentivising the right sort of behaviour and penalising what is wrong. Carbon price does exactly that. Why would a carbon price make it profitable to invest in nature recovery in soils and peat on the one hand, but not very attractive to burn coal, on the other? It is because the externality—the pollution—is being paid for. That is the essence of the idea that the polluter pays. If we do not have that principle and we subsidise the polluters—which we do quite a lot in agriculture, for example—we will get damaged natural capital and we will undermine our sustainable economic growth.

The Convener: There are a number of vehicles that the Scottish Government can use to do that, but many lie at the door of the UK Government. Focusing on the Scottish Government vehicles, and given that we have just published the programme for government, which do you think are the most effective vehicles for doing what you have just said?

Professor Helm: As I understand it, Scotland has control of its agriculture. The common agricultural policy is one of the most destructive environmental policies that has ever been invented. It has, over the 30 or 40 years during which we have been part of it, encouraged people to do things to our soils—and, indeed, to our peat—that have done serious damage to our natural capital and been net economic losses for the Scottish economy overall, and not just for future generations but for the current one. That would be a good place to start. Land use and all the issues around land are very much in Scotland's hands, as I understand it.

In energy, I understand that there is some dispute about precisely where the boundaries and discretion lie between the United Kingdom and Scottish Governments, but there is no doubt that Scotland is perfectly capable of pursuing an energy policy that is consistent with addressing climate change, and of doing that in an holistic Scotland-wide form that involves sequestration as well as emissions. Those are two big starting points.

We then get on to mental and physical health: again, Scotland has considerable control over health and how health budgets are spent.

There is also local government and its budgets, including what authorities do with local parks and green spaces, whether kids have access to green space close by, what authorities do about urban biodiversity and what is done with water.

The scope is enormous. I would worry less about how much you have control over and more about making some of those aspects work a lot better than they currently do.

The Convener: I will pass over to Finlay Carson to drill down further on action in that regard.

Finlay Carson: Good morning, and thank you for joining us. You will be aware that the *Oxford Review of Economic Policy* has said that natural capital is one of the highest scoring economic recovery policies, and that the AGER report points out the significant comparative advantage for Scotland because of its natural capital. Do you believe that the Scottish Government's use of the four capitals approach can maximise the natural capital that we have, and can you see such an approach delivering action on the ground?

Professor Helm: I struggle to think of anywhere in the world where natural capital is more important to the economy than it is in Scotland, from its sheer beauty to its hospitality sector, to its natural resources—its wind opportunities and the marine side. If you do not have a serious natural capital policy in Scotland and you do not invest in it, there ain't much hope for creating a long-term sustainable economy. The scope and opportunities here are massive.

On the four capitals approach, I am happy that all four capitals are taken into account; they all matter. A nuance that makes a difference is that there is an implication that one capital can be traded off against another. I sometimes ask my students whether they think that it is okay if fewer swallows turn up because we have more iPhones. In other words, can we trade off the natural world with manufactured physical capital and so on? My view is that we cannot. Some trade-offs can be made, but they are a lot more difficult than people imagine, and natural capital needs to be pursued in its own right.

I will give little example. I spend a lot of time in the Outer Hebrides—I love it there—and I look at the development of fish farms and the new industries that are being created around that industry, where it is not hard to see the trade-offs. Large-scale fish farming cannot be developed without some environmental consequences. What really matters on the ground is the practicalities. Where can trade-offs legitimately be made and where can they not? Scotland is a country that

depends so much on natural capital, so you would lose that at Scotland's peril. To be blunt, if Scotland did not have that natural capital there would be a huge hole in its potential economy.

Finlay Carson: That leads perfectly to my next question. I am particularly concerned about my part of the country—Dumfries and Galloway—where we have one of the most deforested areas in the UK. Scotland has ambitious plans, which I welcome, for a big increase in the number of trees that we plant.

With a view to the short-term benefits as opposed to the longer-term sustainability of land-use policies, what work needs to be done to better measure and monitor Scotland's natural assets? Is there any particular area that you think should be prioritised with regard to moving towards net zero carbon? I am probably pushing you towards a land-use type of response to the question.

Professor Helm: Okay. Let me unpack the various bits of that. The first thing to say is a sort of trivial point, but it is true. We cannot work out how we can improve things unless we know what we have in the first place, so I am in favour of a baseline natural capital survey and census for the whole of Scotland. It would be like a domesday book; Dudley Stamp did it for parts of the UK in the 1930s. That could get all the schoolkids and everyone else involved in finding out what is out there, using the latest satellite data. Quite a lot of that work has been done in Scotland, but it needs to be brought together.

Let us have a census of what we have. Some of it is in good shape and some of it is not. There is a great phrase that the brilliant scientist Darling wrote about Scotland after the war. He said that quite a lot of it is a brown "wet desert", because it suffered from centuries of overgrazing by sheep and then by deer and so on. Some of it is not in a good shape, although some of it is better.

Let us start by working out what we have. When we know that, we can start to work out, in measurement terms, what the possible enhancements could be. It does not take a rocket scientist to write down the opportunities that are out there in land use. You might think that I am being extreme to say it, but it would, to be blunt, be quite hard to do it any worse. However, that is true of England and Wales, and of quite a lot of Europe. The scope for improvement is enormous.

That brings me back to the earlier question about which investment we should make. Part of that is about where the returns are. One of the great returns to the land in Scotland would be through people being paid for carbon that is sequestered and taxed for carbon that is emitted, which would change the nature of how land is used. You will have to do that in order to get to net

zero carbon by 2050, let alone by an earlier target date. It is essential that agriculture and transport be parts of that.

When we look at the opportunities, we see that some of them are going to be about native woodland, some are going to be about preservation and capital maintenance for peat—Scotland has some of the greatest peat deposits in the world—and some are going to be about putting carbon back into soils. None of it is rocket science. The baseline works out where the enhancements will be developed from, and that will enable private and public markets to develop, in paying for the carbon offsets that sequestration can deliver.

Finlay Carson: Are we doing enough right now? We have a plan to plant an extra 20,000 hectares of trees, and 75 per cent of those are likely to be Sitka spruce. Are we doing enough to look at the qualities of soil when it comes to storing carbon, as opposed to what is done above the ground with Sitka or broad-leaf trees? Does that work need to be done now rather than our racing ahead and planting, potentially, 15,000 hectares of Sitka spruce across Scotland?

Professor Helm: There is a real risk that everything is about climate change and sequestering as quickly as possible, so we cover the land with the fastest-growing trees that we can think of. If we wanted to do that, we might throw in eucalyptus as well.

The way that we have to think about the land and natural capital is that it produces multiple outcomes. We can look at the acidification of upland rivers in Scotland that was caused by the great plantations when the emphasis was to produce timber and not worry about anything else.

To put it in a simplistic way, it is absolutely crucial to put the right trees in the right place. Spruce has its role, but that is pretty limited, and it can be devastating for some of the other natural capital benefits that one also wants to take into account.

10:30

It is like good farming. A farm is not a piece of blotting paper that produces just one crop. We think about the management of its soils, which are the natural capital of any farm.

It is incredibly dangerous to just rush out and plant as many trees as possible, and to have Governments setting targets for however many thousands of trees are to be planted each week or each year. We need a clear and sensible natural capital plan for Scotland, and through that we can work out where the trees should go.

In terms of climate change, we could really do some damage if we start sticking trees on peat

that then dries out. We could have much more emissions from the peat than the trees could ever sequester from the environment.

It is about a little less haste; it is not about taking years to think about these things. Whether the tree is planted tomorrow morning, or in two years' time, will not make much difference to climate change, but could make a hell of a lot of difference to water quality, biodiversity, nature's benefits to people, and all the other natural capital benefits.

That is what the baseline is about. We get a baseline, work out the enhancement, simulate the baseline as if the enhancement had happened, and then compare the natural capital benefits before the enhancement with those afterwards. We then multiply the revenue, and off we go. That is a much more rigorous and mainstream way of thinking about our environment—by bringing it into the heart of the economy, rather than its being some luxury add-on.

Liz Smith: You mentioned externalities. [*Inaudible.*]—bad externalities, for example in the case of pollution—the polluter pays, and so on. An example of a good externality is education, because that benefits not only the person who experiences it, but society.

In your opinion, are we sufficiently well educated when it comes to harnessing the public and private sectors' joint approach to shoring up the rural economy? That issue has come through quite a lot in evidence to the committee.

Professor Helm: Most populations, at least in the developed world, now live in cities. Their contact with the natural world is very limited—quite often, it is just virtual. Kids do not know where their food comes from. People see a vivid green field and think that that is a really good piece of biodiversity, whereas it might just be that intensive nitrates have produced that outcome.

Knowledge is a good thing. As a university professor, how could I ever suggest that we do not need more education about the countryside? However, it is a bit more engaged than that. We need university expertise—in genetics and all that kind of stuff—but engagement with nature starts at the other end of the scale, and it produces benefits for people as they go forward.

We now know, in quite considerable detail, exactly what the colour green does to the mental facilities of every human being. By measuring what goes on in the brain, we can even tell what different shades of green do to mental wellbeing.

Think of kids in the middle of Glasgow, and the difference between their having or not having quick access to a green bit of space to play in. Think about what has happened in schools; for example, about the absence of any kind of

vegetable plot. Not only are those things pretty cheap, but the scale of their benefits is massively under measured. We need to look at that.

I think that Scottish television is great. A while back, I watched a programme about organisations that used to take kids from inner-city Glasgow up into the hills for a month, in the summer, and give them experience of the outdoors. That changed their lives.

It is not nice romantic stuff; it is about real economics. Ultimately, the economy is there to address us as people. If we do not have the mental wherewithal and experience of nature, how can we all get the great benefits that that provides?

In that sense, when we talk about the four capitals, human capital is complementary to natural capital—it is not a trade-off and we need both. Recently, I mentioned to a student that thing about swallows and iPhones and they said, “What’s a swallow?” I realised that they had never seen a swallow or the wonder of that—it was completely missing from their experience, which is a tragedy.

Liz Smith: I have a quick follow-up question. Would you imagine that that would have to be part of the measurement in any census of natural capital?

Professor Helm: Can you clarify which measurement you mean?

Liz Smith: I am talking about what you have just said with regard to the education of youngsters and their activity in the natural world. Do you believe that that should be part of the natural census when we look at what we have? You referred earlier to the need to know what the starting point is in order to move on. Should that be part of that assessment?

Professor Helm: Let me be slightly tediously technical. Natural capital is a set of assets. Those assets have flows, which are the benefits that we get from them. My starting point is to know what is on the balance sheet; I want to know what Scotland’s national balance sheet looks like and what the four types of assets or capital are on it. Here is the difference between me and many economists: I am not a utilitarian and I do not think that it is simply a question of looking at how much pleasure or pain we get from different assets and saying that that is the value of them. The reason why natural capital is an asset that is distinct from the flows, although it is related to them, is that the objective is to provide future generations with a set of assets so that they can choose how they want to live their lives, rather than simply trying to make them happy in the short term.

I start with the assets. That would create a great base. Of course, I want to know about the flows and I would like to measure those, too. However, at the moment we do not have either. I would do the first bit, first and add the second bit, second. I look at the enhancements and ask what the benefits would be of improving one asset, such as enabling people to use it and so on. Then, I want to know how many people could use the asset and how much pleasure they would get from doing that. First, we must look at assets and then at flows.

Stewart Stevenson: Given that we are talking about natural assets, I am minded to consider the Royal Mines Act 1424, which the old Scottish Parliament passed, which disconnects from the ownership of land the right to gold and silver that might be found in the land. There is a precedent for disconnecting some of the assets of land from land ownership, for a broad range of purposes. Who should own natural capital? Should it be the state or should it be the individual landowner? If the state owns natural capital, where do the liabilities and contingent liabilities that might be associated with owning that natural capital lie? Should they travel with the ownership? Should they stay with the owner? I am looking for a short answer, even though I suspect that there is a PhD thesis in the real answer.

Professor Helm: The first short answer is that I am not familiar with medieval Scottish law, so I cannot comment on that. The second short answer is that most economists are a bit indifferent to who owns things—they are just property rights. The mix between state and private ownership differs a lot in different countries. For example, in the UK—I am not entirely familiar with the situation in Scotland—the seabed is owned by the Crown Estate and many mineral assets belong to the state. In the United States, what is underground belongs to the landowner, which is why shale oil and gas has developed so quickly in the United States because people can grab what is underneath the ground. In the UK, if someone wants to build a wind farm offshore, they have to buy the rights from the state.

I cannot get terribly excited about which of those works best. It is always going to be a mess of history, inheritance from the past, culture and so on. Right now, I am much more interested in the incentives that either party would have than in being particularly enthusiastic about changing it in either direction. However, it is not the main issue for me.

Stewart Stevenson: Okay. I will move on to a matter of a bit more substance than the esoteric history of some of our land ownership.

In the past few minutes, we have talked a lot about land-based natural assets, but, of course,

the area of sea that lies within Scottish waters is substantially greater than our land base. What are the different roles that the sea, the water, what is under the water and what lives in the water could play in supporting the necessary shifts? Where does the balance lie and what are the particular considerations that are derived from our aquatic world?

Professor Helm: I do not see any difference. The principles are the same. The natural capital should be assessed, and you need a baseline to know what is there. Some of that natural capital is what I call renewables that could be there not just for you to enjoy but subsequent generations, and some of it is a one-off.

I will give you an example. North Sea oil and gas is a one-off; it is non-renewable. You can use it once and that is it. The important thing is to make sure that, if this generation uses it, they compensate future generations who will not have it; that is what Norway does and it is why you should have a sovereign wealth fund in oil and gas. One of the tragedies of the UK is that we do not have that. We have consumed it all. We have had lower taxes than we otherwise would have had. My generation has had a party on the basis of North Sea oil and gas. It is all over now; there is nothing left for the future. That is a non-renewable.

However, there are renewables out there. Let us take fish. Scotland used to be a prime place for the herring fisheries. If you go to Leverburgh in Harris, you can see right around the coast to the Summer Isles where the herring industry was. If you husband your fish stocks properly, they will be there in 100,000 years for people to benefit from. The economic value of maintaining your fish stocks above threshold is huge. If you trash them, it is all gone, not just for you and me but for every generation to come.

The balance between renewables and non-renewables in the natural capital sense turns out to be particularly pertinent for offshore. The principle is the same, but it is very much to the fore for offshore. That is what fisheries policy is about. That is what the depletion of mineral resources offshore is about. I have to say—it is no criticism of Scotland in particular; it is a general criticism of the UK as a whole—that it has been done incredibly badly. That is where we are.

However, there is an upside of that. Think of the scope for improvement; think how much better it could be; and think about the returns that come from doing it in a more focused way. That is why I stress that the investment opportunities offshore are every bit as good as the investment opportunities onshore.

Stewart Stevenson: Thank you for that. I would say, of course, that the caverns that are now

empty of oil are an asset in that we could store carbonic acid there, and that would be a positive contribution to the agenda, to the extent that we could import that carbonic acid from other countries that do not have such storage. However, that is for another day.

Leverburgh was also where iodine was produced from seaweed for a while. There are many natural assets.

How are we going to find innovation? We are talking about objectives, but I am interested in means as well as objectives. What barriers are there to turning these green assets into something that can realistically make the kind of contributions that we want to see being made? What role can the Government play in deconstructing those barriers? Obviously I am talking about the Scottish Government, but I am also interested in government generally.

Professor Helm: You might expect an economist to reply by saying, “Get the prices right.” If you do not have a price for stuff, nobody can exploit it. That goes back to the question that was asked at the beginning of the session about how the private sector can take up those opportunities.

10:45

We might think about particular examples, such as all those empty oil and gas wells offshore and the pipelines that go with them. CCS may or may not be a significant part of addressing climate change, and the same goes for hydrogen—the jury is still out on that. However, nobody is going to do CCS without policy providing an economic incentive to do so, unless the Government wants to do it off its own bat.

What do you need? First, if someone is required to pay a carbon pollution tax, they will be much keener to bury the stuff in the ground so that they do not have to pay the tax. That is pretty straightforward. In addition, you need to ensure that you have the licensing and the regulations around it sorted. You will need some human capital skills, so you need to think about how you invest in Aberdeen, in the new skills of carbon sequestration and so on, in the same way that Aberdeen has been investing in offshore wind.

Those are pretty straightforward things. The other side is that you should stop paying people to do bad things. That is what the common agricultural policy does. In fact, it is worse than that—it pays people to own land. It is hard to think of why you would pay someone public money for a private benefit, with the benefit being the occupation of the land. That is extraordinary.

We spend quite a lot on the environment. If you did an audit of total spending on the land in Scotland and asked yourself, “Is it conceivable that we could get less environmental and natural capital benefits for the amount that we spend than we currently do?”, that would be an interesting and challenging intellectual exercise.

We can do much better, so let us spend the money wisely. Given that Government sets most of the income for most farmers anyway, and the frameworks for the incentives around CCS and so on, those are examples of areas in which the private sector can take things up.

To use the example of the great success of wind in Scotland, it is the private sector that has done all that. Why? Because there have been contracts in place and a market to do it, and—hey presto!—the private sector reacts really quickly to those opportunities. If you do not have the prices right, do not pay people to provide the things that you want and do not penalise them for the pollution, you will not get there.

I find that there are great grounds for optimism. Just moving in that direction will bring enormous potential for Scotland, because Scotland is overwhelmingly a natural capital economy.

The Convener: Mark Ruskell wants to come in briefly on that issue.

Mark Ruskell: Do you have any thoughts on how quickly we should be depleting our oil and gas resources? You mentioned intergenerational equity but, on the current trajectory, we will consume North Sea oil and gas reserves in the current generation, and then that is it. What would you say about the wisdom of that from a natural capital perspective?

Professor Helm: The probability—in fact, the certainty—is that the world has vastly more oil and gas than it could possibly burn without frying the planet many times over. We went through all that nonsense about peak oil and the idea that we were going to run out of the stuff—if only. Globally, we have bucket loads of the stuff, and the cheapest place to produce it is Saudi Arabia, where production costs around \$5 a barrel or less, whereas in the North Sea it costs quite a lot more.

We are talking about an industry that is going to decline. If we address climate change properly, by 2040 or 2050 we ain’t gonna want so much oil, and we are certainly not going to want the most expensive stuff; we will drive back the production to the cheap sources. Scotland’s North Sea oil and gas industry works only because the Organisation of Petroleum Exporting Countries doubled and then quadrupled the price of oil in the 1970s. Production was not economic in the 1960s, and it is not economic now at the marginal cost of oil in the middle east. It is the OPEC monopoly that

keeps the North Sea in business. The first point is a practical one: your oil will be worth less tomorrow than what it is worth today.

The second point is that somebody will produce the oil. Some oil will be burned whether one likes it or not and, over the next 10 or 20 years, people will still be driving around in petrol and diesel cars and a huge amount of the world economy will still be based on oil and gas. That is a choice but—I wrote a book about this called “Burn Out”—my view is that the oil price will crash and fall over time and therefore those assets will diminish over time. That is my take on that.

A separate issue is whether we could, even at this late stage, be putting aside some of the money from the final depletion of oil and gas for future generations. Well, we should, but my guess is that it is going to cost so much to clean up the mess that is left anyway that we will probably not have enough money to do that and that therefore, sadly, the opportunity has passed.

Angus MacDonald: Hailing from the Outer Hebrides, I am quite enjoying the wee asides about Leverburgh.

I have a specific question in relation to the Scottish Wildlife Trust’s submission to the AGER on the concept of conservation finance. The SWT suggested

“an initial investment of £1 million, to help accelerate private investment, facilitate innovation, promote good governance, support the development of common metrics and scale up knowledge exchange”.

Do you have a view on the proposed development of a conservation finance fund?

Professor Helm: That needs to be split up into its various component parts, because people confuse finance with funds. A while ago, I proposed that there should be a national nature fund, but what I had in mind was not finance but funds. Into that would go pollution taxes and a series of revenues, including from carbon, to provide the basis for spending that money in the normal way that Government brings in money and then pays it out on an on-going revenue basis. A separate question is whether there should be a finance facility that borrows money to make those investments, and then some practical questions need to be asked such as, “Why doesn’t the private sector do that?” That is what the private sector does to build a wind farm; it looks at the economic returns of the wind farm, borrows the money and makes a profit because it thinks that it is a project with a positive net present value.

Therefore, the question is whether what is being proposed is more public expenditure on projects that would not otherwise be economic for the private sector, or whether it is some kind of green finance. I am not against any of that, but we

should ask serious questions about green finance; it is not about whether you can borrow money but what the revenue will be to pay the interest and pay the money back at the end of the game. The finance is just the means to an end but, fundamentally, you have to ask whether those investments will be public or private and whether, ultimately, they will be paid for by taxpayers or by the payers of the revenue flows that come from the public good natural capital assets that are created. I like the aspiration and it is a nice round number, and it galvanises opinion, but I would like to be absolutely clear about what it is for, what the revenue flows are and which investments will be made to deliver those outcomes. In all of that, capital maintenance is what comes first; in some areas that is very expensive and in others it is not.

Finlay Carson: We do not have the baseline information about natural capital. The committee took evidence, probably two years ago, about the lack of a proper database, in the simplest form, for biodiversity and natural capital. Where should the funding for that come from? Does there need to be public sector pump priming to set that up so that we know where we are starting from and what the potential capital flow from that can be?

Professor Helm: I think that that should involve a public enterprise, which should create a database that should be available to everyone. I would regard that as an essential public good that the state can provide to everybody in society—individuals, charities, companies and so on. It would be a bit like the Ordnance Survey. It would not be massively expensive to provide that. Using satellite data, I could tell you what is on every 20m² in Scotland. We have some considerable resolution now.

Let us get this roughly right, rather than being precisely wrong. Let us get started. We can always make things more sophisticated later, and we can add lots more data. If we start from precisely the wrong position, we will not have the baseline. If it was claimed that we cannot do it, as it is too expensive, it has to be perfect, and we cannot tell what is 4 inches under the soil in a particular location, for instance, then I would reply that, even if we cannot do that, I would still like to know something about the area first. I would want a rough map—I might want to know roughly where the Outer Hebrides are, for instance; then I would like to know precisely where Kirkibost and Vallay Strand are and exactly where a particular fish farm is located, and what the entrance to Tarbert looks like. We should start general, with a big picture of what Scotland looks like, with its main natural capital assets. Then, we should drill down. That is a permanent activity, and it requires an environmental analysis and statistical unit in Government, in the same way that we need data about where the roads are.

You should just do it. If you only have £X to spend on it, we should work out how to spend £X well. Then, we can work out whether there is a good case for spending £Y.

The Convener: I will bring in Mark Ruskell for a final question on business support and other incentives and disincentives for companies to do the right thing on the net zero goal.

Mark Ruskell: When the Government is supporting business, how do we ensure that the policy is coherent? Environmental NGOs tell us that they have concerns about Government policy supporting one sector that is perhaps taking us towards net zero while supporting another that might be taking us in another direction. How do we ensure that there is policy coherence across the Government, so that we are meeting the objectives of net zero and other objectives of a wellbeing economy? It seems that there can be contradictions in the way in which Governments operate and in the kind of support that they give to industry.

Professor Helm: I never cease to be amazed at the capacity of Governments to hold two mutually inconsistent views simultaneously and to pursue two mutually inconsistent policies at the same time. That is in the nature of government and politics.

What one is trying to do is to provide some coherence. For me, the starting point is a carbon price that applies to everything and every activity in the economy, such that transport is not treated differently from electricity, and neither is agriculture. You cannot get agriculture going through paying people to sequester carbon unless there is a price of carbon. That should be the same throughout. That is the single most important thing, and I would apply it to imports, ensuring that Scotland does not achieve its net zero target by closing down as much of its energy-intensive industry as possible and importing the stuff instead. That is what has been going on in Europe and the UK and—dare I mention it?—that is what my new book, “Net Zero”, is all about. We have to do things on a coherent carbon-consumption basis.

Secondly, we have to provide public goods—the infrastructures and networks within which the private sector functions. That is not just about there being electricity cables and so on around the place, along with fibre, which is crucial to all those networks; it is also about the other forms of public good.

I have been asked about how to do the baseline census. That is a public good to any business, allowing it to incentivise and understand what it has and providing it with data in the same way as

the Ordnance Survey—providing a picture of what we have in place.

That is also about knowledge and providing the framework for business to have suitably knowledgeable and qualified young people to go into the activities concerned. If you do not understand what you are trying to do, you will not make a lot of progress. In an ageing population, particularly an ageing agricultural population, it is very important to have a strong flow of young educated people who are knowledgeable about the world of natural capital, so that we move from the world that most farmers have known since the second world war to a world that involves dealing with digital technologies and everything else, such as the vertical farmers at the James Hutton Institute, where there are some brilliant research programmes going on. Such places are where part of that knowledge comes from.

You have to put all that together. That is just good government. It is about having a framework for the good things that the Government can do, covering public goods, infrastructure, the private sector and prices. Out of all that, the carbon price—the price on carbon consumption—is the most important single item for getting the coherence that you mentioned in your question.

The Convener: We have now run out of time, and I know that Professor Helm has to be away by 11 o'clock. We have to end it there. Thank you very much for coming before our committee.

11:00

Meeting suspended.

11:07

On resuming—

The Convener: Welcome back to our committee meeting, in which we are looking at the green recovery. Our third panellist is Professor Dave Reay, who is the chair in carbon management and education in the school of geosciences at the University of Edinburgh, and is executive director of the Edinburgh Centre for Carbon Innovation. Good morning, Professor Reay; it is nice to see you again.

What are your views on whether anything in the programme for government, with regard to the terrestrial and marine environments and related industries, contributes to a green recovery? Has that been evident in anything that you have read in the programme for government?

Professor Dave Reay (University of Edinburgh): Yes. I am quite impressed with the clear commitment to tree planting in the forestry grant scheme, and the assurance that that gives

the industry and landowners in terms of providing and increasing tree-planting targets.

One really nice thing about the programme is that it talks not just about tree planting but about nurseries that will provide the trees that we need to plant. It takes a systems view of green recovery; there is thinking about nurseries and planting and about the timber industry. It is really good to see those things being linked up.

On the marine side, the new blue economy action plan looks great. That is key for us, because the marine environment is such a large area, and the potential for job creation and linking in with our climate change and biodiversity targets is huge. There is a real goal, particularly in that area, to do more research, which is certainly welcome.

What always rankles with me, because I am impatient, is what happens around agriculture. The programme for government mentions the land use strategy, which will be updated next year, which is great. It also talks about the plans for agriculture, and aligning post-CAP support with the net zero emissions target. However, there is still no detail about when we can get pilots going. There are various proposals flying around for what a new rural support regime might look like and how it might align with net zero and the green recovery, but there is no detail. It is a personal frustration for me that 2024 is coming up fast.

There is also the issue of Brexit at the end of this year, and the impact that that could have on the industry. I am generally impressed with the PFG, but in a few areas a lot of detail is still needed.

The Convener: Finlay Carson is going to ask you about agricultural policy. Was anything else not included in the programme for government that you think could have been included?

Professor Reay: To go back to the positives, I say that it was great that green skills are in the programme. The climate emergency response group was pushing overtly for the Government, through the programme for government, to work with higher and further education and other education providers on our provision. We are in a green recovery, and the risks are huge, particularly for young people. As education providers, we are in the front line and can hopefully be a buffer—that we can give people opportunities and link to new jobs that will be created. It is therefore urgent that we look at alignment.

It is great that there is the climate emergency skills action plan, which Skills Development Scotland is leading on. That is my area—we tend to look at our own areas—so I was hoping for something quite strong to materialise on that. It is

a long PFG, but I would have liked to see a bit more there.

Finlay Carson: Good morning, Professor Reay. It is interesting that you are impatient for change. Many people are disappointed that we do not have a clearer path to how rural support in Scotland might look, and how that will tie in with the environment. I have read your paper, “Land Use and Agriculture: Pitfalls and Precautions on the Road to Net Zero”. Obviously some emphasis needs to be put on research. With that in mind, what three changes in agriculture or rural policy would offer the best opportunities to support a green recovery?

Professor Reay: One suggestion a flippant one—do not to separate agricultural and rural policy because they should be integrated. I hope that the land use strategy will, when it comes through, address that. I guess that that would be a high-level change.

Another change relates to the basic payment scheme in the transition period. We have four years in which to try stuff out and to run pilots in which we look at the trajectory for agriculture and land use in Scotland and its alignment with net zero. We could trial new payment systems—for example, with green strings being attached to a basic payment—and see how they could be rolled out nationwide, so that we do not hit 2024 and fall back on, “Well, there are still too many questions. We still need research.” If we want net zero for our agriculture and wider land use sector, we cannot afford to continue, essentially, with business as usual.

The third change is about capacity building and mindset change, which feeds into the second change, really. Do we have capacity in our advisory services and among land users to implement the new management strategies, the new technologies and the new rural support system? Do we have a change in mindset such that, instead of just getting basic payments, if we are still getting that kind of support, we look at the return on investment for the public? That change in mindset needs to come through really strongly.

Again, I am biased, but capacity building through education across the rural sector is a big thing for me. We need policies for enhancing advisory support services and consultancies, and for enhancing the advice that is given about alignment with net zero and green recovery.

11:15

Finlay Carson: Earlier, a question was asked of Professor Helm about baseline information and pulling that together. Let us say that we have that information and that we get the Government to commit to properly funding that baselining. What

indicators would you look for that would signal that pilots or projects, such as those that you have suggested we need to introduce, show that Scotland is on its way to a green recovery?

Professor Reay: One of my problems is that I am a carbon geek, so I just look at how we are doing on our emissions. The agriculture sector is lagging behind some of the other big sectors—in particularly, the energy sector. As part of that, our proportion of Scotland’s emissions gets bigger and bigger by the year, so I would look at that.

Part of any pilot is would be to look at the monitoring, reporting, and verification framework that goes with everything, starting with soil carbon, in which it takes a long time to detect improvement. However, we should be getting the baseline data and then checking progress against them.

Obviously, a lot of our changes would be direct changes in management in both arable and livestock farming, and would look at whether we are achieving detectable reductions in methane and nitrous oxide emissions. Under pilot schemes, we can prove such concepts. We have a good research base, which is where I would look for pilots that would give us real assurance that the menu of options for new rural and agricultural support is going to deliver. We have some great research going on and we have research farms on which we can do that at a small scale, but we need to do that on a larger scale in a pilot with farmers who are dealing with the real day-to-day issues of farming. That is one of the big MRV results that we need by 2024.

Claudia Beamish: Many people in Parliament and beyond have long argued for a statutory land use strategy. We are interested by your proposal for a land use bill. Of course, the Climate Change (Scotland) Act 2009, through amendments, also refers to the land use strategy. Could you expand on that proposal? Does the proposal in the programme for government for a refresh of the land use strategy not go far enough? What duties and powers would you like to see in a land use bill, and what budget implications would they have?

I have put all my questions in one, but I would like you to expand on them.

Professor Reay: Yes—that was quite a lot, Claudia. I am a great fan of the land use strategy. It was groundbreaking when it was developed, and a refresh would be great. I feel, however, that it needs more than that; it needs a statutory basis, because we have had a land use strategy since 2015 that has seemed to sit on physical or virtual shelves and gather dust. My fear is that although an update would have good stuff in it, we have no time to lose in terms of land use and alignment with net zero and green recovery.

A key part of what the land use strategy already proposes is regional land use partnerships. Putting them on a statutory basis would mean that there would be a mechanism for delivery and would provide a conduit between central and local government. I envisage that working through its being done at catchment scale, so the local authorities within that catchment would be key delivery mechanisms for a new rural support regime, for example. They would be able to translate that into something that is regionally appropriate and to ensure that the data—to go back to Finlay Carson's question—from monitoring, reporting and verification flow back to central Government.

That would enable us to see how we are doing—it would give Government a mechanism for seeing how well we are doing nationally against climate and biodiversity targets. The Government could then set the boundaries so that within the regions, that could be a dynamic process. Some regions will be great at going ahead and making it work on, for example, carbon sequestration, and others will take different routes. That will be fine if it is regionally appropriate, but it must all still add up to our hitting net zero by 2045, and hitting the 2030 target, which I suggest is even more testing, in the current context.

It is fundamental to me that separating agriculture and land use is artificial. It is how we report our emissions—we report land use and we report agriculture—but it is a real frustration for farmers that for example, planting trees is not reflected in our emissions reporting because of how we record that. Likewise, if we lose a load of soil carbons through land use change, that is not counted as what comes back to us.

Agriculture is part of our rural environment in Scotland; agriculture is land use. A land use bill should provide integration by including planning, forestry and estate management as well as agriculture, because all those things will either deliver on addressing the climate and diversity emergencies, or they will mean that we fail. Integration is very important; because it is, giving it a statutory basis is a must.

Claudia Beamish: There have been two pilots. One is on the Tweed, and you will remember where the other is. It has flown my mind. Are they working satisfactorily? Also, I am not quite sure how you were delineating the involvement of local authorities. Could you comment on both those things?

Professor Reay: The two pilots were very different. The one in Aberdeenshire focused on the land's capability for tree planting. That was a great exercise—this goes back to the committee's valuable discussion with Dieter Helm about putting trees in the right places, and the kinds of trees that

you put there. The James Hutton Institute is still leading the way on land capability assessment, which considers what physical characteristics will mean a good return on investment, in terms of carbon.

The pilot in the Borders was more valuable in the wider context. Both pilots flagged up how important the regional basis and communication with the community are. Community stakeholders include not just farmers, but everyone in the rural environments. That pilot's biggest success was probably that it had some energetic individuals and groups involved, so that the links were made. The Scottish Land Commission obviously looked at those pilots and has begun a consultation, which is on-going, on how it will all work.

I like the catchment idea, because catchments, as a parcel, give coherency when it comes to water quality, and often coincide with the suite of land use management that one might want to change. A catchment does not always map to a local authority area. Local authorities would still play a key role, particularly on integration with planning and communities. However, some catchments would involve quite a few local authorities, and some local authorities might span several catchments. I do not have an answer about how that could be made to work, but I like the scale of the catchment idea, and we could not afford to ignore the local authorities as part of that. I hope that the Scottish Land Commission will come up with a great answer.

Claudia Beamish: Thank you very much.

The Convener: Mark Ruskell has a question along similar lines.

Mark Ruskell: Yes. I am drawn to the idea of catchment-level action and partnerships. Are there lessons to be learned from the Flood Risk Management (Scotland) Act 2009? Although some good voluntary partnerships have been put in place for natural flood management, for example, landowners in some areas are just not interested. Where should compulsion sit? Some of it is about using a carrot, but some of it has to be about national co-ordination and clear societal objectives. What do you see as the role of agencies in that? Basically, who will come in with the stick?

Professor Reay: I see a key role for regional land use partnerships in the new rural support regime, particularly in agriculture. I suspect that a lot of that will still involve the use of carrots. For the basic payment, for example, it will be about what the conditions are. Obviously, there is the regulatory stick. We have that for our nitrate-vulnerable zones and various practices when it comes to cross-compliance under the current scheme. Such mechanisms—particularly

regulation—will apply to all land users, whatever catchment they are in.

When it comes to carrots, I expect that there will be mandatory actions that every farmer in Scotland will take. The beauty of a regional approach is that, because some actions are more appropriate in some regions than they are in others, a voluntary component can reflect the regional differences. For instance, there is a difference between Kintyre, where we have our smallholding, and East Lothian. We would take very different options under such a menu, based on the climate and our types of soils.

Finlay Carson: That is all really interesting. You have talked about the return on investment. There are two ways of looking at that. There is the financial return on investment that a land manager might make, and there is the return on investment in benefits to the climate and carbon.

We have talked about regional land use partnerships and catchment-scale projects. Could rural payments be devolved right down to bodies of the size of regional land use partnerships or bodies even smaller than those, to ensure that we get the right financial incentives—for example, for planting broad-leaf trees rather than Sitka spruce? There is a balance between the financial return on investment and the return with regard to carbon.

Professor Reay: I do not really see that happening, because the major risk in such a devolution of budgets is that we might have some great success in particular areas but the issue is the aggregate. In Scotland, we need to get to net zero in a sustainable way. The risk is of losing that control and of having unintended consequences from what a particular region or regional board ends up doing. Central control is still needed in order to meet national objectives. There needs to be nuance in terms of a menu and things that give some flexibility, but there cannot be a free-for-all in respect of what works in particular regions, because the approach needs to contribute to the national effort in the right way.

11:30

Liz Smith: On the back of that discussion, I have a quick question about agri-environment schemes, and particularly the model of clusters, which quite a lot of farmers and people in conservation would like to have adopted more speedily in Scotland. I think that that model has been working in England since 2012. Do you think that it is a good model? What do we have to do to promote it?

Professor Reay: A bit like the catchment question, that goes back to how our natural environment behaves. It is not in farm-sized parcels. For instance, corridors are needed for a

lot of our species so that they can migrate, certain sizes of woodland are needed to give certain species the conditions that they need, and the edge effects and all those things are needed. Therefore, if we look at things on a single-farm basis, opportunities will be missed, particularly around biodiversity. That certainly needs to be part of the thinking.

A catchment-scale approach gives us a lot of opportunity to do that, but it is clear that, even with catchments, we will want stuff that goes across several catchments for some of our objectives, so it is not as if the catchments are where the integration ends. However, such a cluster approach needs to be considered.

We need to look at the system. Dieter Helm talked about what he teaches his students. We teach our students a lot about systems and how everything has a knock-on effect. That is a perfect case in point. When we consider our biodiversity objectives, water quality, air quality and climate, that is about looking not just at a small-scale farm and saying, “I’m getting it right here,” but at whether we can get it right for the system, whether we are talking about a species or water quality, for example.

Mark Ruskell: Are there areas of Government policy that are contradictory in relation to a green recovery? If so, how should we address those contradictions?

Professor Reay: It has been really nice to look from the outside and not to be in government or to be a politician, because it is hard not to have some contradictions in balancing the PFG and the short-term support that people need and trying to think long term about the climate emergency. You have to make immediate decisions, and you might not always have the time to consider whether they are compatible with getting to net zero.

As members know, transport is not my area, but there is a real risk of contradictions in transport coming from pre-Covid. For example, a road-building project with a large amount of investment could have been approved, but our travel habits have now radically changed. It remains to be seen whether we will go back to where we were before Covid, but I suspect that we will not. We still have the context of needing to get to net zero, but the equation has changed for a lot of those kinds of things—for example, for the projected numbers of road users. Obviously, I am stepping outside my area of expertise, but there is a risk that we will just go ahead with those kinds of things because they were approved before the new context was taken into account. That would be contradictory, because the green recovery principles of asking whether something avoids high-carbon lock-in and creates green and sustainable jobs and whether its application is just would not be applied.

I suppose that the biggest contradiction at the moment is in the timescales and in where money is taken from and where money is put to. It is not so much a contradiction as the risk of a contradiction if things are carried over from pre-Covid without assessment of the new context. How people are travelling and what the demands are from the extra pressures on rural communities and on young people in terms of employment—and, indeed, on employment across Scotland—all need to be reassessed.

I do not see any glaring contradictions in the PFG, but there is a real risk that, over the coming couple of years, we will see those, simply because we are carrying over pre-Covid decisions.

Stewart Stevenson: Professor Reay, you are a member of the climate emergency response group, which has suggested that an agriculture modernisation fund should provide £100 million. Where did that number come from? How does it relate to specific things that help us to understand what level of public support to agriculture there should be in helping it to make its proper contribution to a net zero economy?

Professor Reay: The £100 million was for a three-year support plan. You will be familiar with the agricultural modernisation fund, which the Government has committed to and which involves a smaller amount.

Our fund was focused on providing a proportion of the capital payments for kits that would allow farmers to make the transition to lower-carbon practices. It placed a big emphasis on capacity building. It was not about capital spend; it was about training and advisory services, and decision-support tools were a large part of it.

I go back to the land capability assessment, which we can do on reasonably high resolution. It is about thinking about that kind of decision-support system for farmers, linking the information that they receive on soil carbon, for example, and advice that they might get on how to increase that. That needs investment. It needs people to give the advice, such as the people at the Farm Advisory Service, and it also needs the upskilling of the community—that is, the farmers.

That is where that aggregate number came from. It was for a mix of capacity building, technology and capital spend on kit.

The agricultural transformation programme is focused just on capital spend on kit, and a much smaller amount is involved. The details on what is included in that have only just been released. There is definitely some good stuff in it, such as covers for slurry stores, which will reduce things such as ammonia emissions. Some fairly generic equipment that will help productivity is eligible.

That can indirectly reduce the emissions intensity of production.

Like most such groups, the climate emergency response group does a green-amber-red analysis in relation to Scottish Government responses. That fund definitely gets an amber. There is a good response to it, and it is obvious that the community needs it, but there is still a real question about the capacity-building element, which we would like to see a lot more investment in.

Stewart Stevenson: It seems that, on average, £100 million is about £7,000 or £8,000 per farmer, or per claimant, under the basic payments. What would that be spent on? You have talked about some of the things that the £40 million from the transformation fund would buy, and you have talked about training and such things. Can you be more specific? I am not sure that I have got my mind around what the £100 million that you have proposed would buy.

Professor Reay: I will send you a detailed breakdown of how the £100 million should be used. About one third of that has been committed to the capital kit funding, and about one third was for the development and implementation of the decision-support tool. As I have described, that would cross both arable and livestock and help farmers and the advisory support service to look at what they need to do and the return that that would provide in reduced emissions or increased productivity. The other third should focus on providing educational support to farmers and retraining or upskilling the Farm Advisory Service. Those three components add up to the £100 million over three years.

To put that into context, that is a drop in the ocean in what we need across the agricultural sector to align with net zero. Probably a third of the £0.5 billion support fund that we currently have a year in Scotland under CAP needs to go towards our alignment with net zero every year. That is much more than £100 million over three years.

The Convener: Finally, we would like to delve a little deeper into the subject of skills.

Claudia Beamish: Quite a lot of that subject has already been covered.

Are you convinced that the opportunities for skills development will be harnessed by the Scottish Government? How do you see that being co-ordinated in an effective and robust way, taking into account the advisory service as well as new entrants and free training? It would be helpful if you could expand on that, as it is so vital to the future of the pilots and land use in Scotland.

Professor Reay: In our sector, the issue goes wider than just agriculture. We already knew that

skills development was an issue, because farming has changed rapidly, and because changes need to be made as a result of our net zero goals.

I welcome NatureScot's planned gap analysis on skills provision, as identified in the programme for government. That analysis, which will be done for not just farms but the whole of Scotland's rural landscape, will involve thinking about the gaps in pre-planting, peatland restoration and—ideally—deer control and invasive species, all of which are important for delivering carbon sequestration and cutting emissions. Those are all high-labour activities that fit strongly with the green recovery.

Going back to what Benny Higgins said, it is all about action. Conversations are already taking place with the further and higher education sector in Scotland about how well aligned the provision is and whether we are already delivering graduates and college leavers who have the necessary skills. We all know that there are gaps that we need to fill, particularly in the context of the different pressures that Covid-19 has brought to bear on the changing job market. It will be crucial for our institutions not only to look inwardly and review what our curriculum delivers for land use goals in Scotland, but to talk to employers and local authorities.

I expect Skills Development Scotland's climate emergency action plan to be useful and to offer a great view on how skills and training need to develop in Scotland, not just for agriculture and land use but across all sectors, but as in the case of the regional land use partnerships, it will not be able to identify needs at a local scale on its own—for example, it will not be able to say what Edinburgh needs and what the University of Edinburgh needs to do from an institutional perspective.

Education providers need to have conversations with their community, employers and the local authority—in my case, the city—to look at their curriculums, their delivery and the attributes of their graduates to make sure that they are aligned, not just in time, although that is crucial, but in graduates having the skills for the jobs that exist. CCS came up in the session with Dieter Helm. We offer a masters in carbon capture and storage, but there are not many jobs in that at the moment. The provision needs to line up in time, so that there are jobs to go into, but also in space.

11:45

We need to look at the key demands. For instance, in the north-east of Scotland, are education providers aligned with the demands of transition to offshore wind and CCS? In the west of Scotland, particularly in FE but also in HE, are we providing the skills and training for what people

need on the ground? The coming tree-planting season will start in a couple of months. Have we got the people and the curriculum in place?

The issue goes beyond our sector. I managed to listen to all the evidence of the previous two witnesses. It has come through again and again, right from Benny Higgins's report—I think it was in the foreword—that education is at the heart of the issue. It is partly a question of lining things up in space and time; that is certainly true for agriculture and land use.

The Convener: May I butt in?

Rightly, there has been a big focus on upskilling more young people and providing them with the paths and training that will get them sustainable jobs. However, there are also a lot of people who will not be able to go to college or university who might already be working in the sectors that we are talking about. They might be halfway through their working lives, and they will need skills so that they are able to adapt.

What are your views on the best delivery mechanisms? It is not just a case of providing full-time education; people also need to be able to pick up the skills and accreditations that will allow them to transition.

Professor Reay: There have been changes in the mode of delivery, which can increase accessibility. To go back to Stewart Stevenson's question, that is part of what we were looking at in terms of educational provision for farmers. It was continuing professional development—it did not involve farmers going on sabbatical and coming to the University of Edinburgh for a year; it was training while they were still doing their job.

The mode of delivery can help with that. Online provision has improved. We have some good mechanisms, such as the flexible workforce fund, for work-based placements, whereby people can get the skills that they need—they can upskill while still doing their job. Such mechanisms are crucial. Although much of the emphasis needs to be on young people, because their opportunities are being hammered, there are also lots of hugely talented people across Scotland who might be underemployed rather than unemployed. That upskilling and continuing professional development can mean that they are able to help with the transition to net zero and to increase the amount of work that they are doing. We should not forget about that.

Our university, like all universities, represents that, too. We have a lot of lifelong learning as part of our provision. Again, in looking at our curriculum and our provision, we need to ask—as do all educational providers—whether they are still fit for purpose, given the changing conditions, as more people are looking for work; there are people who

might be underemployed, as well as those who are unemployed. We want to do the right thing for 17 and 18-year-olds, but we want to do the right thing right across the spectrum of the students at Edinburgh university, whatever their age.

Mark Ruskell: I want to pick up on what you said about the need to switch about a third of agricultural subsidies towards meeting the net zero objective. What will Scotland look like as we do that? What changes will be most noticeable on the ground?

Professor Reay: Whether it is the switch of a current third or whether the total budget is a third of what we have now will have a huge impact on what farming looks like. That figure is reached by downscaling from what the UK Committee on Climate Change estimated for the UK CAP budget versus what it estimated that the cost of delivery would be in its “Land use: Policies for a Net Zero UK” report. Obviously, the weighting of that is probably going to be a bit higher for Scotland, based on our greater capacity for things such as carbon sequestration.

We are going to see more trees across the landscape of Scotland. I absolutely welcome the acceleration in tree planting. I know that there is a risk of trees being in the wrong places, but we have a great research base to ensure that we get that right, particularly if the planting is integrated socially as well as physically. That expansion will mean that, by the middle of the century, Scotland will have 30 per cent woodland coverage compared with 20 per cent at the moment; for every two trees that we have now, we will have three then, on average.

One of the major issues that we are all aware of in relation to the agricultural system in Scotland is that we cannot afford to offshore our emissions. We cannot afford to lose our agricultural production. Our farmers are crucial in delivering net zero but, as part of that, they produce food that the world already loves and which has a very strong name. That food is already produced very efficiently, in the main—we have a lower carbon footprint for many of the commodities that we produce than the global average; in fact, we beat Europe for a lot of our production. We cannot afford to lose that, because we will still need to eat. We should not just offshore the emissions. That is key. There will still be farming in Scotland—that is vital. However, we will need more nature-based solutions, such as peatland restoration and tree planting.

The big danger for agriculture at the moment and during the next 10 years is that we get left behind the rest of Europe and England in our agricultural practices because we try to protect them too much. Protecting them is vital, but if we do so in a business-as-usual way, we will lose our

competitive advantage. We have a great name for the quality of our produce and can rightly boast about the environmental credentials, on average, of Scottish produce. However, if we sit on our hands and keep going with a business-as-usual approach, other nations will overtake us and consumers will demand high environmental standards, particularly around climate change and biodiversity. There is a real danger that if we have not changed quite radically in our land use and agriculture by 2030, the whole sector will be extremely vulnerable.

I am really optimistic that, as has been mentioned a few times today, we have the natural capital to put Scotland’s food and drink where it should be: on top of the world for its environmental quality and reputation. However, the transition that we make is going to have to be quite radical. There will have to be a substantial increase in tree planting. For instance, at the moment there are mainly sheep fields where my smallholding is in the west in Kintyre, but there are going to be more trees, so it will look different. Hopefully, that will reward the landowner and increase the natural capital while, across Scotland, we will still be able to produce the food that we need. That is the aim.

The Convener: Finlay Carson has a final question before we round off.

Finlay Carson: At the risk of not leaving this session with the strong message that you have just given us about the future of agricultural and rural support, there is one quick question that I want to ask. Are we at risk of compromising biodiversity—forgetting about the biodiversity crisis that we also face—by concentrating so much on climate change and carbon? How do we get the balance right? Is enough thought being given to the impact of planting more trees on biodiversity and to whether we might lose grazing by reducing our livestock production?

Professor Reay: That is such a good question. As you know, I often warn about “carbon blinkers”; climate change dominates, and it keeps me awake at night and gives me blinkers, because I think “Does this address climate change?” As someone who is a climate change scientist, that gives me a bias, and there are dangers in doing things that are only about delivering on carbon that can have a very negative effect on, for example, biodiversity.

You discussed Sitka spruce with Dieter Helm. That is a good example. If we are thinking only about carbon, Sitka spruce is good because it has a really fast growth rate. However, it is clearly not just about carbon. The danger might be overplayed, because we know that we have made mistakes in the past by planting trees in the wrong places—on deep peat—and we know the cost that that had from a carbon and a biodiversity

perspective. In part, the issue comes back to the research base, land capability and making informed decisions about where we plant trees.

One of the challenges is that it will come down to the trade-offs that are made. Ultimately, this will come back to all of you, as politicians, perhaps via the regional land use partnerships and boards. As a research base in Scotland and as academics, we can provide you with lots of tools and information on what those trade-offs are but, ultimately, it will be for politicians to make the call when it comes to the decisions on what is prioritised and what trade-offs they are willing to make. We can give you an objective view of what the outcome will be in carbon terms and what the cost might be from the point of view of, say, air quality. However, deciding which is best is less our job—thankfully.

The Convener: Thank you for your time this morning, Professor Reay.

That concludes the public part of our meeting. We will continue with our green recovery inquiry in subsequent weeks. At our next meeting, on 15 September, the committee will take further evidence as part of that inquiry.

11:58

Meeting continued in private until 13:01.

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