OFFICIAL REPORT
AITHISG OIFIGEIL

Economy and Fair Work Committee

Wednesday 15 November 2023

Session 6

The Scottish Parliament
Pàrlamaid na h-Alba

Wednesday 15 November 2023

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ECONOMY AND FAIR WORK COMMITTEE
28th Meeting 2023, Session 6

CONVENER

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

DEPUTY CONVENER

*Colin Beattie (Midlothian North and Musselburgh) (SNP)

COMMITTEE MEMBERS

*Maggie Chapman (North East Scotland) (Green)
*Murdo Fraser (Mid Scotland and Fife) (Con)
*Gordon MacDonald (Edinburgh Pentlands) (SNP)
*Colin Smyth (South Scotland) (Lab)
*Kevin Stewart (Aberdeen Central) (SNP)
*Evelyn Tweed (Stirling) (SNP)
*Brian Whittle (South Scotland) (Con)

*attended

THE FOLLOWING ALSO PARTICIPATED:

John Boland (Unite)
Professor Paul de Leeuw (Robert Gordon University)
Emma Harrick (Scottish Renewables)
Mia McCarthy (SSE Group)
Maggie McGinlay (ETZ Ltd)
Gordon McGuinness (Skills Development Scotland)
Suzanne Sosna (Scottish Enterprise)

CLERK TO THE COMMITTEE

Anne Peat

LOCATION

The James Clerk Maxwell Room (CR4)

Scottish Parliament

Economy and Fair Work Committee

Wednesday 15 November 2023

[The Convener opened the meeting at 09:01]

Interests

The Convener (Claire Baker): Good morning, and welcome to the 28th meeting in 2023 of the Economy and Fair Work Committee. Our first item of business is a declaration of interests. Before I invite our new member Evelyn Tweed to do that, I thank Ash Regan for her contribution to this committee. I welcome Evelyn Tweed and ask her to declare any relevant interests.

Evelyn Tweed (Stirling) (SNP): Thanks, convener. I have nothing to declare.

The Convener: I understand that Maggie Chapman wishes to declare interests before we start the meeting.

Maggie Chapman (North East Scotland) (Green): As I said at last week's meeting, I am a board member of North East Scotland Climate Action Network hub, and I am a delegate to the Aberdeen Trades Union Council.

Just Transition (North-east and Moray)

09:02

The Convener: Our next item of business is the second evidence session in this part of our just transition work, in which we are looking at a just transition for the north-east and Moray. The context of the inquiry is the Scottish Government's target for net zero emissions of all greenhouse gases by 2045. Moray and the north-east will play a significant role in that, and the committee recognises the challenges that they face. That is why we are looking at the action that is required to support, incentivise and de-risk the transition in ways that will benefit businesses and the community.

Today's evidence session comprises two panels of witnesses. First, I welcome John Boland, who is a regional officer at Unite the union; Emma Harrick, who is the head of energy transition and supply chain at Scottish Renewables; Mia McCarthy, who is the head of sustainability at SSE Group; and Maggie McGinlay, who is the chief executive of ETZ Ltd. Members and witnesses are asked to keep questions and answers as concise as possible so that we have time to cover all areas.

I will start by asking the panel members to reflect on what their understanding is of a just transition for Moray and the north-east. One of the areas that the committee is looking at in the inquiry is definitions. Is there a shared understanding of what we want to achieve? Perhaps Emma Harrick would like to address the question first.

Emma Harrick (Scottish Renewables): Good morning, and thank you for the invitation to attend. Renewable energy is at the heart of the energy transition, and people are at the heart of a just transition. A just transition is about ensuring that the move from oil and gas to renewables has the most positive impact on the Scottish economy that it can and that it maximises the economic benefits for people and supply-chain businesses in Scotland. It involves looking at the number of green jobs that are created as part of the transition and the number of workers who move from oil and gas roles—and other roles—into renewables roles. It is about all the jobs that are created and the economic benefit that comes from the transition.

The Convener: One of the areas that we are looking at is how we will know whether a just transition is being delivered. Should targets or marks be identified? You mentioned jobs—should there be a target for green jobs?

Emma Harrick: As a trade body for renewable energy, we recognise that we need more robust data on green jobs. On specific things that Scottish Renewables has already researched and covered, we did a survey of oil and gas professionals' views on the transition. We found that 77 per cent of respondents were positive about retraining to join the renewable energy sector and 86 per cent of those would welcome more support to join the renewable energy sector. Statistics around the movement of oil and gas workers into renewables is important.

The other side of things is academic training: understanding what students are studying in renewable energy-related courses and the change in courses in Scotland. Research that Scottish Renewables undertook in the academic space looked at who is studying renewables courses, and we found that about 22,000 people are studying renewable energy-related courses across Scotland. That is up 70 per cent from the data from three years ago, and it showcases the fact that 33 colleges and universities across Scotland deliver courses that include renewable energy elements. There is a huge ambition and appetite among students to learn more about net zero and to train up and upskill for renewables.

Areas for targets include data and statistics on the movement of workers into the sector; data and statistics on academic training; and, with regard to people moving into green jobs, statistics and data on those individuals, diversity information, age profiles, skill sets and what levels they are moving into.

The Convener: We will come back to issues of skills and the numbers and progress that has been made in that area. I go to Mia McCarthy on the just transition. Is there a shared understanding of what it means? How will we know whether it is being delivered?

Mia McCarthy (SSE Group): Good morning, and thank you for inviting us. I will give a tiny bit of background. SSE is a FTSE 100 company headquartered in Perth in Scotland, with a workforce of more than 10,000 employees. We are a leading generator of renewable energy and one of the largest electricity networks in the United Kingdom. We are an accredited real living wage employer and a fair tax mark company.

In November 2020, SSE became the first company globally to publish a just transition strategy. A framework of 20 principles is outlined in the strategy, which is to guide our decision making, influence greater fairness for those impacted by the decline of high-carbon activity and increase the opportunities for climate action. We followed that up in September 2021 with a report stating our principles to action; the report focused on workers, in particular. We set out 20 commitments from SSE, 10 recommendations for industry and 10 recommendations for Government to support people transitioning from high-carbon to low-carbon jobs.

In the next decade and beyond, SSE's remaining high-carbon activities will either come to an end of their natural life or they will be repurposed to a net zero world. To achieve that, we plan to invest £40 billion over the next 10 years.

To give a sense of the scale that is required—just in Scotland, and very much in the north-east and Moray region—we are looking at potentially £17 billion in transmission networks over the next seven years and the ScotWind projects that will amount to about £24 billion, as well as onshore wind, distribution networks, carbon capture and storage and figures that are yet to be known for hydrogen. That gives a sense of what we are considering when we talk about it.

The Convener: That is what your company has done on the question of what a just transition is. Should there be more expectation on other organisations to take that approach? You have described yourselves as being the lead in this area, but that seems to have been a choice that was made by SSE. Is there enough support for, encouragement of or obligation on other companies to understand the importance of a just transition and to think about how they will deliver it?

Mia McCarthy: Support needs to be given. We were the first company globally to publish our just transition strategy, as I said, and we are ahead of the curve, but other companies are definitely recognising that there is a need to transition. That needs to be done in a co-creation space, with Government support, perhaps working with civil society organisations and with companies coming together. In all the work that we have done, the collaboration and co-creation piece of bringing in the unions, employees and communities has allowed us to get to the point where we are now. That cannot be completed in isolation, because all the stakeholders need to be involved in the discussion.

You asked about how you measure whether a transition has been just. The points that we need to gather the data on are security of supply, access to affordable energy, the numbers of workers that have transitioned and been supported to transition from high-carbon to low-carbon jobs, the economic contribution to the supply chain and the scale of community ownership of renewable energy and community benefits. If we are able to look at some of those markers as we go through the energy transition, we will be able to see whether, for example, people are being left behind.

The Convener: I come to John Boland to address the question of the definition of a just transition and whether there is a shared understanding of that.

John Boland (Unite): Our position as a union relates to the workers who will be affected by it and the impact that there could be on the communities that they live in. A measure for a just transition is that there are good well-paid jobs for all the workers who require them and that the local communities that they live in are not devastated, as has happened in other previous transitions. We see a number of barriers to that happening at the moment, and we are not seeing a lot of movement on those barriers. We hear lots of numbers, but the reality of the numbers of jobs and of people transitioning from oil and gas into renewables is much lower.

The Convener: You mentioned communities. Are there tensions there, and is there enough effort to resolve them? Is it a case of, if we do something one way, it will benefit one group of people, but another group of people might not benefit so much? How do we resolve those tensions? That is what I am talking about: a shared understanding of what a just transition is.

John Boland: Yes, there are tensions. We have tensions in our own unions about a just transition and the move away from oil and gas and fossil fuels into greener economies, but our focus is on keeping people in work and ensuring that there are jobs for them. We fully support the move away from fossil fuels, but there must be jobs for people to move into or a lot of people will be unemployed, which will have a large impact on the communities where they live.

We have seen impacts when there have been downturns in oil and gas before. In 2015 and 2019, we saw the hotels, restaurants and pubs all close. We saw the impact on taxi drivers and other people who relied on those jobs. The difference this time is that, unless there are alternative jobs, it will not be a downturn; it will be permanent.

The Convener: Maggie, will you comment on the definitions and how we will know whether a just transition is being delivered?

Maggie McGinlay (ETZ Ltd): Yes. Thank you for the opportunity to appear before the committee. ETZ Ltd is based in Aberdeen. We have a remit to support work in Aberdeen and Aberdeenshire and, through just transition funding, we also extend into Moray. We are a not-for-profit company, so we are all about economic development for the region.

It is well documented how important oil and gas have been and continue to be for the Scottish and UK economy in terms of both gross value added and jobs. The just transition has to be about how we have a managed transition to deliver on net zero, how we move from oil and gas to greener lower-carbon forms of energy, and how we do that in such a way that no one is left behind. It is about individuals in the workforce and communities, and it is also about the businesses that have been involved in the oil and gas sector that are keen and ambitious to move into offshore wind, hydrogen, carbon capture and storage and so on, but need support to do that.

The north-east of Scotland has the largest concentration of energy supply chain companies in the UK. We are talking about companies that employ 10 people, companies that employ 1,000 people and companies that employ 5,000 people. There is a huge range of companies and they are a real asset to Scotland and the Scottish economy. It is about how we support those companies to continue to be successful as we move into cleaner, greener forms of energy. That will maintain and sustain jobs and create new ones, and therefore support communities. To me, the just transition has to be about how we do this in a managed way and consider individuals, communities, businesses and the overall energy sector.

The Convener: Are we clear enough about what is being measured and what success will look like? Other witnesses have spoken about a data gap. Is that a challenge in trying to determine success?

09:15

Maggie McGinlay: I think that it is. As we have heard, there are lots of different things that could be measured, and I agree with all the suggestions. It is also about how many people are going into education that is linked to energy, for example. The key thing is how we can get the right data to support that and how we can have easy access to it so that it can be used easily. Some of the data is easily available, but some of it is not. We need to revisit all the standard industrial classification codes and consider how we are measuring industry sectors and how we can easily measure the impact and the difference that is being made.

Colin Smyth (South Scotland) (Lab): Good morning. An issue that is highlighted in the submissions that we have received is the challenge of skills shortages in the energy sector. The Aberdeen & Grampian Chamber of Commerce submission mentions its spring 2023 energy transition survey and says that there are already challenges for businesses with regard to worker shortages. In your experience, is there already evidence of skills shortages in the energy sector? What specifically do you require from Government to support you in tackling those shortages?

Emma Harrick is nodding, so I invite her to comment. I appreciate that the Scottish Renewables submission highlights quite a few shortages. Where are they at the moment?

Emma Harrick: The renewable energy industry already supports 27,000 Scottish jobs and an economic output of £5.6 billion a year. The industry has a big impact on other areas of Scotland's economy across construction and manufacturing. A huge variety of skill sets is required to deploy a renewable energy project. That involves everything from welders to lawyers, architects and even caterers. There is opportunity within renewable energy projects across the whole project life cycle, from the development stage all the way through to construction, installation and even life extension and decommissioning. There are huge skills opportunities there and, due to decades of experience, the north-east and Moray are well placed to provide skills for those activities.

However, there are some key skills challenges in the sector. We categorise those into three areas—skills shortage, which is about finding and keeping enough people with the right skills across all disciplines; the skills gap, which is about training and upskilling the people that we have and what I said about moving oil and gas workers into the sector; and skills cannibalisation, which is about keeping people in the sector.

In Scotland, the sector is characterised by big multinational companies with mobile workforces that move around. Our members have advised us that there are some skills gaps in the renewables sector. They include gaps in the construction space of welders and technicians, but there are also gaps in the early development stage. There is a shortage of planners. It is really important that we speed up planning and consenting of renewable energy projects. There are skills gaps involving electrical technicians and engineers. However, working on renewables does not just require engineers, and there are also shortages of project managers, logistics managers and vessel crew—people who work on the vessels doing site surveys, transport and installation. We also need to look at things that are not offshore but involve other technologies. There are shortages of low-carbon heat installers and robotics engineers.

However, where we see that challenge, there is opportunity. Offshore wind will make an essential contribution to skills in Scotland, and we have to consider the cascading benefits as well. Across other technologies, the Scottish Government's green hydrogen assessment set out three scenarios for hydrogen that would deliver between 70,000 and 310,000 jobs. The Cromarty Firth has been identified as an ideal location for hydrogen, and the north of Scotland hydrogen programme was established as part of that. Green hydrogen, which is key for renewables, can offer huge GVA to Scotland's economy. In the high scenario, that involves 310,000 jobs and £25 billion of GVA.

If we consider other cascading areas, alongside new power generation, there will be substantial investment in the transmission network and the grid. That will deliver high-value, high-quality, long-term jobs, and there is huge opportunity there. SSEN Transmission has plans to invest £10 billion in the electricity grid in the north of Scotland, which can support over 9,000 high-value jobs. There will be no transition without transmission, and there is a huge opportunity in the grid space. As much as there are skills gaps and challenges, there are huge opportunities coming from renewable energy for all those roles across Scotland.

Colin Smyth: What actions are needed from Government to make sure that we have the workers to take advantage of those opportunities? You mentioned speeding up the consenting process, which is one of them, as that would reduce the pressure on those who have that role to drive these things forward, but what other actions are needed from Government?

Emma Harrick: People who are looking to upskill and transition into renewable energy sometimes need to pay out of their own pockets for upskilling to move into those roles. That is a barrier for individuals. The establishment of a just transition tuition fund to help individual workers to cover some of the fees that have to be paid to get new qualifications or tuition to help them to move into renewable roles would offer support.

Colin Smyth: I see John Boland nodding—

The Convener: Colin, before you move on, do you mind if ask Emma Harrick a question?

Colin Smyth: No.

The Convener: Emma, thank you for the information that Scottish Renewables has given us. I think that, when people look down the list, they tend to see men fulfilling those roles. What needs to be done to encourage women into them? You have described an expanding sector with lots of opportunities. Is anybody collecting gender-disaggregated data on roles in the workforce?

Emma Harrick: As you will know, the industry sees diversity as hugely important. There are diversity ambitions as part of the offshore wind sector deal. One thing that is really important is science, technology, engineering and mathematics activity and early engagement in the school years to encourage enthusiasm for STEM and increase diversity by encouraging young women to take up those subjects.

Many of our members are already carrying out activities in that space. Ocean Winds, which is the

developer of the Moray east and Moray west projects, has launched a STEM programme that is working with schools in Fraserburgh, Buckie and Edinburgh. It has STEM ambassadors who go into local schools to encourage enthusiasm for those subjects, but also to raise awareness of the skills that are required to deliver renewable energy so that young people know what roles they will have opportunities to go into. That has a focus on diversity as well. It is about making sure that young women are interested in those roles.

The Convener: Okay—thank you. Colin, back to you.

Colin Smyth: John, I ask you to comment, because you were nodding when Emma Harrick talked about the challenges of skills shortages. That will obviously be an issue that your members face. How can we ensure that people have the skills to take advantage of the opportunities that Emma talked about?

John Boland: There is no doubt that there is a skills shortage. There are shortages of trained people and experienced people across the whole of the UK. Some of that may be down to a lack of apprenticeships over the years. We see a difficulty with people transitioning from oil and gas into renewables because of the barriers that exist.

Emma Harrick touched on one of the barriers, which is about certification, competences and the alignment between the different sectors, such as between the oil and gas sector and the wind sector. Some work is being done on that with the skills passport, but that is still uncertain at the moment. Another big barrier is the differences in pay and terms and conditions between offshore oil and gas and offshore wind. There is a difference of about £20,000 between the pay of an electrical technician in offshore oil and gas and the same role in offshore wind. A further barrier is the number of jobs. Jobs in renewables are not there in the numbers that will be required, and by the time the numbers ramp up, there will be a downturn in oil and gas and a lot of the skills will be lost to other sectors. Those are the main barriers that we see for people transitioning.

It is good to go into the schools and advertise renewables and get people interested. However, that is a long-term goal, because there is a time gap for people to go through school, get the training and come into the industry. The big problem, as we see it, is the period between now and, probably, 2030. There is going to be a downturn in oil and gas and there will be fewer jobs there, but there will not be the level of growth in renewables to support the jobs that are being lost.

Colin Smyth: Are there any actions that the Government could take during that period to make sure that your members can benefit from those opportunities?

John Boland: Yes—there are several actions that the Government could take. One of the main ones is to support investment in manufacturing. There are opportunities to do that, particularly in offshore wind. At the moment, a lot of that work is done abroad. The estimated number of jobs in offshore wind is 50,000, but when we take out the manufacturing and construction elements, that drops significantly. Support for having a manufacturing base so that some of that work could be done in Scotland would be great. Sites such as BiFab and Nigg could be developed for that, particularly for the building of platforms.

Another ask of Government is for it to support the removal of the barriers that I mentioned in order to allow oil and gas workers to transition into renewables. As I said, some work has been done with the skills passport, but it is in a difficult phase at the moment. On terms and conditions, we have no union recognition or collective agreements for offshore wind. We have collective agreements for offshore oil and gas that could easily be transferred to offshore wind, hydrogen and CCS. The agreements that we made for oil and gas just a couple of years ago were left flexible so that that could be done.

The main thing is jobs, but I go back to the point that the way to get jobs is to capitalise as much as possible on offshore wind, because that is the main renewable at the moment. Hydrogen and CCS will come in, but offshore wind is the main thing that could produce the jobs now, when they are needed.

Colin Smyth: That was very helpful.

My next questions are for Mia McCarthy and Maggie McGinlay. Mia, are you already facing skills shortages at SSE? If so, what should the Government be doing to support you?

Mia McCarthy: This is repeating a lot of what Emma Harrick and John Boland have said already, but the skills mapping work is really urgent as it will allow us to identify exactly where the roles are needed and what skills are needed within those roles. We need green energy training academies that have a very concerted and direct focus on the kind of high-quality conversion programmes that John Boland has just talked about to make it easier for people to transition from high-carbon to low-carbon industries. We also need funding for universities and colleges, and we should be looking at what courses are being offered to students at the moment, whether they are fit for purpose for when they graduate in two, three or four years' time and whether they are actually offering what the industry is looking at or needing.

STEM has been mentioned and, indeed, early years intervention is very important if we are to provide the education and knowledge that are needed and get young people interested in the various topics. Indeed, that gets to the heart of the diversity issue, because we need to encourage more young girls at an earlier age to become interested in certain topics. We also need more flexibility in the delivery of apprentice and funding schemes.

We recognise that there is a skills shortage. As we have set out, we need 1,000 new roles a year to be able to service the scale of our operations. A recent report from the Robert Gordon University focusing on the north-east of Scotland identified 45,000 employees in the energy sector there, 40,000 of whom are in oil and gas, and said that 90 per cent of that number have skills that would be easily transferable to a low-carbon industry. The issue, I suppose, is the need to facilitate those people in making this transition.

09:30

As for us, in 2021, we started surveying our employees, and those surveys contain questions about the just transition, in particular, and whether those surveyed had transitioned over the last two years from high-carbon industries into SSE. We have continued those surveys; indeed, we now do them every six months, and according to findings from the most recent one, one in four workers coming to SSE has transitioned from high-carbon industries. That figure is actually about 28 per cent, and interestingly, about the same percentage of men and women have transitioned—30 per cent on each side. Perhaps that would be a slight argument against the idea that there is no diversity amongst those transitioning. It is also interesting to note that, on the renewables side of the business, 40 per cent of the workforce is made up of people who have transitioned.

As we have gone along, we have begun to drill down and ask more detailed questions to see what the environment or landscape is like out there. It has always been said that pay or reward has been a barrier to people transitioning, with the pay scales perhaps not being quite what they would be in the oil and gas industry, but according to the most recent responses that we have received, those who have transitioned have turned out to be more satisfied than the general population of SSE's workforce with regard to reward and, indeed, leadership. I know that those are indicators that we asked about, but we were surprised by those recent comments, because we thought that, in some instances, that sort of thing might be the barrier for people. There are other issues such as flexibility and work-life balance, but the data shows a steady flow of people coming through, and as we move along, continue to survey people and think of other questions that we can ask, more information will be thrown up for us.

Going back to the point about the skills gap and the question of what we as a company are doing, I would say that things that we are doing are on a smaller scale. For example, we will identify mechanics and retrain them to fill electrician roles in the distribution side of our business. As I have said, all of that is on a small scale. After all, we are talking about only 1,000 employees, so you might have a cohort of 20 such people a year. I suppose that we will need to put in place a more robust framework that can cope with the larger numbers that will need to transition over time if we are to access the opportunities that the low-carbon sector presents.

Colin Smyth: Is the current skills development landscape set up for you to deliver all that, or are changes required to enable that to happen?

Mia McCarthy: I think that the changes that I have mentioned would facilitate a faster transition. What we are seeing from the data is that people are transitioning and that their skills are easily transferable, because they are coming into and taking up roles without any issues. However, there are definitely areas that need to be looked at. At the moment, we are undertaking a piece of research that is more to do with long-term planning over the next five to 10 years; it is looking at the sunrise and sunset industries—that is, those that will be burgeoning and those that will be going into decline—and taking a targeted look at that landscape and, within that, the skills that people in those roles have.

If we take offshore, for example, the roles across that whole operation go from environmental specialists at one end to legal and financial officers at the other—and everything in between. All of those people will be needed to get these operations off the ground and running. In that respect, a wide range of skills will be required; I think that sometimes people take a narrower view of things and focus on, say, engineering or other very specific roles, but roles in so many different parts of the operation will be needed over time.

Colin Smyth: That was very helpful.

I am tempted to ask Maggie McGinlay whether there are any areas in the sector where she thinks that there are no skills shortages at the moment. Obviously, you will be speaking all the time to the businesses that you work with. Are these skills shortage issues familiar? Again, what actions does the Government need to take to support that challenge?

Maggie McGinlay: The short answer to your first question is yes—and I will not repeat what my colleagues have said.

As for what action could be taken, we have heard about the transferability of skills. Often the skills are the same; they are just deployed in a different way, no matter whether people are coming from oil and gas into offshore wind or other sectors. That is an important point. We have also heard that there is a risk that offshore renewable projects are not yet at scale and that, as a result, we need to continue with oil and gas projects to ensure that we do not have this massive gap and, in turn, lots of lost jobs.

Given that one of the challenges is attracting young people into the sector, we need to think about the rhetoric around the continuing importance of oil and gas to the economy as we build the scale of offshore renewables. It is important that the Government and others give those clear messages. For young people, whether they are going into an oil and gas operator—which, after all, is now really an energy operator; most are now going into offshore renewables—or into a supply chain company, the reality is that they might be working on oil and gas projects now, because that is where most of the work is. Over time, however, they will develop their skills and start working on offshore wind projects, hydrogen projects and so on. We want to encourage people into the industry and perhaps get their skills in the oil and gas sector, because that will ensure that they are there as we build up offshore renewables capacity. As a result, it is important that the messaging around this being an energy sector and about the need for a managed transition is positive. It has to be better understood and better messaged.

As for some of the other issues, the just transition fund has been helpful in supporting the national energy skills accelerator with putting on short-term courses on upskilling and reskilling. Those short courses have been very much welcomed, with good uptake in both of the local universities and North East Scotland College, and it will be important to continue support for those approaches.

Moreover, the Scottish Funding Council has been supporting NESA with a pathfinder project to help people to better understand the pathways that they can take and to make it clear that although you might start off doing a particular job in a certain business, that might lead to other opportunities as offshore renewables picks up. Those sort of pathway and pathfinder projects are important, and it would be really helpful if we could do more of them.

We also need more sustained funding of tertiary education providers for the new courses that will be needed. Given that we do not know what the percentage of jobs will be as yet, sustained funding for tertiary education will be important to ensure that our universities and colleges can adapt to industry's needs, which are, of course, evolving.

Finally, the just transition fund has also supported the energy transition skills hub in Aberdeen, which is in the ETZ and is under construction at the moment. It is funded predominantly by the just transition fund and also through the Scottish Government's emerging energy technologies fund, although it has also attracted £1.8 million investment from Shell. NESCol, the local college, will be the operator. I think that that is a great example, because not only will it provide more welding and fabrication facilities, but it will be flexible so that, no matter whether the need is for hydrogen fuel cell or wind turbine technicians or whatever, the college will have the facilities to respond quickly.

An important feature of the hub will be its outreach vehicle, which will go around secondary schools to help young people better understand the types of jobs that we will start to see in hydrogen, offshore wind et cetera and, in turn, help them understand what subjects they might want to study for jobs in low carbon and green energy. There is also a community outreach element, offering courses on upskilling and reskilling to people in the evenings and at weekends so that they do not have to take time out of their full-time jobs. The ability to do some upskilling and reskilling at other times provides an important opportunity for people in the community, and it will be important to get funding support for that through the Government, too.

Colin Smyth: That was really helpful.

The Convener: I have to make progress. I must ask the witnesses to be as concise as possible in responding to the questions, because we have a big panel this morning.

I will allow Kevin Stewart one supplementary, but please direct it to only one of the panel members.

Kevin Stewart (Aberdeen Central) (SNP): I shall. Thank you, convener.

My very brief supplementary is for Mr Boland, who said that the skills passport is in a wee bit of a difficult phase. As you know, Skills Development Scotland will be on the panel after you. What do you think are the difficulties, and how can they be overcome quickly?

John Boland: Just quickly, I point out that the skills passport was meant to be in place by quarter three this year, and it is not in place at the moment. Three weeks ago, there was a reset meeting with all the main stakeholders; I attended that meeting and, as far as I can see, there is still a big gap between what is being looked for on the

skills passport and how we bring the wind industry on board.

As it stands, the skills passport was meant to allow transferability between oil and gas and wind, primarily, but there is no agreement on or alignment in respect of the survival of the actual competencies that are required. Another meeting is being set up for January, and some work is meant to going on between now and then. We will know come January whether the skills passport will be successful or not.

Kevin Stewart: By the sounds of it, there have maybe been too many meetings and not enough action.

John Boland: That is what we have been saying for five years now.

Kevin Stewart: Thank you very much, Mr Boland.

Evelyn Tweed: Colin Smyth's line of questioning covered a lot of things that I was going to ask about. Aberdeen City Council has said that elements of the skills development infrastructure are in place, but

"there remains a cluttered and unclear landscape on both funding and delivery."

Does the panel share that view? How do you feel about that? From the things that we have been saying about upskilling and so on, there are various things that the panel members are saying. How can the landscape be clearer? Would anyone like to come in? Maggie McGinlay, you are smiling.

Maggie McGinlay: I am not going to smile any more. The pathway from schools through to college and higher education and into jobs through apprenticeships and so on is important. I am talking specifically about the energy sector. A clearer pathway will help the industry to understand where it can best work with schools on STEM subjects and better interact with colleges to provide a clearer route for people who are looking to change jobs, upskill or reskill.

If there is a clear pathway between the subjects that someone does at school and the opportunities that that can lead them to at college, university, apprenticeships or jobs, and the jobs that those opportunities lead them to, that will help to declutter the landscape to a certain extent, because then it is clearer where everyone can play their role.

There are lots of good initiatives around STEM subjects, for example, in schools, and there are opportunities to consolidate them and make them more efficient. Schools might not have lots of opportunities coming up, and we know that teachers are busy, but they can try to prioritise and manage what they do. There are definitely things that can be done.

I would also say that it is a good problem to have because a lot of the private sector is doing a lot of good stuff to encourage young people to understand the opportunities in the energy industry and to go into it.

Mia McCarthy: As Maggie McGinlay said, a part of it is the scale that everything is moving at. We need people who are trained and ready to go today, but all this wonderful work is being done with the generation that is coming up. By the time they come out of school and university, all of that will have been in place and they will be well prepared for whatever the workforce looks like at that stage.

On the role for employers or companies, I suppose there is always the drive to focus on their employees and their retraining and repurposing. One of the focuses of our just transition strategy that I made mention of earlier, is prioritising retraining and redeployment. I suppose that for companies that are transitioning, it might be about repurposing the assets that they have and ensuring that there is access to retraining so that their employees can be brought along on the change to net zero. That would be a crucial part, I suppose, from the company perspective.

There is a lot going on in the educational sphere and with some of the agencies, but maybe when companies are putting together their just transition strategies, they should take responsibility for ensuring that training is in there and for what it looks like. Again, some of that might be on a smaller scale, and it is about how we ensure that the momentum is there to allow it to be built out.

Emma Harrick: I will be quick with my answer. My view on making it clear has two aspects.

First, everyone's favourite word in the sector is "collaboration" and I am talking about collaboration across Scotland and the UK. Skills development in one area or in one technology will have a knock-on effect on technologies in other areas. For example, we talked about offshore wind, but there is a lot of opportunity and a huge pipeline in onshore wind. Skills development within that technology will have a knock-on effect on skills development and other technologies that are preparing for the future pipeline. Scotland has the biggest pipeline of floating offshore wind projects in the world, but there are also floating offshore wind projects in the Celtic Sea, so collaboration across the skills for floating across the whole of the UK is important.

The other thing is communication. The people on the panel live and breathe renewable energy. We can see the opportunity that is coming, but I sometimes think that people in Scotland are not

aware of the skills that are required and the opportunity that is there in front of them. Communicating that opportunity to the people of Scotland and letting them know the opportunities that are out there is key. Those are my two things.

09:45

John Boland: I will be even quicker. There is no clear path for someone moving into renewables that is across the board. Our members have been asking us this for probably the past four or five years because there is a lot of interest in renewables and there is a lot of potential there, but how does somebody actually get from A to B? That is what is missing at the moment, and I think that is also what is missing for schools as well. If they are teaching future renewables engineers, they need to show them how they get to those jobs from where they are now? There has to be something showing that path from A to B. It does not seem particularly hard.

Evelyn Tweed: John Boland has hit on a good point there. What is the path? How is it accessible and who is it accessible to? That must be looked at.

Colin Beattie (Midlothian North and Musselburgh) (SNP): I would like to touch on one or two issues around skills and expand a little bit on what has been discussed so far. There has always been an assumption that the transition from the energy sector into the renewables sector will be smooth, and yet evidence that we have taken in this committee previously indicates that that is not happening at the pace that was anticipated. It leads us, then, to other industries and other sectors needing to develop skills such as, for example, the construction industry for retrofitting the built environment.

The Construction Industry Training Board estimates that to meet net zero targets, an additional 4,600 project managers, as well as 4,300 plumbers and heating, ventilation and air conditioning workers will be needed in Scotland by 2028. That is a lot of bodies. The other sectors in the industry are all showing huge deficits in the number of bodies that they can recruit versus the number that they need. Is the skills pipeline that has been set up to deliver those wider skills requirements across the different sectors working? Is it up to the quality that is needed? Where will the workers come from, given the acute shortage of workers, particularly skilled workers, across the economy? John Boland, perhaps I can ask you first.

John Boland: It is a good question because I cannot answer where they will come from. Even in oil and gas we are seeing acute shortages within certain disciplines and there is a time lag in training people up. Even if you start training people up now, they will not be there.

The other thing is that there has to be a reality between the jobs that will be created in renewables and long-term jobs, and what jobs could be lost in oil and gas. For example, Seagreen, which has just come on, has roughly around 80 full-time individuals, where a large oil platform could have up to 500 people there full time. You originally said that renewables jobs will replace oil and gas jobs, but they will not do that, in our opinion, unless we look at including additional areas, such as the construction industry.

There needs to be more of a link up, but even people moving between offshore oil and gas and offshore wind are finding difficulties, because there are different certifications, and requirements and costs. It is again about how we break down a lot of those barriers so that it is much easier. If you are an offshore electrician, you can also work onshore. I am an electrician by trade and I have worked in many different categories, from manufacturing to NHS to local authority. An electrician can work in all those places, even if on different pieces of equipment, but the standard bodies make it much more difficult to do that.

Colin Beattie: You spoke about electricians there. One thing that has been at the back of my mind is how transferable to the renewables industry all the jobs that are available in the oil and gas sector are.

John Boland: There is a lot of transferability, as I said, but I can only go on my own experience of working in different industries. You move into a different industry, so you need training on the specific equipment that you will be working on but you do not need to retrain in the basics that you get when you do your apprenticeship. I would say that there are a lot of similarities between the trades that work in renewables and oil and gas. Some upskilling will be required because of the different equipment, but there is a small skilled workforce that is very good at what they do across the UK, and we have to find better ways at using them across all sectors.

Colin Beattie: Emma Harrick, can I turn to you?

Emma Harrick: I can add to John Boland's point about the supply chain businesses in the area. There is a huge wealth of expertise in the subsea environment in the north-east. Many of Scotland's offshore wind developers have committed to supporting education and skills to fill those gaps as part of their supply chain development process and supply chain development statements as part of the ScotWind leasing round. They have made commitments to things such as engaging with the local schools, collaborating with the colleges around

apprenticeships, promoting diversity and supporting accreditation.

A lot of work is also being done at grassroots level by boots on the ground in the supply chain. Because of the growth that companies in the north-east such as Ace Aquatec, a marine mammal protection innovator based in Dundee, have seen in renewable energy, its team has gone from five people to 35 people, including graduates and modern apprentices, and it is keen to support skills development.

The Gibb Group, which is based in Aberdeen, is a personal protective equipment specialist and its workforce has grown by more than 30 people, because of the demand from renewables. It has created an apprenticeship programme to engage with local colleges and support that skills gap.

It is also happening at our ports. The port of Montrose carries out lots of engagement with schools in partnership with SSE, which has the Seagreen operations and management base at its facility. A lot of work is also being done in the businesses in the supply chain. A huge number of supply chain businesses across Scotland have a lot of people with transferable skillsets and many of them, such as the companies that I mentioned, are already pivoting. Some others, including Balmoral, which offers subsea protection and has roots from as far back as the 1980s and further, started out in oil and gas and is now going hugely because of renewables. Supply chain businesses are creating a lot of jobs and having a lot of impact themselves.

Colin Beattie: Are there enough bodies out there to fill those posts? As I said, the construction industry has talked about needing 4,600 project managers and 4,300 plumbers, which is a huge number of people to train up and have skilled by 2028. You try to phone for a plumber at the moment and see how quickly he comes. Are there enough human resources out there to fill all these posts that are being touted?

Emma Harrick: It is a good question, but it is also a tricky one that I would not be able to answer with the statistics and the numbers. I can say that the industry is doing a lot to try to overcome that challenge, but I cannot give numbers.

Colin Beattie: Is it the case that we will have to import some of the skills if we can, because everybody is competing for them? Then there is a question of the pricing of scarce skills. The cost could be quite substantial for the right people.

Emma Harrick: I know that some members of Scottish Renewables are facing challenges in that space, but I do not have the detail on that. Some of our members are facing a challenge with finding the right people, and they are implementing apprenticeship programmes and investing in skills development because they can see that it is a challenge.

Colin Beattie: Mia McCarthy, do you have a view on this?

Mia McCarthy: Going back to the question of how transferable these skills are, the Robert Gordon University report “Making the Switch” identified 45,000 people working in the oil and gas industry in the north-east. Of those, 40,000 were in oil and gas, and 45,000 in the energy sector as a whole. The report recognised that 90 per cent of their skills were transferable. The figures that I pointed to earlier from our internal surveys showed that people are transferring over. At this moment in time, people are coming to us.

That transition is happening at pace when you look at renewables, with 40 per cent coming from high-carbon industry, and transmissions will similarly see a lot of people also transitioning. At this moment, people are coming to us. There no barrier to people being able to transfer over, but, as more projects come on stream and bigger projects are built, there will definitely be a need for more people. That figure 40,000 out of 45,000, people with transferable skills is important. If we look at the numbers in oil and gas at the moment, we could probably say that a lot of their skills would transfer over.

On the infrastructure that is being looked at being built, Emma Harrick talked earlier about the transmissions side of the business and the £10 billion that is being invested in that. A potential 9,000 jobs will be required over the lifetime of the pathway to 2030 project. There is great opportunity for jobs on a mass scale in the coming years and, as you rightly say, we need to ensure that we are prepared as we move forward—which is the purpose of us all being here—and that there are the pathways for people to be able to transition. The opportunities will be there, but we need to ensure that the speed at which they are needed will match the speed with which potential employees are trained, which will make the transition as easy and accessible as possible. We need to allow the various things that people mentioned earlier, such as skills mapping, STEM, and all of those combined, to happen, otherwise those opportunities will be missed.

Colin Beattie: Maggie McGinlay, do you have any thoughts on this?

Maggie McGinlay: The national energy skills accelerator is a partnership between ETZ Ltd, NESCol, University of Aberdeen, RGU and Skills Development Scotland. That has focused on understanding what the industry needs and ensuring that the universities and colleges can then respond appropriately to industry needs. It is important for that strong relationship to continue

so that the plumbers or electricians or whatever it is that we need, and the colleges, can respond appropriately and quickly. Funding will, of course, be needed to train the people that the industry needs for the future.

The other part that has not been mentioned is high-value manufacturing, for example. Some of the offshore industry is about robotics and automation, so we need to invest in universities, industry and the type of roles that could be more suited to automation. There is obviously a balance to be struck there, but the National Manufacturing Institute Scotland has some good capability to look at where it could also play a role. Without a doubt, the labour market is tight. It needs a joined-up approach between academia, Government, and industry to work out what the plan needs to look like so that we do not miss opportunities.

Brian Whittle (South Scotland) (Con): Good morning to the panel. I want to tease out a few points that were made earlier.

Obviously, there are significant opportunities for Scotland in renewable technologies. We want a green economy, and we are well advanced in things such as onshore and offshore wind energy. We are doing particularly well in those, but maybe we are behind the curve a bit on things such as hydrogen.

10:00

On the practicalities of a just transition, we have already heard that the growth of the green economy is not matching the decline in oil and gas jobs. That matching is where we need to be for a just transition. How can we create the sector for people to transition into? Are we supporting innovation enough to ensure that we are creating commercial success that gives confidence to those who want to transition and move into the sector?

Maggie McGinlay: There is a lot to be done to accelerate the opportunities in green energy and low-carbon energy—for example, in relation to the planning and consenting for offshore wind projects, and how quickly all of that can happen for companies to be able to progress projects.

There is definitely a need for a more joined-up approach by the Scottish Government and the UK Government so that there is a plan for how to accelerate ScotWind projects. That needs to be a cohesive plan that is about actions—what actions the UK Government, the Scottish Government and the industry need to take so that we can make progress. It will be 2027-28 and then 2028-29, and so it goes on. We need to do what we can to make the conditions right to accelerate ScotWind projects.

The innovation and targeted oil and gas projects that are going ahead are really important. They are about decarbonisation in respect of oil and gas and floating wind. It is really important that they are supported, that the process to get them from a licence to up and running is as streamlined as possible, and that both Governments and industry work closely on that.

On innovation, Emma Harrick mentioned floating offshore wind. That is a massive opportunity for Scotland. Scottish projects are around a third of the global pipeline for floating offshore wind projects. There is great capability there because of our subsea oil and gas expertise, which has been built up over the past few decades.

The issue is how we provide the right environment for those floating wind projects to get the costs down and the scale up. That is about innovation and research and development support. We have a lot of great supply chain companies with innovative ideas about how those can become more efficient. Do they have access to the right funding to help them to progress their ideas quickly enough?

Any offshore energy project is really costly and high risk. There is a definite market failure there that needs Government support to get behind it and reduce the risk.

One of ETZ Ltd's first projects has been to work with Offshore Renewable Energy Catapult to create the national floating wind innovation centre, which is about helping companies to do joint industry projects and to collaborate to try to get costs down and the scale up. Those types of projects are really important, and it is important that they continue to be supported at the UK level through Innovate UK or at the Scottish level through Scottish Enterprise and others.

Brian Whittle: We talk about offshore wind and floating wind platforms, and we have heard about the potential of green hydrogen for the Scottish economy. I am a big supporter of that, but we are very much behind the curve on it. Developing a green hydrogen economy takes significant investment. From your perspective, where do we need to go with that to get green hydrogen economy technologies, for example, and catch up with where we are with wind?

Mia McCarthy: On specific opportunities for the north-east, we can look at our major thermal plant at Peterhead. We can look to develop that as a carbon capture power station. That would be the first one in Scotland, and it would play a massive role in the decarbonisation of Scotland and present huge opportunities. We are looking at an investment of over £2 billion over the lifetime of the project and opportunities for workers there.

That would also play a huge part in meeting Scotland's net zero targets—Emma Harrick and Maggie McGinlay mentioned that in respect of floating wind technology. Transmission, deployment, investment and the workforce that is needed for that are critical. On the Seagreen wind farm off the coast of Montrose, we are talking about 500 jobs there alone.

We should, of course, look at newer technologies. Alongside carbon capture at Peterhead, we should look at the potential for hydrogen there. The networks play a critical role in that. It is all right to generate all of that energy, but how do we get it to the grid and get it out so that it can be used?

There are huge opportunities not just offshore—although I suppose that is the area that is very visible, and people know about it—but in a lot of new technologies. Things are always advancing and constantly moving forward. We must ensure for Scotland and the north-east region in particular that those opportunities are grasped and taken on. In order to do that, as Maggie McGinlay mentioned earlier, the correct infrastructure and planning and consenting process are needed. We should look at all of those things. We should look at the timescales for large infrastructure projects—from start to end, it can take up to 12 years to build a wind farm—and particularly for the transmission networks.

We need people to be trained and ready, and projects to be up and running. All of that needs to happen within a certain timescale in order for us to meet the targets that have been set. We have to look at all the components and create the right environment for everything to come together at the right time to ensure that it all happens. All the various parties and players—Government, local authorities, companies and communities—need to be in conversations to ensure that that happens.

Brian Whittle: We have talked about delivering innovation. It strikes me that we cannot have people working in the oil and gas sector and in the green energy sector, and that we need an influx of new talent into the sector.

We have talked about STEM ever since I came into the Parliament. There is still a very low STEM uptake among women. To me, that is where the biggest innovation has to happen. We talk about 2045. In that timescale, how can we practically deliver STEM training, innovation and encouragement in schools to deliver our 2045 targets?

Emma Harrick: Earlier, I mentioned collaboration. That is where collaboration between industry and Government comes in to ensure that there are STEM programmes. It is about looking at both sides of the coin—at what skills we need and what skills are available—and using that information to map out where to direct investment in training facilities in the right areas. It is about working closely together across the sector and Government on local school engagement and even in colleges and higher education.

One thing about skills development and maximising the economic benefit from renewable energy projects that has not been picked up on is the role of ports and the supply chain. Ports can create skills hubs and offer lots of green jobs, and investment in ports is crucial for maximising the economic benefit from renewable energy. They are the linchpins in delivering offshore wind and green hydrogen projects.

Lots of ports in Scotland and the north-east are already investing. For example, there has been investment in the new south harbour at the port of Aberdeen, which will create new clean, green jobs there. We have also seen investment in the port of Nigg and across the O and M bases in Montrose, Eyemouth and Buckie. The ports are key, and supporting them as green skills hubs will help to move the dial forward on skills development.

A lot of ports—I mentioned the port of Montrose—are delivering their own STEM activity. A collective effort that involves all the supply chain businesses, the developer community and the Scottish Government coming together and implementing all the STEM activities and getting the schools and colleges involved is needed.

The small and medium-sized enterprises community is hugely important. As I have mentioned, a lot of those enterprises are starting apprenticeship schemes, getting young people into the workforce, and skilling them up.

On other technologies, a lot of SMEs are in the heat space. Heat pumps are very new. A lot of SMEs are launching apprenticeships that relate to low-carbon heat pumps. Offering that skill set is also key. The SME community is really important in upskilling.

In summary, a collective effort across the sector, the SME community, the ports, the developer community and the Governments at the Scottish and UK levels is needed.

Brian Whittle: Convener, do I have time to bring in Mr Boland?

The Convener: Yes—briefly.

Brian Whittle: Mr Boland, I want to go back what you said about the difference in pay for electrical engineers in the oil and gas sector and those in the renewables sector possibly being as much as £20,000. That is specifically because electrical engineer jobs in the oil and gas sector are very highly paid—they are paid above what we would expect for an electrical engineer. How on

earth do we square that circle if we are talking about a just transition? Moving from one sector to another would mean a big drop in salary.

John Boland: I suppose that whether they are highly paid is dubious. We have to look at the working conditions, for example. Those are taken on board. We had a similar problem previously in the oil and gas industry being able to attract people. That is what created the current wages.

This week, I looked at some adverts for workers in the renewables sector, particularly in offshore wind. A lot of the salaries that are being advertised are very similar to what are being offered for onshore work, but people working offshore on rotations are being looked for. People will find it difficult to recruit workers into those roles. Somebody from an offshore industry will certainly not be encouraged to move to that. The oil and gas industry realises that, if people are going to be working 14 or 21 days and 12-hour shifts offshore away from their families, there must be a degree of compensation. In our opinion, the renewables industry has not realised that.

How do you round that up? I think that the market will do that. There is a small pool of skilled people—we spoke about that earlier. In my experience, skilled people will generally go where the money is. If the money is not there, industries will find that there is a skills shortage, and their only option will be to compete with the industries that are paying higher wages.

Gordon MacDonald (Edinburgh Pentlands) (SNP): I apologise for being late to the committee this morning, which was due to the traffic. Much of what I was going to ask about has been touched on. However, I want to ask a couple of specific questions, the first of which goes to John Boland.

A couple of times, you have mentioned the need for a universal training passport so that people can come from the oil and gas industry into—predominantly—offshore wind. Can you give us an idea of the cost for somebody who is trying to make the transition without the universal training passport?

John Boland: The cost is approximately £2,000. At the moment, people have to go through separate survival training courses. Some elements are different, which we accept, but a lot are very similar. We have been calling for that to be addressed for a number of years. In the case of people who are interested in working in offshore wind whose existing employer is in offshore oil and gas, their employer is not going to pay for them to do the certification to move someplace else, so they would have to fund it themselves, and £2,000 is a lot of money to pay for certification for another industry when people do not know whether they will get a job in it.

It is an even bigger burden for people who have been made redundant by the oil and gas industry because there is no support for them to get the training that they need for the transition.

Gordon MacDonald: During the transition period, which will go on for a reasonably long time, especially since the UK Government has made available more licences for oil and gas, we will have to juggle the need for workers in the oil and gas industry for the next 10 or 20 years with the need for workers for offshore wind, which is proving to be successful. We generate surplus electricity in Scotland, which we send south of the border. There is also huge scope for hydrogen.

Colin Beattie touched on the difficulty in attracting enough workers. I am aware that only 36 per cent of workers in the oil and gas industry in the UK are in Scotland. What is the UK Government doing to try to tackle the problem, given that only 36 per cent of oil and gas workers are in Scotland?

10:15

John Boland: We estimate that the split between Scotland and England is nearer 50/50. In Scotland, those people are predominantly in the north-east and some are in the west, and in England they are usually in the north-east and north-west.

Could you repeat the question?

Gordon MacDonald: The call has been about what the Scottish Government should do. I am saying that in the oil and gas industry in the UK—whether the split is 50/50 or the UK Government's figure of 36 per cent is right—a lot of the workers in oil and gas are not in Scotland, but are elsewhere. What is the UK Government doing to tackle problems that face the energy industry?

John Boland: In my view, it is doing very little. As you said, the oil and gas workforce comes from across the UK. Obviously, it is a big issue for Scotland because the oil and gas are off the shoreline of Scotland, but it is also a big issue for the whole UK. If those jobs go, that will affect communities across the UK. We have seen that happen in previous downturns. So, yes—the UK Government's input is needed to support things, moving forward. The UK Government is involved in the skills passport discussions, but I feel that there needs to be a wee bittie more drive.

Gordon MacDonald: Does anybody else want to come in on that? Maggie?

Maggie McGinlay: Where we have seen success is where there has been joint UK and Scottish Government input. The Aberdeen city region deal is a good example of that. It led to the establishment of the Oil and Gas Technology

Centre, which is now called the Net Zero Technology Centre. It has delivered a huge amount of technology development for net zero as well as for oil and gas.

The investment zone status of the north-east of Scotland is another example of joint working by the Scottish and UK Governments. From my perspective, the energy transition zone, which we are involved in, also got UK and Scottish Government funding. A combined effort that recognises the outcomes that we are all looking to deliver and that considers how we can best utilise different levers to deliver the outcomes can make an impact.

Gordon MacDonald: Does anybody else want to come in?

Mia McCarthy: No.

Gordon MacDonald: My second point is about oil and gas workers' transferable skills. If they do not have work in the UK, they can go to Gabon, Venezuela or all over the world, and vice versa—people can come here. The Offshore Energies UK report highlighted that in recent years, 27 per cent of EU workers in the North Sea have left and 54 per cent of non-EU workers have left, which is around about 3,000 jobs in total. What needs to change in the UK immigration system to attract workers so that we can juggle the three balls of offshore wind, oil and gas, and hydrogen?

Mia McCarthy: I cannot speak about the immigration system.

Gordon MacDonald: Is there a need for foreign workers?

Mia McCarthy: I will go back to the figures that I presented earlier for SSE and speak just for SSE. People are transitioning to us. The roles that need to be filled are being filled, for now. I do not have figures on how many people with immigration status are taking up roles with us. There could be people from outside Scotland among those who are taking the roles; I am sure that there are, but I do not know. However, I will say—speaking from SSE's experience, rather than about the national situation—the transition is happening at pace, which is great for now.

Maggie McGinlay: The North Sea oil and gas industry has been a global industry from which we have seen the benefit to Scotland because so many people have spent time working all over the world and have brought their knowledge and expertise back, and vice versa. Our university sector benefits hugely from that, too, in terms of income from students coming to study here because they recognise that Scotland has strong credentials in offshore energy in particular, which has benefits for the student experience.

We would like the renewables sector to become as successful globally as oil and gas have been for Scotland. Success would look like floating offshore wind and all the knowledge, capability and know-how that we have built up in Scotland being exported around the world. It stands to reason, therefore, that having a mobile and global outlook is really important for the success of the industry.

Murdo Fraser (Mid Scotland and Fife) (Con): I would like to change direction a little bit and ask about the just transition fund. We took some evidence last week from community groups that have benefited from the fund. We also heard different views on the way the fund was being administered by the Scottish National Investment Bank.

I would like to start by asking you whether you have any particular view on the just transition fund generally. Do you think that it is appropriate that it is being handled by the Scottish National Investment Bank, as opposed to another body? Is there enough transparency around the fund and how it is being administered?

John Boland: That is not an area of expertise of mine. My only involvement with the just transition fund has been to do with the skills passport, which I think had about £1 million from the just transition fund, which obviously helped to move the skills passport forward. If it is put in place, I will say that that is a good example of success.

My question would be about what checks and balances the Scottish Government has in place so that it knows how the money is being used and whether it is getting value for money.

Maggie McGinlay: We have been delivering just transition fund projects, so I can give our perspective.

We successfully bid for the supply chain pathway and challenge fund which is to help supply chain companies—I am talking mainly about small and medium-sized companies—to understand the nature and scale of the opportunities that are coming from offshore wind, green hydrogen and so on, and to help them to think about what investments in capital equipment, buildings, infrastructure and so on they need to make to ensure that they can go after those opportunities.

The challenge fund part of that has been grant funding that has supported 11 companies for their first pilot. We are about to announce another 14 companies that have benefited. About £3 million in grant funding has levered in another £5 million of private sector funding and is—which is most important, of course—delivering and maintaining

jobs as well as reducing emissions. That will all be monitored and evaluated.

We believe that the project is making an impact. We were fortunate that it has been a three-year project, so we have been able to employ someone to deliver the supply chain pathway and challenge fund—to make sure that it is delivering benefits to the supply chain and creating jobs. Having a multiyear view has been very helpful.

Our other project has been the energy transitions skills hub, for which we got £4.5 million from the just transition fund, additional funding from the Scottish Government's emerging energy technologies fund and £1.8 million from Shell, with North East Scotland College operating the hub. It will be a physical infrastructure and energy transition skills hub to make sure that we can provide skills for the future.

We feel that those are tangible examples of how the just transition fund is being used very positively. There has also been funding from the national energy skills accelerator, which I have touched on already. Those are some practical examples.

The SNIB funding and financial transactions are helpful for a certain scale of company looking to do things. I ask that we think about the future of the just transition fund. Those of us who will be involved in bidding for it need to know what it will look like over the next three to five years so that we can plan accordingly and get the right projects in place.

It is very difficult if there is just annual funding. Often, projects do not start until October and have until the end of March to deliver. That brings with it a raft of pressures. We would like to have a line of sight to what the just transition funding looks like—we want it to be multiyear and to be a mix of grant and financial transactions. Financial transactions have a place. However, they do not always work—in particular, in trying to encourage more innovation and research and development among small to medium-sized companies, for which grant funding is important.

There have also been challenges around where intellectual property resides. If we want to make an impact with funding, the IP has to be with its originator.

I concur that the just transition fund has been very helpful. It is making an impact, but we need to know where it is going and what the future looks like for it, so that we can collectively make sure that we are make an impact with it.

Murdo Fraser: Thank you. That was a very helpful and comprehensive answer.

On innovation and new technologies being developed, is there enough awareness in companies in the sector about the just transition fund? How easy is it to access that fund?

Maggie McGinlay: Do you mean the recent tranche from the Scottish National Investment Bank?

Murdo Fraser: Yes.

Maggie McGinlay: Levels of awareness are mixed and there is a wider issue for small to medium-sized companies. The Aberdeen & Grampian Chamber of Commerce survey that was announced yesterday reiterates that. It is quite difficult for small to medium-sized companies to know about and have the time to work out where all the different funding streams are. That is a challenge. There is definitely something to be done in making it easier for SMEs to understand the funding options that are available to them and how to access them. For example, we have discussed with SNIB putting on a roadshow so that supply chain companies can find out what Scottish Enterprise offers, what SNIB offers and so on. The wider issue is about visibility of funding and helping to make it easy for companies to understand what is available.

Murdo Fraser: Thank you. That is very helpful. Does anybody want to add anything?

Emma Harrick: On SMEs, I agree with everything that Maggie McGinlay said. The fund has been impactful and some of the things that it has delivered have been very positive.

For the future, it should be about supporting the SME community. As I mentioned, SMEs are the backbone of the supply chain in renewable energy and there are two areas in which they can be supported. One area is scaling up and enabling them to grow, to increase their competitiveness and to invest in their facilities, skills and equipment. There is a grant-funding side to that.

The other area is support for the supply chain in scaling up in terms of business improvement. There are already some great initiatives—Maggie McGinlay mentioned the enterprise agencies and so on. Through the Offshore Wind Growth Partnership, there is a great holistic business improvement programme. Supporting businesses to grow through establishing an offshore wind supply chain development scheme and helping them go through programmes like that is very important. For the future, it will be key that we consider both sides of the coin—funding and support for SMEs.

Murdo Fraser: Thank you.

Mia McCarthy: I will be very brief. We are very supportive of the fund and its ambitions. We have not interacted with the fund to date, but we encourage the Government to look at the role of enabling infrastructure—such as ports, which

Emma Harrick mentioned earlier—that is so crucial to ongoing operations. A new offshore wind supply chain fund should focus on port upgrades; we should maybe incorporate that into the shape or framework of the fund, going forward.

Maggie Chapman: Good morning, panel, and thank you for your comments so far. I want to extend the conversation on the just transition fund. I also have a couple of questions on the supply chain and community engagement.

In relation to the wider supply chain—Emma Harrick just talked about the importance of SMEs in the energy supply chain—how targeted do you think the just transition fund should be in supporting the supply chain specifically?

Emma Harrick: The JTF should be targeted very much towards supporting those businesses, which are where the green jobs are created.

Mia McCarthy mentioned ports. There is a lot of work going on in the sector on ports and investment through the SNIB and the strategic investment model. As I said earlier, ports are the linchpins of our offshore renewables activity, so supporting them is key. The growth of ports will have a knock-on effect on the wider supply chains that the ports use, so using them to maximise economic benefits from renewables is important. So, yes—I think that the fund should be very targeted towards SMEs in the supply chain.

10:30

Maggie Chapman: Does there need to be an understanding that the supply chain in the broader economy is part of the broader remit of the fund, so that we are focused on not just the energy economy but on everything that supports it? You highlighted some companies that are already doing that.

Emma Harrick: Many businesses in the supply chain are not just working in renewables; they will also be working in rail, the defence sector and food and drink. Many businesses have transitioned from food and drink into oil and gas and are now transitioning into renewables. It is a holistic thing—there are skills in other areas and capabilities in fabrication, and oil and gas companies can develop within renewables. I agree that we should have a holistic approach to the supply chain.

Maggie Chapman: Mia, how can we support the renewables supply chain and what are the barriers? Other than the JTF, what incentives does the Government need to consider to support supply chain development as well as supply chain activity to support renewables?

Mia McCarthy: Emma Harrick has covered very well a lot of the work that is being done. It is about encouraging businesses to access various funds to support the work they are doing and giving guidance.

Sorry, but could you repeat the question?

Maggie Chapman: We hear quite a lot about challenges in the supply chain and understanding where those challenges come from, what the barriers are and how we can unpick them. Obviously, money is one thing, but do we understand the broader strategic landscape of Scotland's supply chain? I am thinking in broad terms about our renewables industry—it is about the broader strategic picture, not just the specific links.

Mia McCarthy: In terms of the project pipeline, supply chain businesses need to be involved and have certainty about what is coming down the track so that they can plan out. It is about looking at streamlined planning and consenting processes to support that.

On strategic funding, you mentioned the just transition fund, but we need to look at other areas where innovation and new technologies in the supply chain can be supported.

Circularity is another area. Work needs to be done with the industry to establish a circular approach for replacing onshore and offshore wind components. More widely—as you say, it is not just about the core areas—we potentially need to establish targets around re-use, refurbishing and remanufacturing. Within that, support is needed for wider workforce growth in terms of the new industry around the circularity piece.

To go back to ports and the ability to support the supply chain, it is about enabling the infrastructure and allowing Scottish ports to play a crucial role in delivering net zero and unlocking the supply chain. It is also about investment in upgrading that infrastructure.

Maggie Chapman: You mentioned remanufacturing. Do we support primary manufacturing enough in Scotland in order to not only have the associated jobs but make supply chains more reliable, resilient and adaptable, because they are locally controlled?

Mia McCarthy: In the first instance, that would be the key priority but again, as we move out, we need to look at the circularity piece and build the infrastructure around it. At the moment, the approach is quite exploratory in certain areas. Things are at an initial stage—we are almost in pre-development. With the skills shortage, we are now doing things on STEM in schools in order to have people ready and prepared in 10 years. We need to look now at what is needed on the circularity piece to ensure that there is more development and growth in that area.

Maggie Chapman: John, what trade union engagement or discussions with your colleagues has there been on where support is needed to secure supply chains and make them resilient and long term?

John Boland: Supply chains are obviously vital, because of the number of people that they employ. We have touched on the issue of the visibility of the work—seeing what the work will be is a problem for the supply chains. From our point of view, a big movement would be having the manufacturing base in Scotland. That would create work for the supply chains, and it would create jobs that could be more in the near term rather than the longer term and would, we hope, fill some of the current gaps.

Maggie Chapman: You talked about creating secure jobs. Do you see that as applying across industries and sectors and not just those that are focused on energy?

John Boland: Yes. As has been said, the supply chain works in various sectors, so having that manufacturing base would support all those sectors as well.

Maggie Chapman: Maggie—it is nice to say hello to another Maggie—I have a similar question about supply chains. From ETZ's point of view, where are the barriers to ensuring that we have the support for manufacturing running through supply chains across your activities?

Maggie McGinlay: One of the challenges faced by a lot of the indigenous supply chains that have predominantly built up their expertise around oil and gas is that, if they want to make new investments to be ready for offshore wind or other green energy opportunities, they often do not have the contract in place for that work. The Scotland projects, for example, are still going through their final investment decisions. Therefore, there is a risk that there will be a bit of a gap. The supply chain companies cannot get the funding, because they do not have confirmed contracts and therefore cannot make the investment that is needed now. However, they are expected to be ready in 2026-27 when the contracts come from the developers, for example.

That is a real issue. It would be good if the Government could try to get its head around that to see if anything could be done about it. There is a worry that some supply chain companies cannot put in the investment that they know that they need to make to get ready for offshore wind, which means that, by the time that they get the orders, they will not be ready for the developer. It is difficult to unpick that. To an extent, grant funding from the just transition challenge fund, which I mentioned, has helped to unlock that a bit, but it can only do so much. That is the challenge.

On inward investment, John Boland mentioned gaps, and the gaps in the supply chain are now well understood. We need to ensure that we have a co-ordinated effort, through Scottish Development International and the Department for Business and Trade, to consider where there are opportunities, what sort of companies we should be attracting and the best locations for those companies, depending on their requirements in terms of scale and workforce. Having that highly co-ordinated effort to attract new inward investment into Scotland is an important part of the supply chain.

The challenges are about how to grow our indigenous supply chain as we are transitioning and how to attract new investment.

Maggie Chapman: That is helpful.

My second area of questions is around community engagement. At the start of today's conversation, we had an interesting discussion about the definition of just transition and the role of businesses, companies, communities and workers. The just transition lab, which is based at the University of Aberdeen, talks about the integral roles of equality and wellbeing, democratic participation, and community empowerment and revitalisation—they are not nice add-on extras; they are fundamental and integral to the "just" bit of the just transition.

Staying with Maggie McGinlay, at our community engagement session last week, we had conversations about St Fittick's park. There is a clear sense of injustice in that area. Old Torry was cleared for the oil and gas industry in the 1970s. Torry has an incinerator, and Aberdeen sewage works, and it has just lost its beach to the south harbour development. What do you see as ETZ's role in community engagement, focusing particularly on the community justice aspect of ETZ's operation?

Maggie McGinlay: At ETZ Ltd, we clearly see our role as being about supporting business to be successful and supporting the community around it to be successful, particularly the Torry community. We have in place a raft of suggestions for projects. It is important that the community wants the projects and that they are not imposed. We have a range of mitigation measures in place. We are also working on a community fund, which is about supporting the community and projects that the community wants.

A jobs and skills plan is in place, which we can circulate to the committee if that would be helpful. It sets out clearly how if, for example, an inward investor comes in, we can ensure that a lot of the jobs and benefits would go to the local community. That would be specifically about apprenticeships and the guaranteed interview scheme that

Aberdeen City Council already runs. We have a community lead, whose role is to work directly with communities at an individual level to understand what issues are important.

We are also working on the landscape vision for the whole area of the energy transition zone. That is about how the need for green spaces, biodiversity and active travel sits firmly alongside what the community wants and what we need to attract an industry and a workforce around it.

We are looking at the issue holistically. We are listening to community concerns and to industry needs and trying to work them together to deliver the right outcome for everybody. It is about understanding what the community wants but also understanding how we deliver sustainable jobs for the future and do not miss out on the big economic opportunities for Aberdeen and the region. There is a balance in all of that.

Maggie Chapman: You talked about mitigations and a balance. I suppose that the argument that some in Torry would make is that they have already been compromised for 50 years, through losing houses and community facilities. There is not really a mitigation for losing the last remaining green space in the area—once it has gone, it has gone. There is also the issue of the wetlands there. How can we be genuine in our intention to have a just transition when we know that life expectancy in Torry can be up to 10 years lower than is the case just across the river, and that the loss of green space is about more than just trees, grass and wetlands; it is about supporting a genuinely healthy community? How do you see those mitigations making up for the potential destruction of the last remaining green space?

Maggie McGinlay: The proposal is not to destroy the last remaining green space. The local development plan was approved by the Scottish Government and Aberdeen City Council, and we have worked very hard to look at how we can minimise the use of the green space but maximise the economic impact from it.

The proposal is to use just under a third of St Fittick's park and the area next to the waste water treatment works. It is not about losing the wetlands; it is about retaining the burn and the wetlands and in fact improving the wetlands and the water quality. It is about improving accessibility to the park. Importantly, it is also about putting in place a maintenance plan so that the park can be maintained. The community did great work around the wetlands. However, it has not been well maintained and there are a lot of invasive species there.

It is about putting in place a plan for the maintenance and improvement of the green space that will remain and doing so in a way that is very much what the community wants. The proposal is about improving the quality of the green space and looking at how we can improve accessibility to neighbouring green spaces. For example, Tullos woods is a great lung in the heart of the city but, at the moment, it is not particularly safe, it is not well lit and people can get lost. There are some obvious things that can be done to improve path networks, signposting, lighting and safety, and on maintenance of the historic churchyard and so on. We have engaged extensively with the community to understand the concerns—there are many concerns—and how best we can help mitigate and/or put in place a long-term plan to make improvements overall.

10:45

Maggie Chapman: Can I ask one final short question, convener?

The Convener: If it is brief. Kevin Stewart still wants to ask questions.

Maggie Chapman: Thanks.

I want to ask John Boland about community engagement. Has there been enough conversation and engagement with, and listening to, workers and the communities that they come from and support with regard to the just transition in the round?

John Boland: The simple answer is no. If you asked most workers about the just transition, they would struggle to tell you what it is. We had a discussion earlier about trying to define what a just transition is. Workers are interested in having the security of a job. That is what they want and, if that is what a just transition is, they will be happy with that.

Kevin Stewart: There has been quite a lot of talk today about collaboration. We have just touched on communication, and I want to concentrate on collaboration and communication. Let us start with collaboration, because I think that it is in all our interests to ensure that the north-east does not just survive but continues to thrive. I think that most folk from the area would agree that that should be the case.

To get to that point, we all have to collaborate. Ms Harrick, in particular, has talked about the collaboration that exists across the industry. Is there enough collaboration between Governments—the Scottish and the UK Governments—industry, academia and communities for us to get this right?

Let me give you an example. Ms McCarthy said that it sometimes took 12 years to get a major project all the way through from planning to consent. We recognise that we do not have a huge amount of time to make the just transition.

What do we need to do by way of collaboration to get the Governments and all the other parties, such as industry and communities, to understand that we need to do this a bit more speedily than we are at the moment and to be a bit more flexible as we move forward? Maybe Ms McGinlay would like to answer first.

Maggie McGinlay: I agree that collaboration is absolutely critical. There are good levels of collaboration. I can name lots of examples—in the north-east, in particular, the regional economic strategy, which provides the framework against which the just transition funding and everything else should be looked at, is an example of collaboration in practice between all in the private and public sectors.

I agree—I feel that we need to have a shared sense of the outcomes that we are looking to deliver for the Scottish economy and of how we can all play to our strengths to deliver against those outcomes. We need to know what the roles are of the Scottish Government, the UK Government, industry, organisations such as us, the public sector and so on. If we had a shared plan, that would help to focus minds and would ensure that we could all play to our strengths.

Collectively, we all know what needs to be done to unlock the low-carbon and green energy opportunity but, for some reason, there is no clear action plan for the action that everyone needs to take so that we can all play to our strengths and deliver against that.

Kevin Stewart: Does anyone else want to come in on that?

Emma Harrick: I agree with Maggie McGinlay that there is some good collaboration going on. One good example is the strategic investment model that I mentioned, which is around port investment. It is bringing together the developers of ScotWind and the Scottish Government to see how we can progress investment in ports. That is an important step, but it is also important that we expand that to the financial community to unlock investment through guarantee schemes and so on.

I also want to pick up on Maggie McGinlay's point about setting the direction. The industry welcomed the draft energy strategy and just transition plan as a potentially transformative piece of work. It was due in the spring of 2022. There has been a delay of more than two years. Setting out that plan and getting it published is key to setting the direction. That picks up on Maggie McGinlay's point about the need for a plan and a direction.

I agree that collaboration is key, but I think that it starts at the plan stage.

Kevin Stewart: A number of you have talked about port infrastructure. That is extremely important as we move forward, but some of the proposed changes to ports are quite controversial. Aberdeen south harbour did not get by without a wee bit of controversy, but now the vast majority of people would agree that it was the right thing to do, not only for Aberdeen but for the whole of the north-east, as we move forward. We can already see business transferring to Aberdeen that would not have gone there before. How do we get around such projects, which are often controversial? How do we explain to communities the necessity for such changes in order for us to get to a stage at which we can not only survive but thrive? I do not know who wants to answer that. Business has a big part to play in communication with communities.

Mia McCarthy: When it comes to that engagement piece and how we explain things to communities, we need to take a step back. In relation to the initial engagement that takes place, Maggie Chapman mentioned the research by Aberdeen university. At the moment, we are involved in a collaboration in Aberdeen that involves Aberdeen university and others. The key to all of that is having community representation that can lend the community's voice to the discussions. As you said, historically—back in the 1970s, 1980s and 1990s—people in particular parts of Aberdeen city and the surrounding areas felt put upon and not engaged in the process of transformation or transition. You can have any number of great ideas about what would be lovely for a community, but if you do not go and speak to the people and present your ideas to them, you could be doing completely the opposite of what they need.

We must also recognise that a community is diverse and is made up of many different thoughts, people, backgrounds and all the rest of it. Sometimes, it might be the voices of those who shout the loudest that are heard, while the voices of others who should be heard are not heard. It is an intricate process that needs to be worked through very carefully to ensure that nobody gets left behind and that voices that are not being amplified are still heard.

At the end of all this, though, for business, there are certain remits that we have to work within—for example, around the planning and consent process in a local authority. We would set out to engage, include and collaborate on everything but, of course, there are always external frameworks that set what it is that you might ultimately need to do. However, it is important to have everybody's voice at the table from the outset. That might sound a bit twee, but it is true, because for us to be able to operate in the way that we do and to build out the infrastructure, we need to have public

support on board. Issues will always arise, but it is the fact that we are open and transparent and can engage with people that ensures that the process goes through.

Kevin Stewart: What about you, Mr Boland?

John Boland: If you want to get public support for a proposal, the public need to see how it will directly benefit them. We were speaking about the early days of oil and gas in Aberdeen. If we take Shetland, for example, the way in which the issue was dealt with there was that the benefits came to the local community—there were leisure facilities in every village and so on, which were funded from the common good fund that was set up. There are ways of doing things that bring communities with you, because they see that, overall, there is a benefit to them.

Kevin Stewart: And, as you said at the beginning, in order to have thriving communities, we must have jobs.

I want to move on to the issue of certainty, which is difficult when we are in a change phase. When Governments change tack at various points, such as we have seen with the UK Government's climate change ambitions being diluted, what does that lack of certainty do to industry in particular? What does it do from the point of view of investment and confidence among industry members?

Emma Harrick: To start with some positives, the fact that the Scottish Government has a cabinet secretary for net zero and just transition signals a clear message, and the just transition fund itself shows action, but further policy certainty is required. If there is uncertainty, investor confidence is challenged. We have had some disappointing announcements, with projects such as Vattenfall's Norfolk Boreas project falling out of the pipeline because of that uncertainty.

As I mentioned earlier, the energy strategy and just transition plan is key in supporting the direction there. We also look forward to seeing the green industrial strategy that was announced by the First Minister as part of the programme for government. Such policy documents will go towards supporting confidence and clarity. From a supply chain point of view, uncertainty challenges the investment piece. Maggie McGinlay mentioned the gap between investing in ports and investing in skills and capabilities. If we do not have a clear pipeline, it is much harder to justify that investment, and accessing private investment is much harder.

We need to ensure that the pipeline is certain and, to do that, we must address some of the challenges that we have mentioned. Among the key challenges are the grid and the route to market at UK level through the contracts for difference. We need to make sure that investor confidence and the economic model are there. Without projects, there is no supply chain and there are no jobs, so we must ensure that the pipeline is there.

Kevin Stewart: Does anyone else want to come in on that?

Maggie McGinlay: Certainty and confidence are critical not just for investors and companies that are looking to invest, but for the workforce. We talked about the challenges in encouraging people into the energy industry. Uncertainty does not help those people if they are looking for career choices.

Another issue is the fact that there is huge competition from what the US and Europe are doing on renewables. It is a global market, and we are competing in that global market for supply chain, for people and for investment. Certainty from the UK and Scottish Governments is critical to ensuring that this a managed transition, and that it is not about either oil and gas or renewables but is about both. That is so critical if we are to be successful; otherwise, we will not reap the opportunities of everything that we have talked about.

John Boland: I agree with what has been said. Uncertainty does not help from a workforce point of view because uncertainty about oil and gas could lead to a quicker end for some of the jobs out there, and uncertainty about renewables will stop projects going ahead. On both counts, we will have lost jobs.

Kevin Stewart: Convener, I would like to make one final point.

The Convener: We are very pressed for time.

Kevin Stewart: I will be very brief.

Aberdeen and the north-east have been a global player in the oil and gas industry—top of the tree—and I am sure that we all want the same to be the case in relation to renewables in the future. I could ask lots more questions about planning and consenting, but I wonder whether the witnesses could oblige us by writing to us on how they think that the planning and consenting system could change in order to be beneficial for the just transition.

The Convener: We have already heard some evidence on planning. If there is anything else that the witnesses would like to give us in addition to what has already been said on the record, we would happily receive it.

I thank the witnesses for giving us their time this morning. You have been very generous with your time.

I suspend the meeting briefly for a changeover of witnesses.

10:58

Meeting suspended.

11:06

On resuming—

The Convener: I welcome our second panel of witnesses: Professor Paul de Leeuw, director of the Robert Gordon University ernergy transition institute; Gordon McGuinness, director of industry and enterprise networks at Skills Development Scotland; and Suzanne Sosna, director of economic opportunities and climate at Scottish Enterprise.

I will start with a question that I posed to the first panel, which was about definitions of a just transition, which is an area that the committee is interested in as part of our inquiry. I come first to Paul de Leeuw. Do you think that there is a shared understanding in the north-east and Moray of what a just transition is? Should we be measuring it? How will we know whether it has been delivered?

Professor Paul de Leeuw (Robert Gordon University): That is a great question. I think that the answer is no. There are a lot of people who live and work in the area, who will all have a different flavour of what just transition is, but I will talk specifically about the workforce.

The committee will probably have heard some things about this from the first panel and in previous sessions. We estimate that 50,000 to 60,000 people work in the industry, and they will all have a slightly different flavour. They know what the end point is—it is net zero—but they have different starting points. Everybody in the workforce has a different journey, and everybody who lives in the area has a slightly different perspective. Therefore, it would be really helpful to clarify what the destination is and how we can help people on their journeys as they go through them. People have different starting points, and they need clarity.

Some great work has been done in Scotland on the just transition planning framework, which includes some nice bullet points. However, I think that we need a bit of Google translation to make it real for people, because they are lovely statements, but it not really clear what they mean for a person in the street or a person in a job or at work somewhere. We need to help people on their journeys towards a common destination.

The Convener: A lot of the discussion this morning has been about a skills transition for people who were in employment in the oil and gas sector so that they can move over to the renewables sector, but what does it mean to call it a just transition? Are there different areas? What should be measured? What makes it a just transition rather than just a transition from one sector to the other?

Professor de Leeuw: Building on what I said, change is hard because it means that we need to change our lifestyles and how we are going to do something, and people need to make different choices. Some people already live in a well-insulated home, whereas others—like me—do not. Therefore, it is a different journey. We need to ask what "just" and "fair" mean, but I think that we also need a few more words. "Managed" and "co-ordinated" probably need to be added to the definition, because it needs to be a very thoughtful, managed transition.

When I look at the national just transition outcomes, the eight definitions work for me—I can see that those are a pretty good way of describing a just transition. However, we should remember that everybody's journey is different. What a just transition means to you is different from what it means to me. I think that we need to help people with how we translate that and with what "fair" looks like.

The Convener: I will come to you, Suzanne Sosna. Paul de Leeuw has said that it is perhaps difficult to find a shared understanding of the just transition, because everybody's starting point is different. What does it mean for policy makers or agencies such as yours if there is not a common understanding of what we are trying to deliver and what we are trying to measure?

Suzanne Sosna (Scottish Enterprise): I would absolutely concur with the point that Paul de Leeuw made about managed transition. In our view, there is a very good collective understanding about the end goal. We can all see what has happened in the past and we understand that we do not want what has happened in the past to happen again. We want a new future where people are not damaged and badly affected by change, and we want to manage the change in order to mitigate the risks and reduce the possibility of that happening to people and to communities.

From our perspective, a just transition is about the individual, the collective and the environment. It is about the collective in the sense that it is about communities, of course, but it is also about companies. If we think about it as being a just transition for companies, what does that mean for a company that is a supply chain company in the oil and gas sector? How does it maintain or grow its turnover and profitability? How does it retain its staff and grow their skills? It has to be a just transition for the company as well.

Increasingly, we talk about how the energy sector transition has to be inclusive of all the different components. There needs to be a just transition for the whole sector: a transition from a sector that is dependent on fossil fuels through to the new multifaceted energy sector that I think that we will have. We have talked about offshore wind and hydrogen, but there will be lots of components of that sector, and some of those are more important in Scotland than others. It will not just be one solution; it will be different solutions for different applications.

We need to think about the just transition in the whole. I concur with Paul de Leeuw—we heard this from the first panel as well—that having an end goal is great, but we need to have a road map. We all need to pull together to make the road map that will show how we are going to get from here to there. Of course, there will be all sorts of little journeys in that, but we need the plan to get us to that end point. We have a lot of agreement around the end goal.

The Convener: Is enough being done to set out that route map for Moray and the north-east or to bring together the people who need to be speaking to each other to create it?

Suzanne Sosna: A lot is being done. I sometimes have the impression that in every meeting room in every building that I am in, people are having these conversations. There is a vast amount of collaboration and there is recognition from industry that there is enough in this for us all, in terms of market share, and that there are many, many opportunities. There is more ready collaboration than perhaps there was before.

On having that road map, I do not know whether we are quite there yet. Obviously it will change—as soon as you write a plan, it will change—but if we all have a consistent picture of how we are going to get there, we can all get behind the same thing. There is a lot of collaboration—more than ever before.

I think that somebody talked earlier about timelines. It took more than 50 years to build the oil and gas sector, which has been tremendously successful in the north-east. It has been game changing for Scotland and it is hugely important. However, we recognise that we do not have 50 years now. We are in a globally competitive environment and we just do not have the luxury of time. There is a question about making plans, and there has to be steady progress in that planning process, because we cannot take too long about it.

The Convener: Gordon McGuinness, do you think that there is a shared understanding of the definition of just transition? How do we measure whether we are being successful?

Gordon McGuinness (Skills Development Scotland): If you asked the man in the street, he would probably not say that there is a shared understanding. I am comfortable with the Just Transition Commission's definition, in terms of an equitable journey, particularly for those whose livelihoods are impacted. We need only to look back at the closure of coalfields and mines and the impact that that had across communities. I was brought up in Kilbirnie, and we suffered the same with steelworks closures. That is how not to do it.

11:15

In the north-east, we are very fortunate: we have a well-paying industry that has gone into a managed decline and a fresh green industry that is growing. That is a unique position to be in, with regards to the scale of employment. I have done a lot of work with the partnership action for continuing employment over the years. If a company is closing, it is always good if something else is starting up. We can see that on a regional level, so I think there is a lot of optimism.

Timing is a challenge. Some of the companies that are coming in are new companies to Scotland. Apprenticeships are a four-year programme, so there is a challenge in terms of when companies will arrive and when they can commit to start recruiting and developing the young workforce. The gap period in between those points is when people at Scottish Enterprise, SDI and ourselves will have to be working hard on labour market interventions and support for companies, including the stuff that Suzanne Sosna and her team will do with supply chain development.

The Convener: Paul de Leeuw, I will come back to you before I move to Colin Smyth. You have said that the just transition can be different things for different people or different sectors, but is enough being done to create a route map? Do we need a framework to recognise progress points? We all know what the end point is, but does more need to be done to set out how we get there?

Professor de Leeuw: We had the pleasure of writing a report last year called "Making the Switch", which was particularly focused on the energy sector transition in the north-east of Scotland. It was written for the Scottish Government. We outlined four scenarios for the region, from a global energy hub, in which whatever we do in oil and gas now, we do for renewables on steroids, to something that we call "regional decline", which is not dissimilar to what Gordon McGuinness was talking about earlier with regard to coal or steel towns. There was a huge range of outcomes.

There is a real shift happening. The reason why I say that is that if you look at the workforce in the north-east of Scotland—Aberdeen and Aberdeenshire—you see that roughly one in five of the people who work there either works in or supports the oil and gas industry and the offshore energy industry. If look at the induced jobs, you see that the number is one in three. If the energy industry does not work, the region, at the moment, will not work.

We wrote the report to look at the difference between the outcomes for the best case, which is the global energy hub, and the worst case, which is regional decline. There are very stark differences between outcomes. Currently, around 45,000 people, plus or minus a bit, work in the offshore energy industry. If we get it right, collectively, we add 20 per cent more people to that figure; if we get it wrong, we lose 40 per cent of those people by 2030. The difference between those outcomes is hugely clear cut.

On your question of whether we have a route map, I do not think that we have a route map clear enough to get us to the winning outcome. We have a very good road map to get us not to the winning outcome; it is called “stop investing”. We are not investing enough in the oil and gas industry or in the renewables industry to get to the outcome that we want.

Is there more work to be done? Yes. Is there a good outcome for the region? Absolutely. Does it require effort from all parties involved to get us there? Yes, we certainly think that, and we made that very clear in our report last year. If the report has not been circulated to the committee, I would be delighted to get it to you after the meeting.

The Convener: Thank you.

Colin Smyth: Good morning. I will kick off with some specific questions around the challenge of skills shortages. There was pretty much universal agreement from the energy sector and trade union representatives whom we heard from this morning that we already face skills shortages within the energy sector. Gordon McGuinness, in your submission you state that SDS and partners have developed a good understanding of the emerging picture. Could you say a bit more about what that actual emerging picture is? Where are those current and emerging shortages that are a threat to delivering that just transition?

Gordon McGuinness: For us, the shortages are not just in oil and gas. There are shortages in aerospace in Prestwick, with 450 vacancies, and there are large numbers of foreign nationals working in shipbuilding and the marine sector on the Clyde at additional cost That is a challenge, and it is right across Scotland. Hinkley Point has 22,000 people working on it just now, and there are lots of Scots down there on contracts. Such projects are big draws—it is called a labour market for a reason, which is that it performs as a market. Oil and gas pay a premium, which is why, as you heard from John Boland, there is a reluctance on the part of some people to move across into renewable sectors.

What we have done so far is work with the Offshore Petroleum Industry Training Organisation and Opergy, we have done an analysis that builds on the work that Paul de Leeuw and the team at RGU have done, and, in conjunction with the Scottish Offshore Wind Energy Council, we have teams working through data from the Offshore Wind Industry Council. That is now the developer’s plan, and there are now timelines for when those things will happen. That is based on consenting processes and when plans will be approved.

As has been touched on a couple of times today, there is a strategic collaborative framework, and there are 44 bids into that for port and manufacturing facilities being assessed just now, which amount to £4 billion. Not all of the 44 will be approved, but the development of ports and harbours will determine where those jobs actually go. Some of them could be in Ardersier, for example, or they could be in more remote locations where things like accommodation are going to be more challenging.

I think that Scottish Renewables gave you a good list of where the job shortages are, but we are seeing real pressing demands around fabrication and welding just now, at the basic-skill level, but the shortage goes through into consenters, environmental analysts and so on. We can come back with more detail on that.

Colin Smyth: I am just trying to get an understanding of the scale of the issue. Is this a gap that we can realistically close?

Gordon McGuinness: I think that it is going to be really challenging, but it is our task to do that and help our existing skilled people to transition across. Some of the numbers are really chunky. Scottish Enterprise announced on Monday that XLCC, the high voltage cable manufacturer, is going into Hunterston, which will create 900 jobs in that one facility, and Sumitomo is going into Inverness, which will create 200 jobs. It will be challenging to fill those roles, but the process of doing so will carry on over a period of the next five or six years. It will be for us, as a public sector agency, to work alongside partners as part of team Scotland to try to manage that process for people, as well as turning on the taps in terms of training and development activity.

I think that we are short in some areas. In Scotland, we do not really have anything like the 16-week transition boot-camp model that the

Department for Education funds down south. That would probably be enough to get people up to a decent level of competence to do work. We have a similar model that runs with Babcock at Rosyth around production support operatives. We need to mobilise those agile interventions in the right areas and train the right people, and we need to do more to make connections with people who are slightly more remote from the labour market.

Colin Smyth: Suzanne Sosna, the skills shortage that the businesses that you work with daily are facing is obviously a massive threat to the just transition. How has Scottish Enterprise adapted what you support businesses in doing to help them tackle that challenge?

Suzanne Sosna: I will speak to the wider picture and then come to the energy sector. In the wider picture, the 1,200 people in Scottish Enterprise have been focusing on three areas, which are all relevant to this conversation. One is about improving Scotland's productivity; another is about scaling innovation; and the third is around realising the opportunities of the energy sector and the energy transition. All of those things are relevant to the discussions around the companies that are involved in the energy sector.

With regard to the companies that are involved in the supply chain, the challenges, as Gordon McGuinness has outlined, are writ even larger for SMEs because SMEs are competing with larger employers to find and retain skilled employees. Because they may not have the margin flexibility to be able to pay them at a competitive rate, they have to look at the whole package of what they can offer. There are some fantastic examples of really good practice with regard to retention of staff in the engineering sector, for example.

I will give a summary of what Scottish Enterprise is doing. We see the first stage as making sure that companies are aware of the opportunities in the energy transition sectors, which involve offshore wind, hydrogen, carbon capture and heat—that is the whole picture. The approach that we are taking is to look at capabilities, so, instead of going to a given company and talking to it only about offshore wind, we are talking about the whole energy sector. If a company has the capability to serve one part of the market, such as heat, it can also sell to other parts, such as onshore and offshore wind.

We also look at the international opportunities that there might be for that company to try to even out the lumpiness of the orders. We have heard about the uncertainty around when orders are going to come through, and about the risks of a stop-start environment where a company might get a contract one year but not the next, so we have to try to even that out by looking at how it can internationalise its business, to protect it from those risks.

I do not want to talk too long about this but what we are doing in relation to the supply chain is looking to work with 1,000 companies that we do not currently work with, that are either in or could be in the energy supply chain, and help them to understand what they would need to do to achieve those contracts and enter those markets, whether that involves investing in capital equipment or improving their productivity.

Maggie McGinlay talked earlier about automation and better practices in manufacturing that will enable companies to be more efficient. To some extent, that mitigates the skills shortage issues, because it might mean that fewer people are required and the jobs that are available are more highly skilled and more highly paid. Therefore, we are looking at investment and productivity—a company might have to expand its factory or invest equipment—but also anything else that a business might have to do in terms of its leadership and so on. Scottish Enterprise has programmes for that—I can talk about this in more detail if needed—but is very specifically targeting the supply chain companies to support them.

Colin Smyth: That is helpful. You can send on any other information that you feel would be helpful to the committee.

Paul de Leeuw, your recent report "Powering Up the Workforce" talks about the scale of the opportunity and risk for workers in the north-east from the transition. What do Skills Development Scotland and Scottish Enterprise need to do to make sure that they can meet the challenge that you set out in that report?

Professor de Leeuw: That is a great question. Again, I am not sure that everybody has seen the report. I will pick a few things out of it to build on your question. We have worked very closely with industry over the past couple of months, and we put out "Powering Up the Workforce" two months ago. There is £200 billion to be spent between now and the back end of this decade in the offshore business—oil and gas and renewables. Of that, £100 billion is already identified and the other £100 billion relates to projects that are subject to approval. Therefore, there is an issue around this.

Currently more than 54,000 people work in the offshore energy industry, directly and indirectly, but depending on how much money you approve and how much gets done in the UK, the workforce requirement could be anywhere between 225,000, which would be a 50 per cent increase by 2030, or 130,000, which would be a decline from what we currently have. I do not jump automatically to the conclusion that we do not have enough people.

The important point is that investment drives activity and activity drives people. What we see currently happening is that investment is not going in fast enough to actually drive the activity in the people. What I mean is that we are ramping oil and gas down faster than predicted, for whatever reason. However, we are also not investing in the wind sector fast enough and, therefore, we do not see enough projects or activity in that area.

At the moment, depending on what scenario we are in, we actually might have fewer jobs than we currently have. That is a different issue than what you heard earlier this morning on skills. It is a job issue, not a skills issue. If, in delivering the ambitions of the UK and Scottish Governments, we need an increase of 50 per cent more people, the issue that we need to deal with—exactly as my colleagues outlined—is, where is the workforce to come from and how do we scale it up? It is a lovely problem to have because, in that case, we will have a huge amount of investment going on in the industry and a thriving Scotland, because quite a lot of jobs will be here. However, collectively, we first have to create that situation of having the investment activity to happen and that is currently not on track.

Colin Smyth: That is interesting. Yes, it is a problem that we want to have and then to tackle.

Your report also talks about how that workforce will be very different. It states:

> "A new workforce model will emerge, with future jobs concentrated around key energy clusters across the UK. There will be a more transient workforce, with an increased focus on capex and vocational work, resulting in people moving from project to project across the country."

That flexibility will bring its own challenges. What are the implications of that changing workforce for the north-east of Scotland?

Professor de Leeuw: Yes, we looked at that issue. I am sure that everybody who has been there knows that the north-east of Scotland predominantly has what we call an operational expenditure—opex—workforce. It is a workforce that operates platforms, pipelines and terminals. However, the future is not about operating; the future is about building new things: new wind farms, new hydrogen facilities and new carbon capture and storage facilities. The workforce that we need will predominantly be involved in actually building those new activities and then operating them.

As you heard this morning, we need far fewer people to operate a wind farm or a hydrogen facility than we need to operate oil and gas platforms. We see this workforce being quite different from the current workforce. It will be far more transient, going from project to project around the country—someone might build the Acorn facility in the north-east of Scotland and then go to Teesside to do the next thing.

11:30

At the moment, four out of five people in the offshore energy industry work in oil and gas but, by the back end of the decade, if we meet the ambitions of the Scottish and UK Governments, three out of five people in the sector, potentially, will be working in renewables. There is a shift happening towards a far more localised, transient workforce that is far more focused on capital activity than opex activity. That is just not a shift in skills, it is a fundamental shift in jobs, place and what people are going to do.

Of course, the big overlay is how much of that gets done by a UK workforce in the UK, because a lot of those skills could come in from overseas, with people coming here to do a task and disappearing again. Our opportunity collectively here is to create that UK-based workforce to make sure that we have the skills and capabilities here. That is what these reports are aimed at.

Colin Smyth: Having a workforce that could come and go, presumably potentially on lower incomes than the ones that exist at the moment in the oil and gas industry, must bring with it a huge threat to the delivery of a just transition, and that will have a big impact on the north-east of Scotland.

Professor de Leeuw: Yes, absolutely. As I said before, roughly one in five of the people who work in the north-east either works in or supports the oil and gas industry and the offshore energy industry and, if you look at the induced jobs, you see that the number is one in three, so, if we do not get it right and the money does not go in, there will be a big outflow of skills and capabilities from there. People will just move somewhere else—they will go where the jobs are because they have mortgages and bills to pay. There will be a large economic impact in the north-east of Scotland if we do not get this right.

Colin Smyth: I am sure that we could talk for hours on this issue. However, my convener will probably stop me doing so, so I will stop there.

The Convener: Thank you. I call Evelyn Tweed, to be followed by Kevin Stewart.

Evelyn Tweed: Good morning. I will build on some of the things that Colin Smyth has been asking about. Is enough being done to reskill and upskill workers in the area? Can we do that better? What are the witnesses' thoughts on where we go with that? If we have a huge skills gap, that presents a lot of opportunity for the future, so how do we support the workers to ensure that we get this right?

Gordon McGuinness: Again, the north-east has been fortunate because it has received a significant amount of investment from the just transition fund. On the NESA development, we are working with the college, the universities and Maggie McGinlay's team to look at the curriculum there. Maggie McGinlay described how the facility will be open in the evenings and weekends. We have to look at doing that in colleges not just in the north-east but across Scotland. We have a fantastic college estate but, all too often, it might only open one night or two nights a week. It is seldom available at weekends, which is when people who are in jobs want to try something different. Perhaps that situation could change.

I mentioned the boot-camp model from down south. Companies can access that, send their staff and get a discounted rate. For someone who is unemployed and looking to move into a sector, it is free to access, and they retain their benefits while they are at the boot camp. Initially, I was probably quite sceptical about the boot camps, as were others in Scotland, but they are much more targeted now at specific areas of need and have been used to good effect.

We do not have things like career development loans, which is a gap in the market. You either get people who have been made redundant, as John Boland referenced earlier, and are using their redundancy payment or people using their credit cards on courses as a way to try to get back into employment. You want to avoid that. To go back to the just transition, you want to give people the right support.

In its initial report, the just transition commission recommended that there should be a skills guarantee. There has not been any due diligence done on that so what is the scale of the market for that? Would that make a big impact for someone who was made unemployed at Longannet power station five years ago but has never got back into employment. Would they qualify for a guarantee? What would be in that guarantee? Would it be a skills allowance? Would it be careers guidance? What would be in it?

We need to be mindful that, if we make statements, we need to follow them up and actually say whether they are tangible. The matter has been discussed in Parliament, but there has not been any further development activity on it. We need to bring some agility into the system, and we need to get a bit more flexibility—as NESA has done—in the core offerings from colleges and universities.

Professor de Leeuw: We have looked at who the future workforce will be in 2030. Remarkably, it is just us seven years older—the vast majority of people in the industry at that time will be the same people but with more experience. We see an element of needing to upskill and right skill the existing workforce, which is not a trivial matter. Then there is, of course, the skilling of the new people coming in, the need for which is really clear. However, the main element that we need to have is a very agile demand forecasting system because the better you are at forecasting your demand, the more you can get the supply side to work around what colleges, universities, Skills Development Scotland and Scottish Enterprise need to do.

We are working hard with industry on how we ensure that we are clear about what the demand picture looks like in relation to both the existing workforce and the transferability of the workforce—that is, how many people you need in oil and gas, and in wind, and what type of people, so that you can get the supply sector to work.

I have another role: I am the chair of the National Energy Skills Accelerator, which Gordon McGuinness and Maggie McGinlay talked about this morning. We set up NESA as a specific response to deal with the issue of how, at scale, you help your existing workforce to swap over. Now, we are two years in. We received some money from the just transition fund earlier this year and we already have more than 600 people going through the programmes. Hopefully, in a few months' time, that number will be substantially higher.

There is a huge demand for upskilling the existing workforce, but people need clarity on what work they should upskill for. That is about having a clear picture on demand and about what it is that you need to do There is a real issue on timing, because some of the wind sector is not ready yet to take in lots of people at scale. At what point do you get people ready and right skilled for the wind sector and for where you need them in four or five years' time? There is no point skilling them now if you need them in years to come. We are matching supply and demand in a far smarter way than we probably have ever done before.

The Convener: Thank you. I call Kevin Stewart, to be followed by Colin Beattie.

Kevin Stewart: My first question is for Mr McGuinness, who will have heard Mr Boland talk about the skills passport. I recognise that you do not have complete management over this, Mr McGuinness, but where are the blockages in getting that right for people?

Gordon McGuinness: That is a challenging project. The Scottish Government has awarded £5 million to OPITO, which manages the skills component of the North Sea transition deal, to do that. There is good collaboration across a number of partners, including organisations such as the Engineering Construction Industry Training Board.

I am particularly connected to ECITB. It has an initiative called Connected Competence, which will come into that framework of the energy skills passport, as will OPITO's work.

Even if an industry—this is true of any industry that I have worked in—is not trying to harmonise but is just trying to get recognition of other organisations' qualifications and certification, it is challenging, because you are going into what is a bit of a cash cow for organisations. For a global wind organisation, that does not just affect the UK market but would potentially compromise what it does in a global market. The Danish operate globally, as does OPITO. It is always contentious when you are trying to do something of this nature. However, the programme has been well funded and it was supported by Ernst & Young through a competitive tender. As John Boland reported, there was a—

Kevin Stewart: I get all that, but who needs their heads knocked together to get this show on the road?

Gordon McGuinness: At the launch event, Mr Matheson knocked heads together. He said that he would lock people in the room and buy them pizzas until they came to an agreement.

Kevin Stewart: I wouldnae be buying the pizza. [*Laughter*.]

Gordon McGuinness: Neither would I. There was strong ministerial engagement at that early stage. I have tried to pick things up with OPITO. There will be sensitivities here and there will be financial compromises across organisations. I will take that back to OPITO. One of my colleagues is in a consultative group, but we were not involved in the meeting in London two weeks ago so it would be unfair for me to comment on that, but I will pick up that as a matter of urgency and come back.

Kevin Stewart: It would be very useful—I think that this is required, really—if you could write back to the committee. Perhaps OPITO could write to the committee as well, convener, or we can write to OPITO to find out what the blockages are, because I would be withdrawing the pizza, basically.

Gordon McGuinness: John Boland indicated that a further meeting is planned for 18 January 2024. It would be good to understand what will be happening between now and then, and what changes—

Kevin Stewart: Maybe the folk who will be meeting on 18 January will have taken cognisance of what has been said today.

Gordon McGuinness: Hopefully.

Kevin Stewart: I want to move on, convener. We have heard about the perceived differences in how jobs will operate in this new future. Professor de Leeuw talked about there being a much more transient workforce. Would it be fair to say that there is already a pretty transient workforce in the north-east? Aberdeen has operated as a global city. Folk have come and folk have gone. Aberdonians have moved elsewhere and come back. Is that transience maybe less of a challenge for Aberdeen and the north-east of Scotland than it would be elsewhere?

Professor de Leeuw: The answer is that the transient workforce is already there. I have been in the industry all my life, and I have spent most of my time in the operator and developer community. Yes, it is a very transient workforce. What I mean in relation to there being a new level of transience is that we are not going to create an oil and gas workforce or a wind workforce, but that we are going to create an energy workforce, so there will be multi-energy factors.

Most of the people work in the supply chain. The operator and developer community is typically only around 10 per cent of people working there, with 90 per cent working in the supply chain. The supply chain is already servicing multiple clients across the energy spectrum, either here in the UK or overseas. Some of those tasks are hugely transferable. More than 90 per cent of the workforce has medium to high skills transferability between one sector and the other.

Putting down a pipeline or an electricity cable utilises the same technology. Putting down footings for a wind farm or for an underground platform is the same thing. We see that the workforce is not only transient; the type of work that they do and the place where they work will be changeable, too. Particularly with the ability for people to work from anywhere now, the system becomes far more flexible.

What we mean by the workforce being more transient is to do with not just the nature of energy but the work being place based. However, the way in which we will work will also be different.

Kevin Stewart: Sure. You talked about flexibility, which is another key aspect of the shift that we need to make. Last Friday, I attended a Shell event on energy that was specifically for girls, where 18 schools from across the north-east were represented. From speaking to some of the young women there, it is clear that they recognise now that, in relation to the fields that they want to enter, how they work will have to be much more flexible in the future. One lass I spoke with wants to be a mechanical engineer. She recognises that, although she will want to remain a mechanical engineer, there will have to be flexibility in her working life.

It seems, though, that we have some impediments at this time in terms of those flexibilities, including getting the likes of the skills passport. In your opinion, the future workforce recognises that there needs to be flexibility. Is it the case that some of the trade bodies are not accepting that there needs to be that flexibility? If they do not, they could cause a real problem in terms of us reaching our ambitions.

Professor de Leeuw: I cannot talk on behalf of the trade bodies; you would need to ask them. We need a truly flexible, transferable workforce. The skills passport is important, but let us not get hung up on that, because the passport is not for everybody. If you are a human resources professional, a finance professional or a procurement professional, you can move easily between the sectors without the passport. It is mainly for the people on the operational side. There has to be a competency framework and an assurance that they can do the job.

If you look at the future of jobs, that is only a certain percentage of the roles that we really have. Look at where the jobs are. Our work shows that the top five job families—a job family is a group of similar jobs with similar roles—are operations, engineering, technicians, projects and supply chain management. Those make up 70 per cent of the future jobs that we need. It is interesting to think about the criticality of jobs in the future. What do we need to train people for? Will they all need a passport? No. Do we need to have a transient workforce? Yes. However, if you are a technician, we already know that you can move across sectors very quickly. If you are in a supply chain—I am talking about supply chain management rather than being in a supply chain—you can also move across fairly quickly.

11:45

When looking at the nature of the work, you need to work your way backwards and ask, “What do we need to do?” That is why we need an integrated co-ordinated plan—Suzanne Sosna talked about that, and I fully agree with the need for it—so that we line it all up for success. It would give that clarity back to the workforce and the young people coming into work.

I see through the university that there is lots of enthusiasm for joining the energy industry, but people just want to know what the jobs will be, how exciting it will be and what difference they can make.

Kevin Stewart: I turn to Suzanne Sosna to ask about how flexible companies are in terms of change. You talked about the fear of a year going by without contracts, but are there folk who are stuck and who are not looking at the future in the way that they should by diversifying? What are you and other agencies doing to get them to see the light on diversification?

Suzanne Sosna: In the north-east, that situation is far less prevalent than it is in the rest of Scotland, because the energy sector is well understood and the man in the street has a good appreciation of how important it is and how important the transition is. That translates into companies.

However, across the company base there are just not enough ambitious manufacturing and engineering businesses to satisfy the supply chain needs that are going to come. The businesses are also not necessarily big enough and do not employ enough people.

So, how are we going about this? Flexibility obviously varies enormously among companies but, like any small business, companies are looking one, two or three years ahead at most and must sustain the business. There are a lot of competing pressures. If a company has, for example, an oil and gas contract that is very profitable and which it can see extending out two or three years, it is quite understandable that that will be their main focus. Larger businesses have more capability to look more strategically at the long term.

Our role is to try to address that information gap—to put it in old-fashioned economic development language—in order to address concerns that the community of supply chain companies have and to ensure that they are aware of the opportunities. As I said earlier, we need to look at the capability that they have now and what markets they could serve domestically and internationally. How can we help them to make the right strategic choices, and to finance those strategic choices, including in relation to the workforce?

A growing number of businesses in the supply chain are starting to see opportunity, but they are juggling the various factors at hand about retention of staff, delivering contracts now and the uncertainty—that word has come up this morning—about renewables markets and when they will actually happen. They are balancing when to upskill and when to recruit staff against when they will get contracts.

The last point that I will make is that the skills that will be needed in the businesses of the future in the supply chain—I am talking about manufacturing, fabrication, and engineering skills—will be different. There is an image—we talked earlier about young people and women—of a greasy and dirty engineering-type environment, but increasingly, as I am sure we all know, programming skills as well as knowing how to run

the machinery are needed. It is also about understanding and knowing software.

Different skill sets will be needed and those skill sets are needed across all industries. Engineering companies are competing for the people coming through the system with the same range of skills as are needed in a modern manufacturing environment.

Kevin Stewart: You have finite resources, as we all have finite resources. You talked about the information gap. One of the things that I hear quite regularly is about folk not being able to access help and support from Scottish Enterprise or others. I think that it was Ms McGinley who talked earlier about bringing SNIB in on a roadshow; I think that she mentioned Scottish Enterprise. Could you, with partners including SNIB and others, regularly run roadshows over the next while in Aberdeen and the north-east to help companies to plug the information gap and help them to secure their futures? Often, one of the difficulties that is faced is that support is not quite there.

I will turn that on its head to give credit where credit is due. I know of a company that has had Scottish Enterprise support in recent times and has grown very quickly indeed. I will not mention it because I do not have its permission to do so. It has grown very quickly because it got sound advice, basically, but not a huge amount of financial support.

Suzanne Sosna: I will answer the question directly and say yes—we absolutely can run and are running events. We have heard a lot about collaboration this morning. Scottish Enterprise—in fact, none of us should do it—should not be doing such things on our own because that becomes very confusing for businesses. People need to know about the crowded landscape and whom to go to.

We are really keen to work in partnership: we work in partnership with ETZ, Scottish Renewables, Scottish Engineering, the Cluster organisations, Highlands and Islands Enterprise and South of Scotland Enterprise. It is absolutely critical that we work with SNIB, too. Those organisations are also taking the message out. We are doing that in partnership and we support them. For example, when ETZ runs its series of master classes, we attend and support that work, and vice versa. We will be doing more: strengthening the supply chain is absolutely a priority for Scottish Enterprise and the energy sector.

The other component is, of course, inward investment, for which we are also responsible. We have had some recent successes in that, which has strengthened the supply chain and plugged gaps in it. As well as supporting inward investors when they come in, we need to ensure that their local supply chain is strengthened, that they are finding what they need in the local market and that they are working with those businesses. There are multiple ways in, but, in short, yes—we are doing roadshows in the north-east and will be doing more.

The Convener: I ask witnesses and MSPs to keep questions and answers as concise as possible. We are a bit pressed for time now. Colin Beattie will be followed by Brian Whittle.

Colin Beattie: For those of you who were present during the previous witnesses' evidence, I note that the questions that I asked I did not get definitive responses, so I am hoping that I will get better answers here. We have talked about the energy sector and the anticipation that people will transition from jobs in oil and gas to jobs in renewables, although in recent times certainly, according to the evidence that we have received, that has not been as quick and has not been at the volume that was expected.

On skills in other industries—for example, construction and retrofitting the built environment—research from the Construction Industry Training Board estimates that to meet net zero targets there is a need for 4,600 project managers, as well as 4,300 plumbers and heating, ventilation, and air conditioning workers by 2028, which is not long. We know from other evidence that 30,000 engineers are needed for maintenance of heat pumps and solar panels.

Does the skills pipeline that has been set up have the capacity to deliver the required volume in the timescales that people want? Secondly, do the required people exist—in other words, do they exist physically? There seem to be shortages in almost every sector, so how will we get the people? Are we going to buy them in from elsewhere, in which case we would have a price issue around scarcity? Perhaps Gordon McGuinness can come in.

Gordon McGuinness: First of all, we need additional investment in apprenticeship frameworks. The ones that you are touching on are traditional modern apprenticeships with a three-year to four-year life cycle. Prior to Covid we were probably at 30,000 apprentices; last year and this year we are at 25,500. We need greater investment in that space.

Some of this reminds me of the combined effort we had to make for increased costs around early learning and childcare, in order to meet the Government's new offer. The Government was very clear on what SDS had to do, through the apprenticeship programmes. It was also very clear with the college estate what it expected the Scottish Funding Council to deliver. We delivered

10,000 additional people within the two or three-year period that was required to allow the Government to fulfil the childcare offer.

We need a national effort in some areas. If we are looking at reaching net zero, the two disciplines that we need more of are electricians and plumbers. It is a bit of a no-brainer. I know of a company that is one of the leading retrofitters—A C Whyte and Company of Barrhead—that lost some of its international workers. It has been very creative in setting up academies with some of the local further education colleges. It struggles to get the numbers through the door to fulfil the contracts that it has, and it is one of the leading contractors in bringing social rented housing up to standard.

There is a challenge. We need to understand that if we are making big investments in things like housing standards and infrastructure commissioning, we also need the people to build and maintain facilities.

Colin Beattie: Is there or is there not capacity within the pipeline, as it is?

Gordon McGuinness: There is capacity if we get the financial resource to apply to it.

Colin Beattie: So, there is not capacity because you need more money.

Gordon McGuinness: Yes—that would be my conclusion.

Colin Beattie: The pipeline cannot be delivered without more money.

Gordon McGuinness: If you need more apprentices you need resource to fund apprentices. We will struggle to deliver unless we increase apprenticeship numbers significantly. The example that I gave was of the last time that there was a combined effort, which was around early learning and childcare, for which additional resource was brought in to meet need.

Colin Beattie: If you get the resources, can you find the people?

Gordon McGuinness: There are disciplines in which there is never a shortage. If I look at Select and the Scottish Electrical Charitable Training Trust, I see that there is never a shortage of applicants for electrical or plumbing apprenticeships. I will not say that you will meet needs easily, but there has never been a shortage. We need to start with having the resource to get the commitment to bringing people into the sector.

Colin Beattie: Almost every sector of industry is talking about a lack of resources and a lack of physical bodies.

Gordon McGuinness: That is a consequence of Brexit, and of our demographic profile and the ageing workforce. You do not need to think just about growth; you need also to think about replacement demand. Those are among the challenges that people at BAE Systems have seen on the Clyde. It recruited 192 apprentices this year because it knows what its future workforce will have to do. It is investing £12 million in a new academy. The company is fortunate to have the resource to do that. If you want people to do a skilled job, you need to skill them appropriately.

The Convener: Could I ask the other panel witnesses to be brief in reply to this question as Gordon McGuinness has covered a lot of the issues from SDS.

Suzanne Sosna: I do not feel that I could add much to that.

Professor de Leeuw: I will be very brief. I do not know specifically about the sector that was mentioned, but there is one thing that I do know, as a member of the green jobs delivery group for the UK Government. It is a very interesting subject because it is not just a Scottish or UK question. If you do not have the people, you will not reach targets. Maybe the narrative should be changed; that might be that you ask what you should prioritise. A series of things can be done. Insulating people's homes is a very high priority and retrofitting is a high priority, but there are things you might ask—for example, what political choice you will make about what goes first, and how that is prioritised. The workforce could then be aligned to your needs.

12:00

Brian Whittle: Good morning. My question has changed several times over the past five minutes, while I have been listening to what you have been saying. We understand the opportunities that renewables technologies bring—not just to the north-east but to Scotland.

I am also aware that so much innovation and blue-sky thinking is going on. It is very exciting to watch that innovation. Are the UK and Scottish Governments doing enough to support and develop innovation in order to make sure that we are at the forefront and that we have the commercial success that will, as per my colleague Colin Smyth's questioning, lead to the increase in jobs? I would rather be looking for people to come into jobs than have too many people. That is for you first, Professor de Leeuw.

Professor de Leeuw: Let me answer the question through a different lens—the competitive framework. I will tell you what the competitors are doing so that you know what Scotland needs to do to catch up.

Let us start with China. China has more solar power installed than the rest of the world combined. China has more wind power than the next seven nations combined. The US just put in place the Inflation Reduction Act 2022, which is worth over $300 billion and is, in large part, about making initiatives work and subsidising activity. Europe has the green deal. That is our competitive framework and what is playing out.

If Scotland wants to win this game, wants to get the best resources and innovation and wants to get the workforce and the attention, we will have to do something to compete. We will have to do it faster, smarter, better, and greener, however we do it, and we will have to put something in place to attract the workforce. We have the ambition, but that does not necessarily mean that we will get the supply chain or the workforce to come here, because the competition is brutal at the moment.

Innovation is a big lever because we have a track record, but do not underestimate the capacity that we have in hubs such as in Aberdeen and the north-east of Scotland. We have a unique combination that does not exist anywhere else—the supply chain, operators, universities, colleges and the whole ecosystem that exists. That needs to be primed with a clear policy, a clear plan, and clear money to make it happen. We have everything in place. Innovation is part of it, but the competition is pretty robust and is getting even tougher.

Brian Whittle: A good friend of mine came out with the phrase that the only competitive advantage we have is in learning faster than our competitors.

Professor de Leeuw: We have agility.

Brian Whittle: With that in mind, Suzanne Sosna, in terms of what SE is doing just now, how do we maintain that advantage? We are charging ahead, as far as I can see, in offshore wind and onshore wind. As I said this morning, I am a massive green hydrogen fan and I think that we are behind the curve with that. We are probably behind the curve in carbon capture and, potentially, in heat. How do we bring all that into the just transition at pace?

Suzanne Sosna: Internationally, Scotland is one of the areas of the world that has, because of what has happened in the north-east, an international global reputation for being able to compete in the global energy sector. As Paul de Leeuw just said, we have that right from the start. We also have great resources across Scotland. I would like to see a lot of what is happening in the north-east that we have heard about this morning happening in other parts of Scotland. Some of the resources that we have could be spread. At the very least, we could make sure that companies in the rest of Scotland understand what is available—for example, through the Offshore Renewable Energy Catapult for floating offshore wind.

In terms of hydrogen, I think that there is a mindset in the north-east that is quite innovative. It is quite open and there is quite a global mindset, because of its history and the legacy of the oil and gas sector. We see that in relation to hydrogen. The biggest heat network in Scotland is in the north-east.

Green hydrogen production will kick off, I think in two years, in 2025, which will fuel 25 buses in the area. Again, that is innovative. We are working with 111 projects throughout Scotland on hydrogen, 29 of which are in the north-east. There is a spread, but the north-east plays a part. Those projects are all at different stages of development.

On hydrogen in particular—this is probably a different subject—we in Scottish Enterprise are focusing, in the conversations that we are having and the work that we are doing, on matching the offtaker. That is the key. In decarbonisation of the whisky industry using hydrogen, the offtaker and production need to come together in a marriage. We are seeing pockets of such coming together in the north-east, and I think that there is the right mindset there.

I concur that innovation is incredibly important and I completely agree about global competitiveness. We are perceived to have a competitive edge in floating offshore wind, so that is a potential area in which we could distinguish ourselves. However, we need to make sure that we are making progress, which starts in academic institutions. Scottish Enterprise is focusing on encouraging—this happens in the north-east and throughout Scotland—research projects at academic institutions so that they turn into spin-outs. We make sure, through our work in investment and through the work of SNIB and others, that projects are funded to become scalable companies, and we work with them throughout the journey.

At the other end of the market, we are working with developers and the very large companies on how they are going to get their projects off the ground and develop their supply chains, and we are looking at their technology gaps and how we might convene different parties to work with them.

The last thing that I will say is that we are still part of Horizon Europe, so working with other companies, SMEs and organisations across Europe and partnering on energy-related innovation projects is also part of what we are doing and what we will do more of.

Brian Whittle: Where I agree with you for sure is the need to develop the marketplace. If you do

that, business will innovate to supply it. For me, that is where we are behind.

In the short time that I have, I want to ask Gordon McGuinness about the long-term strategy and planning for workforce delivery. Indeed, I asked this question earlier. I think that one of the major untapped workforces is women coming into STEM. We have been talking for ever about that and that huge potential, but I am not sure that I quite got an answer to that particular question.

There are a couple of issues to highlight. How do we move that dial, given that we require that workforce? I am also interested in the need to invest in education. The suggestion that I heard in that respect was about opening colleges at night, which would be a great innovation, but will cost money. Do you agree with me that, to deliver on our targets, we need to invest more in that part of the education system to allow that transition to happen?

Those are just some easy questions for you.

Gordon McGuinness: I know from speaking to employers that they are very aware of the need to diversify the workforce. When you asked the question earlier, I checked back on the STEM strategy, which was published in 2017 and has been reviewed three times. I have to say, hand on heart, that I do not think that we have moved the dial. We have spent a lot of money on STEM and, as we have heard this morning, we have a lot of companies that want to invest in it, but I just do not know whether we are investing in the right things.

For me, one of the takeaways from today's meeting is to go back and look at the last evaluation of the STEM strategy. I think that Shirley-Anne Somerville introduced the original strategy, but I do not think that it has necessarily built up momentum in government. Okay, a lot of different things are happening in education, but this is an area that we need to make a difference in.

Indeed, we need to improve the quality of the experience, not just for girls but for everybody. Too often, it is episodic; there is some one-off, once-and-done thing that young people enjoy, but which does not have any longer-term impact. I will go away from today and have a look at the work that has been done through the strategy.

Brian Whittle: Thank you. I will leave it there, convener.

The Convener: I call Gordon MacDonald, to be followed by Murdo Fraser.

Gordon MacDonald: We already have the energy hub in Aberdeen and the north-east and we have touched on oil and gas, offshore wind and wave technology and so on. However, I want to continue with questions about hydrogen.

Paul de Leeuw said earlier that there was £200 billion of investment available, with £100 billion already placed. Some of that £100 billion has been spent in places such as China, America, Chile and Germany, but there is no mention of the UK. Meanwhile, the top 10 producers of green hydrogen are forecast to be the countries that I have mentioned as well as Morocco, Canada and Egypt—again, no mention of the UK. How attractive is Scotland—or, indeed, the UK—to green hydrogen investors?

Professor de Leeuw: It is interesting. If you follow the money, you get a flavour of what needs to be done to drive activity. Hydrogen represents a relatively modest part of the £200 billion investment being made this decade, but it will get bigger. The reason for that goes back to something that one of my colleagues has already mentioned. For wind, the process are easy: you get the electrons; you put them into the electricity system; and you do something with that. However, there is no natural market for hydrogen. Investors will say, "I need to develop both supply and demand—I need to do it all." You can do that at the micro scale—for example, there is the Scottish Enterprise project that is being worked on at the moment—but if you want to do it at a large scale, you will need a large market. That might be in the UK, or it might be an export market or what we call a conversion market—that is, you produce hydrogen and then do something else with it locally. That sort of thing will take time.

If you want to go for green hydrogen, you will need to develop the wind farms first, because you will need the excess wind. Again, that will take time. Therefore, if we are talking about hydrogen at scale, that is going to happen next decade, not this one, but that does not mean you cannot start planning or planting the seeds for it now.

If we want to win with hydrogen in Scotland, we will need good access to cheap wind and have a real mechanism for what we do with the hydrogen. As the market in Scotland is probably not big enough, you will need export elements—say, through pipelines, through other products or through whatever mechanism you might want to have. That is key to having an integrated hydrogen plan.

The hydrogen strategy is a good starting point, but it will not get us there; we will need a far more integrated plan that says, "Actually, we need to create a market." You could have the sort of microgreen projects that Scottish Enterprise has been working on, with a small market to go along with it. Potentially, though, you could go for big green hydrogen projects as the British have done with blue hydrogen, which is made from fossil fuels; however, you have to create a market for it. When the wind is there, you will have large green

hydrogen to fill the marketplace. You probably need to think about a plan in that respect. What is the logical structure that will allow you to start small and then build very rapidly?

We must remember that the competition does not stand still. If we were sitting in Germany at the moment, we would be having a completely different conversation, because they are looking for 10GW of hydrogen by 2030, half of which will be imported. The market here is very different. Again, if Scotland wants to play in that market, we need to be export ready, production ready and capability ready, and we are not.

Gordon MacDonald: Given that we already produce more electricity than we can use in Scotland, we have the capability to export that electricity or use it for hydrogen production. We are already one step ahead, in the sense that we have that surplus. The potential to export to Germany was mentioned earlier—I am thinking of the HyLion project that the Scottish Government has announced. How do we get investors interested, given that we have the energy hub, this excess of wind-generated electricity and a potential project to export hydrogen to Germany in liquid form?

Professor de Leeuw: Having worked in my previous life for the operator and developer community, I know that what you look for is certainty. If there is a guaranteed contract to take hydrogen from one place to another place, you will invest. At the moment, we do not have enough investor confidence to build a pipeline, build volume and get everything done, because the market is too immature. If we develop the market and build confidence that it is out there, investors will follow.

There is big demand; indeed, Europe is a huge demand area. We have demand on our doorstep, but we just need an integrated plan. It is already happening; the Net Zero Technology Centre is looking at the hydrogen backbone and the connection to Germany, and a memorandum of understanding is being signed. The work is already starting, but a bit of extra effort might be needed to get things over the line and build confidence in the market.

Gordon MacDonald: Suzanne, you said earlier that we need certainty and a clear road map to get the investment we require. Does either the Scottish Government or the UK Government have to do anything else to get us to the point that Paul de Leeuw has described?

12:15

Suzanne Sosna: Some clarity of vision that extends out over parliamentary sessions would be ideal; after all, we are talking not about a five-year horizon, but about a 20-year horizon. If there were a strong vision and a road map for building a pipeline from Scotland into Europe, I think that there would be some payback and that it would attract funding. We just need clarity. The previous panel talked about communication, and I think that this is all about having clarity of vision and sending out the message globally that Scotland is serious about—and will be—doing this. The rest will follow.

It needs to be more than an ambition, and it needs a road map—I know that I have used that word a few times now. Collectively, though, it is within our reach. It is something that we can do, but we will need clarity of ambition and vision and a lot of collaboration in order to get agreement.

The opportunities for hydrogen, as Paul de Leeuw has said, are considerable. It is Germany and Holland that have shown most interest in Scotland; indeed, we have had many visits from people from those markets, who have come for a look around, and we have hosted many such trips. However, they are also looking at many other markets—it is very competitive—and we in Scottish Enterprise are looking at bolstering our resources in Germany in order to form and maintain relationships with the right parties in the private and public sectors with regard to importing hydrogen from Scotland into Germany. We are looking at taking such steps, but we will need to do more and think bigger to get all of this off the ground.

Gordon MacDonald: Gordon, to achieve this ambitious project that would deliver for Scotland, what additional skills would we need? What do you guys need for certainty?

Gordon McGuinness: The skills group that works off the hydrogen action plan met in Aberdeen last week, I think, and it believes that we have the skills to meet the initial period of growth. However, the real demand will come three or four years down the line. I do not know whether Suzanne Sosna participated in that discussion; it was my colleague Chris Brodie who was up for that session.

As far as process engineering is concerned, I think back to the session that we had at Grangemouth. The trade union leader for the sites at the time did not see any significant differences between what they were doing at Grangemouth and how hydrogen would be handled. The group that met last week was confident that, in the short term, they had the skill sets required.

Gordon MacDonald: Thank you very much.

The Convener: Brian Whittle has a quick supplementary question.

Brian Whittle: I should say that I have an interest in green hydrogen. The talk just now is about the idea of building a pipeline across to Germany, which is obviously hugely exciting, but surely that does not have to be the first step. We have the capability of the deep-water ports at Hunterston, and last week we were up in Aberdeen, seeing what was being done up there. Why are we not focusing on those things as a step towards delivering the marketplace that you have been talking about, before we get to building a pipeline? Surely that would be a much quicker option.

Suzanne Sosna: We absolutely are focusing on those things, but building that kind of capability would need long-term planning. I know that I am stating the obvious, but it would not happen overnight.

We are focused on this. As I have said, we have 111 projects of different sizes and at different stages. This is a nascent industry; indeed, when I attend conferences about hydrogen, I see that this is a common situation in many countries. They are not reaching final investment decisions or getting over the line with projects, and often that is because of what we have talked about—the fact that producers have to satisfy both the production and the demand side of things. I do think that there is more that we can do collectively around the demand or offtake side, and I agree that it is through smaller projects that we will start to build our understanding and capability.

Scotland's big emitters—the Grangemouth area, for example—are a good place to start, because there is an awful lot of willingness and drive to find solutions there. Starting in those sorts of geographies, I think, and in the north-east offers big potential.

Professor de Leeuw: A pipeline is one thing. As I have said, we need to start with microgreen or microblue projects and establish those kinds of smaller, more local schemes. You have to start developing supply and demand in the market, and that will take a bit of time. The number 1 move would not be building a pipeline—I do not think that that is happening.

If you want to look at how to develop this sort of thing across the UK and in the EU, you should just look at the pipe system that we had in the 1970s and what we have 50 years later. We now have a network of integrated pipes and pipelines all across Europe, and I think that we will need something similar to happen for the new energies, of which hydrogen will be a part, as we see its industrial uses arising. It is part of a wider infrastructure play in Europe, and connecting to that is, I think, a perfectly sensible thing for Scotland or the UK to do.

Murdo Fraser: I appreciate that time is short, so I will just ask one question. It is about the just transition fund, which we have not really touched on yet. To what extent is the fund supporting innovation and the development of new technologies? Do you have a view on the way that the fund operates, with the Scottish National Investment Bank as, in effect, the gatekeeper for the fund?

Professor de Leeuw: I will give two examples where we have been involved with the just transition fund and then some observations about the fund going forward. I will break your question into two, if that is all right.

We have received funding for the National Energy Skills Accelerator—as the chair, I was very proud to get £1 million for it. We have made great progress, which would not have happened without the fund. We know what the demand for the workforce is, and the National Energy Skills Accelerator is about how we do the supply side and get the workforce trained. We got the money about eight or nine months ago and we already have over 600 people lined up to go through the programme, and we will probably have more by the end of this year. They are going to more than 30 programmes, half of which are brand new and have been enabled by the fund. We have huge demand from people to learn about the other energy sectors. If you want a success story, that is a big one.

At Robert Gordon University, we got money for our digital innovation lab, which we are using in the north-east of Scotland to map Aberdeen. We literally have a plane flying over Aberdeen to map it and do thermal imaging to find out where the heat is. We are thinking about how to help retrofit Aberdeen to get to a net zero city. That is a classic example of how we are using innovation money from the just transition fund to change the place around and do real innovation—it is about combining technology with our capability in the school of architecture to look at the housing stock and the commercial stock in Aberdeen.

Those are cracking examples. The fund has been very good, although it is of course early days, as you well know. A bit more thinking is required on the balance between capital activity and resource activity. At the moment, the fund goes to capital rather than resource activities, which makes difficult it to fund things such as NESA. That would be helpful.

We need to be clear on where the IP lies. When the fund gets in there, can the IP lie with the originator rather than with the fund? I would like to see multiyear funding rather than one-year funding. I know that that is difficult, given the budgeting requirements, but it is hard to have single-year funding. That means that we can only

do a project for a short duration. I want the fund to focus on the strategic nature. In our "Making the Switch" report, we have identified the big things that need to happen to set up the north-east of Scotland for success. Those need big strategic investment. We need to be mindful that we can only do so much, but how do we balance long-term strategic things versus short-term nice to haves? The next round of the fund maybe needs to take account of that.

Suzanne Sosna: At Scottish Enterprise, we have not accessed just transition funding, so I do not have any direct experience of it.

Gordon McGuinness: Paul de Leeuw touched on the point that most of the funding is allocated through capital resource whereas, for skills, we need more revenue resource for training activities. That is a common issue at present.

Murdo Fraser: So the fund is not helpful to you in your skills work.

Gordon McGuinness: No.

Murdo Fraser: Okay. Thank you.

Maggie Chapman: Good afternoon to the panel, and thank you for joining us. I want to expand on the conversations that we have had on supply chain issues. Suzanne, you said that the challenges are much greater for SMEs than they are for other businesses. You said that the margins, the flexibility, the agility and the capacity to adapt are slightly less for them. Will you say a little more about how Scottish Enterprise wants the Scottish Government to focus clearly on support for the supply chain in the energy sector?

Suzanne Sosna: It starts with embracing the energy sector and a vision for the energy sector overall, as we have talked about, to recognise the its importance to the Scottish economy. We need to recognise the opportunity that we have in the north-east and throughout Scotland for the whole of Scotland to thrive as we journey towards a net zero environment. We are all trying to communicate that and get it across.

We talked about getting women into STEM subjects. Another figure that has always stuck with me is that, of the students who go to university to study engineering, 50 per cent of the ones who are young men end up working in engineering but the figure for women is 30 per cent. There is a lot to be done to communicate the attractiveness and the long-term importance and stability of the energy sector, and the varied, interesting and stimulating jobs. We have talked a lot about engineering but, beyond that, it is about everyone from lawyers and human resources people to environmental specialists—my goodness, we need those. All those professional services are really important.

The starting point is communicating the importance of the energy sector. That needs to be all-inclusive and all-embracing and it needs to include the transition from oil and gas, as we heard about earlier. We know that the oil and gas sector struggles to recruit from the young population in the north-east, which is sometimes because those people do not want to join an environmentally damaging sector. If the portrayal is more about the energy sector and is more inclusive, it could be more attractive.

On the engineering and manufacturing supply side, again, that has not had as much profile as it needs given its importance. It is the backbone of Scottish manufacturing. On manufacturing we have a fantastic heritage and a reputation globally, but have we let it dwindle a bit? We all need to get behind the manufacturing and engineering sector.

Maggie Chapman: Just on that—

Suzanne Sosna: Sorry—I know that I can talk too much.

Maggie Chapman: No, what you are saying is helpful.

On potentially supporting the manufacturing sector, which might be perceived as dwindling, is there something required in relation to our work with infrastructure projects? We heard earlier about the importance of ports, for instance. Are there places of industry—of manufacturing or fabrication—that we are not looking at in a targeted enough way?

Suzanne Sosna: I think that we are looking at them now. The Government recently announced £500 million of funding, which I imagine would largely go to ports and harbours. The strategic investment model process was referenced earlier, and I think that 44 projects will come through that. There will need to be some prioritisation within that. We need big marshalling space. We also need to recognise that, because of the physical reality of different ports—some have deeper water and some are more sheltered—they will have different parts to play.

One challenge that we have in Scotland that other markets do not necessarily have is that ports are not state owned here—they are privately owned, and they are owned under different models. It is not for the state to decide necessarily how all the ports are to be used, but it is for parts of the public sector and the private sector to collaborate and come to the best arrangement for the whole of Scotland.

We also need some grown-up collaborations, decisions and agreements around sequencing in using the precious resources next to ports, because they will be used for the build-out at different times by different organisations. Again, it

comes back to co-ordination and collaboration and some visionary thinking about how we will get all the parts to work.

From that perspective, the supply chain is hugely enabling and enhancing, but it also could be true that a big inward investor could effectively take up most of the space at a given port. That is just the reality, because of the vast spaces that these big pieces of kit need. That has to be recognised as well.

Maggie Chapman: That is helpful. You mentioned 1,000 companies that Scottish Enterprise wants to work with. How many of those are not in the energy sector?

Suzanne Sosna: We have identified 2,700 that are supply chain companies that are not yet in the renewable energy sector or that are doing just a little bit. That is our overall target group, and then we have refined it down to about 1,000 that we are targeting today. I am sorry, but I do not know off the top of my head the number of those that are in the north-east, although I can certainly provide that. Overall in Scotland, there are 1,000 companies.

12:30

Maggie Chapman: Thank you. I can see that Paul de Leeuw wants to come in, but I have one last question for you, Suzanne. On non-energy supply chains, you have already spoken about some of the softer stuff that is needed, but are there things that we are missing? Are there things that we are not looking at, either in the industries and sectors that support the energy sector directly or in more indirect areas such as transport or other things that we are just not thinking about?

Suzanne Sosna: There is probably quite a lot. Businesses in the supply chain—not necessarily in the oil and gas sector but in other areas—often work on quite tight margins. I am not sure that this is a soft factor, but one of the challenges is about working with industry on standardisation of components and products. In a world where there is a lot of innovation, a given developer or company will have a bespoke solution for a bespoke situation, and another company will be doing the same. If the industry comes together faster on standardisation of components and products, and on approaches to solve different problems, that will help the supply chain. Companies in the supply chain will then have economies of scale, because they will be providing to several companies.

On softer skills, with things such as transport, that is a wider conversation. Gordon McGuinness touched on the very real situation with skills to do with people's physical location—new sites might be in more rural environments where there are not enough people living and not enough housing. There are quite a lot of other factors. In Scottish Enterprise, on inward investment, we work more with local authorities than we do on other projects. Overseas investors are raising some of those barriers and saying, "If we put a site there, where will the people come from? Where do they live and how do they physically get there?" That is especially an issue in a sustainable world in which we do not want everybody to get in their cars and drive 50 miles to work. All those factors are relevant.

Maggie Chapman: That is helpful.

Paul, you gave the clear example involving the heat mapping of the city, which is not an energy generation activity, but which is more broadly part of our trajectory towards net zero. Will you say a little more about where you think the barriers are to supporting the non-energy work in supply chain issues specifically?

Professor de Leeuw: Can I first make a quick comment on what I have just heard?

Maggie Chapman: Of course.

Professor de Leeuw: On the supply chain, we need to separate out where the money goes that we mapped out—the £200 billion—and what that enables the money to be spent on. The spend is actually only in six key areas and, if we do not get the six key areas in Scotland, the money will not come here. Importantly, harbours are not where most of the spend goes—spend on harbours enables the other spend. We should not get side-tracked and think that that is the only thing that we need to do, because areas such as subsea work and installing turbines are probably far more important in terms of the volume of money being spent. I just want to make that point so that the committee is clear on that.

On the supply chain for local activities, what we have done through the digital innovation lab at Robert Gordon University is brand new. We see huge spin-offs coming out around mapping a city, considering the sequence, what key buildings we need to focus on first, what the mechanism is to do so, and working with local councils to set that up.

There is a huge opportunity; we just need to now figure out how we are going to do it. We see real potential to make that an exemplar of a fantastic project coming out of the just transition fund. We think that it will make a real difference to the place-based element. Every city across Scotland and the UK will have the same question, so we can take that approach anywhere and say, "How can we work with retrofitters and energy providers to consider what to focus on, what the priorities are and how to make this work?" I hope

that you will hear more about that as we develop it. Step 1 is to make sure that we map the city.

Maggie Chapman: Okay. That is really helpful.

My final question is a broader one, on community engagement. Maybe it seems a little odd to ask this panel about that, but it is important to do so.

What role should the community voice have in your work and planning? When we talk about a just transition, we tend to focus on commercial activity and, to a lesser extent, on workers and the skills that are needed, and we forget that all those people live in communities. Communities are directly and indirectly affected not only by the economy but by other things that happen as a consequence of our energy economy. Where do you see the weaknesses in what we are doing in the broader just work around community engagement and hearing the community voice?

Gordon McGuinness: It would normally have been Allison Carrington from our regional team who would have been here today. Allison has pretty deep engagement with different community groups and through community planning partnerships and that type of activity.

Communities that I have been involved with before to address that type of thing probably connected through the trade union movement—employees would engage there. That would be where I would engage.

I am originally from Ayrshire, and I chair a community development trust. We have just completed a financial deal on a 3MW wind turbine, but educating has been an uphill battle. We have renewable bikes, electric bikes, a car hire scheme and an electric van, but bringing in the local community is an uphill struggle. You need to work really hard in the whole process of engagement. We have done that for 20 years. You get small wins and really good wins, particularly around the whole wellbeing agenda.

To go back to the just transition commission, one of its calls was that we should move away from thinking about just gross domestic product and think more about wellbeing measured through the national performance framework and that type of thing.

Maggie Chapman: Thank you. That is helpful.

Suzanne Sosna, we have had a brief discussion about the role of SMEs. I wonder whether there is a microenterprise that we are missing that is much more community located and situated. Is there stuff in the local and very small positive impact that we are missing?

Suzanne Sosna: We would look at that in the context of individual projects, especially if we were funding them. If we were active in something at all, we would look at the impacts in the local community in that context. As most of our drive is towards net zero, of course, any project that we fund would, obviously, take into account fair work, net zero and all of that. Those things are taken into account as a matter of course. Things would be done on a project-by-project basis in that scenario.

Professor de Leeuw: Last year, I was involved in the climate assembly, which was part of the big effort on how to get Scotland to net zero. People from throughout Scotland were involved in having a discussion with experts about what we need to do.

I thought that it was incredibly powerful to get in different voices to set us up for success. There was much to learn from what people said. There is such an unknown and scary factor with people saying, “We’re going to give you an electric vehicle. You need to change your heating system. You can’t travel any more.” If we do not make things attractive for people, we make them quite scary.

I saw the power of that approach. We need to do that on steroids across the country. We need to help people with changes and explain them to them, and the community voice is key in the whole conversation. It is easy to talk about a wind farm, a hydrogen plant or a carbon capture and storage facility. That sounds very scary when it is on your doorstep, but we have to make it real and show how it fits the plan, what it means for people, what the implications are, and what choices we really have.

The whole climate assembly conversation—maybe that should be done by region or another mechanism—changed my mindset on how to have conversations.

Maggie Chapman: Thank you. That is really helpful. I will leave it there.

The Convener: I will ask a couple of quick questions. First, I will go to Suzanne Sosna. Do you think that the supply chain development statements in the ScotWind leasing round have been delivered on, and are they sufficient to support the supply chain? I do not know whether you are able to give us an insight into that.

Suzanne Sosna: Yes. I think that around £28 billion was committed through the supply chain development statements, and there have been more commitments through the innovation and targeted oil and gas leasing round and other things. A very big sum of money is involved.

It is too early to say whether the supply chain development statements are being delivered on. That we have those statements is seen

internationally as being quite innovative. The approach is widely recognised as a very helpful step forward and something that we would want to build on, but it has not really had time to play through to what happens in the market.

The starting point is the large-scale ports and harbours and large-scale manufacturing. The strategic investment model process has been the vehicle through which they have been looked at.

As I said earlier, there are 44 projects. Earlier this week, the detailed project outlines started to be published. The developers will then sit down to look at them. Our expectation is that that might lead to a package of support that might go into some of the projects, which would include the developers—more than one developer might be included. The proof of that will be in what happens in the coming months and in seeing whether that plays through to actual spend.

The Convener: Thank you. That is helpful.

I have a question for Gordon McGuinness. We expect an updated climate emergency skills action plan by the end of the year. Is that still the timescale? What can we expect to be in it?

Gordon McGuinness: Earlier in the year, our Government sponsor division indicated that it would take ownership of the next iteration of the climate emergency skills action plan. I spoke to the team in preparation for this meeting, and I think that it said that you have written to Mr Gray as part of the pre-budget scrutiny process and asked for an update on the plan. I think that it still intends to produce something in December. I will leave it at that.

On the work that we have done, at the mid-year point in the initial five-year plan, we have done an evaluation of all our activity, and the evidence and some of the initial pilot work that we have done in Shetland and Glasgow are available. I could share that with the committee, if that is of interest.

The Convener: Yes. I was going to raise the fact that your briefing for the committee says:

"SDS and partners have developed a good understanding of the emerging picture."

The briefing references the climate emergency skills action plan and regional skills assessments, but it does not specify what the emerging picture is. It says that you have

"a good understanding of the emerging picture",

but it does not state what the emerging picture is. Is that something that you can—

Gordon McGuinness: I will come back on that. There are several reports that we can share with the committee. There are executive summaries and a detailed analysis, which also breaks down what a green job is considered to be. We are looking at a way of using a kind of green sort code, but there is more work to be done on that. That is a way to try to analyse the number of jobs that will be influenced by the progression to net zero. I can send more information about that to the committee.

The Convener: Yes, if you could, because a recurring theme in the meeting has been that we recognise that there are skills gaps, but nobody is exactly clear where they are, how many people we need, or how we will get to the end point. If you have information that could help with that, that would be appreciated.

Gordon McGuinness: I have referenced some of the work that we are doing now based on the Scottish Offshore Wind Energy Council data that we have, which takes into account some of the developers' plans. That is slightly longer term. I will package up what we have and give the committee an indication of what is still—

The Convener: Another theme in the meeting has been the lack of data. It is difficult for us to see what progress we are making on a just transition because we do not have enough information to judge that. Will the information that SDS is working on help with developing a framework in which to judge progress?

Gordon McGuinness: Yes, that is the intention. Again, I go back to the just transition commission and the work that it has done on some of the sectoral strategies. It has produced publications that look at the sector plans in areas such as construction. Additional work can be done there.

The Convener: I thank the panel very much for its evidence. We will now move into private session.

12:44

Meeting continued in private until 12:58.

Published in Edinburgh by the Scottish Parliamentary Corporate Body, the Scottish Parliament, Edinburgh, EH99 1SP

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