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Official Report

ECONOMY, ENERGY AND TOURISM COMMITTEE

Wednesday 9 February 2011

Session 3

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ECONOMY, ENERGY AND TOURISM COMMITTEE
5th Meeting 2011, 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 GAVE EVIDENCE:

Stuart Cook (Office of the Gas and Electricity Markets)
Charles Gallacher (Office of the Gas and Electricity Markets)

CLERK TO THE COMMITTEE

Stephen Imrie

LOCATION

Committee Room 5

Scottish Parliament

Economy, Energy and Tourism Committee

Wednesday 9 February 2011

[The Convener *opened the meeting at 09:32*]

Decision on Taking Business in Private

The Convener (Iain Smith): Good morning and welcome to the fifth meeting in 2011 of the Economy, Energy and Tourism Committee. We have four items on the agenda, the first of which is a decision on whether to take item 3 in private. Item 3 is consideration of a draft report on the United Kingdom Energy Bill legislative consent memorandum. Do members agree to take the item in private?

Members *indicated agreement.*

The Convener: I remind members that the committee previously agreed to take in private item 4, which is consideration of our draft report on our fundamental review of the purpose of an enterprise agency and the success of the recent reforms.

Project Transmit

09:33

The Convener: I welcome witnesses from the Office of the Gas and Electricity Markets, who are here to give us a briefing and take questions on project transmit, which relates to a matter that has concerned the committee for a considerable time. I invite you to introduce yourselves and make opening remarks.

Charles Gallacher (Office of the Gas and Electricity Markets): Thank you. I am director of Scotland, Wales and regions for Ofgem and I act as the interface between Ofgem and the Scottish Parliament, the National Assembly for Wales and the Westminster Government. My colleague Stuart Cook is senior partner, smart grids and governance, and he is responsible for project transmit and all the network and infrastructure issues.

We are pleased that the committee has taken up our offer to give you a briefing on this important issue. It is a critical time for regulation. Hugely challenging targets, which the committee knows about, are coupled with ageing infrastructure, which is of concern to us all. During the past couple of years we have tried to keep the committee fully briefed on our work. We have met the committee a number of times—we have also met individuals—and we want to continue that relationship.

Project transmit is key to many issues that the committee has discussed and debated. It has at its heart many of the issues that we know interest the committee, and we are grateful for the submission that the committee made in response to our call for evidence. We look forward to taking questions from members.

The Convener: Does Stuart Cook want to add anything?

Stuart Cook (Office of the Gas and Electricity Markets): Charles Gallacher has introduced me, so I will just say that it is a pleasure to attend a second meeting of the committee. I was here a year or so ago when the committee was carrying out its energy inquiry. I will be delighted to take questions on what we are doing on transmit and where we are heading. If you would like me to provide an overview of the project I will be happy to do so.

The Convener: Perhaps you could start by talking about where we are in the process and what the timescale is for completing the project.

Stuart Cook: I am happy to do that. The best way to think about transmit is as a project that

comprises four elements, which we are progressing in parallel.

The first element is what might be regarded as context—it involves understanding the implications of developments in Europe, the Government's proposals in relation to the wholesale market and what is happening that might have an impact on what is right for charging and connections. The second piece is work on connections—on the practical and commercial arrangements that at times get in the way of people connecting to the grid. We have a stream of activity to examine what people tell us are the big connection problems and how to resolve them. Allied to that is the third strand—timely connections. That is about ensuring that transmission companies have the financial incentives to connect people to the grid as quickly as possible. The fourth element, which is important for the committee, is charging. We will critically consider whether the charging regime is fit for purpose, given the challenges that we will face.

The four strands operate in parallel, but on slightly different timescales. The contextual piece is being informed by what the Government says about wholesale energy market reform. We are examining critically what the Government published in December and we will look at its next publication in the spring.

We are considering the responses to the consultation on timely connections that we issued in December. In March, we will pull that together into a set of proposals that will help to provide the right incentives for people to connect to the grid.

We are working closely with National Grid on connections. We hope that it will produce by the end of this month ideas on making it easier for generators to connect to the network, which will solve practical problems with that. If National Grid does not do that or looks unlikely to succeed, we will take other action to try to expedite matters.

We have called for and collected much evidence on charging. We have also commissioned work from three academic teams that are examining best practice around the world and trying to help us understand how that might apply to the UK context. Their documents will be published later this month, after which we will host a round-table session at which we will hear people's views on what the academics say and whether that is appropriate. We will take that on board and pull together conclusions. That process will run for the next few months and we hope to form views about the way forward in the summer.

The Convener: I appreciate that you are halfway through the operation that you are undertaking, so you might be unable to answer fully some of our questions—you can say if that restricts you. One of the committee's key concerns has been that the transmission charging regime, which you mentioned, acts as a disincentive to the renewables sector because a large part of the renewables industry is furthest from the market and the charging regime operates in the opposite direction.

Ofgem has previously told the committee that no evidence shows that the regime restricts developments in the renewables sector but, towards the end of last year, Scottish and Southern Energy said that it would not proceed with the interconnector to the Western Isles because of the charging regime. Is your view changing? Is it now your view that evidence shows that the charging regime presents a disincentive to investing in renewables, or is it still your view that it does not?

Stuart Cook: You are right to point to the Western Isles situation, which is complicated. It is clear that a combination of the connection arrangements and the charging arrangements has a bearing on the ability of developers in the Western Isles to progress their planning—that is certainly evidence. Evidence is also often quoted to me about Statkraft's intention to invest in Orkney. We will try to work out whether information about both those situations tells a coherent picture about an issue.

It is fair to say that, as part of our call for evidence, we have received evidence that has pointed in the opposite direction. Generators that are based in England and Wales put a counter-argument and have provided us with analytical support for that case. We need to consider that critically and decide whether that evidence bears detailed scrutiny. There is evidence on both sides.

The Convener: The question that strikes me is why, if the current charging regime is based on being close to the market, people receive a subsidy for connecting in Cornwall but must pay to connect in Scotland.

Stuart Cook: That is a good example of how the regime operates and an interesting example to bring to my attention.

I accept that we have questions about whether principles are being applied in exactly the way they could be. In the Cornish situation, the model is intended to reflect the fact that power flows from the north of the country down to the south. That is the predominant flow of power at the moment; most, but not all, power is generated in the north and most of the demand for it is in the south. If a generator connects in Cornwall, it reduces the need to transport power from the north to the south, which reduces the strain on the system. That is why a generator in Cornwall ends up not contributing to the cost of the system through

charging—in effect, it saves money. The question is whether that works properly. Even if it works as intended, is the objective right, especially given all the challenges that we now face with connecting sustainable and renewable power to the grid? That is what we want to consider.

Rob Gibson (Highlands and Islands) (SNP): If the UK market that Ofgem serves were a nice circular ball there would be no problems, but our geography is long and narrow. How can it be fair to construct a model for a market that constrains people at one end from serving those who are at the other, or beyond and in Europe?

Stuart Cook: That is the question that we need to tease out as part of the review.

Rob Gibson: That has been happening since the 1980s.

Stuart Cook: The 1980s regime was established with the particular intention of protecting customers by minimising the risk of investment in the system when it could be put somewhere else more efficiently, and to ensure that there would be an incentive to locate closer to demand. You are asking a valid question about whether, when faced with a different agenda and a desire and strong commitment to connect renewables across the country, the prime driver is the right one for a charging methodology.

Rob Gibson: Yes, and we hope to find out from you whether you agree. Some people are for change to the charging mechanisms and some are against. Who are for it and who are against?

Stuart Cook: There is a geographical dimension to the fors and againsts—it would be wrong of me to suggest otherwise—but it is not universal; some of the cross-country renewables organisations sit more on the fence than might be thought. Those who are for the current arrangements tend to be those organisations whose centre of gravity is in the south, and those who are against tend to be those in the north.

Rob Gibson: Indeed. So it comes down to whether we are one market. If people who are part of the geographic market are constrained, the market cannot be fair. We do not have a level playing field.

Stuart Cook: What we need to do will have to be done carefully, because any change to the regime will have implications for lots of different people. We need to understand how changes would ripple through the system. For example, if we decided that it would make sense to reduce the strength of locational charges, generators in the north would pay less and those in the south would pay more. Some of the generators in the south would be renewables generators and some of those in the north would be thermal generators. Customers in the north, including those in Scotland, would end up paying more because the same charging regime that means that generators pay more in the north means that customers pay less.

We have to understand all the implications and ensure that the whole picture makes sense. That will require a quite detailed analysis to inform our judgments.

Rob Gibson: You said that the flow of electricity goes primarily from the north to the south. That suggests that, if there is one market, there would be severe problems with the connections and transmissions if the flow needed to go north. That means that there is a double constraint on people in the north; it is dearer to produce the electricity and, while it is possible to export it and that is being strengthened, very little strengthening is being done the other way.

09:45

Stuart Cook: A lot of investment is going on at the moment—I think that that is what you are asking about. In the past three or four years, we have authorised £1 billion-worth of investment in Scotland to reinforce the transmission network up here, which I think goes to the heart of your observation. That is critical, and expediting that process is absolutely at the front of everything we are doing. We want to ensure that we are not a block to critical investment in transmission. That investment will make it easier for generators in the north of the country to export power down to the south.

Rob Gibson: I understand that and it is welcome; I am trying to point out that there must be constraints in the grid in England for exporting north.

Stuart Cook: That is true.

Rob Gibson: That has been the case since the 1980s. We have not had a level playing field in terms of the possibility of accepting electricity wherever it is produced, which is unfortunate given that this is a supposedly British market.

Stuart Cook: It is true that there are constraints going north. It is also true that they do not bite as often as do the constraints going down south.

Rob Gibson: Indeed.

Lewis Macdonald (Aberdeen Central) (Lab): You mentioned the impact on customers. Your review is intended to consider whether the system is fit for purpose in terms of promoting the right kinds of generation, but there is also an imperative in terms of protecting low-income customers in particular. What options might be available to you that might allow a revision of the charging regime

for generators with differing degrees of impact on customers? In other words, are there options that your academics are considering on the charging side that might do better than other options in terms of protecting the interests of customers?

Stuart Cook: That is an interesting question. The work of the academics is making an important contribution to the exercise but, as you would expect, we will not rely wholly on that work. I am not certain that the academic work is particularly considering demand options, but it is live in my mind. What is intended by the arrangements is that generation and demand should effectively be mirror images of each other, although we have questions about whether that mirroring is working exactly as it was intended to. The natural consequence of changing something on the generation side would, therefore, be a consequential opposite change on the demand side. Part of what we need to do is try to do exactly what you suggest: understand what that would do in terms of customer bills, particularly those of customers who are at the more vulnerable end of the community.

It is a little too early to say what the options will be, but you are absolutely right to say that we need to consider those options because we need to be sensitive to the need to consider those people and customers as a whole.

I would be happy to come back to the committee to discuss this matter further when our thinking is a bit clearer.

Charles Gallacher: The committee is probably aware that Ofgem is in the middle of a major review of the retail market, which is due to be published by the end of this month. We launched the review in the autumn, when our on-going analysis showed that the latest price rise had caused the energy supply companies' margins to go up by about 46 or 47 per cent. Our retail market review is a major piece of work that is concerned with whether customers are being treated fairly.

Lewis Macdonald: Stuart Cook, you mentioned that you had concerns that the reflectivity of supply and demand was not working in quite the way that the model suggests it ought to. Let me interpret that, and tell me if I have understood you correctly. Are you saying that it ought to be as possible to demonstrate that customers in Scotland are better off under the current system than are those in the south of England as it is to demonstrate that generators in Scotland are paying higher charges than they are in the south of England, but that it might not be possible to do that? Is your concern about whether the system is protecting customers to the extent that, in theory, it ought to be doing?

Stuart Cook: You can see that very difference when you look at the charges. To take an example that has already been cited by a committee member, I point out that a demand customer—in other words, someone who takes power off the system—in Cornwall pays five times as much for that right as someone in the north of Scotland. At the broadest level, the regime seems to be working as you would expect, with customers down south paying more to take the power off the system than those in the north. However, there are some differences. It would be legitimate to ask why, for example, charges are set on the generation side in 22 geographical areas but on the demand side in only 14. On other technical issues, we are testing the regime's logic and whether it is operating appropriately.

Lewis Macdonald: I presume that your options for reform will reflect your greater understanding of those differences as you take your work forward.

Stuart Cook: Indeed.

Lewis Macdonald: If time permits, I will turn to another issue. In response to the convener, you said that the Western Isles connection was an interesting and complex case. I guess that that has some bearing on your questions on timely connections as well as charging. Can you explain for the committee's benefit why that conclusion was reached and what it means for the issues that you are considering in your review?

Stuart Cook: I am delighted to do so.

In seeking to create a new link, transmission companies have to identify need and submit a funding proposal to us. With the Western Isles link, it was down to Scottish and Southern Energy's distribution and transmission business to put the case to us. The current rules imply that generators have to make a financial commitment—a down payment, if you like—for the connection, and the company was unable to get any generators in the Western Isles to do so. We are continuing to look at that case in order to understand it better, but two problems seem to have arisen, the first of which was the level of transmission charges. Some of the generators in the Western Isles felt that it was simply not possible to put forward a business case, given the level of indicative charges that National Grid had set out. Clearly, we need to look at what we are doing on the charging side.

The second problem, which I think is much easier for us to sort, was the down payment arrangement. The current rules were designed to protect the grid companies against stranded investments—in other words, investments in the ground or under water that are subsequently not used—and require generators to finance the entire investment as they get closer and closer to the point of commissioning. Generators begin by making small contributions, which work up until the

day before commissioning to a sum equal to the entire investment that transmission companies have had to make. It is a really big burden for small generators, which will, of course, have to find money for their own investment as well as the grid investments, and we are asking National Grid whether the balance of risk and reward is right.

There are two potential problems with that approach. First, it does not necessarily recognise that not all the investments that are being made are equally risky. Secondly, it does not necessarily recognise that the riskiness of a particular project changes over time. When generators begin their work, everything is obviously very speculative. Before pen is put to paper, it is all an idea in someone's mind and might or might not happen. However, the closer they get to the investment going live, the more certain it must be that the investment will go ahead, because they have put their own money forward. As I have said, we have asked National Grid to look at that and come forward with practical ideas about how we might make it easier for generators to join the system. I think that that will make a big difference to generators.

Although there were mixed views about the charging regime, there was a very strong consensus about connection and the real practical problems that generators face in connecting to the system. Many, including Highlands and Islands Enterprise, made it clear that the connection issue was as big as if not bigger than the charging issue in getting generators to connect. As a result, we are going to fast-track the process and we have asked National Grid to suggest some ideas by the end of the month. We have signalled that, if it looks as though the industry process will not be able to take things forward, we will take on this responsibility and drive the work forward to a successful conclusion. After all, this area is very important.

Lewis Macdonald: The other area in which there is a lot of support for early progress is in relation to the export potential for new generation. I am thinking particularly of the bootlace developments on the west and east coasts of Great Britain. Do the issues that you have considered in relation to the Western Isles pose any risk to early progress on the bootlaces and delivering that potential extra opportunity to export Scottish electricity?

Stuart Cook: The bootlace that is most advanced in the companies' thinking is the one on the western side. It is being taken forward by a joint venture between National Grid and Scottish Power. We have started looking at that set of proposals. We employ consultants to try to understand better what the companies are arguing is necessary. We have asked some questions, and when we get the answers we will be able to form a view as to whether that is a good investment.

We have gone past the point where we need certainty before we can invest. Ofgem has been saying for a while now that we are not in that comfortable world that we were in in the past where we could wait until certainty arose and then commit to investment. For some investments—perhaps the western bootstrap will be one of them—we will have to make a judgment about whether they will be needed, regardless of the level of commitment that has come forward. As long as we can satisfy ourselves that we are taking appropriate risks on behalf of customers, we will do so. It is important that we do not wait until we get certainty; we do not have that luxury if we are to hit targets.

Gavin Brown (Lothians) (Con): It was put to me recently that while the transmission charging regime was absolutely appropriate when it was set up—and for some time afterwards—because the public policy context revolved around price and security of supply, the regime is no longer the right one, given the current public policy context, particularly with regard to the reduction of carbon emissions and the legislation behind that. Is that a fair comment?

Stuart Cook: That comment has been made, so in a sense it is fair that someone has made it.

Gavin Brown: Yes, sure, but is it fair from your point of view?

Stuart Cook: The truth of the matter is that that is what we need to understand. We know that, at the moment, the regime drives in the direction of minimising inefficient investment. What we need to understand is whether it impacts on renewable generation in the way that people say it does. As I said at the start, there is some evidence from specific cases that it seems to have had an implication. We need to understand whether, in the round, it acts against such generation. Part of that is about recognising that what we do in one part of the country will have an impact elsewhere. We need to understand whether, if we changed the way in which transmission charges operated, it would be better or worse for Great Britain as a whole. If we were satisfied that it would work in everybody's interest, it would be the logical thing to do.

Gavin Brown: Obviously you are still getting reports from experts and so on. Is there broad acceptance by Ofgem that there is reduced or minimal locational choice for the siting of renewables?

Stuart Cook: That argument has been put, but there are mixed views on it. Some of the evidence that came forward suggested that it was quite

difficult for thermal plants to locate in particular locations. For example, a lot of the new nuclear fleet is restricted to locations where existing nuclear plant is located; there is very little flexibility. Some people have made the case that it is difficult for renewables to locate; others have said that that applies equally on the thermal side and therefore the picture has not really changed.

What I would like to understand is whether, across all the targets that we are seeking to deliver, we are short of places to invest or we have a surplus. If we are short on locations where wind farms can go, your argument will have a lot of weight. If, in fact, there are lots of choices, even though an individual location might be restricted, as a whole there might be options for people to choose between places.

Your question is really interesting. I wish that I could answer it now; I will be able to answer it shortly.

10:00

Gavin Brown: Without stating whether you think that this is a good idea, will you say whether it would be technically possible to have a system that still involved a locational element, but in which the strength of that locational element was reduced, so that the fact that the carbon reduction public policy context has changed was taken on board? Would it be technically possible to have a system in which there was still a locational element, but the impact of that element was reduced to try to change the playing field?

Stuart Cook: There are many options, and transmission charging is operated in many different ways around the world. Academics and our advisers are helping us to understand work on that. Generators elsewhere pay more or less of the total pot of charging. In this country, they pay 23 per cent towards the total contribution, but in other countries they pay less. In some places, there is less of a locational signal for the shared assets—the use of the system as a whole—but there are more locational signals for the assets that people have to buy that are uniquely associated with them. The charging regime can be formulated in different ways, and there are some ways within that spectrum in which the locational signals are weaker. The short answer to your question is that it is technically possible to envisage a world in which there are still locational signals but they are not quite as sharp.

Gavin Brown: I will ask my final question purely out of interest, as I have heard two contradictory responses to it. Did the Scottish Government submit a formal response to the consultation?

Stuart Cook: That is a very good question. I know that the committee did so. We received 60 responses in total. From my papers, I can see that the Scottish Government did not send in a formal response, but its views are clearly on record in any case, and we have taken them into account. We have received letters and correspondence from members of the Government in the past.

Gavin Brown: I know that the Government's views are known, but there were specific questions in the consultation, and I simply wanted to clarify whether, as a matter of fact, it submitted a formal response.

Stuart Cook: My record here says that it did not. However, it is still open for it to do so if it wants to, and we would obviously take its response into account.

Christopher Harvie (Mid Scotland and Fife) (SNP): If you take an atlas of Europe, and centre on London a circle of 200 miles radius, you will see that two issues arise. One is that the circle extends well into northern France and the south of Belgium and includes heavily built-up power-requiring areas, such as Brussels. To the north, the line goes north of the vale of Trent and the bulk of Britain's non-nuclear thermal generation. What life expectancy do you give the big and incredibly carbon-inefficient thermal generators in the vale of Trent—the Drax and Knottingley generators and so on? When will they run out of service?

Stuart Cook: That is an interesting question, but to be honest I do not have a personal view on it. It is a matter for those generators and their commercial cases. It is clear that what the Government is proposing in the energy market reforms will impact on their decisions, and the extent to which an environment is being encouraged that is less conducive to thermal will bear on them. However, I am afraid that I cannot tell you how long they will remain in existence.

Christopher Harvie: But surely European constraints will also bear on that. They will condemn Longannet and Cockenzie, say, within around 20 years. How much do European policies, European charging practices and, of course, the fact that European utilities now own a substantial amount of the British generation market bear on your calculations?

Stuart Cook: They are central to our thinking. We are keen to ensure that any changes that are made on the transmission charging side are for the long term. We do not want to put in place a modified arrangement in Great Britain only to find that, shortly afterwards, something happens in continental Europe that affects the way in which charges operate. We are trying to understand the European legislation that we have to comply with and the direction of travel, so that we can make certain that we are heading in a direction that is

consistent with European policy or, if we decide not to be consistent, so that we understand the consequences and associated risks and how long the regime is likely to remain in place. You make the really important point that we cannot live in isolation from the European context, so we have to make certain that the arrangements are consistent with that context.

Charles Gallacher: I will add a little advert, which is that we are running a seminar in our London office tomorrow on that very subject. We have 250 people coming. An invitation has gone to the Scottish Government, and Christopher Harvie would be more than welcome to come if he wanted to do so.

Christopher Harvie: I can dream on, given the whips and the budget decision.

How aware are you of developments in the German energy market, which eventually will be non-nuclear once the last nuclear stations run out? Operations such as Volkswagen and LichtBlick are thinking about a type of google operation, using small generators that are associated with local heating schemes as the baseline, rather than big conventional inefficient thermal generators, which are ruinously carbon productive. The European pattern is very much a patchwork, ranging from the French concentration on nuclear right through to the German and Scandinavian, or Danish, system of local combined heat and power units. Is there progress in discussions within a European context? Will Britain's general weakness on ownership of generating capacity compared with the situation in continental Europe mean that we will have to concede to the Europeans if they come up with better technological alternatives?

Stuart Cook: That is another fascinating issue. We have three teams of academics working on that. We are drawing on experts from Professor Jim McDonald's team at the University of Strathclyde, who are helping us to understand some of the international issues. We have also commissioned work from an organisation called Cambridge Economic Policy Associates, which is specifically looking at case studies from throughout Europe. I do not know whether any of them is in Germany, although Germany is in the scope of the countries that are being looked at. That document will be published at the end of the month.

The broader story that you describe of the move to new technology, or what we call the smart-grid vision, is central to what my work is all about. My title—senior partner for smarter grids—is all about that. We announced just a couple of weeks ago that we will establish a smart-grid forum to bring together industry experts, manufacturers, European experts, economists and engineers all in one room with the network companies and suppliers to try to understand what the international lessons are and how we can apply them. That is an important part of the future that we all face.

Christopher Harvie: How much do you calculate at the moment, in locational calculations about production that is centred on the big markets, based on the carbon output of your generating capacity?

Stuart Cook: Sorry, but I did not follow that.

Christopher Harvie: Say you have about 5 million tonnes of coal going in and 10 million tonnes of CO_2 coming out of your conventional thermal stations. Does that issue, as well as the very low efficiency of thermal stations—about 34 per cent if you are lucky—play a major role in calculating your matrices for the efficient supply of power?

Stuart Cook: Under the current arrangements, it is very much the market that decides what the mix of generation plants will be. Clearly, the mix will be influenced by what the Government says in its energy market review. The Government might have done that type of analysis involving the matrices that you describe and the carbon imprint.

In the decisions that we have to take, we now explicitly factor carbon into all our calculations. In the past, when we did a cost benefit analysis, we considered the monetary costs and benefits of a particular decision, but we now also consider the financial equivalent of carbon savings to try to ensure that all our decisions take account of broad environmental factors.

Christopher Harvie: Would that still apply to decisions that relate to existing power supply from thermal stations?

Stuart Cook: To the extent to which it is within our remit, we will look at all those considerations.

The Convener: One of the issues that we highlighted in our submission was whether the current regime encourages large, inefficient power stations at the expense of localised combined heat and power schemes, for example. Is there anything in the transmission charging regime that could be used to encourage more efficient use of energy, so that we do not have power stations sending 70 per cent of their energy up the chimney as waste heat, for example?

Stuart Cook: The answer to that is definitely yes. One of the proposals that National Grid had on the table before we launched project transmit related to the discount that small generators get for connecting to the distribution network as opposed to the transmission network. They tend to be the smaller generators that you described. We said that we would consider that discount arrangement, which provides many incentives for

such generators, as part of project transmit as well, so we will definitely examine the way in which charges can provide incentives for them.

The Convener: I am pleased to hear that, but the other side of that is to ask whether there is a way of using the system as a disincentive to encourage large power stations that just pump their heat out the chimney to consider how they could use that heat more efficiently.

Stuart Cook: I understand the question that you ask. The difficult thing for us is that we have to ensure that the regime is non-discriminatory. There must be an objective reason in law for putting in place a set of provisions that affects a particular class of generators. We would need to satisfy ourselves that it was right to make it more difficult for one class of generators and easier for another. You might judge that that is a sensible thing to do.

The Convener: I suggest that the efficient use of energy would be a reasonable ground. It would not be discriminatory. You could say that all generators had to be efficient in their use of energy.

Ms Wendy Alexander (Paisley North) (Lab): I shall raise two issues. One is specific to the transmission charging regime and the other is more general, but they both relate to the scale of investment that will be required.

I will start with the three elements of transmission charging. If there is a desire to change the generation mix towards low-carbon generation, the implications for the grid would be that net investment would go into connection charges, albeit that Ofgem would change how the balance of risk is apportioned.

What is Ofgem's objective on the total cost of the transmission network's use of the system in balancing charges? Is the desire that, for those two elements, it is cost neutral? One would assume that greater efficiencies would be possible but, on the other hand, our desire for smart grids and to improve consumer efficiency might militate against that. In all the pieces of work that Ofgem has commissioned from academics—Cambridge Economic Policy Associates and others—is there a parameter that says we are seeking the transmission network use of the system and the balancing charges to be cost neutral to where they are now or do you envisage that net investment will be required in that and connection charges?

I will also ask you about the wider investment landscape, but my first question is about the transmission charging regime.

Stuart Cook: We have not talked much about the balancing side of the equation, but it is right to bring it to the table.

There are three elements to charges. There is the bit that people pay for the customer-specific assets that connect them to the system. The second is the bit that relates to the shared assets—the assets that we cannot tease apart and say belong to a particular customer because everybody shares a part of them. Then there are the balancing charges, which are best described as the cost of operating the system and the day-to-day costs that National Grid incurs in bringing generators on and switching them off. We are considering all three of those in project transmit. The academics have been looking at how different models in different countries attached weight to each of those elements. We need to be sensitive to the fact that the Government has already expressed a view about how it thinks the balancing elements of those costs should be apportioned by different communities of generators. We need to reflect that in our thinking.

10:15

Ms Alexander: Can you say a general word about that at a high level?

Stuart Cook: As of 11 February there will be a new connect-and-manage regime. As part of that, the balancing charges are to be socialised across different generators rather than targeted on individual ones. We need to factor that into our thinking because a view has been expressed; we need to respect that perspective when we form our own views. We are not constraining the solution by saying that we definitely need a model that minimises across the balancing and asset sides; we are looking for the different and most efficient ways of handling those elements in the UK, given the decisions that have been taken.

Ms Alexander: I suppose I am asking whether the endgame on transmission charges is likely to be a big net consumer of investment. We will talk later about the other demands that are being made. Are the costs associated with changing transmission charging likely to exceed the general rise in generation capacity? Have either Ofgem or the Government set any parameters around how significant the scale of investment will be? Obviously the balance between the different operators and generators that are participating in the system will change.

Stuart Cook: I can give you a feel for the scale, then I will explain a bit about the process by which we get to that.

We have estimated that the total investment of £200 billion will be required over the next 10 years—

Ms Alexander: I was going to come to that as my next question about the scale of grid investment required. I am sorry to interrupt.

Stuart Cook: The total investment is £200 billion across the board on the network and generation sides. We estimated a figure in excess of £30 billion on the network side in transmission and distribution. We made that estimate last year and we are now reviewing the submissions that the companies have made as part of the periodic price control resetting. It is likely that that number will be revised upwards rather than downwards in the companies' view. However, we have not completed that analysis so it is best to rely on last year's figure. So, of the £200 billion, around £30 billion is network related.

Ms Alexander: And the remaining £170 billion is related to generation?

Stuart Cook: Exactly. We do not place a cap on it—by which I mean we do not deliberate on it and decide that the maximum amount is £30 billion and the companies cannot spend more than that; we ask them to come to us with a case and we take case by case. In future, we will need to have the flexibility to handle new situations so that if something arises that the companies are not expecting and they have to make an unanticipated investment, we can be flexible enough so that they are not delayed from investing.

Ms Alexander: I invite you to say a word about the scale of the grid investment that is involved. Lewis Macdonald mentioned the two bootstraps. I have in my head a figure of around £4.8 billion that has been committed, £2.7 billion of which is coming to Scotland. Can you give us some sense of how the £30 billion is committed and how it relates to Scotland? There is a bundle of issues around the transmission charging regime, but there are also huge issues around the grid upgrade and networks and how that all integrates with your retail market review, the energy market review and the significant amount of lobbying that is now going on of the committee by the energy companies about the scale of investment that is required and expected from them and the time horizon over which payback will come. I want you to say a word about the scale of grid investment that is likely to be required during the next five to 10 years and how much of that pertains to Scotland, the bootstraps and the interconnectors.

Stuart Cook: That is a really interesting point. Your memory for numbers is obviously better than mine. It is worth focusing on some of the figures. The current asset base of the companies is approaching £8 billion—the figure is about £7.5 billion, I think. About £15 billion of investment is required for the offshore regime, which involves connecting the grid out to the generators in the sea.

The figure was £4.8 billion at one point for onshore investment, and I think it is now above £5 billion. Well over half of that—the figure of £2.7 billion that you gave is probably right—is investment that has originated in Scotland. It is either investment in Scotland or investment to connect generators in Scotland with the demand centres. As I mentioned earlier, we have already authorised £1 billion of that total investment.

Ms Alexander: That is very helpful. How do you get from the £15 billion that is required for the offshore regime and the £5-plus billion for the onshore regime to the £30 billion figure, which you have indicated is likely to rise? What is the other significant element of that?

Stuart Cook: That is distribution investment in England and Wales. There are distribution and transmission, and there is offshore investment. The £5 billion is for GB transmission; the £15 billion is for offshore; the rest is all the onshore distribution network investment.

Ms Alexander: A brief note to lay out that landscape would be helpful. Returning to my original point, the question is whether significant net investment for transmission requirements is likely to arise from project transmit. Do you expect the project to require significant net investment in addition to the investment on the new grid, for want of a better description, or the anticipated grid upgrading?

Stuart Cook: It is too early to answer that question. Depending on the conclusions of project transmit, we might expect that there will be implications for where generators are located and the speed at which they are installed. Some of the things that we will do on the connection side will I hope enable generators to connect quickly. All those things will have implications on transmission investment.

The immediate implication will probably be to increase the need for connection to happen more quickly, although it is harder to determine whether more will be done in that regard. I would need to ask the companies to produce plans and show us what they intend to do.

Ms Alexander: I do not think we need to go into that level of detail at this stage, but it would be helpful to have a sense—even just visually—of what we have been discussing regarding the scale of the investment that is likely to be required, with some idea of the time horizons over which you expect the various efforts to interact and nest in. There is a little bit of confusion about the matter. It would be useful to discuss with the operators what has been committed, what the timescale is and what the likely requirements are—although that is speculative—and it would be helpful to get a little more information about that landscape.

Stuart Cook: We can certainly provide that. It sounds as though it would be best to do it in picture form.

Ms Alexander: Visually—exactly.

Stuart Cook: I am sure that we will manage to do that.

Stuart McMillan (West of Scotland) (SNP): I have a question about wind energy that follows on from something Charles Gallacher highlighted. He spoke about a 46 per cent increase in profits in the energy retail sector. Stuart Cook just spoke about the investment element. You said that you might have to consider approaching the energy companies and asking them to come up with some investment a bit more quickly.

To most people, the figures that have just been bandied about, such as £200 billion, £30 billion or £170 billion, are just large numbers—they might go over the heads of many people in society—but the industry will know exactly what they mean and what the investment implications are.

I imagine that energy companies consider the return on investment. How sustainable is the 46 per cent increase in profits? As for the return for the companies, can they sustain fully the massive investment that is required? What will be the implications of the required investment for the end-user—the customer? That follows on from a question that Lewis Macdonald asked.

Charles Gallacher: You raise a major concern of ours. The numbers are enormous and somebody will have to pay for them, as you say. As we are in the middle of a review, I cannot discuss the detail, but that issue will be a part of the review.

You would need to put directly to the companies the question whether they can sustain the increase in profits. However, given the numbers that we have talked about, the answer is probably no.

When we gave evidence to another committee last week, we majored on what the investment will mean for consumers' bills. We have serious concerns. It is too early to give a precise figure for what the £200 billion, for example, will mean for bills, but much speculation has taken place in the economics community. I have read that bills could increase by between 12 and 25 per cent by 2020, which is significant.

Stuart Cook: Stuart McMillan asked about investment. The amount of more than £30 billion would be spent on assets that last for many years, so the impact on people's annual bills would be reduced, as the costs would be spread over several years.

We are alive to the risk of companies being unable to raise the money that they need to make the investments. That is why we produced in October last year a new framework for regulating the network companies called RIIO—revenue=incentives+innovation+outputs—which members might have come across. That followed our two-year investigation into how we regulate those companies. We decided that, as with many systems that we have considered, the regime had done a really good job but did not address the issues for the future.

The RIIO framework creates a stable background for companies to raise finance—it makes it easier for them to go to the market and get it to contribute the large sums of money they need. We are committed to doing everything we can to make raising that funding as easy as possible for companies.

Marilyn Livingstone (Kirkcaldy) (Lab): I have just one question. In its report of 23 February 2010, the House of Commons Energy and Climate Change Committee said:

> "We are concerned that the current system appears to charge wind generators disproportionately more than conventional generators for grid usage."

Will you comment on that?

Stuart Cook: That is an issue. We have asked National Grid to consider it and we are looking at it, too. Different generators have different patterns of operation. I will give an example of two extremes. A generator that relies on nuclear technology tends to run more or less continuously, as that is more economic and efficient. It will rarely go off the system, other than for safety reasons or plant maintenance. In contrast, a wind generator goes on to and off the system according to whether the wind blows.

The charging regime treats wind generators in the same way as nuclear generators, which most people agree does not make much sense. National Grid has started to think about that and we are taking that thinking forward as part of project transmit. We want to ensure that we have an objective and non-discriminatory arrangement that reflects different generators' circumstances.

Marilyn Livingstone: It will be important to keep us up to date with those deliberations. Transmission charges seem to discriminate against renewable energy, which is a huge issue for Scotland.

Stuart Cook: I would be delighted to return to the committee, as I am sure would Charles Gallacher.

Charles Gallacher: I would be happy to do that.

10:30

Lewis Macdonald: Stuart Cook mentioned the introduction of electricity market reform, which members debated last month and asked Chris Huhne about. The removal and replacement of

renewables obligation certificates will have huge implications for investment decisions—particularly in the north of Scotland, I suspect. How will project transmit dovetail with the final EMR proposals and avoid the risk of going in one direction while EMR goes in another?

Stuart Cook: We are alive to that risk. Some models for taking forward charging neatly avoid the complexities of aligning with EMR, but others are enmeshed in EMR. It is important that we understand the direction in which the Government wants to go and the implications for some of our decisions. We are working closely with the Department of Energy and Climate Change to understand how its thinking is developing and to share our thinking on project transmit, so that the two reviews work together seamlessly.

Lewis Macdonald: What is the timing for that?

Stuart Cook: I understand that the EMR proposals will be available in the spring. That works quite well—we should have views on where EMR is likely to land at about the time when we form our views about the charging regime, so bringing together the two reviews should be possible.

The Convener: I thank Stuart Cook and Charles Gallacher for giving us a useful briefing on project transmit's progress. I am sure that our committee will recommend that our successor committee, whatever it may be, keep a close eye on the project. I hope that the witnesses will be as willing to meet that committee in due course as they were to address us today.

Stuart Cook: It is always a pleasure to appear before the committee.

Charles Gallacher: Thank you very much.

The Convener: Because of the recess, our next meeting will be two weeks from now, on Wednesday 23 February. Given that the only agenda item will be consideration of a draft report on our enterprise network inquiry, I am pleased to say that I will recommend to our clerks a slightly later start than normal.

10:32

Meeting continued in private until 12:28.

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