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Official Report

ECONOMY, ENERGY AND TOURISM COMMITTEE

Wednesday 30 April 2014

Session 4

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ECONOMY, ENERGY AND TOURISM COMMITTEE
13th Meeting 2014, Session 4

CONVENER

*Murdo Fraser (Mid Scotland and Fife) (Con)

DEPUTY CONVENER

*Dennis Robertson (Aberdeenshire West) (SNP)

COMMITTEE MEMBERS

Richard Baker (North East Scotland) (Lab)
*Marco Biagi (Edinburgh Central) (SNP)
*Chic Brodie (South Scotland) (SNP)
*Alison Johnstone (Lothian) (Green)
*Mike MacKenzie (Highlands and Islands) (SNP)
*Joan McAlpine (South Scotland) (SNP)
*Margaret McDougall (West Scotland) (Lab)

*attended

THE FOLLOWING ALSO PARTICIPATED:

Eric Machiels (Infinis Energy)
Martin McAdam (Aquamarine Power)
Dr Nicola McEwen (University of Edinburgh)
Dr David Toke (University of Aberdeen)

CLERK TO THE COMMITTEE

Douglas Wands

LOCATION

The James Clerk Maxwell Room (CR4)

Scottish Parliament

Economy, Energy and Tourism Committee

Wednesday 30 April 2014

[The Convener *opened the meeting at 09:30*]

Scotland's Economic Future Post-2014

The Convener (Murdo Fraser): Good morning, ladies and gentlemen. Welcome to this, the 13th meeting of the Economy, Energy and Tourism Committee in 2014. I welcome members, witnesses and our guests in the public gallery. I remind everyone to turn off, or at least turn to silent, all mobile phones and other electrical devices, please, so that they do not interfere with the sound equipment.

We have received apologies this morning from Richard Baker.

Item 1 on our agenda is the continuation of our inquiry into Scotland's economic future post-2014. I welcome the panel of witnesses joining us this morning to discuss energy policy, specifically renewables: Dr David Toke, reader in energy politics at the University of Aberdeen; Dr Nicola McEwen, co-director of the institute of governance at the University of Edinburgh; Martin McAdam, chief executive officer at Aquamarine Power; and Eric Machiels, chief executive of Infinis. Welcome to you all.

We have your written evidence. Thank you very much for that—it is very helpful in framing our discussion. In view of that, and given that we have quite a large panel, I will not ask you to make opening statements; rather, we will go straight to questions. We have 90 minutes or so available, which should give us time to explore the issues, including those raised in your submissions. I say to members that, although we have some time in hand, I would still be grateful if we could keep questions short and to the point. Similarly, it would be very helpful to have answers that are as short and to the point as possible. Rather than members asking questions to all four panel members, which would require a lot of time to get through the topics, I ask members to direct their questions initially to one panel member. If other witnesses then wish to come in and respond to a point that somebody else has made, just catch my eye, and I will bring you in as best I can and as time allows.

I will start with a question for Nicola McEwen—the other witnesses may respond if they wish to do so. This picks up on something in your submission, Dr McEwen, regarding what the white paper says about the ambition of the Scottish Government to continue close working arrangements between the Scottish Government and the rest of the United Kingdom Government in the event of a yes vote in the independence referendum, specifically the ambition in the white paper regarding the need for

"a far greater degree of oversight of the market arrangements for energy and firmer safeguards over Scottish energy security"

than we currently have.

It is clear to most observers that there is a growing divergence in the energy policies of the UK and Scotland. For example, the UK has approved one new nuclear power station, and there may be many more; and the Conservative part of the coalition has expressed its ambition to scale back support for onshore wind at a UK level. In Scotland, the Scottish National Party Government is still very committed to its ambitious renewables targets. Given that divergence in energy policy, how credible is a detailed, integrated energy market in the event of a yes vote?

Dr Nicola McEwen (University of Edinburgh): In terms of a common trading market, I do not see a problem at all. When I was doing interviews out in the Nordic states, one thing that came through was the complementarity and the differences between the countries and their energy supply, which made a common market make more sense. The countries complemented each other because of their differences.

The policy is much more difficult to envisage. There is not a lot of detail in the white paper on what a strategic energy partnership would look like, so it is not altogether clear how that would develop.

A problem—or a perceived problem—in the current system and one of the frustrations for the Scottish Government is the transmission charging regime. I find it difficult to envisage how we would be able to have very different charging regimes in such a tightly integrated market.

If the idea is that, with independence, we would have greater influence over the nature of the UK market, I struggle to see how that would take place within a strategic energy partnership. There might be some ways to circumvent in Scotland by doing something different and supplementary, but I find the idea that we would change the nature of the market in the UK more difficult to envisage.

The Convener: I will bring in Dr Toke in a moment; I just want to follow up one point with Dr McEwen.

To what extent would the rest of the UK, post-independence, rely on Scotland for its energy needs? Are there other options that the rest of the UK could pursue?

Dr McEwen: There is a lot of debate about that, and contingencies. If all the offshore wind happened in the way that people would like it to and as promises have suggested it will, and if all the interconnections go ahead with the rest of Europe, perhaps it would not rely quite so much. However, there will be continuing—and probably expanding—energy demand in the whole of the UK. If the UK moves towards electrification in transport and heat, which is the long-term view in the Climate Change Act 2008, there will of course be demand.

The Republic of Ireland was often mooted as being an alternative source to meet at least some of that demand, and it is interesting to note that some of the ideas and aspirations for sourcing electricity directly from the Republic of Ireland have just fallen through, at least for the time being. That suggests that there would be a market for Scotland to export to. It would always play a relatively small part in providing for the overall need, but nonetheless an important part.

The Convener: I will let Dr Toke in as he was trying to come in earlier, and then I will see if the others want to comment.

Dr David Toke (University of Aberdeen): It is quite clear what is likely to happen in the event of independence in that respect. After 2020—I think that things will probably remain much the same as they are now until 2020, for various reasons on which I can expand if you want—Scotland will have its own regulatory system for electricity and its own incentive system for whichever new energy sources it wants to use, but there will be a common system operator.

We have to make those important distinctions. The common system operator will guarantee energy security on the basis of the whole capacity in Great Britain for both the rest of the UK and Scotland. That is clearly in the interests of both parties. It would not be particularly novel for there to be a common system operator between states with different regulatory regimes. There is one in the United States, which covers 13 midwest states with different regulatory systems and the Canadian state of Manitoba.

If one reads between the lines of the British Government's submission, one sees that, despite a lot of hand waving, it is ready to go along with that idea because it suits both parties' interests. The rest of the UK does not want to have to manage incoming and otherwise uncontrolled bursts of variable renewable energy, and Scotland still has considerable conventional capacity, as the Scottish Government has pointed out.

On the other hand, Scotland can rely solely on renewable energy much more in the long-term future, and can share capacity and systems security with the rest of the UK. After 2020, Scotland will have to pay for its own new renewable energy, but it will have a much smaller hill to climb to reach the target in comparison with where it was in the past.

By 2020, around 80 per cent of Scotland's renewable energy target will have been fulfilled, mainly by onshore wind. It is quite good that the Beatrice wind farm project is being funded—the British Government will for pay that, which is great—but Scotland will be able to meet its targets under its own resources without excessive price increases.

The Convener: I will bring in the other panellists, if they want to comment. Does Martin McAdam want to say anything?

Martin McAdam (Aquamarine Power): Yes. I have a couple of important points on the idea of a single market. First, there are, as the previous contributors have said, very successful single markets operating at present. One was set up fairly recently in Ireland, so there is an all-Ireland energy market. There are two different states with two different transmission operators, and a single market operator for the whole of the island. It can have different energy policies, and yet quite a successful energy market.

Secondly, if we are going into the marketplace to buy a product, we will look at all the potential suppliers, and I think that Scotland has a great product. The good news is that, given the commercial viability of onshore wind in particular, Scotland has huge advantages. The fact is that, because the wind is so much stronger here, we will be competitive on a like-for-like basis with the rest of the UK. That is important to remember. In an all-Ireland or all-UK market, the suppliers in Scotland have a distinct advantage, which I think will remain the case.

Eric Machiels (Infinis Energy): The reason why our company, as a private investor in long-term generation infrastructure, finds doing business in Scotland so attractive is that it has a unique combination. First, it has a Government that has signed up to visionary and challenging targets. Given that we invest for the long term, we need a stable framework with full Government buy-in to those long-term targets. We find the bold challenge to which the Scottish Government has signed up very motivating, as we are an investor in long-term capacity.

Secondly, the benefits of a fully integrated UK energy market are, as Nicola McEwen, Dave Toke

and Martin McAdam have indicated, undeniable. The reason why the energy market works better on an integrated basis in reality is that the two parties are incredibly interdependent. The UK without Scotland cannot produce the levels of renewable power that are required to meet or comply with the 2020 binding European Union targets.

Thirdly, with regard to the predominance of the household affordability argument these days, there is—as Martin McAdam has said—no renewable power available today that is cheaper than onshore wind power, and especially Scottish onshore wind power, which has the lowest cost per megawatt hour on a life-cycle basis.

The combination of those three elements makes a powerful argument for the markets to continue to operate on an integrated basis.

The Convener: The integrated energy market is very important as far as your business is concerned. If there is a yes vote in the referendum, what must be done to provide the assurance that your company and your investors will need about future investment in Scotland?

09:45

Eric Machiels: Essentially, we need two grown-up Governments that sit down together and agree on a long-term plan for the continued management of that integrated market for the benefit of both countries. Scotland exports about 25 per cent of its electricity production. The obvious client for those exports is the UK market. Indeed, the UK cannot comply with its 2020 targets without Scottish renewable power. The interdependency is very strong and we assume that, even with a yes vote, it would be to the benefit and in the interests of both to agree on a continued integrated market model.

Martin McAdam: The bulk of the renewable energy that has been constructed in Scotland is supported under the renewables obligation certificate scheme. In order to be an electricity supplier throughout the whole of the UK, one must comply with the obligations under the renewables obligation, hence its name. That requirement will not disappear even in the event of a yes vote. Therefore, demand will continue, as Dr Toke said, right up until the next period, which is around 2020. Indeed, those long-term contracts are already in place.

In the broader European context, a goal is to achieve greater levels of market integration. Those greater levels are dependent on physical integration and that integration exists between Scotland and the rest of the UK. If we want competition on an European level, which is also important, the concept of breaking up the electricity market makes no sense whatsoever, whereas combining the Scottish and UK electricity market makes a lot of sense.

Dennis Robertson (Aberdeenshire West) (SNP): Good morning. There is general agreement that we need to look at alternative energy sources for the future. Earlier this week, the committee was in Aberdeen—I must say, Dr Toke, that the University of Aberdeen was wonderful and an absolutely fantastic venue for our meeting. We spoke to a representative from Oil & Gas UK. Although we probably have around 50, 60 or even 70 years-worth of oil and gas left, we must consider alternative energy sources.

My question is for Eric Machiels. In Aberdeen, we were told that a barrier to future investment in the oil and gas industry was fiscal stability, which is affected by UK Government taxation levels. The general consensus seemed to be that there would be better fiscal stability in an independent Scotland, which is an issue covered in the white paper. What barriers does your industry face with regard to stable investment? Is electricity market reform a barrier?

Eric Machiels: EMR creates uncertainty because, for the past decade, most of the renewable investors have grown very familiar with the very effective RO mechanisms. As Martin McAdam indicated, a strong part of the RO is that it creates an obligation on suppliers to source a minimum amount of renewable power. That obligation falls away under the new regime. That creates all manner of risks for renewable generators such as ours that do not have a supply business and do not sell directly to end users, which means that we need to find an intermediary supplier who is willing to take our power. Also our power is intermittent, so there is typically a discount on the prevailing wholesale price. The existence of the RO created a market for a steady quantity of renewable power, but we are not certain that that demand will prevail under the new contract for difference regime.

There is an element of uncertainty and of moving into new territory. We are not suggesting that CFD is not workable, but given the haste with which the Office of Gas and Electricity Markets and the Department of Energy and Climate Change are moving ahead into totally unknown territory, and given that billions of pounds of investment ultimately rely on private companies understanding the ramifications of the new support regime, there is a lot of nervousness in the industry at a time when the shareholders of these companies need to approve investment that will often yield returns only over 10 or 15 years. The fact that certain parties are whipping up sentiment by suggesting that onshore wind, which is the lowest cost renewable, should no longer be taken

into consideration when everyone is focusing on affordability for households is very surprising and, unfortunately, adds to the uncertainty.

Dennis Robertson: So you agree that in future we will need a mix of onshore and offshore renewable energy—in other words, wind and wave energy.

Eric Machiels: Exactly.

Dennis Robertson: If there were to be a yes vote in the referendum, what would you be asking the Scottish Government for on 19 September to give you the stability that you require?

Eric Machiels: We would be very keen to clarify to any Government with the type of ambitious, long-term strategic objectives that the Scottish Government has laid out for transition to a low-carbon economy that, as the ultimate capital risk-takers, we need to be convinced to carry on with our investment plans. There would be two very simple preconditions: first, clarity on the revenue support regime and whether it would be RO or CFD; and, secondly, assurances that the Scottish Government would work hand in hand with the UK Government to secure continuity of the integrated energy market.

Dennis Robertson: Of course, the energy market and the renewables sector in particular will also provide job and skills opportunities.

Eric Machiels: You are exactly right.

Dennis Robertson: Do any of the other panellists wish to comment?

Dr Toke: I agree with everything that Mr Machiels has said but my question is why no one is thinking of the possibility of a no vote.

Dennis Robertson: I was going to come to that. My question was about what you would be looking for from a Scottish Government in the event of a yes vote in the referendum. To balance the argument, I was also going to ask what you would ask for in the event of a no vote.

Dr Toke: I hope that we do not go on with business as usual, because I just do not think that such an approach is adequate for reasons that have already been discussed. Moreover, as we go into the 2020s, the amount of money being spent by the UK as a whole on renewable energy will fall quite dramatically for various reasons—the Conservatives, nuclear power and whatever else.

Scotland has lost the admittedly relatively small control over the RO that it had, but it could send signals as well as do some real things in that respect. Given that the vote is likely to be narrow, it would, as I have already commented, be in a strong position to push for some real control over incentives to be spent in Scotland. If the English want to spend money on nuclear power, that is their problem—

Dennis Robertson: Surely it is everyone's problem.

Dr Toke: Sure, but as far as financial allocations are concerned, given that Scotland comprises almost a third of the British landmass and commands a similar proportion of renewable energy resources, it ought to have control over one third of the low-carbon energy source incentives that are paid for by the whole of the UK. That is the position that you must start from. Scotland should also have its own control over the regulatory system to ensure that, for instance, it can get the networks and distribution operators to make pre-emptive decisions about investing in upgrading the networks. That would allow not only everyone in the mainstream renewables industry but a lot of people who wanted to organise community renewables schemes to get going much more effectively. My point is that we should also make some plans for the possibility of a no vote.

Martin McAdam: I would not say that I am a policy expert but I think that when you formulate policy, particularly in relation to energy, you have to consider security of supply, stability, the environment, the lowest cost possibilities, the additional added value with regard to the economic activity that can be created and, of course, the political dimension. When you sit in a room with investors who are looking to invest in energy and, in particular, the electricity market in the UK, you realise that they are struggling to understand what the energy policy is. That is the biggest challenge.

As we have pointed out, the question is: what do investors want? Renewable assets have a 20 to 25-year lifetime, thermal assets up to 40 years and nuclear assets up to 60. I do not think that, in the past 10 years or so, the energy policy that we have had has made a positive contribution to investors' ability to get comfortable.

It is probably unfair to criticise all politicians but what seems to drive energy policy is political expediency. Politicians think, "We don't like renewables—they get a bad press and they hamper our potential re-election—so we'll go down a nuclear path." However, that does not actually contribute to the level of economic activity and it certainly does not contribute to lowest cost, and you end up with a policy that people do not understand any more.

Having worked in the nuclear industry, I am not in any way anti-nuclear. I believe that the energy mix is incredibly important for us. However, cheap nuclear energy is a myth and you have to wonder why it continues to be promulgated. When you

think about the benefits to the Chinese debt providers and the French technology providers, you see that it just does not add up, given the objectives of a sensible energy policy and what one would hope to get from it.

The Convener: I am not going to respond to Mr McAdam's point about nuclear power, because that will take us down a whole different route—

Martin McAdam: But it is expensive.

Dennis Robertson: Admit that it is not cheap, convener.

The Convener: I am not going to go there. I want to pick up on a point made by Eric Machiels, and I will then bring in Mike MacKenzie for a follow-up question.

A moment ago, Mr Machiels, you talked about the haste with which DECC is moving. One of the complaints that we hear a lot is that electricity market reform has been too slow, but you seem to be suggesting the opposite.

Eric Machiels: There are two things that are important to understand—and I should add that, because Infinis, as the largest independent renewables generator in the UK, is involved in all the consultations, we have had a privileged position in witnessing what is happening.

You are absolutely right that EMR had a very long gestation period at Westminster Parliament statute level. The process took three to four years and the bill finally received royal assent back in December.

The task since then has been to turn that primary legislation into workable legislation that sets out how the CFD strike price will be set, how the payment mechanism will be created and so on. After all, CFD is a totally new ball game and we are dealing with the challenges of a revenue support regime that has never been tested in the UK before.

When I said "haste"—I should have been clearer on this—I was referring to DECC's efforts to try to turn the primary legislation, which is now a fact, into a practical approach that enables the Government to kick off CFD and, as we heard only in December, the CFD auctions for established technologies. The Energy Act 2013 got royal assent in December and DECC's aim is that the first auctions will take place in October this year. At this stage, none of us has a clue how the auctions will work.

If we do not have a clue how the auctions will work, it is impossible for us to secure debt for new investment that we would like to make. If we cannot have certainty on the funding, there is no way that we can go to our shareholders and present a new £50 million, 25-year investment in Scotland, for example. It is as simple as that.

10:00

Dennis Robertson: Oil & Gas UK seems to have an in with Government at Westminster, which I think came about after the 2011 tax hike and the recognition that that had been a mistake. Do you have the same kind of dialogue with the UK Government? Is there a level playing field for the renewables sector?

Eric Machiels: I think that the privileged dialogue to which you refer is due, not surprisingly, to the dependency on tax receipts from the oil and gas sector, which is many times bigger than the renewables sector currently is, as you can imagine.

It is also fair to say that the level of consolidation among the oil and gas players is much higher than it is in what is still a very young renewables industry. We are all aware of the significant inroads that companies such as SSE and Scottish Power have made into the sector, but the reality is that it is still a very fragmented industry—

Dennis Robertson: But it is the energy of the future.

Eric Machiels: It is the energy of the future, and if we were to project how the industry will look in 10 years' time, we would probably find that a lot of consolidation had taken place, to reflect the sector's increased complexity.

We know that a lot of our much smaller renewables developers are struggling to keep up with the complexity of the new CFD legislation. If a developer does not know how to position themselves in an auction-based CFD environment, they will not be able to secure the CFD to build the project, even if they have secured consent for it.

Mike MacKenzie (Highlands and Islands) (SNP): I have a question for Martin McAdam about EMR. Dr Toke said that if there is a no vote he would like more energy powers to be devolved to Scotland, but that does not currently seem to be the direction of travel. Will the loss of the Scottish renewables obligation affect the Scottish Government's ability to create an effective top-up for marine renewables?

Martin McAdam: It creates a big challenge. Marine renewables have moved at a slower pace than we had hoped. We require additional investment to get the technology to a point at which it is sufficiently reliable and can be deployed commercially.

When we are looking at commercial deployments, a difficulty is that they will operate beyond the current EMR framework, so we are

into an unknown. Someone might look at our business and say, "That's great: you've consented a couple of sites and your technology will be ready in a couple of years' time, but what will happen after the current EMR framework period?" That is a difficult challenge for us, because we do not know.

Eric Machiels mentioned the challenges for smaller developers in understanding EMR. For a small business such as ours, it is very difficult to understand how EMR will work. I am old enough—or young enough—to remember when the ROC system was introduced. At that time I was working in the wind industry, and understanding how ROCs could be monetised was quite complex. It took several years for the banks to get comfortable with it. We financed our first project using ROCs at Ardrossan in Scotland and then, over a period of years, the banks got comfortable with ROCs and they became fairly standard.

As soon as everybody got comfortable with the ROC system, it was decided to change it. I think that it was a real shame that, through the Energy Act 2013, the Scottish Government lost its powers to direct incentives to particular aspects of the industry by enhancing the ROC offering. However, the position is what it is. I suppose that the counterpoint to that is that the UK Government recognised that it wanted to incentivise the marine industries and therefore adopted the policy that the Scottish Government already had of enhancing the ROCs for those industries.

Margaret McDougall (West Scotland) (Lab): Good morning, panel. Ed Davey, the Secretary of State for Energy and Climate Change, has stated that, in the event of an independent Scotland, there would be no need for the rest of the UK to support Scotland's energy costs. How feasible is that? That question is for Dr McEwen.

Dr McEwen: This is where we need to separate out market integration in terms of trade from the subsidy mechanism. We can separate a little bit the tone of the Scotland analysis paper, which talks more about things being "unlikely", from the tone of the minister, which is more assertive. That has been the tone across the Scotland analysis series and not just in the energy one. In general, UK Government ministers may be putting themselves into a difficult position because if, in the event of a yes vote, they were inclined to rethink some of those assertive statements, they may have made it politically difficult for themselves to do so.

I think that the UK can source energy from Scotland without necessarily having to subsidise it. However, if it needed to source it and there was a desire for the subsidy mechanism to be shared throughout the UK, that would give a little bit more influence to a Scottish Government seeking to maintain that kind of system. The point that I would make, though, is that, although it is perfectly possible to maintain that kind of system if you want to—it is perfectly feasible and is permissible under EU law, with the precedent of the Norway-Sweden joint certificate scheme—it might be difficult to do so politically. As I was listening to my panel colleagues, I was thinking about how much democracy and public opinion can often intervene to make things that are eminently sensible economically difficult to do politically. I think that very real political issues would impact on establishing the kind of system that we have described.

Margaret McDougall: Dr Toke can probably answer my next question as well. What does it mean to the consumer?

Dr McEwen: Where?

Margaret McDougall: In Scotland.

Dr McEwen: It depends. Could an independent Scotland afford to promote renewable energy without a shared UK subsidy mechanism? Yes, it could if there was the political will to make that happen. You could do that in a number of ways. You could do it by continuing to subsidise generally and pass on all those costs to the consumer, although it would probably not happen in that way. However, if there was the political will to promote renewable energy, you would have to make it a priority in public policy and in the allocation of public spending. There would likely be a mixture of those things, but it would be really important to bring the public on board as part of that venture.

When I was doing some interviews in Denmark, I asked a number of people working in the energy industry and in government why Denmark took the conscious decision not to join the shared scheme with Sweden and Norway. The situation is slightly different from ours, because those countries are not as big as the rest of the UK. When I asked whether a country of 5 million people could afford to have its own generous subsidy scheme, those people looked at me as if I had two heads. The point is that there is an interest that goes beyond supply issues. There is a broader manufacturing interest and a broader jobs interest. There is the start of something like that in Scotland—the interests are much bigger and broader—but you really have to bring the public along with you.

Dr Toke: The alleged problem of large bills is an invention by the British Government, which gives the impression—without actually justifying it—that Scotland would have to pay for all the renewables that have been installed by the time of independence. That is legal nonsense. The Government could not possibly do that—it would require retrospective legislation.

In 2012, the Westminster Government lost a court case at the Supreme Court about incentives for solar power for projects that had not even been installed. Therefore it will hardly be able to make Scottish consumers pay for schemes that have already been installed or indeed are about to be installed. Also, it would not be the Scottish Government's problem. It would ruin the British electricity companies—to a greater or lesser extent—so they would be extremely angry with Westminster. It is just a ridiculous scenario.

I know how the scenario emerged—the renewables industry was pressing for greater certainty through grandfathering of ROCs and so on, so Whitehall thought, "We can really scare them by implying that the opposite will happen." It is just political nonsense.

As I said earlier, by the time the incentive systems and the regulatory side of things become unscrambled, Scotland will have reached the bulk of its renewable energy target and will be able to fund most of the rest through cheap onshore wind energy without very big increases in electricity bills. The increases will probably be no higher—possibly lower—than the increases in bills that will be occurring in RUK to pay for nuclear energy and for a renewables programme. That RUK renewables programme could be more expensive because there may not be any onshore wind energy in RUK if the Conservatives have anything to do with it.

If we look at the coalition of interests involved, I think that public opinion will be in favour of carrying on the EMR arrangements, which are admittedly imperfect, until about 2020. The British Government has to keep the British electricity industry on board because, according to the Government's strategy, it needs a lot of new power stations constructed. The Government will therefore have to give way to the coalition of interests that includes the British electricity industry, which is a big industry, plus of course a lot of environmental non-governmental organisations, plus everybody else except perhaps for a hard-core group in the Conservatives, who will be in a minority at least until the 2015 election. Therefore I do not think that bill increases for consumers will be a great problem for Scotland in achieving its renewable energy targets.

Margaret McDougall: From what I have heard this morning, until 2020 there will have to be a whole lot of negotiation around supply of electricity, particularly if there is an independent Scotland. It will take a lot of political will to get to an agreement. What will happen post-2020? Will we be looking at a new EMR? We will certainly be looking at new targets. This is about the long term, is it not? How will it affect investment in the long term?

10:15

Eric Machiels: It is fair to say that EMR will probably still be the prevalent support regime post-2020. What is changing after 2020 is that, having reached the EU binding targets, countries may find themselves with a lot more freedom to establish where the carbon emission reductions will come from. As you know, the current EU view is that countries sign up to a binding carbon emission reduction by 2030 but without specifying where the reductions have to come from, whereas in the current regime there is a specific target for sourcing renewable energy. That is how the UK got to its 15 per cent renewable energy target.

The specific targets fall away after 2020, but it is not the case that the UK, or Scotland for that matter, fall into a vacuum. As you know, the Climate Change (Scotland) Act 2009 has set very ambitious targets all the way to 2050, by which point the target is an 80 per reduction in emissions from 1990 levels. Neither Scotland nor the UK would be without a long-term objective. The only thing that would fall away is the stick that the EU currently has to call individual countries to account if they have not met their binding targets, which is the ability to impose fines. Those fines would fall away beyond the current 2020 framework because, at that point, it falls much more on individual countries such as Scotland to see how, for example, it implements initiatives to meet the 2009 act's 2050 emission reduction targets.

Currently, no sticks are provided for that. However, we would expect EMR—God forbid otherwise, given that it is just being introduced now in 2014—to still be around in 2020. Otherwise, there will have been a new revenue support regime every five years and it would start to follow a political cycle, which I think is untenable for an industry that relies upon certain 20 to 25-year outlooks to justify its investments.

Martin McAdam: We have to remember what EMR is. The fact is that EMR covers not only renewables but all technologies. Inside EMR, there is a construct—you have to learn a whole new vocabulary when you start talking about this market—called the levy control framework. Basically, it is an assigned amount of money that will be used to incentivise various technologies. Within that defined amount of money, we have to incentivise nuclear and the other low-carbon technologies.

The risk that I think has the biggest impact on investors is this. Currently, a company that is considering an onshore wind farm or development and wants to get through the permitting process and end up with a grid connection and a permitted plant knows that, if it starts construction of the plant today, it will get the renewables obligation certificates associated with it. Under EMR, one of

the biggest as-yet-to-be-understood risks is that a company will spend millions of pounds or, if it is an offshore wind plant, tens of millions of pounds—perhaps £50 million—getting the permit for the plant but, at the point that it has the permit and the grid connection and is ready to go, there is no guarantee that the project will be funded. I say to Eric Machiels that, until we understand how the process works, that will be one of our biggest risks.

People have said that we will use auctions. I am young enough to remember that there was previously an auction scheme available, which was the non-fossil-fuel obligation system. However, it was incredibly inefficient. Auctions need to be accurately designed to give the desired outcome. Somebody might say, "I will put in a bid for the auction," but if they win, they do not have any obligation to build a plant, so they are sitting preventing other people from constructing a plant. It is about the mechanism, the levy control framework and the ability to get people to continue to invest under the EMR framework. When I say "invest", I mean investment not in the construction of the plant but in developing the permit for the plant. That is a big unknown challenge for us.

Nobody wants to see too much change. Dr McEwen and Dr Toke have talked about the midwest ISO and the Nord Pool Spot. Those constructs of markets existed when I worked in the US back in 1989. I do not know how long the Nord Pool Spot market has been in place, but it has existed for decades. In the UK, we have gone through privatisation, the pool system, the new electricity trading arrangements and the British electricity trading and transmission arrangements. Then we introduced ROCs, and now we have introduced EMR. All of that has happened within a couple of decades. The ability for us to give long-term stable market signals is very important, and, although I would not like anybody to say that we will replace EMR or that it will disappear in 2020, I think that we will have to look at the effect of EMR.

Going back to the previous question, whether there is a yes vote or a no vote, if we do not see the activity in the market that we want to see in terms of energy policy, although I would hate to have to revisit the electricity market, that may be necessary if those signals are not delivering the desired outcome.

Dr McEwen: If there was a distinct energy policy in Scotland, it would have to take the broader EU framework into account, perhaps more than UK Government policy does currently. Although member states may not have individual renewables targets, there will still be a will across the EU institutions to promote renewable energy, perhaps by grouping member states together on a regional basis. That will offer clear opportunities to Scotland under any constitutional scenario, as Scotland's leadership in the renewables field, particularly in wind power, has been recognised at the EU level. There will be opportunities there whatever the outcome of the referendum.

I would not pretend to be an expert on the levy control framework but, although I think that some of the rationale behind it is sound—as is the desire not to impose too much of a burden on consumers, although it is arguable that there are other ways around that—I think that there is a risk that it will deter investment, as has been said, and impose a ceiling on ambition. In a post-yes-vote scenario, the Scottish Government would have to think carefully about whether its ambitions for the longer term could be realised within the constraints that had been set by a UK policy framework.

The Convener: Before I bring in Alison Johnstone, I want to go back to Dr Toke's comments. You are very robust in your view of the UK Government's analysis paper on Scotland. You state in your written submission that it would be "illegal" for the UK Government not to pay subsidies post-independence. Is that a legal opinion?

Dr Toke: It is my opinion.

The Convener: You are not a lawyer, though. Have you taken legal opinion on that?

Dr Toke: No, I have not. However, I can read legal opinion on past case law. I am talking about incentives or subsidies—call them what you will—for schemes that are already in place or which are about to be installed, and the legal position on those is very clear. I refer to a legal judgment regarding solar power from 2012, when the Government was knocked back purely on the issue of its cutting back promised levels of support for solar photovoltaic schemes that had not yet been installed. It is fairly ludicrous to say that the Government would be legally sound if it cancelled incentives for schemes that have already been installed. That seems to be an open-and-shut case.

People can argue about what would happen between Scotland becoming independent and 2020, but I agree with the consensus here that there are a lot of strong legal arguments on the basis that people have planned to put in place the schemes and that there is the EU directive. In practice, there would be a strong political coalition for continuing the arrangements until 2020 but, thereafter, Scotland would have to pay for new capacity.

Dr McEwen: There is a difference between feed-in tariffs and the renewables obligation. I am not a lawyer, but I think that feed-in tariffs have a legal standing as a contract that might be more

difficult to alter than the RO. I have always assumed that the RO would be part of the negotiation over shared assets and liabilities in independence negotiations. In that context, there are bigger fish to fry, and the conclusion might be that it is easier all round to carry on. However, I think that feed-in tariffs have a different legal standing.

Dr Toke: If we look at the mechanics carefully, the Government—to effect the disincentivisation of existing RO schemes—might decide not to make RO incentives transferable. At present, ROCs are transferable between the Scottish, English, Welsh and Northern Irish renewables obligations. That would be a fairly simple approach. However, the British electricity industry would mount a legal challenge—under human rights law, apart from anything else—and say that it was being deprived of its assets. The industry would ask a political question. It would say, "Hey—you want us to invest in power stations, but you are depriving us of profits from the renewables sector." The change would not make sense.

The Convener: It is an interesting debate. Perhaps we need to ask a lawyer for a legal opinion on it.

Alison Johnstone (Lothian) (Green): Good morning, panel. The committee's briefing from the Scottish Parliament information centre tells us that a professor of economics at the University of Aberdeen suggests that energy

"Bills are going to rise in all cases due to increased subsidy to renewables and nuclear",

whereas another expert says:

"under no scenario can I see in an independent Scotland electricity bills increasing."

We also hear from the BBC's economics correspondent that, given the UK's dependence on Scotland to supply a growing demand for energy and meet its European targets for renewables,

"some kind of deal is likely to be struck if Scotland votes for independence".

However, the UK Government's paper says that,

"In the event of independence, the integrated GB market could not continue in its current form."

Is that a fact? I see parallels with the monetary union debate. Will the inability to continue change the day after a yes vote?

Dr Toke: There are different issues. There is little disagreement that trading would continue; that is a requirement of the European network of transmission system operators for electricity, which includes non-EU members as well as EU members, by the way. That is a no-brainer.

Would there be a common system operator that carried on more or less with the current arrangements but changed the curtains? Yes—that would almost certainly be the case. We can look at what is in people's interests. If the UK did not have a common system operator, it would lose real reserve capacity from Scotland. Of at least equal importance is the fact that it would lose the ability to manage the variable pulses of renewable electricity that come from Scotland, which would mean always closing down its own power stations when there was excess supply. Whether the figure was 4, 5 or 6 per cent, it would still be a problem. That is resolvable only if there is a common system operator. So, from England's point of view, it would clearly be sensible to have a common system operator.

People go on about the fact that, when Slovakia and the Czech Republic split up, such agreements disappeared. However, they did not have a system of variable electricity supplies and they did not have a British electricity industry that is interested in getting a return on its investment and investing in a lot of power stations in the south of England. It seems to me that we will have a common system operator, but one that will co-exist with different regulatory regimes and, post-2020, different incentive systems for renewable energy and energy efficiency.

10:30

Dr McEwen: I fear that electricity bills will probably rise regardless of the outcome of the referendum, and will probably have little to do with that. A host of factors shapes the cost of electricity. Governments can mitigate the rises by investing much more in reducing demand and promoting energy efficiency—I would like to see a lot more of that.

On the issue of costs rising as a result of public policy, in promoting renewables, as we are discussing today, or promoting nuclear or whatever, there are political and policy judgments to be made as to whether the Government wants to promote expensive technologies, whatever they may be, and whether to pass on the costs of that to consumers or to finance it through taxation or some tax relief mechanism. Nothing is set in stone and it is difficult to foresee how things will be, because different parties and Governments will make different choices.

Is the UK Government's Scotland analysis paper stating a fact? No—I think that it is stating an assertion. One point on which I agree with the paper is that the common GB market is more integrated than many of the other examples that are often referred to in the Nord Pool Spot and even the all-Ireland market—that is true. However, the paper says that that means that we could not

have that approach and that it takes years to get to that stage. Yes, it takes years to get to that stage, but we would not be starting from the same position. It is a different matter to start from a position of integration and then loosen some of the arrangements. That very different starting point has to be taken into account, but the Scotland analysis paper does not do so.

Martin McAdam: Alison Johnstone has set us a challenging question. As others have said, the fact is that energy prices will continue to rise, regardless of the outcome of the independence referendum. I remind the committee that, between 2000 and 2010, the price that was paid by power producers for coal increased in real terms by 71 per cent and the price that was paid for natural gas increased in real terms by 90 per cent.

People say that their energy bills have gone up. Renewable energy is about 9 per cent of the energy mix in the whole of the UK. There is a hysteria that energy bills are going up only because of renewables, but that is not the case. The underlying source—the fuel source—for renewables costs zero. Wind costs zero today, and it will be zero tomorrow and in 10 years. Fairly complex studies have been done that show that, if we want to reduce the overall risk within a portfolio, whether it is a portfolio of energy assets or a personal portfolio of equities, the way to do that is to invest in assets that are not linked or correlated. Investment in renewables is completely delinked from an investment that one might make in coal, gas or, indeed, nuclear assets, and therefore having renewables as part of the energy mix reduces the overall volatility in energy pricing.

Political situations around the world have a massive impact on energy costs, which makes the situation extremely difficult. When DECC produced its paper last year, it said that the proposed inclusion of renewables in the UK energy mix in 2020 would have the impact of reducing our overall energy bills. That is hard for people to understand, because the maths behind it are difficult, but DECC is saying that that will reduce the overall riskiness of the energy portfolio.

Regardless of the impact of renewables in reducing our overall energy bills in the future, we must accept that energy prices have only ever gone upwards, although there might be short term blips; for example, as a result of gas fracking in the United States gas prices dropped dramatically. However, gas prices in the United States are now recovering dramatically. We will have the opportunity for fracked gas in the UK, but the extent to which that will impact on pricing is unknown. Some people have said that it will have minimal impact, simply because we are so dependent on imported gas anyway. If we produce our own gas, we would only have to sell it at 1p less for it to be used, because it would be cheaper, but we would not sell it for 50p less, because we would not need to.

The situation is very complex. Regardless of whether Scotland becomes independent, the best thing that we can do is invest in energy sources that are in our control—that is, within the national border, wherever that happens to be—and in assets that have zero variability in their raw material or fuel costs.

Eric Machiels: I fully subscribe to the very eloquent description that Martin McAdam just gave. The thermal baseload capacity, which is fundamental for an industrial economy to operate, benefited from the fact that most of the thermal baseload power plants were built in the 60s and 70s and hence have almost fully depreciated. There was a perfect storm of depreciated assets on a baseload basis, and for a long time we benefited from low input costs of fossil fuels. As Martin McAdam described, the latter has come to an end and the only alternative that we as societies are embracing—given that there is some awareness of the impact that thermal fossil fuel power generation has had on potential climate change acceleration—is to take on the challenge by saying that we will do it on a more low-carbon basis.

That is not a once-in-a-generation thing, but a once-in-a-century fundamental shift that sits very awkwardly with the much shorter-term cycle in which politicians operate. They need to be able to tell their electorate that power bills will not rise by more than inflation. That is one of the fundamental challenges. Generally speaking, most observers would expect power prices to continue to rise. A debate needs to be had with the voters in any country, who need to be told that that is part of a choice so that we can hand over our societies to future generations without them looking back at us and saying, “How did you ever get away with having cheap electricity, putting all that CO_2 up in the atmosphere, and leaving us to pay the price?” To expect that the transition will happen without our making a financial contribution is illusory.

Martin McAdam: Alison Johnstone talked about energy bills, which are bills for the consumer. As Dr McEwen suggested, it depends on how certain things are counted and whether they are included in our electricity bill or are part of the tax base. That is quite important. One thing about renewable energy is that the costs are completely transparent. There is an incentive with the ROCs, but it is known and quantified; everyone knows what that incentive is and it ends up in our electricity bills.

I will give a brief example. The Department of Energy and Climate Change budget is approximately £3 billion, but of that £3 billion, £15

million goes towards incentivising renewable energy research and development and so on. The bulk of the rest—about £2.3 billion—goes to the nuclear industry. That is in effect a subsidy. What is that subsidy used for? About £400 million a year is used for research and development, which is far greater than the sum for research and development into renewables. In addition, £2 billion goes to the Nuclear Decommissioning Authority.

If something is hidden in the tax bill instead of being included in the electricity bill, is the energy price lower as a result? The energy price that I get in my electricity bill is lower because the cost of decommissioning the nuclear plants is not included in it. However, on a total basis, has that increased my energy costs? Yes, because I pay more tax to cover the cost of that. Again, what is and is not transparent, and what is included in the electricity bill and what is included in the tax bill, need to be accounted for when we talk about energy prices.

The Convener: We are doing very well for time, but we are getting a little bit behind the clock. It would be very helpful if we could sharpen up on the questions and responses, otherwise we will be here until long after our scheduled time.

Alison Johnstone: The convener having said that, I thought that those responses were really illuminating. Thank you.

How can we ensure that Scottish renewable energy costs remain competitive without a GB-wide subsidy? I think that Dr McEwen and Dr Toke touched on that earlier. Politicians have the job of ensuring that people understand what they are investing in. Obviously, if we invest in renewables there is an opportunity for communities to benefit. At a Colleges Scotland event in the Parliament last night, I heard from a Fife College lecturer who lectures wind turbine apprentices. He told me that if someone works on a wind farm in Scotland, they are not allowed to stay further than 40 minutes from that wind farm. There are all sorts of economic benefits there, too. Are those the kind of things that we would have to ensure the population understood if there was to be a withdrawal of any subsidy? How can we better ensure that the population understands that the Hinkley Point reactor will increase people's energy bills for 30 years or more?

Dr McEwen: We can give them a stake. There is a lot of evidence to suggest that if people have a stake in the enterprise, they are more likely to support it. Various models of community ownership and co-ownership are being tested in Scotland. I would like to see more of that. That would be one way of helping to sustain popular support beyond community benefit models. That is one way in which to build consent for making something a public expenditure priority.

Alison Johnstone: Is anyone aware of any example of communities being able to invest in or share profits from a nuclear reactor?

Dr Toke: Is this a joke?

Dennis Robertson: It made us smile.

Dr Toke: A Scottish Government could deliver renewables more cheaply than under the UK Government's methods, first by reinstating the original RO time period of 20-year effective contracts, which would bring down the headline price for onshore wind and could make the extra incentives in the future quite small. It could also have specific schemes for the community sector. There is an excellent report by the University of Edinburgh—Nicola McEwen was involved in producing it—that demonstrates high levels of planning community acceptance.

10:45

The committee might find this surprising, but it seems that, internationally, independents—I am sorry to annoy anyone from SSE or Scottish Power—deliver technical projects for a lower cost than the big electricity companies do. It would be possible to have a system that had lower incentives for community schemes, but which could be backed by what communities need—loan guarantees or cheap finance. The fact is that the big electricity majors—I am not talking only about SSE and Scottish Power—own the rights to many Scottish wind farms, so we cannot just move to a fixed feed-in tariff. Ideally, I would prefer such a system; I produced a report on that for Friends of the Earth a few years ago. For practical purposes, it would be necessary to have a system that gave some extra money to the big guys—I gnash my teeth a bit as I say that. Giving longer contracts would reduce the price. Onshore wind prices are coming down on the international markets after a bit of a spike a few years ago.

Martin McAdam: There is a role for the industry to play here. We should not be incentive junkies. We need to get to a point at which the renewable energy industry does not require any incentives. That means having a sensible energy policy—which is something that we have talked about—that provides the economic benefit that Alison Johnstone mentioned and incentivises the industry to get to a point at which it is competing without any subsidy. I think that Government certainly has a role to play in that in terms of research and development; some programmes are under way. Certainly for onshore wind, we should aim to eliminate subsidy completely over time.

Eric Machiels: I absolutely agree with that. I think that we will probably reach the tipping point at which power price parity becomes reality—which will happen when the power that is provided by an onshore wind farm is sold at the same price as wholesale power prices—in the early years of the next decade, which is not very far away in the mindset of the infrastructure sector.

To return to the community element, I fully agree with Alison Johnstone that, if there is one thing that distributed renewable generation technologies give local communities, it is the opportunity to benefit from community benefit funds, which most of us systematically include as part of our development projects.

The next stage is to involve on a more structural basis local communities that are keen to co-invest. That is an extremely interesting idea, but it is much more complex to put into action. As members can imagine, if we see ourselves as being the owner-operator of a wind farm over a 25-year period and we have a group of local enthusiasts who are keen to co-invest, given that it costs roughly £2 million to invest in a typical 2MW turbine, we need to be sure that the enthusiasts who are keen to put in £5,000 or £10,000 today will not want to withdraw their money two years from now because one of them wants to buy a new car. As a long-term owner, we do not have that option.

As developers, we strongly support the community benefit co-ownership options that are currently being discussed very publicly, but those options need to be made available within the framework of a long-term infrastructure sector. We cannot end up having dedicated people whose task is to manage people who ask for their funds to be withdrawn or want others to come in. That would make it too complex to manage.

Chic Brodie (South Scotland) (SNP): Good morning. I wonder whether I could introduce the elephant in the room. I have a letter from the Deputy Prime Minister. It is what I call my "Dear Chic from Nick" letter. It says:

"The coalition agreement is clear—new nuclear can go ahead so long as it is without subsidy."

It continues:

"New nuclear will receive no levy, direct payment or market support for electricity supplied or capacity provided".

Dr Toke and Mr Machiels, what are your views on the subsidy that is to be offered by the UK Government for nuclear generation, and its impact on the availability of long-term investment for renewables? We are talking about a £35 billion subsidy for Hinkley Point, which is roughly four times the total cost of the RO across the UK during the first ten years of its operation. What will be the major implication for capital investment in renewable technology because of the subsidy that is now being offered for nuclear generation in England and Wales, despite the "Dear Chic" letter?

The Convener: Can we have fairly brief responses to that please?

Dr Toke: Whatever else you call it, the money is clearly state aid, otherwise the Government would not be making a state aid application to the EU. On its effect on investment in renewables, we have already heard reference to the levy control framework, which puts a limit on low-carbon spending, so it is a no-brainer to say that if you spend on nuclear, there will be less for renewables. No renewables spending has been allocated by the Treasury or DECC after 2020, and the only spending that has been allocated is for Hinkley C and Sizewell B, if it gets going. That answers the question.

When we compare the headline prices, onshore wind is now set to get a lower headline price, never mind anything else, than nuclear. It is only getting a 15-year contract and no loan guarantees, whereas Hinkley C is getting a 35-year contract and loan guarantees.

In theory, wind turbines can last a long time—some in Altamont have been going for more than 30 years. The fact is that new incentive systems come along so that people can reboot the site quite simply with new turbines.

Martin McAdam: I would like to contribute briefly; I know that you are under time pressure, convener.

The decision is extremely disappointing. As I said, we have nothing against nuclear, but that is a clear example of certain costs being externalised so that they do not appear in the energy bill for nuclear. Dr Toke has alluded to them.

It is a bit like George Orwell's "Animal Farm": "All animals are equal", but little bits are added to that phrase over time. I know that the Deputy Prime Minister said what is in his letter, and then Ed Davey spoke here at the Marriott hotel and said that that was the case, unless there was a similar subsidy for other industries. So it went on and grew arms and legs. The fact is that we will have the most expensive power station ever constructed, if it goes ahead.

There are a few things that need to be said in that regard. It is £35 billion of direct subsidy, but we need to add in the cost of the guarantee, and the UK Government has also given a political risk guarantee.

Chic Brodie: Of course, one of the things that the amount does not include is the insurance requirements for a nuclear power station.

Martin McAdam: The amount does include the insurance requirements, but they are capped at £1 billion. We can only hope that there never will be an accident; the nuclear industry is relatively safe, but the impact of an accident in the nuclear industry has far-reaching consequences, and the taxpayer would have to take up any costs above £1 billion if there was an incident at the plant.

What is the cost of the externalities? There is a security externality. There is also long-term high-level radiation geological disposal, which is not included in the cost. If we layer in all those costs on top of the direct £35 billion subsidy, nuclear is not just more expensive than onshore wind; it is also more expensive than offshore wind.

I am not against nuclear. If we decide that nuclear has to be part of our mix, let us have it, but let us have an honest discussion about what it costs. If, for security reasons, we determine that that is the appropriate thing to do, we should do it, but it is an example of policy failure as far as I am concerned. The only way that you can get investors to invest in a plant in the UK that has that asset life is by giving UK Government guarantees—a UK Government political risk guarantee, a UK Government guarantee on the capping of the insurance liability, a waste disposal guarantee and so on. That is the only way it can happen, and that is failure.

Eric Machiels: I am not a great expert on the nuclear industry, but we need to tighten our vocabulary. I assume that the Deputy Prime Minister is technically correct in what he said in his letter to Chic Brodie. Perhaps I am mistaken, but the £35 billion is not going to be a subsidy; it is EDF and debt holders who will have to stump up the capital to build the plant in the first place. The £105 per MWh—that real 2012 money that will be given as the cost per MWh—will be paid directly through consumers' bills. He is right, technically speaking, in saying that, contrary to the RO, where we receive £45 per MWh—although that is built as a tax—

Martin McAdam: No, it is not a tax. The RO is in people's electricity bills.

Eric Machiels: We had that issue, too. Even though the RO comes through our electricity bills, it is considered to be indirect taxation. Technically speaking, the Deputy Prime Minister is probably right in his letter, but is playing right on the edge. It omits all the points that Martin McAdam made—

Chic Brodie: When I give you a copy of the letter, you will find that he has gone over the edge.

Anyway, let me ask my final question. Dr Toke and I happily participated together in a debate that was hosted by ecoConnect in March at the Edinburgh offices of Anderson Strathern. We have just heard about Ed Davey's comments varying from those of the Deputy Prime Minister. At that debate, you said that his comments on energy costs and independence were at best wrong and at worst nonsense. Do you still hold that view?

Dr Toke: Oh, yes—and they are entrenched by the energy analysis.

Chic Brodie: No more questions.

Mike MacKenzie: My questions are principally for Martin McAdam. People have said to me that renewable energy is the biggest socioeconomic game changer that the Highlands and Islands have ever known. I am sure that you will sympathise with the immense frustration that exists there on the issue of grid constraint. Large numbers of people have told me that, for that reason alone, they intend to vote yes in the referendum.

Do you share my disappointment on learning that, a few weeks back, Seatricity announced its intention to relocate from Orkney to Cornwall, purely because of the failure of the UK Government to provide an interconnector to Orkney? That interconnector is something that it has talked about for 10 years or perhaps longer, but has failed to deliver. Do you agree that the Ofgem mechanism for deciding whether or not an interconnector can be provided is not fit for purpose?

Martin McAdam: Unfortunately, the grid is a huge challenge. We all know why. When power plants were centralised, big transmission pipes were built to carry the load to the cities. The paradigm has changed now, and we understand the benefits of renewable energy, but the mechanism by which those big pipes and transmission lines are constructed and the basis on which they are costed by Ofgem remain the same. That is frustrating—we have been through that on many occasions. Ofgem has an obligation in relation to sustainability, and we have challenged it publicly on that matter. However, it does not understand what sustainability means. One of the individuals who spoke to us said that someone else in a different department looks after sustainability.

11:00

This goes back to the point that we must put a value on achieving energy security and a low-carbon energy mix, but for the transmission charging mechanism that value just is not there yet. It is frustrating. I know that the Scottish Government—through the Minister for Energy, Enterprise and Tourism, Fergus Ewing—is working with Ed Davey on that challenge. It is a big challenge, but we must meet it if we want to exploit that resource.

Exploitation of the resource on the islands around Scotland—even just the onshore wind resource—must be at least as cost effective as, if not more cost effective than, exploitation of the offshore wind resource around the rest of the UK, so we have to think creatively. For offshore wind plants, we created the offshore transmission owners arrangements, and we should consider how the transmission lines should be built differently.

I have to agree with Mike MacKenzie that the situation is incredibly frustrating.

Mike MacKenzie: Do you share my disappointment about the further delay—I believe of 18 months—in implementing the project transmit recommendations?.

Martin McAdam: I had not realised that implementation has been delayed for a further 18 months. Let me confer with my colleague. [*Interruption*.] I am advised that it has been put back. That is incredibly disappointing. I do not understand the reasons for that, but I will get briefed on them later.

The Convener: Thank you. That was a model of—

Mike MacKenzie: Brevity.

The Convener: Yes—brevity. Thank you.

Marco Biagi (Edinburgh Central) (SNP): We have talked briefly about the EU targets and the obligation to reach them by 2020 under the renewables directive. The target for the UK is to get 15 per cent of its energy—not just electricity—from renewable sources. At present, the figure is 4 per cent. It is also estimated that 35 per cent of the UK's electricity supply must come from renewable sources. How important is Scotland in ensuring change on that scale? I believe that about 10 per cent of electricity comes from renewables and from the rest of the UK. It seems to me that it would be quite a hill to climb to get from where we are now to 35 per cent, if there was no access to Scottish renewable energy. Can anyone comment on that? Am I right in my assumption?

Dr Toke: Yes. You are more than right. The UK's national renewable energy action plan stipulates a heightened build-up towards the end of 2020—it was structured that way for political reasons. The UK was obviously not thinking about the independence debate, as that is precisely the time when it is threatening to cut off support. A lot of legal argument is going on about that and it is a matter of interpretation, although I am not going to pronounce an opinion on the matter. However, there would be a big political resource for those who are arguing for a continuing EMR to include Scotland until 2020. In practice, that argument would be backed by quite a strong industrial-political coalition of the British electricity industry and lots of non-governmental organisations and should command a majority in the House of Commons.

Marco Biagi: If RUK attempted to reach that target of 35 per cent on its own through RUK renewables potential, what impact would that have on prices in the rest of the UK?

Dr Toke: Prices would be very high and it just would not happen. That is the short answer.

Marco Biagi: Fair enough. I have another question about the percentages that are kicking about. One of the figures for the spare-capacity margin for the UK is 2 per cent by 2015-16. Is it therefore the case that without Scotland, if there was one harsh winter the lights would go out in London?

Dr Toke: The National Grid has its hands on a lot of levers and I do not want to start pressing panic buttons. I will put it this way; I think that the British electricity industry will ask the UK Government, "You want us to invest in a lot of power stations, so you are going to give us these investments in renewables, aren't you—including the ones in Scotland?" That will be the question.

Marco Biagi: In practice, a 2 per cent margin is rather worrying. Obviously, RUK could import and it could take energy, in extremis, from France or from Scotland, but that is a very tight margin, especially compared with the equivalent margin for Scotland alone in 2015-16, which is 20 per cent.

Dr Toke: That will give the British electricity industry—the big six and so on—a lot of extra political leverage. That is the key point.

Eric Machiels: At the same time, that highlights yet again the dependency on creating stability and certainty for the big six companies to invest going forward. You will not be surprised that in the current turbulent utility investor environment, most investment plans for new thermal capacity have been frozen. Given the overall uncertainty around the energy policy, that is starting to affect renewables investment as well.

Marco Biagi is absolutely right that a 2 or 3 per cent capacity margin is uncomfortably tight. That also assumes that the interconnector capacity that exists today—2GW with France, 1GW with Holland—is fully utilised. The natural reaction, given that there is no other interconnection capability, is that power prices will go up.

Dr Toke: Yes—power prices would go up.

Eric Machiels: Politicians in Westminster are, for obvious reasons, keen not to emphasise that point too much.

Marco Biagi: Lastly, I believe that there is a question mark over EU state aid for the Hinkley

nuclear deal. Is that the case? If the deal was ruled to be impermissible, what challenges would that present to the UK, given that it would basically send its energy policy back to square 1?

Martin McAdam: I am somewhat familiar with the EU challenge in relation to state aid. All the areas that we spoke about earlier—direct and indirect subsidies, the debt guarantee, the political risk guarantee and the insurance cap—have been highlighted as part of the EU's case.

I cannot say what the outcome will be, but I think that the EU would be reluctant to stop the deal. At the end of the day, there is always a deal to be done, is there not? Will we see a nuclear plant? Yes, probably we will.

The state aid issue is incredibly important and we should contribute to people's understanding of it. Whether it is a state aid issue becomes important only if it prevents the plant from getting built. If that happens, we have to look at the outcomes that we are trying to determine. Why is there a state aid issue? In our industry—the wave industry—we do not have a commercial wave plant running anywhere, so do we need incentives and grants and capital grants and other things to allow us to get to that point? Yes. Of course we do.

However, we can hardly argue that the nuclear industry is not a mature industry. It has been around for more than 60 years, so the concept that it should still require that level of intervention is mind-boggling.

If the plant is built, we would then have to say—I hope that the EU would say the same—"Okay, you are building the plant, but let us be clear. The cost is not £35 billion a year; it is £70 billion a year," or whatever amount emerges. That higher figure will then be the benchmark against which other low-carbon technologies should be assessed, not the headline number of £35 billion.

If the plant is not built, that would mean a huge rethink of the low-carbon economy for the UK, because it would mean that, essentially, nuclear was off the agenda.

Marco Biagi: It is ironic that state aid rules that were intended to prevent the protection of domestic industries are causing this issue with a company that will be taking all of its benefit back to France and China. However, I will let that pass.

Dr McEwen: On the EU targets, Marco Biagi asked whether the rest of the UK would be able to meet its target. Of course, it is not an RUK target; it is a UK target. Actually, I think that the target will be difficult to meet even with Scotland, let alone without.

I do not want to get into the question of successor states and so on, but I presume that that target would be part of the RUK's renegotiation with the EU, in the event of independence being negotiated, which would mean that the target might be changed, although it would still need to be met.

Marco Biagi: I think that the UK's target is already one of the lowest in the EU.

The Convener: Another interesting question, which we do not have time to consider, is what happens if neither Scotland nor the RUK is in the EU. We will leave that for another day.

Joan McAlpine (South Scotland) (SNP): A study by Scottish Renewables suggested that 11,695 people are currently in full-time employment in the renewables industry, which is an increase of 5 per cent on the previous year's study. If the renewables industry were to get the kind of Government support that you would like it to get, what would be the jobs potential for Scotland?

The Convener: Is that question directed at someone in particular?

Joan McAlpine: I would like to hear Mr McAdam's view.

Martin McAdam: In the marine space, and the wave space in particular, there is substantial engagement in Orkney. We spend a lot of money in the community there, and jobs have been created directly. Of those 11,695 jobs, we estimated that around 250 are in Orkney, but the people in Orkney tell me that the figure for people who are involved is more like 900. The population of the islands is about 19,000, so the marine renewables space in Orkney has a significant impact.

One of the successes that we hope will come to fruition is the Siemens offshore wind turbine plant that is being constructed in England. We need to do more to encourage that manufacturing base. We talked about some of the impact in terms of wind-farm technicians and the involvement of local communities and local enterprises. I believe that, in terms of what we are doing, spending in Scotland makes a lot of sense. We want to bring hearts and minds with us, which means that delivery of economic value as part of what we are doing is incredibly important.

I would like to understand how we can encourage deeper levels of manufacturing in the industry in Scotland. I know that it has been worked on, but we need more success in it and I would like a plan to build in Scotland and to deliver for the wind space.

Joan McAlpine: Would a yes vote offer the kind of conditions that would accelerate the process towards a manufacturing base?

Martin McAdam: People challenge me on the issue of independence and say, "Oh, Scotland will be a bad place to invest." No. Scotland today is a good place to invest and the advantage that we have over the rest of the UK is that the various Scottish Governments—not just the current one—have been consistent in their policies on renewable energy. That has been a positive thing. The developers like working in Scotland.

The DECC report that was published yesterday covers the whole of the UK. It said that 80 per cent of people in the UK believe that renewable energy and wind turbines are good things. In Scotland, the percentage is even higher. In Scotland, there is a community and a Government, through its various incarnations, that have been supportive. That is what the investors are looking for. It is simple—do not mess with the policies; keep them stable. If you want to introduce change, introduce it at a pace that is acceptable and you will get the benefit.

I would like to see more being done in manufacturing. That is still something for Scotland to win.

11:15

Eric Machiels: My concrete figures are that four years ago, we had 10 employees in Scotland, and today we have more than 30, which represents nearly 10 per cent of Infinis Energy's employee head count. Given that 75 per cent of our growth plans in terms of investment are based in Scotland, we see the continued support around the motivational framework that Martin McAdam just described as being very conducive not only to channelling investment in new capital expenditure but to investing in broadening and increasing our staff in Scotland, which goes along with that expenditure.

We talked about the hubs and turbines that Siemens might be building in England. One of the exciting developments is that there is a tremendous opportunity for more insourcing. When we place our orders for new orders in Scotland, a lot of the high-tech turbine related technologies will tend to be manufactured in Germany or Denmark—that is a fact. However, there is no reason why the towers could not be built in Scotland today. I believe that there is one supplier, and we are increasingly encouraging our German and Danish suppliers to include in their bids the option of local insourcing of tower components. We feel that that is a natural part of the package with regard to investing in Scotland for the long term.

Joan McAlpine: Does anyone else want to comment?

Dr Toke: I draw the committee's attention to the DECC survey that was published yesterday. It shows that renewable energies, including onshore wind, are much more popular with the public than either nuclear power or shale gas. Given the discussion about cost that we have had, why is there any doubt about giving preference to renewables?

The Convener: As there are no other questions, we will call it a day. We ran a little bit over time, but it has been a fascinating discussion, and I am grateful to you all for coming along.

11:17

Meeting continued in private until 11:23.

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