ECONOMY, ENERGY AND TOURISM COMMITTEE

Wednesday 6 May 2009

Session 3

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CONTENTS

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ECONOMY, ENERGY AND TOURISM COMMITTEE
14th Meeting 2009, Session 3

CONVENER

*Iain Smith (North East Fife) (LD)

DEPUTY CONVENER

*Rob Gibson (Highlands and Islands) (SNP)

COMMITTEE MEMBERS

*Ms Wendy Alexander (Paisley North) (Lab)
*Gavin Brown (Lothians) (Con)
*Christopher Harvie (Mid Scotland and Fife) (SNP)
*Marilyn Livingstone (Kirkcaldy) (Lab)
*Lewis Macdonald (Aberdeen Central) (Lab)
*Stuart McMillan (West of Scotland) (SNP)

COMMITTEE SUBSTITUTES

Nigel Don (North East Scotland) (SNP)
Alex Johnstone (North East Scotland) (Con)
Jeremy Purvis (Tweeddale, Ettrick and Lauderdale) (LD)
David Whitton (Strathkelvin and Bearsden) (Lab)

*attended

THE FOLLOWING ALSO ATTENDED:

Nigel Don (North East Scotland) (SNP)

THE FOLLOWING GAVE EVIDENCE:

Professor William M Banks (Institution of Mechanical Engineers)
Jim Brown (Energy and Utility Skills Ltd)
Kelly Lee (Impetus Consulting Ltd)
Barry Neilson (Cogent SSC Ltd)
John Robertson (Burntisland Fabrication Ltd)
Jeremy Sainsbury (Scottish Renewables Forum)

CLERK TO THE COMMITTEE

Stephen Imrie

SENIOR ASSISTANT CLERK

Katy Orr

ASSISTANT CLERK

Gail Grant

LOCATION

Committee Room 2

Scottish Parliament

Economy, Energy and Tourism Committee

Wednesday 6 May 2009

[THE CONVENER *opened the meeting in private at 09:39*]

10:00

Meeting continued in public.

Energy Inquiry

The Convener (Iain Smith): Welcome to the 14th meeting of the Economy, Energy and Tourism Committee in 2009. The main item of business today is the final evidence session for our energy inquiry. Today's panel of witnesses will look primarily at issues relating to the employment potential of different energy sectors, their economic benefits and the possibilities of increasing exports of goods and services in energy.

Before I ask the witnesses to introduce themselves, I note that today we had hoped to hear from either ministers or officials from the United Kingdom Department of Energy and Climate Change, but they have declined to give evidence to us. That is unfortunate, because it would have been useful to get information on specific areas such as the carbon emissions reduction target scheme and transmission charging. I hope that they will provide us with some written evidence on the matters to which I have referred, but that is not the same as our being able to question them in public. I put on record our regret that the Department of Energy and Climate Change has declined to give oral evidence to the committee on this occasion.

Before we move to questions, I invite the witnesses to introduce themselves and to say briefly where they are from.

Kelly Lee (Impetus Consulting Ltd): Good morning. I am a project manager with Impetus Consulting Ltd, which is a sustainable energy consultancy. I am here in place of Dr Joanne Wade, who sends her apologies; unfortunately, she had a prior engagement.

We have worked on two specific projects. The first, for the Trades Union Congress, was on unlocking green enterprise for the UK. It outlined the policy requirements for moving the UK to a low-carbon economy and taking advantage of the benefits from that, such as reduced carbon emissions and an increased number of jobs. The second report, for Greenpeace, considered the case for including investment in energy efficiency in the physical stimulus package in the budget. Both Joanne Wade and I worked on the projects. If there are any questions that I cannot answer, I am happy to provide written evidence from Dr Wade after the meeting.

Barry Neilson (Cogent SSC Ltd): Good morning. I am the skills director for Scotland for Cogent, the sector skills council that covers the oil and gas, petrochemical, nuclear, polymer and pharmaceutical industries.

Professor William M Banks (Institution of Mechanical Engineers): Good morning. I am currently the president of the Institution of Mechanical Engineers; I am also an emeritus research professor in the department of mechanical engineering at the University of Strathclyde.

As most members of the committee are aware, we made a submission, which is in the papers for today's meeting, in response to the call for evidence. We have also supplied members with an e-mail reference to a marine energy report that we have produced; I can provide members with a copy of the report later if they want one. The institution has about 7,000 members in Scotland. I hope that the details of our submission reflect faithfully the feelings of our Scottish membership, which we consulted when producing it.

Jeremy Sainsbury (Scottish Renewables Forum): I am a director of Natural Power Consultants Ltd, which is a renewable energy consultancy based in the south-west of Scotland. We operate out of six different countries and work mainly on offshore wind power, wave power and tidal power. I am also the vice-chairman of the Scottish Renewables Forum and a member of the forum for renewable energy development in Scotland, which is chaired by Jim Mather.

Jim Brown (Energy and Utility Skills Ltd): Good morning. Energy and Utility Skills Ltd is the sector skills council for the energy and utility sector, which covers electricity generation, transmission and distribution; the gas sector—onshore distribution and utilisation; water; and waste management. In addition, Energy and Utility Skills co-ordinates the group of sector skills councils that look after renewable energy across the United Kingdom. Some on-going work has just been finalised for Scotland. It is nice to be here to give evidence.

John Robertson (Burntisland Fabrication Ltd): Good morning. I am the managing director of Burntisland Fabrication Ltd—BiFab. Our company operates three yards in Scotland: one at Burntisland; one at the Fife energy park at Methil;

and one at Arnish in Stornoway. We specialise in oil and gas fabrication, with a clear view to developing into alternative energy production, too.

The Convener: Thank you for those introductions. I want to get a picture of where we stand with jobs in the energy sector and where you think the potential is. The UK Government has estimated that there are potentially 160,000 jobs in renewable energy, of which the Scottish Government has claimed 10 per cent—16,000. Do you think that the 160,000 figure is realistic for the UK? More important, is 16,000 ambitious enough for Scotland?

Jim Brown: It is difficult to gauge what is specifically a renewable energy job. In my sector we do a lot of work with the power companies across the UK. We have identified that in distribution alone we need an additional 9,000 engineers by 2014. That expansion will continue through to 2020—huge numbers are involved.

There is evidence that there will be jobs that are specifically in renewables throughout the UK—there is a signpost figure of 5,000 in wind energy and there is also the micro side—but it is difficult to gauge whether these jobs are green. Some aspects of the jobs might be green, but whether the whole jobs are is another matter. I think that the 16,000 figure is a bit ambitious. We have to consider energy efficiency rather than just renewables. To date, that has not been put into the equation.

Kelly Lee: Jonathan Selwyn, who was the director of the UK Centre for Economic and Environmental Development, wrote a report on the environmental goods and services sector. It found that, in the UK, there were 400,000 people working in the sector, which includes everything from air pollution control to cleaner technologies and processes and environmental consultancy. There is a separate sector for energy management and efficiency and a separate sector for renewables. Generally, in all the reports that we have read, there is very little evidence on the numbers.

Jeremy Sainsbury: I would hope that we in the renewables sector—or certainly in the wind, wave and tidal sector—will punch above our weight. We are leading the way in wave and tidal, and I hope that the European Marine Energy Centre and the work in the Pentland Firth are sustaining that. We have the saltire prize and other things out there to bait the hook.

Scotland might get its traditional 10 per cent of the UK figure, but the target with which we are being tagged for 2020 is closer to 11GW and requires the boot straps that have been proposed by the Electricity Networks Strategy Group. In that context, we have about a third of what is required, so we ought to be able to muster a third of the jobs that are going, at the very least. With the help of the Scottish Parliament and the Scottish Government, Scotland has punched above its weight so far in the delivery of renewable energy in the UK, and we hope to continue to do so. Biomass is a huge opportunity for us. If we get heat right this summer, that will be another massive opportunity to create a lot of jobs in good rural locations. I hope that we will punch above our weight in that part of the renewable energy sector, but, as we have heard from the other two witnesses, it is a bigger question than that.

Lewis Macdonald (Aberdeen Central) (Lab): I will start with offshore wind as one potential area of growth in employment and economic activity. The next round of development, round 3, is with us, and I would be very interested to hear John Robertson's perspective on the employment opportunities.

John, you have already mentioned your acquisition of the Arnish fabrication yard, which, as a native of Stornoway, I am very much aware of and pleased about. I would be interested to know how you view both the short-term and long-term job creation opportunities as the offshore wind sector develops over the next five years.

John Robertson: Our company was very successful in the Beatrice project, which was a UK demonstrator project. The technology that was used in Beatrice is now known worldwide. As a result of Beatrice we have marketed our company with a specific focus on offshore wind, on the basis of transferring our skills within the company from the oil and gas sector to the offshore wind sector. To date we have been fairly successful, and we are currently building 44 jackets for the offshore wind industry. We are exporting to Germany now.

When we were doing the Beatrice project, we realised that we had to consider the question of scale. In the industry, we are not yet fully appreciating the scale of the potential in Scotland. Even using its three facilities, our company would probably manage to build only 50 to 60 structures per year; the targets indicate that the market opportunity is probably 800 structures per year, although they will not all have jacket foundations. Round 3 brings a high potential in far-offshore and deepwater sites.

We need to realise how big the potential is. We could create 16,000 jobs in Scotland, but we need to be there. We in Scotland have an opportunity to be the leaders in Europe. When we market our company in Germany, we find that people there have lots of skills in mechanical areas. They are specialists in turbines, blades and towers, and they have geared up to be mass manufacturers. In transferring skills from the oil and gas sector, I think that Scotland's best opportunity lies in

offshore jacket substructures and later in specialist maintenance operations. The potential is huge.

We have put in for planning permission with Fife Council for further expansion, and discussions on that are continuing with Scottish Enterprise. With a facility in Scotland capable of producing 100 jacket substructures per year, we could be leaders in Europe.

Lewis Macdonald: If we achieve 100 such structures a year, what would that roughly be worth in employment terms?

John Robertson: For BiFab, that would double our current employment levels. The only way we can create a good, sustainable industry for the utility companies is through mass manufacturing. If we stay at the present level, we will be overtaken and become a major importer. If we step up a level, we could be the best in Europe, and we could create a good, sustainable industry with a long-term future.

Christopher Harvie (Mid Scotland and Fife) (SNP): How many people do you employ at the moment?

John Robertson: At the moment, we have 225 people on our books—that is the number of people who are employed directly with BiFab. With agency support personnel, we are currently working with 740 people across the three sites.

Professor Banks: I will respond on the overall question about the necessity for the right skill set for wind turbine technology. If people are going to work in that area, they must have the necessary skills. New materials technology is essential, for example, as is knowledge of composite systems. The number of people in Scotland who are available in that particular area is fairly small, and that is where we need to develop our skill set.

If we are going to manufacture for the offshore environment, the design, erection, maintenance, supply, commissioning and, in particular, the inspection of those structures will be essential. We can begin to transfer to the offshore industry the structural health monitoring of other industries, but with the assumption that new materials will be used. We do not have the skills base for that yet, so we must develop it to ensure that the available technology can be applied to offshore wind turbines.

10:15

Rob Gibson (Highlands and Islands) (SNP): What you just said seems to support the estimates for renewables jobs in Denmark and Germany. It looks to me that we will need more towers and jackets for offshore wind power than is currently estimated. BiFab has an interest in three yards, but the Nigg yard and yards in the north of England might have to come into play, too, as might yards in other countries. Do you agree?

John Robertson: Yes. Recognising how big the market potential could be, we registered a company in Germany called BiFab Germany. The five shareholding companies are already in place for that development. The attraction for BiFab is that we were requested to join that group on the basis that we will transfer skills from Scotland to Germany that it does not have. My preference is to strengthen our position in Scotland and be ahead of the game and the leader here so that we can export from Scotland to the German sector.

Rob Gibson: So we ought to get other yards here up and running. Nigg in particular has the potential to join the yards that you already have.

John Robertson: Yes. Being slightly selfish, I believe that we need to invest further in the yards that we have and strengthen our position in the market. Once we pin that position strongly, we can develop other yards on the strength of it.

Rob Gibson: I want to take that further by considering the example of the building of the hydro schemes and the utilities that took them over to run them. Have you considered the jobs potential of offshore renewables more widely, given that we have heard about the need for inspection and so on? Do you think that there will be a bigger jobs payback in the current phase of the development of renewable energy than there was for the development of the hydro schemes?

Jeremy Sainsbury: Yes, I do. Building the offshore renewables is the first phase, which will be an on-going one, but the operation and maintenance of offshore renewables will create a substantial number of jobs. The oil sector provides a good example in that regard. I was involved for a long time with the Olsen family, who started with seven people in Aberdeen with AOC and ended up with 350 to 400 employees and 2,500 to 3,000 contracted-out jobs in the North Sea on hook-ups and maintenance contracts.

Offshore renewables has that potential for jobs and more. Targets in other European countries provide a large potential, too. The UK target of 35GW offshore by 2020 is challenging enough. We know that we will not quite make it, but I hope that we will be well on our way to meeting the target by 2020. Germany and Denmark have similar targets, and Spain and France are considering theirs. There are therefore targets for 2020 worth more than 75GW and, at €3 million per megawatt installed, that means a very large market. We are talking about a potential marketplace of hundreds of billions of pounds, which must develop at a rate of about £25 billion a year to achieve the target—it is a massive market.

On what we can do early, I am involved in round 3 of the bidding process, and I know that a small number of very large companies and consortia are likely to get the contracts. The idea is that they will be able to build up their own fabrication, vessel, and long-term supply-chain relationships with people. If we are to be successful, we must ensure that our Scottish yards and companies have such relationships, developing new products at the front end and being seen as part of the design teams—and that must start to happen now. In that regard, companies must register with the Crown Estate by 11 May for an offshore site for a demonstration project, which can be for foundations, turbines, offshore anemometry or whatever. That is part of the process that will tie companies in with suppliers.

Lewis Macdonald: Some important issues arose in those answers. I am particularly interested to know what the witnesses think is the economic opportunity. Some of the oil and gas majors have backed off a bit from potential engagement with offshore wind; equally, though, some of the contractors are looking for new opportunities. Is that working? In other words, is the opportunity to diversify from oil and gas to offshore renewables one that the industry as a whole is taking, particularly on the contracting side, or is the willingness to engage still a bit stop-start? If it is a little bit stop-start, is there something that Government—at a Scottish or a UK level—ought to be doing about that?

Jeremy Sainsbury: The reason why the oil companies have pulled out is not the same as the reason for a possible stop-start transfer of skills. The oil companies are used to an industry in which they can make very large returns, whereas the supply industry for electricity is a much more regulated market, in which companies could never make such large returns.

We have just seen the budget add another half a renewables obligation certificate to enable those round 2 projects to move forward. At the moment, the rate of return of those projects is about 8 per cent. Considering the amount of risk that a company would take in such a project, that is not a high rate of return in anyone's books, even for the electricity and utility companies, which are used to a lower risk. The reason why the oil companies have backed out is much more down to the cash flow, where they see their revenue now, and where they can get revenue in their current market.

When it comes to the opportunity for us, we have to consider the size of the market. It is a different market: it is not in bespoke, individual items, as it has been for the oil industry; it has much more of a factory basis. However, our skills and engineering capacity are more than capable of adapting to that market. As I said, the key is to get our best companies involved with consortia that have long-term delivery pipelines. We should get them involved early, so that they are seen as part of the solution and get the work after that.

Barry Neilson: It is more a question of the confidence in the economy that will be generated from the market. Cogent, as a sector skills council, is involved in the nuclear sector, and we are seeing a skills downturn in the employment profile, especially in Dounreay, which could be a big economic factor there. However, some of the larger energy companies have the confidence to start talking, and both Cogent and Energy and Utility Skills have set up meetings between the employers in Dounreay and the energy employers to begin to discuss a transfer of skills from the nuclear sector into the energy sector, including the renewables sector. That is because many of the skills that are involved in the nuclear sector—in the basic mechanical and electrical instrumentation, for example—will be required in the renewables sector. Those skills are transferable. There is also a culture of safety in the nuclear sector, which is needed when working offshore in hazardous environments.

On the long-term economy, there is confidence that the larger companies are moving into the sector and willing to put in long-term agreements to take up the skills offer. That gives us a degree of confidence that the jobs will exist.

Professor Banks: Perhaps I could expand a little on the development of the skills in relation to the Institution of Mechanical Engineers. Our objective is to see more apprentices coming into the scheme. At the moment, there is a big gap in our skills sector and a need for apprentices to come in at the bottom of the ladder, especially at a time of recession, to allow the skills to be developed for future application.

As an institution, we have introduced an engineering technician status as well as the incorporated engineer status and chartered engineer status—that takes people right through the engineering spectrum. Our objective is to see engineers coming in at the bottom but having progression possibilities and ending up in important jobs in future.

The more people we can get in at the apprenticeship stage, the better. I am glad that some Scottish companies, particularly in this area, are working towards that, but I would still like to see more of that happening, with the prospect of progression through the system.

Jim Brown: That is right. There are real issues with apprenticeships, which the industry now recognises. A couple of initiatives are under way at the moment. Energy and Utility Skills is working

with the British Wind Energy Association on an apprenticeship programme for turbine maintenance, which is a big area in which there is a shortfall of skills. We are also working with the power sector skills strategy group to establish a national skills academy for power. One of the main remits that the employers have set for the academy concerns the needs of the renewable sector. Apprenticeships are at the heart of all of our activity, and employers see them as a key issue. The big employers have realised the importance of that issue and are seeking to address it.

Kelly Lee: The TUC report called for consideration of skills, needs and the overall situation in the UK. We found that there was a general problem, which was that the number of people taking science, technology, engineering and maths—the STEM subjects—is in decline. There is an issue around careers advice in schools: people need to be given the correct information about engineering degrees, which will be useful with regard to wind farm developments and so on, and vocational qualifications, which will be useful with regard to the installation of energy efficiency technologies, small-scale renewables and so on.

A good example of best practice is Careers Scotland's the path is green website, which is all about pushing environmental jobs and careers in the area of sustainability.

Barry Neilson: Along with other sector skills councils, we are already working in collaboration with Careers Scotland to develop the path of science and technology. That work will bolster many of the issues that we are talking about.

The Convener: I feel the need to call Marilyn Livingstone.

Marilyn Livingstone (Kirkcaldy) (Lab): I am interested in the skills agenda. Cogent has done some good work and there are good examples of partnership working, of people getting involved with schools and of work being done to address the situation in the round. What is the geographical spread of that effort? Have we got a policy that will deal with the whole of Scotland? There are areas where there is good practice, but we have a long way to go.

On transferability of skills, we heard evidence that the downturn in the construction industry is leading to a flight of skills, with a lot of trainers leaving to take other jobs. If we are losing those people, what should we be doing with regard to apprentices and training to ensure that we have a skills base that can be transferred?

Barry Neilson: It is fair to say that there is good practice in some areas but not in others, although that could be said about any issue in any industry: good practice evolves into normal practice and then another example of good practice comes along and so on. As part of the Alliance of Sector Skills Councils, we have been trying to work with groups such as Careers Scotland in the north and in the south. We have conducted STEM information seminars with all the careers guidance teachers in the Highlands and Islands area, and we are looking to do the same thing elsewhere.

10:30

I am involved with chemical sciences Scotland in managing the careers side of its work. We are trying to co-ordinate all the careers information that people provide around the chemical science sector in Scotland to ensure that it is targeted better. With Careers Scotland, which is part of that group, we will be trying to set up a cohesive and consistent approach to giving information, advice and guidance to schools, colleges and—because we want to ensure that people with chemical engineering degrees come into the industry—universities. We have to promote the industry strongly to the people who have the skills that are needed, from apprentices to graduates.

The issue of the transferability of skills is interesting. If people are leaving, they must be going somewhere. However, we do not have a tracking programme that would show us were they are going.

Workforces and skilled people will always go to where the need is, because the need creates the salary packages. There is a demand in the oil and gas industry at the moment, and a lot of people are going offshore, whether in UK waters or abroad. However, once the renewables sector and related industries become more attractive in terms of employment, a lot of people will return to Scotland. They will probably be in their late 30s and early 40s, and their return will be based partly on a lifestyle choice. We are already seeing examples of that in the oil and gas industry in the Highlands and Islands, and that trend will accelerate as the job opportunities increase. The hard fact is that, when the job opportunities and the remuneration packages are at the level that will attract those people, they will appear.

Marilyn Livingstone: Last week, I met a group of fourth-year engineering students from the University of Strathclyde. Some of them were going on to do a fifth year, but 12 of them were leaving, and only three of them had jobs—one of them abroad. I was told that, the year before, they would all have had jobs. We have people coming out of university and not getting jobs, and apprentices not getting to finish their apprenticeships because they have lost their jobs, although I know that some work is being done by colleges in that regard. What do we need to do to

ensure that apprentices can finish their apprenticeships and that we do not lose a generation of engineers?

We also heard evidence that applications to colleges and universities are up by between 30 and 40 per cent this year. There is a lot going on in the skills sector and we have got to ensure that we get the funding of modern apprenticeships right. The sector is complaining about the funding at level 2 not meeting the needs of industry—I believe that it was Professor Banks who talked about that.

The issues are complex, because of the changes in the economy. How can the sector skills councils and industry help to meet the challenge?

Barry Neilson: Some work that I have done recently in the petrochemicals sector is relevant in that regard. The hard truth is that such organisations sell their products on and are part of a huge supply chain. It is easy to pick on the automotive sector, but if you stop manufacturing cars, you also stop manufacturing the plastic bits in cars, which means that the polymers industry and the petrochemicals industry get hit—the chain goes right back to the offshore oil and gas industry, I suppose.

The employers to whom I am speaking at the moment are reluctant to take on new staff this year and, possibly, next year as well. They are concentrating on surviving the current economic climate, on staff flexibility and on getting their staff to be as effective as they can be, and they are looking at shorter reskilling, upskilling and sideways-skilling courses for their staff rather than bringing on new apprentices.

My experience in the sectors that I cover is that the main employers are not laying off as many apprentices, but that is not necessarily following through to the sub-contractors, which is where the problem is because sub-contractors are least likely to be able to carry apprentices through lean times. To be blunt, they need financial support through salary packages. If the Government and the nation want to keep those people in employment, there must be help with employment costs. Helping with the cost of training is not enough for small employers, because they have no income and so cannot afford to pay wages. That is the hard truth of the matter.

Jim Brown: The employers said exactly that at the modern apprenticeship summit that was held last week. They are keen to support apprentices to complete their apprenticeships, but sustaining that support is quite difficult for them in the current financial climate. They need financial backing from the Government and agencies to get those people to complete their apprenticeships.

One issue was people who were nearing the completion of their apprenticeship; another was people who had just started an apprenticeship and had been made redundant. Employers were quite comfortable with taking on those people, but they did not see such moves as transfers; they thought that a person in a new industry and a new apprenticeship programme should have to go back to the start. They were looking for flexibility and recognition of that by the apprenticeship programme funding agencies. I am afraid that, for the employers, it is all about money at the moment. Things are very difficult out there. People are keen and willing to work, but they need assistance, where possible.

Professor Banks: I was interested in the reference to the University of Strathclyde engineering graduates. I concur that, previously, finding jobs was no problem at all for such graduates. They are having a little more difficulty this year, but that is true nationwide.

The interesting corollary is that the University of Strathclyde will, I understand, this year take in just under 200 undergraduates to the first year. That is a record. Last year, there were around 130, but there have been so many people with excellent qualifications that we have given them unconditional offers, which must now be accepted. There is the same trend in mechanical engineering in particular throughout the country. Many more people are applying for places at university. It is clear that in the current recession, people expect to go into courses at the end of which they can be fairly sure of employment.

On STEM, I have just concluded a term as a board member of the Engineering and Technology Board, the main purpose of which is to market engineering. Recently, we had in the centre of London the big bang fair, which tried to interest younger people of school age in the sector. Approximately 4,500 schoolchildren went through that fair, and the interest that they showed was amazing. I will put in a plug for Scotland. The big bang fair will go to Manchester in 2010, but Scotland is being considered for 2011. Perhaps if we get in early enough, we could bring it to Edinburgh or Glasgow. The idea behind it is to get young folks interested in taking subjects such as physics, chemistry and mathematics, which will give them a base on which they can develop the necessary skills to go into engineering. The Institution of Mechanical Engineers, which I am representing, has ambassadors who regularly go into schools with the message that engineering is important and that we must have engineers if we are going to develop our renewable technology offshore or elsewhere.

Barry Neilson: I did not address the point that has just been made about the upswing in

applications to further and higher education institutions, for which I apologise. That people are considering the industries is a positive thing; it shows confidence in them, so it seems that there is such an upturn in interest in the science, technology and engineering industries. There is confidence that there is going to be a bounce-back, and people are taking a gamble that it is going to be in three years' time, when they come out of the other side of their courses. However, that is not the answer; it is a holding pen for skills in three years' time.

People on full-time courses are not getting work experience, so they have to get it when they come out at the end of the course. Work experience is what matters, at the end of the day. People come out of education with the knowledge, but it is the application of that knowledge in a workplace that is really important, so employers need support to enable them to give those people that applied knowledge. That should be regarded as part of their education rather than an employment strategy.

Marilyn Livingstone: At the same meeting, I was told that universities are struggling to get work placements although they are crucial. If employers are laying people off or cutting back on their employees' hours, it is much harder for students to get work experience. The committee has already heard evidence on that, and it is something that we must take on board.

Stuart McMillan (West of Scotland) (SNP): I have listened with great interest to what you have said this morning. The industry, in its various strands, seems to be leading the way on this matter. The TUC pamphlet that the committee has received includes comments from Brendan Barber, the TUC general secretary. On page 1, he says:

"This is an enormous challenge to the UK; not just because our green economy lags so far behind others, but because the mindset in government for the last 30 years has been to leave the market to deliver."

He goes on to discuss how Germany and Denmark have taken things forward immensely. Do you think that that is a fair comment? What would you like the UK and Scottish Governments to do to assist the whole industry in bringing more jobs to Scotland and the Scottish economy?

Kelly Lee: European and international case studies show that demand for green products and services is policy led. There is an element of market forces, but Governments need to take a leap of faith to see where markets are not working and where a clear policy direction is required to meet targets on, for example, reductions in carbon emissions. Putting such policies in place gives companies the confidence to invest in the longer term. As we have seen with various initiatives—such as the warm front scheme in England and low-carbon buildings programmes—changes in a programme create uncertainty and companies will not develop their skills base if they are not sure what is going to happen in a year.

For the Greenpeace report, we spoke to energy efficiency installers and manufacturers, who told us that they would be willing to increase their capacity but are not sure what the Government is going to do. Even if the Government announces a new policy direction to the effect that there are going to be energy efficiency installations in homes, small-scale microgeneration programmes and large-scale technology projects for offshore wind energy, the installers and manufacturers need to know that that will not be just for the short term—for one year, or whatever. They need to know that the policy will last for 10 or 20 years, which will give them the confidence to invest.

Professor Banks: I would like to comment on the particular point about the Government providing additional finance in the context of our marine energy report. We suggest that there is a significant funding gap in respect of development of marine energy. It has been developed fairly well within the university sector in Scotland, but there needs to be a leap of faith from the micro level to the macro level—from the test bed in the universities to installation in the offshore environment for either wave or tidal energy.

10:45

Our report highlights a funding gap of about £40 million. However, I am pleased to say that as an institution we are still working with key stakeholders in the marine industry, including developers and investors, to address funding issues in the full product life cycle of marine energy technology. We hope that some of that money will come from Government sources.

The fundamental point is that we need to develop from the micro to the macro scale if marine energy is to be taken further. By that I mean not only levering in university labs but taking things out into the offshore environment.

The Convener: What would be the best funding stream for plugging the funding gap that is highlighted in your report? In private evidence, the banking sector told us that the energy industry sector's set-up in the UK does not encourage the banks to get involved at that stage in the process. Would, for example, moving away from renewables obligations certificates to feed-in tariffs encourage banks to invest, or do we need to look again at schemes such as the wave and tidal energy support scheme?

Professor Banks: It is difficult to say exactly what the best scheme might be from the

institution's point of view, but our view is that the money must be found if development is to happen. We are pleased to see that the Government is considering various alternatives, and we very much support the saltire prize and other such developments.

I realise that the banks are in a pretty difficult position and are unlikely at the moment to be putting money into this area. However, we need to work with developers and others who will benefit from these schemes and we need to try to get them to put in some advance investment.

The Convener: The saltire prize is for technology that has already been developed, is in place and is proven. It is also a case of winner-takes-all. Is that really the right way of encouraging people to invest in the intermediate phase of development?

Professor Banks: The saltire prize is a quite separate issue from the £40 million gap that we have identified. It is a nice idea, particularly in respect of the opportunity that it gives other countries to do something for our country. However, I appreciate that the saltire prize comes in at the end of things once the technology has been developed and is proven.

Stuart McMillan: I am keen to hear Mr Robertson's views on the original question.

John Robertson: I believe that Scotland has a tremendous opportunity in this respect. Although there has been a lot of investment in research and development, I think that the industry has advanced further and that we have an opportunity to be leaders in manufacturing. That is where investment should be made.

According to our calculations, a total investment of £10 million in our yard would make us leaders in Europe. That is the kind of profile that Scotland needs. Offshore wind is going to happen and is going to be big. If we cannot make it happen quicker, we are going to have major problems. I had hoped that some projects could have been accelerated since the Crown Estate's announcement and I would certainly have liked the UK to have large offshore wind farms by 2013 rather than 2015, because the industry is suffering from a lack of confidence. Many major utility companies simply do not have offshore experience. If we in the UK can execute three or four major projects and can build up confidence—after all, we have the competency, the skills base, and the ability to supply—the industry will move fast and everything else, including apprenticeships, training, further investment and attraction of other businesses into the area, will fall into place. However, we need to be up there and realise the scale of development. Once the industry reaches that level, it will suck in a lot of other things and grow very quickly.

Jeremy Sainsbury: We have a UK perspective as well as a Scottish one. Unfortunately, the Scottish Parliament does not have control over energy policy although, as I have said, it does well in relation to the renewables sector—we have punched above our weight and been ahead of the curve on most things. From the Scottish perspective, we need a home market if we are to develop products here. The emphasis in round 3 is on the south-east coast, so we need to drag people up here. We need to examine developments in Cuxhaven and Bremerhaven and the resources that are being made available for centres of excellence in places such as Germany and Denmark. We must consider how we can compete. We can get the policy right, as we have control over some of the industrial-type motivations.

On the wave and tidal sector, Iain Smith asked whether we need a feed-in tariff instead of the ROC system. The ROC system has almost turned into a feed-in tariff, because it is reviewed every five years and at present is set at a very high level for wave and tidal energy. However, that can be accessed only once the electricity is produced. We need to make the little link between the one-twentieth scale—the first EMEC product—and production, especially when there is a stutter at that stage, which always happens. That is the trouble for politicians and Parliament, although they are fantastically supportive of the industry.

We probably needed measures in place three or four years ago to stop Pelamis going to Portugal. Those measures should have been put in place then on the basis that, if Pelamis did really well in all its stages, it would be ready to deploy on a much larger scale. However, as happens with all technology, there was a stutter and things got in the way. Politicians have to be ready in case a technology is ready, but at the same time the technology is unlikely to fulfil expectations. That is an expectation management issue. There is a gap between the EMEC stage—we do very well up to that stage—and taking something into production. That issue needs attention. Scotland can push manufacturers and get a head start, because nobody else in the world is currently addressing that little gap.

Stuart McMillan: Is it realistic to suggest that, if the Government does not provide a clear direction, Scotland and the UK could fall behind once again, as happened with wind power, on which Denmark made real progress?

Jeremy Sainsbury: We have clear policy steers. Parliament can do a certain amount, but industry has to step in. The Scottish industry has a clear link to Parliament, for which we are grateful.

Parliament listens, but it needs a coherent voice from industry so that it can hear the core messages on what is required. We do that fairly well in Scotland. We have strong messages at the European level, and although at the UK level the Scottish angle is not being pushed as much as it might be, there is certainly a push with large targets. That is all out there for the market to see.

When everybody is talking about the macro stuff, we in Scotland must consider how we can be clever with the small stages at the beginning. We need to think about how we can invest another £10 million or do something that is relatively small beer but which gives us a leg up and allows us to be the problem-solving people in the delivery of those massive targets. Everybody is asking, "How do we do it?" They want people to come along and say, "I'll help you; I'll hold your hand; I'll go along." However, we need to know that we have the backing to do that. Once we get in at that ground level and are seen as part of the solution to problems in reaching the big targets, we will fly. However, the issue is how we get on the bottom two rungs of the ladder and ensure that we keep climbing.

Lewis Macdonald: As Jeremy Sainsbury has been a member of FREDS from the outset, he will be aware of the wave and tidal energy support scheme that was instituted three years ago. He will also be aware of the issues that the Institution of Mechanical Engineers raised about a funding gap after the WATES scheme and before the proving of technologies. Do you have a view on that? Is wave and tidal energy one area in which Government can make a relatively small investment, such as £40 million over several years, and produce a big return?

Jeremy Sainsbury: I think that Government can help with that gap in several areas. The funding gap is when things move on from a demonstration—which might be completely venture capital funded or Government funded through the renewables obligation, which gives a good level of support—and then run into all the insurance barriers and so on. In the early years, the Danish Government underwrote the Danish companies that sold turbines so that they had a fallback scenario in the event of disaster. Investors need that when they are trying to build projects. For example, when the Crown Estate grants a lease, it requires that the site be left clean afterwards in the event that anything goes wrong. Such doomsday scenarios are always included in lease arrangements, so we need to consider whether we can do something clever to help such companies.

How can we help an industry that has made two or three devices a year to gear up to make 30 or 40 a year and then 200 a year? How do we help the industry so that investors have confidence that, if something goes wrong, someone will stand behind the project all the way down the line?

Not only are most companies not big enough to give the huge warranties that are required, they need help to ensure that the manufacturing chain can keep up with the innovation and demand. Co-ordinating all that is a key issue. We have certain bits of that in place and the Government has been supportive in seeing what is needed as we go along.

At the university level, the Government supported the technology that was identified. EMEC was then created to provide the next step. We are now moving from that EMEC scenario, so we need to consider how we create the pipeline of stuff to follow. We need to accept that there will be some failures, but how do we ensure that companies do not take a dive because of one failure? In Portugal, we have seen the terrible sight of Pelamis machines sitting in dock because of the difficulties of Babcock and Brown Limited, which is one of the main funders. All sorts of things can go wrong along the way. A small company that is gathering momentum cannot afford to stutter for two or three years because of lack of funds.

Lewis Macdonald: If that underwriting role is critical, could the Scottish Government come to the table to make it possible for companies to take that next step?

Jeremy Sainsbury: Underwriting is certainly part of it. What would an investor in the technology want to reduce the amount of risk in the development? What would make the investor keen to invest? There are many drivers, but liability if things go wrong is a major concern. People want to do something green, but they do not want to be seen to be the laughing stock of the industry if things go wrong. Unfortunately, we have lost some of that Victorian get-up-and-go approach whereby people said, "Let us stick it in the water and, if it sinks, we will build another one." Nowadays, everyone is embarrassed about letting something sink, so most companies sink with their prospects.

The Convener: Will the proposed Aberdeen offshore test facility, which is currently awaiting final approval, help matters? Will it enable Scottish companies to get involved in developing turbines, which can then be put into that test facility to prove their worth? When we visited Vattenfall's offshore farm in Sweden, we were told that there is a lack of competition because of the limited number of proven turbine manufacturers for offshore wind. Will Scotland benefit if that offshore test facility develops?

Jeremy Sainsbury: I think yes. We want to focus on how we can solve problems for people. A

test facility that provides the ability to deploy things quickly in places where the planning is already assumed and a bit of grid is available will be helpful. Something that makes it easy for people to do things will certainly help Scottish companies to demonstrate their technologies and designs.

Professor Banks: In that respect, if we are to develop the industry nationally within the UK by using Scotland as a base, some intergovernmental activity will also be required on, for example, the grid base. We cannot develop that independently. There needs to be cross-party as well as intergovernmental support for that. We need to engage with our engineers, scientists and investors more generally on that issue.

11:00

Jim Brown: There are a couple of issues that need to be addressed. We need to sustain the workforce and its skills through the downturn, but we must also prepare for the upturn and expansion. Employers have told us that they need some support with that, through apprenticeship and upskilling programmes.

Employers are confident that the National Skills Academy for Power can help to address renewables skills issues, as well as wider power issues, but they would like it to be supported by the Scottish Government. That approach is great for large-scale renewables, but there is not much for microrenewables, which we have not discussed a great deal today—it is mainly about upskilling the existing workforce in the area, many of whom are in microbusinesses. We should support people by providing bite-size chunks of learning and assist them with bureaucracy such as the microgeneration certification scheme that they must go through to draw down grants. The scheme poses a barrier for many employers. Work is being done with industry bodies to address the issue in Scotland, and we hope that an alternative will be considered for Scotland.

One positive development is the renewable energy skills group, which has been established with the Scottish Further and Higher Education Funding Council, the Scottish Government and stakeholder bodies as partners. The group will have a key role in addressing skills issues and its work should be recognised.

Gavin Brown (Lothians) (Con): It would be helpful if the committee could be provided with a baseline figure for the number of people who are currently employed in the energy sector in Scotland. A document produced by Scottish Enterprise indicated that 100,000 people are involved in energy production and generation, but a Scottish Government publication that appeared just a couple of months ago put the figure at 160,000. Every organisation has slightly different figures, but the difference between 100,000 and 160,000 is quite large. Are any of you in a position to tell the committee today what you think the employment stats are? If you cannot put a figure on it today, can you produce something in writing after the meeting? It would be good for us to have some consensus on the baseline figure when we produce our final report.

Jim Brown: It depends on how the energy sector is defined. We can provide figures for our sector—the generation, transmission and distribution sector—for which we have detailed, robust figures and which includes aspects of renewable energy. However, should we also consider waste management, given that energy is generated from waste and anaerobic digestion? There is also downstream gas—does gas distribution come into the picture? If you could provide us with a clear definition of what you require, we could probably pull the statistics together quite easily.

Gavin Brown: It is not 100 per cent clear from the reports which definitions Scottish Enterprise and the Scottish Government have used. Perhaps one of the problems when people present job estimates is that they use different criteria. That makes it easy for them to say that they have created X number of jobs. If there were a way of establishing some kind of baseline, that would be helpful for all sides. Are other panel members willing to contribute something in writing, even if they are not able today to put a figure on employment in the energy sector?

Barry Neilson: The National Skills Academy for Nuclear has fairly detailed information on employees in the nuclear sector. We could supply that information, if Jim Brown is willing to co-ordinate figures for all the other energy sectors. We need to distinguish between employees and subcontractors, which are a moveable feast. Subcontractors do not operate solely in energy facilities, so we might end up dealing with fractions of people. It is a difficult issue. We could come up with a figure, but it might be interesting to see the degree of variation.

Gavin Brown: The committee can wrestle with that when it has received all the information. Any information that you can provide will be helpful.

Professor Banks: If you could make a specific request, some of our staff could look into the matter and come up with what we hope would be a fairly accurate figure.

Jim Brown: I would be quite happy to work across the sector skills councils and with colleagues here to pull some information together, if that would help. We have extremely robust figures for the power companies, such as National

Grid, Scottish and Southern Energy and EDF, and the main contractors. That is a good starting point. We might be able to take things forward from there.

The Convener: We would be extremely happy if you could do that.

Jeremy Sainsbury: The Scottish Renewables Forum does a job survey of its members every year, so we have figures on the number of real jobs in renewable energy in Scotland. They relate to front-end delivery activity rather than to the work of on-site construction companies and so on. In other words, they cover people who are involved in planning, development and operations. We can provide you with those figures.

Gavin Brown: I have a question on a separate issue—the long-term sustainability of green jobs. Many Governments shout about the number of green jobs they are creating. I ask about their long-term sustainability because the "Scottish Renewables Economics Impact Report 07", which breaks down the number of jobs in various sectors into different categories, identifies that only 66 of the 1,078 jobs in wind relate to operation and maintenance. It seems that once a project is switched on, the bulk of the jobs disappear, although other projects continue.

We have figures for the wind sector, but we probably do not know about wave and tidal yet, as the production stage has not been reached. Are all the green jobs that we hear about sustainable in the long term, or do a fraction of them relate only to the construction phase, after which they disappear?

Jeremy Sainsbury: Those figures are a victim of the fact that they reflect our membership. I will give an example. At the moment, at Crystal Rig wind farm, which is not that far away from here, no operation and maintenance jobs would be listed—actually, I lie; there would be three such jobs, because that is the number of asset management crew. There are five-year warranty agreements on most wind turbines. The engineers who do the operation and maintenance during that time belong to the turbine manufacturer. After that, the owner can take control of the site. At that stage, Crystal Rig will employ between 25 and 28 people—asset management people and people on site—in its own right. Those jobs will all appear on our website as Natural Power jobs—if we get the contract.

In operation and maintenance, there is at least one job for every 10MW of electricity produced. Our average is probably a little higher than that. Given that there is probably 5GW-worth of onshore wind potential in Scotland, we are looking at roughly 500 jobs in maintenance.

Jim Brown: That is certainly borne out by some of the data that we have, which is why the British Wind Energy Association has asked us to work with it to develop the turbine maintenance apprenticeship. The five-year warranties are now expiring, so there is a need to get the people in place to do the maintenance. I have spoken to Scottish and Southern Energy and Scottish Power Renewables and know that that is a key priority for them, as it will be for other employers. There will be jobs on the maintenance side.

Jeremy Sainsbury: The figure of 500 that I quoted relates just to site engineers but, as with the car example that was mentioned earlier, a number of aspects come into play. Given that gearbox and other engineering specialists need to be supplied to such sites, the total number of jobs will be substantially greater than 500. The wind sector will be of real value to Scotland in the long term—I certainly hope that that is the case, because we supply people to that sector.

Gavin Brown: I think that you suggested that there would be roughly one job for every 10MW. Was that in relation to onshore wind only?

Jeremy Sainsbury: That was for onshore. The figure would be higher for offshore.

Gavin Brown: Do you have a rough idea of what the figure would be for any of the other renewable technologies?

Jeremy Sainsbury: No. I am sorry. In response to Stuart McMillan's earlier question I should have said that one of the major opportunities for Scotland this year in policy terms is biomass and getting the heat sector, and our wording around it, right. Heat incentives will offer huge potential for additional jobs. In those sectors, there will be a higher number of jobs per megawatt installed. In fact, wind will probably have one of the lowest figures, because a wind farm has a number of generators on it and a small team can go around and maintain them relatively efficiently. The generators are run efficiently from control centres and so on. The maintenance of a wind farm is a highly automated process, whereas some of the other technologies are a lot more dispersed in their nature and, as a result, will require more people.

Jim Brown: There will be jobs on the energy efficiency side that we do not class as renewables jobs but which will certainly impact on heat and so on. We are working with Scottish and Southern Energy on a pilot programme for 100 apprenticeships around energy efficiency, which is to start in August or September. We see that as just the start, because other employers are interested in the initiative.

The Convener: Pound for pound—or megawatt for megawatt, if you prefer—which of the major

energy sectors, including the energy efficiency sector, gives you the most bang for your buck in relation to jobs? Is it coal, natural gas, nuclear, wind, or renewables in general, or energy efficiency? If your investment was primarily to create jobs, where would you put your money?

Barry Neilson: It depends on which phase of the cycle you look at. There are a huge number of jobs in nuclear construction and decommissioning, but the running of a nuclear power station is very lean in terms of manpower. If you look at the whole cycle, there is huge investment in jobs that bleeds into virtually every sector of our economy. If you look at the whole cycle, the profile of the jobs that are required is interesting; it is a sort of inverted curve.

John Robertson: Strengthening our position in manufacturing is the best opportunity for jobs in Scotland. Manufacturing can cover all sectors: nuclear, tidal, wave and wind. That would give everybody confidence about our long-term future.

The Convener: We have not been particularly good at getting on to the manufacturing bandwagon. It is generally acknowledged that there is likely to be a shortage of wind turbines. Scotland has a big demand for offshore and onshore wind turbines, but we are not really in the game when it comes to manufacturing them. How do we ensure that when we develop new technologies—perhaps we will move to district heating systems—we are involved in the manufacturing, rather than just in the construction? What do we have to do? Who has to take the initiative to ensure that Scotland gets more of the manufacturing jobs at that level?

Professor Banks: You have given me the opportunity to comment on the retrofitting of our infrastructure, which relates to such things as district heating. I guess that the committee is looking at a low-carbon economy. In future, we will have to ensure that our new buildings are carbon neutral.

In an interesting lecture in London recently, Peter Head indicated that even if all our new buildings were carbon neutral we would have only a 5 per cent impact on the amount of carbon that comes off our building structures; the big thing will be retrofitting existing buildings with district heating, cavity wall insulation and loft insulation. There is a good possibility of a large number of jobs being created in such areas. As committee members will know, the UK Government is considering every home in every street, to see what can be done. I guess that the Scottish Government is doing something along those lines as well. The retrofitting of existing infrastructure will be very important.

11:15

Kelly Lee: I do not know whether committee members have read the report that Impetus did for Greenpeace. It gets quite complex towards the end, but Greenpeace asked us for a figure for what it would cost to retrofit all homes in the United Kingdom to meet our objectives on climate change.

We considered some of the research studies, and one by the Centre for Sustainable Energy—CSE—was called “How Much? The Cost of Alleviating Fuel Poverty”. It concerned homes that spent more than 10 per cent of their disposable income on energy. CSE considered the cost of removing fuel poverty, and the figure that it came up with was £9 billion across the UK, representing an annual investment of £1.1 billion.

The Fuel Poverty Advisory Group in London then estimated the funding that would come from Government programmes and energy supplier programmes. That involved considering the contribution that could be made by the carbon emissions reduction target, by the decent homes programme, and by funding from the likes of local authorities and housing associations. The figure that the group came up with was £550 million a year—plus the CERT uplift, the legislation for which is going through at the moment, and the community energy saving programme, or CESP. The resultant figure was £750 million a year. The Government would therefore be left to spend £350 million a year—but that is just the figure to eliminate fuel poverty.

The next question was how to take things up a step. To fuel poverty-proof the whole stock, bringing it up to a standard assessment procedure target, or SAP target, would require an extra £1.4 billion, which represents an extra £175 million a year. In total, that brings the figure to £525 million a year, but that would bring SAP levels only to 65. To bring the SAP levels up to 81—at which point you are getting quite efficient and meeting a lot of your climate change objectives—the figure was between £3.5 billion and £6.5 billion a year until 2050. That is a lot of money.

A conservative estimate, at the lower end of the scale, was made of the number of jobs that could be created. The work would produce 55,000 direct jobs and hundreds of thousands of indirect jobs. Unfortunately, the indirect jobs are not quantifiable.

We feel that the figures in the report for Greenpeace are quite robust. They are the figures that have been put to Government.

Christopher Harvie: I was interested in what Mr Robertson said about Germany. Committee members have been out looking at the Danish energy scene in general and at Danish offshore

wind. In Denmark, the jacket potential for offshore wind is relatively minimal. Big, heavy, concrete bases were sunk on to a fairly shallow sea bed—and I imagine that those are the conditions in much of the Wattenmeer, the sea that extends west of Hamburg, and in much of the Baltic.

What will be the source of the construction work in Germany? Will it come from expansion into other areas in offshore wind, from other sorts of technologies, or from the creation of smaller structures for the German seas?

John Robertson: We are very privileged. At the moment, there is a project in Germany called the alpha ventus project, which is a German test field. Here in Scotland, we are building six of the jacket substructures for the test project, which is funded by the German Government. Jackets are of interest to the German sector because it is technology that we are transferring from the UK. There are a number of inquiries at the moment; a number of companies are talking to us about jacket structures.

In substructures, monopiles are a solution, and monopiles are currently coming from Belgium, Holland and China. As for gravity bases, there is the Thornton Bank project. However, with 40 substructures in concrete and five REpower turbines, it has been difficult to meet the contractual requirements because of the amount of real estate that is needed for the mass manufacturing of concrete structures. That will be the downfall, I believe. It will provide a solution, but the issue needs to be addressed—that constraint will make gravity structures less attractive to the industry because of the number of structures that will be needed quickly.

The jacket substructure has high potential. It is proven technology. I believe that BiFab will be a key supplier of jacket substructures for the UK and for our German operation. In Germany, the industry is taking a much more positive view and it is moving quickly; the current figure is something like 250,000 jobs in alternative energy. People are very good at automisation and robotics in Germany, and we are encouraged by some of the ideas that have emerged. If we could transfer some of that technology over to the UK to increase the number of structures that we can produce in a year, we would be very interested.

Christopher Harvie: Just as an illustration, my office is doing quite a lot of work in co-operation with the research ministry in Baden-Württemberg. We have found out that Baden-Württemberg, which has a population of 11 million, produces 10 times the number of trained apprentices that we do. Given that Scotland has a population of 5 million, that means that, in proportion of population, Baden-Württemberg is training roughly five times the mechanical, electrical and engineering apprentices that we do every year. People in Baden-Württemberg start off with an enormous advantage: given that Bosch, Daimler-Benz and Siemens are in the one Land, it is way ahead. Adaptations can be made. As you point out, that is crucial for robotics, for example.

The basic research is already there in Baden-Württemberg, although, in a theoretical sense, it is probably not on the same level as British research. A lot of our research in that area is well ahead of German research, but we fail to transform university laboratory breakthroughs into manageable innovations as the Germans would do. They have a word for it, although it is only available in Swabian: tüfteln. I do not think that there is a translation for it even into German—it means playing around with an innovation until it takes off financially. The concept is still very much carried in small to medium-sized enterprises, of which, overall, we do not have very many in Scotland. It is good to see something as dynamic as BiFab—and not just because it is in my constituency.

How we produce an adequate number of skilled people to reach the take-off point is a major issue. I am thinking about Pelamis and the experiments that are being carried out in Stromness and other places. As you point out, reaching the point of mass production and gaining economies of scale is crucial. A very awkward transition will be involved, as we have to make a standing jump, more or less. Where do we get the bods? How many people can come out of the offshore sector? Inevitably, that number will diminish. How many people do we summon in from abroad? People are operating in the Gulf and elsewhere.

I have come across this point quite often when dealing with asylum seekers, including Tamils coming from Sri Lanka. Do we have highly qualified people who are here in the country but who cannot work? Do we have a strategy for how to put together a strategic labour force very quickly? We always render the question as how many jobs will be created by a certain industry, but that is frankly nonsensical. The question should be how many skilled jobs we need, in short order, if we are to establish a bridgehead to pull the industry into efficient operation.

John Robertson: Our business is oil, gas and alternative energy, and getting apprentices to come into the company is not an issue because of our involvement with alternative energy. They are much more keen to come into that new industry and see the new opportunities that are there. We are just opening up the Arnish yard, in Stornoway, and there is a lot of interest among local people in coming back to the island and working with our company. The concerns of the people arise from

the track record of that facility—they want to know how long the work will be for.

The opportunities in the alternative energy sector are good. We cannot see more than 12 months ahead in the oil and gas sector; however, I am confident that, once the alternative energy sector comes, we will be able to see the opportunities three to five years ahead. When companies have the opportunity to see three to five years ahead, they are more attractive for people to join. There can be long-term planning—it is not a hire-and-fire situation—and companies are on a product line. In the oil and gas sector, we have never had a product line that has allowed us to tool up, set up the facilities and establish the supply chain support from other areas of Scotland and overseas. The whole thing is different because it involves vast quantities and large-scale projects.

Rob Gibson: We need to consider our position in the world as renewable energies develop, in terms of trade promotion and export credit guarantees. Is there sufficient finance around at present? Will the recent UK Government budget announcements be sufficient to enable us to compete with others to get into the markets in China and the like?

John Robertson: I do not know about getting into the market in China, from a BiFab perspective. With the technology that we have and our relationship with the designer, we have a patent and a product. That product can be exported, but I think that very little of the work would be done in Scotland and exported to China. What might happen is that partnerships are established with companies in that area that can provide technology to the sector. We are in discussion about such opportunities in the United States. A transfer of skills and technology will be required, and the product will be manufactured elsewhere under licence.

Rob Gibson: The Pelamis product has been bought in Portugal. Is there anything in the recent budget announcements that will help us to build such opportunities into our business plans, to create a longer time horizon of work?

Jeremy Sainsbury: The recent budget has done two things. In the offshore wind sector, it has added an extra £500 million for the double ROC, which is enabling all the companies with 3.1GW capacity to go ahead with those projects. That is a good pipeline of projects. There was also an announcement of £50 million-odd to find the best foundation solution. It is not quite the saltire prize, but it is a similar quest for the best foundation designs. We should be involved in that.

Christopher Harvie was right in his comments in relation to foundation types—there are a large number of foundation types. They tend to be designed for different types of water. We have been working with a number of large companies for their round 3 bids. The gravity-type concrete foundations tend to be okay in up to 15m to 20m of water. The same is true of monopiles—they are not to be used in more than 20m of water. Concrete and gravity-type foundations can be changed to go slightly deeper, but they have to be tripod-type foundations. Above 30m of water, the jacket becomes one of the most cost-competitive foundations in the market. Most of the German sector, the Dogger Bank and other areas are in 30m to 50m of water, so the jacket must be up there as one of the potential solutions for companies. That is where they are looking. There is therefore a customer base that is looking for a solution in the jacket sector, which is good for us as we try to step into that hole.

John Robertson: What is the thinking behind the Government investing £50 million to come up with a design when we already have the technology, the design and the manufacturing? Is there not a danger that £50 million could be spent on developing technology overseas and not doing anything to protect Scotland?

11:30

Rob Gibson: In that context, has Scottish Development International, UK Trade and Investment or the Scottish Government asked you whether it can help?

John Robertson: We are the largest manufacturing company in Scotland covering oil and gas and alternative energy fabrication. There is a lot of interest in the yard, and there are tremendous opportunities for the yard, but other than support from Marilyn Livingstone MSP and local MPs, some assistance and discussion from Scottish Enterprise, and a visit from this committee, too few people have asked us what we need, how they can help, and how we can raise Scotland's profile to ensure that we are leaders rather than at the bottom.

Christopher Harvie: Some of the oil production platforms and so on are threatened with decommissioning. I mentioned this last year, but is there a programme to recover from those platforms things such as combined-cycle generators, which could be used onshore as part of district heating schemes and combined heat and power schemes? We are often told about the immense generative capacity of the production platforms. This would seem to be an area in which quite a few economies could be made, for instance in creating CHP schemes such as those in Denmark, where district heating now supplies more than 65 per cent of housing units.

The Convener: No one seems to want to answer that.

Rob Gibson: I go back to the point that John Robertson was answering about people coming to help the industry, and offering help for export potential and so on. Does Jeremy Sainsbury have a take on that?

Jeremy Sainsbury: Yes. The Scottish Parliament has been very supportive of us, and Scottish Enterprise has been good on export missions and so on. We are now in six different countries, although it has to be said that that was probably never led by Scottish Enterprise—it was mainly led by clients. The opportunity on my side of the industry, consultancy, is very different from the manufacturing opportunity. We have 120 jobs and we want to double that number, whereas we are talking about thousands of jobs on the manufacturing side—we are very good in engineering terms. The bottom line is that we are right at the acceleration point, and we just need to advertise our presence and what we can offer. Taking the £50 million as an example, there are things that we could do now if we could grab that money to refine the designs and promote ourselves.

China was mentioned in relation to offshore wind. In terms of manufacture, China is a threat. The monopiles for the Greater Gabbard site in the south of England are coming from China. However, China does not have an offshore wind industry, and it is unlikely to develop one because it has such vast land mass to do things on. Germany, Denmark and Britain are leading in offshore wind. Germany and Denmark are our competitors at the moment, but the United States has just woken up to offshore wind. President Obama has made a number of announcements about offshore wind and how it is a win-win for the United States. When the US starts to move, it will come up quite quickly.

We are one of the front three in the world in offshore wind, and the question is how we ensure that we stay there, and grab part of the 75GW that is out there. How much of that value chain can we bring here? There is £250 billion-worth of investment, at a rate of something in the region of £25 billion a year, in the European sector.

There are issues in relation to how we do grid; it is not just our grid in Scotland that we are talking about on that scale but the European grid and the European network. Having said that, I cannot criticise the Scottish Government, because it has been taking a lead in trying to get Norway, Denmark and a number of other countries involved and engaged with ensuring that Scotland is part of that European grid. Some useful work has been done on that with Statnett and various other European utility companies.

Rob Gibson: But it seems to have been agreed in the European recovery programme that the money for the development of the grid would be driven by the UK department.

Jeremy Sainsbury: Yes. Unfortunately, again, we stumble on the issue of energy policy still residing with Westminster, which means that whatever Europe does will be focused on Westminster. We can create initiatives up here, however, and get the Europeans to talk about them to Westminster. That is the approach that we are taking at the moment. It is difficult for the Parliament to control energy policy when it comes to the European sphere. Having said that, I should say that the Parliament has been exemplary on renewable energy policy. We cannot ask you to do any more than you are doing. Perhaps this is one of those areas that make a case for the powers of the Parliament to be widened.

Stuart McMillan: Professor Banks, on page 17 of your report you talk about grid capacity and on page 20 you talk about infrastructure investment and say that a commensurate proportion of powers should be devolved to Holyrood. Have you fed those views into the national conversation and the Calman commission?

Professor Banks: I cannot answer that question directly. I can come back to you with a specific answer. We believe that interaction between the Government in Scotland and the Government in Westminster is necessary to ensure that, when it comes to supplying the offshore energy to the grid, there is a unified policy rather than one country going it alone.

Lewis Macdonald: Jim Brown talked about the potential for employment in the energy efficiency sector. This morning, we have focused on policy initiatives that have been taken by the Scottish Government and others in relation to renewable energy and how policy intervention has, we hope, stimulated good economic opportunities.

This week, in the chamber, we will consider the Climate Change (Scotland) Bill and plans for energy efficiency and renewable heat that are associated with it. Chris Harvie mentioned district heating, and the committee visited Aberdeen to see the scheme there, which is probably Scotland's leading combined district heat and power scheme.

Over the past seven or eight years, the Scottish Government has stimulated renewable energy by working closely with industry and taking advantage of the opportunities of the powers that it has. Is there a need for a similar type of initiative in relation to energy efficiency and renewable heat and combined heat and power? For example, did the setting of targets eight or nine years ago stimulate the development of the industry? If so,

should we set similar targets for renewable heat and energy efficiency? Is there a close enough link between Government and the industry and skills providers to ensure that those employment and economic opportunities are realised?

Jeremy Sainsbury: I will talk about the biomass side of that, rather than the energy efficiency side, as I am not terribly conversant in that area. I chaired the FREDS biomass energy group, which did not have the opportunity to consider policy on the heat sector—we considered only renewable electricity. The heat sector offers Scotland a large opportunity and targets should be set for it. Scotland should be careful about how wordings on timber qualifications and everything else work—it is all in the detail. The Scottish timber resource is different from the English and Welsh timber resource. In setting feed-in tariffs and establishing incentive mechanisms to make things happen, we must ensure that Scotland can work within the rules and regulations, so the Parliament should examine carefully the wording of any policy. That needs to be done now and during this summer.

If those opportunities are correct, we can set our own aggressive targets that Westminster endorses, as it did for renewables—we set the pace and it comes in line, in effect. We have proved to be successful at that. Westminster would not necessarily stand in our way on such targets, because it is looking for all the help that it can get to meet them. Scotland has a great policy opportunity to get biomass really moving this summer, especially in the heat sector, which will produce more local jobs and more benefit to Scotland. Combined heat and power is great, but it is very expensive in the biomass sector. Heating is much cheaper and much easier to run, so networks and everything else are easier to establish. That is a huge opportunity.

Lewis Macdonald: Do skills providers have the sense that enough attention is being paid to the subject and that they have enough contact from the Government on what is required?

Jim Brown: The issue is interesting. As I said, Energy and Utility Skills is leading collaboration by all sector skills councils that have an interest in renewables. One issue that is emerging is that we had never previously considered energy efficiency as part of that, but more of a shift is now occurring to include energy efficiency. We are considering sustainability more, rather than just renewables in their own right.

We have short-term fixes, such as Scottish and Southern Energy's energy efficiency advisers, who will start work later this year. The sectors skills councils are involved in the renewable energy project group and will meet DECC tomorrow, when representatives from each UK nation will meet to develop a skills strategy for dealing with renewable energy. I am a member of that group and I will feed in the fact that we must consider energy efficiency as part of that work. It is important that we align rather than separate the issues as we move forward.

Lewis Macdonald: You say that representatives from all four UK nations will be at that meeting. Is the Scottish representation from the Government level or from enterprise agencies?

Jim Brown: It is from the Government level.

Lewis Macdonald: The Scottish Government is involved. That answer is helpful.

Jeremy Sainsbury: To have the dialogue that the Scottish Parliament and the Scottish Government have had to date with the renewables sector will be more difficult with the biomass sector, which has several established industries with established routes for communication and has several conflicts, such as that between chipboard manufacturers and biomass burners, which both use low-grade product, so a jobs argument is involved. The sector is perhaps a less coherent industry for the Parliament to obtain a message from than the renewables sector was. The renewables sector had the benefit that no existing sector was using a limited resource, so it was easier for it to engage with the Government. To a degree, the Government needs to decide on the direction in which it will go, to let everybody know about that and to communicate that to the biomass industry. The industry will then fall into place and—I hope—assist.

The Convener: That concludes our questions. We have covered a lot of ground and I thank all the panellists for their helpful contributions. It is surprising that, although the inquiry has lasted for the best part of a year, we still learn new things every time we have an evidence session. However, we must bring the inquiry to a close, and that was our final evidence session with external witnesses.

11:44

Meeting suspended.

11:49

On resuming—

The Convener: Next week, we will have our first evidence session in the energy inquiry with the minister, Jim Mather. On 20 May, we will have the opportunity for a private discussion about policy options for our final report, which will also inform our questioning in our second session with the minister, when we hope to focus on more specific issues—the first session will be more general. After that, we hope somehow to put together a report on which we agree, at least on most aspects.

Annual Report

11:50

The Convener: Item 3 is our annual report. Do members have any questions or comments? The report follows a fairly set formula and is required by standing orders.

Lewis Macdonald: My only passing thought is that, although the report notes at the end that the committee met in Aberdeen, it should say that that was to take evidence for the energy inquiry. Otherwise, the report is formulaic and straightforward, as the convener says.

Rob Gibson: We can agree to that suggestion.

The Convener: We will add what Lewis Macdonald suggests. We have to refer to the meeting in Aberdeen under “Meetings”, but we can also mention the Aberdeen meeting in the paragraph on the energy inquiry, provided that we stay within the allowed word count. We might remove a word somewhere else so that we can mention Aberdeen.

With that comment, is everyone happy to approve the annual report?

Members *indicated agreement*.

The Convener: Thank you.

Meeting closed at 11:51.

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