The Scottish Parliament
Pàrlamaid na h-Alba

Official Report

ECONOMY, ENERGY AND TOURISM COMMITTEE

Wednesday 3 June 2015

Session 4

Wednesday 3 June 2015

CONTENTS

ECONOMY, ENERGY AND TOURISM COMMITTEE
15th Meeting 2015, Session 4

CONVENER

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

DEPUTY CONVENER

*Dennis Robertson (Aberdeenshire West) (SNP)

COMMITTEE MEMBERS

*Chic Brodie (South Scotland) (SNP)
*Patrick Harvie (Glasgow) (Green)
*Johann Lamont (Glasgow Pollok) (Lab)
*Richard Lyle (Central Scotland) (SNP)
*Gordon MacDonald (Edinburgh Pentlands) (SNP)
*Lewis Macdonald (North East Scotland) (Lab)
*Joan McAlpine (South Scotland) (SNP)

*attended

THE FOLLOWING ALSO PARTICIPATED:

Claire Anderson (Scottish Government)
Kersti Berge (Office of Gas and Electricity Markets)
Mike Calviou (National Grid)
Fergus Ewing (Minister for Business, Energy and Tourism)
David Gardner (SSE)
Marco Giuli (European Policy Centre)
Gina Hanrahan (WWF Scotland)
Malcolm Keay (Oxford Institute for Energy Studies)
Charles Keegan (Scottish Government)
Eric Leavy (Scottish Power Energy Networks)
Dr Neal Wade (Newcastle University)

CLERK TO THE COMMITTEE

Douglas Wands

LOCATION

The James Clerk Maxwell Room (CR4)

Scottish Parliament

Economy, Energy and Tourism Committee

Wednesday 3 June 2015

[The Convener opened the meeting at 09:46]

Security of Supply

The Convener (Murdo Fraser): Good morning, ladies and gentlemen, and welcome to the 15th meeting in 2015 of the Economy, Energy and Tourism Committee. I welcome members, our witnesses, who I will introduce in a moment, and visitors in the public gallery. I remind everyone to turn off, or at least turn to silent, all mobile phones and other electronic devices so that they do not interfere with the sound equipment.

We have received apologies from Chic Brodie, who is running late but hopes to be with us shortly.

Item 1 is our inquiry into security of supply. I welcome our first panel of witnesses: Marco Giuli, policy analyst, European Policy Centre; Gina Hanrahan, climate and energy policy officer, WWF Scotland; Dr Neal Wade, senior research associate, school of electrical and electronic engineering, Newcastle University; and Malcolm Keay, senior research fellow, Oxford Institute for Energy Studies. Thank you for coming to the committee this morning.

We have about 75 minutes for this panel. We have a busy schedule today, so I have asked members to keep their questions short and to the point. Answers that are equally short and to the point would be very helpful in allowing us to get through all the things that we want to cover in the time available. I have also asked members to address their questions initially to a particular panel member. If a panellist wants to come in on a point that has been made by someone else, they should please catch my eye and I will bring them in as time allows, given that we have quite a lot of ground to cover.

I will address my first question to Gina Hanrahan. The WWF report "Pathways to Power: Scotland's route to clean, renewable, secure electricity by 2030" has been circulated to us and, as she will know, it has come up in previous discussions. When we took evidence two weeks ago, we heard from a number of experts, including academics, who were, it is fair to say, quite sceptical about the idea that we could have purely renewables-powered energy capacity in Scotland in 2030, based on interconnection and storage to provide back up. We heard similar evidence last week. Why does WWF believe that that is feasible, given that we have heard a number of sceptical voices questioning whether it is a practical way forward?

Gina Hanrahan (WWF Scotland): We commissioned the research in the first place because of concerns about the pace of carbon capture and storage development and the commercial realities of thermal power in Scotland. Over the past few weeks, the committee has heard a lot of evidence that, given a variety of factors and market signals, it is very unlikely that a new thermal plant will be built in Scotland.

In those circumstances, we wanted to see whether it would be possible to go close to 100 per cent renewable. It is important to clarify that the report builds into the system some thermal power, a little bit of carbon capture and storage—we assume that the demo CCS plant at Peterhead will go ahead—and a little bit of biomass. Therefore, it is not 100 per cent wind.

We commissioned a world-leading independent engineering consultancy—DNV GL—to do the analysis for us. The analysis showed that it is feasible to create a system that is close to 100 per cent renewable by 2030 because we are moving from a situation in which security of supply was traditionally provided by base-load plants with additional peaking plants to a much more flexible and dynamic system in which we concentrate on demand reduction and enhanced storage, transmission and interconnection. DNV GL has demonstrated that that is absolutely feasible by 2030 and, in fact, desirable, because it will allow Scotland to play to its renewables strengths as part of the Great Britain grid.

I listened to the questions that were asked of the experts in the inquiry's initial evidence session and I have some concerns that the technical report was perhaps not parsed in full detail. Our report deals with issues to do with the operability of the system, which was one of the points that was raised: issues were raised about system stability and whether the system would function dynamically. The report considers issues such as inertia, voltage control and black start, and DNV GL is confident that those issues can be managed.

National Grid has a system operability framework that attempts to address the challenges of moving to a low-carbon system. The committee might like to pick that up with National Grid later this morning. There are certainly challenges in managing a low-carbon and high-renewables system, but we are slowly but surely developing the tools to do so.

Another concern was that the report does not account for the interactions with heating and transport. However, it does account for those—it

looks at how a shift to more electrification of heating will impact on the network and at the impact of electrification of transport. Essentially, the findings are that the electrification of transport will add additional load but that that will to a large extent be offset by the shift from resistive heating to electric heat pumps in the heat sector.

I should say that WWF is commissioning a much broader analysis, which is being done for us by Ricardo-AEA, of heat, transport and electricity and of how the energy system needs to function as a whole by 2030 to meet our climate change targets. The full findings are not yet available, but we have some initial findings, which show that we will need much higher proportions of renewable heat and transport in our system, as well as a huge proportion of renewable electricity.

The Convener: Thank you. I am keen to hear from other members of the panel on whether we require new thermal plant in Scotland or whether we can go purely to a renewables system. However, before that, I have one follow-up question. Some of the evidence that we have heard suggests that, if we follow the model that WWF proposes, we would, in effect, rely on importing to Scotland through interconnectors power that is produced from unabated gas or coal generation or nuclear power. Therefore, is it not a bit of a cop-out for us to say that we will be renewable but, when the wind is not blowing, we will import energy generated by fossil fuels or nuclear power from the rest of the United Kingdom or further afield?

Gina Hanrahan: We have to think about the system as a whole, where the resource strengths lie and how we play to them. In Scotland, we have an amazing renewables resource. It would be perverse for us to build a large amount of thermal plant in Scotland, which would naturally limit the amount of our renewables resource that we could send regularly through the wires. For instance, if we were to build a conventional gas plant in Scotland, it would have to function at a very low load factor to avoid breaching the decarbonisation target and to ensure that we can use our renewables strength. Otherwise, we would have to build a huge amount of transmission capacity to accommodate thermal power and renewables in Scotland, and I do not know that that would be in the economic interests of consumers as a whole.

I understand the slight hesitation on the issue, but we cannot build an infinite amount of transmission capacity, so we need to consider what we choose to send through the wires and how the system functions best as a whole.

The Convener: Do you accept the basic point that we would still be relying on imports of power from elsewhere, which might well be produced in a high-carbon fashion?

Gina Hanrahan: Absolutely—I accept the principle that there will be imports on certain days of the year when there is low renewables capacity in Scotland. We also have to acknowledge that the GB grid is expected to decarbonise at roughly the same rate as the grid in Scotland. The Committee on Climate Change has recommended that the UK Government sets a decarbonisation target for 2030 of 50g to 100g of CO_2 per kilowatt hour. The Scottish Government has already set that target, based on the CCC advice, which is welcome, as it is a clear acknowledgement that decarbonising electricity is the first step to systemwide decarbonisation.

The Convener: That is absolutely right, but you will appreciate that, due to a policy difference, the UK Government might take the view that the way to achieve the target is through new nuclear power, which is not something that might be pursued in Scotland.

Gina Hanrahan: I accept that, yes.

The Convener: I am keen to bring in others. Mr Keay, I think that you wanted to come in.

Malcolm Keay (Oxford Institute for Energy Studies): As Gina Hanrahan said, it is worth looking at the underlying technical report by WWF, with which I have no quarrel at all. However, it is also worth stressing that the report makes it clear that security can be maintained, given the assumptions in it. If you make those assumptions, it points out that security would be maintained, whatever the system in Scotland is, and even if there were no generation in Scotland. It does not really say very much about what the optimum is, either in Scotland or in the UK. That is a much wider question. That said, the basic challenge is certainly there, and the report is right to point it up.

What is missing from the report—although the authors were not asked to look at this—is how to give the right economic signals to construct markets in a way that might deliver that optimum. The underlying assumption in the report, and the assumption made by some of the witnesses whom the committee has spoken to so far, is that the Government will have to sit down and decide what the system will look like. However, we are supposed to be living in a liberalised system and to be finding a way in which the market can send those signals, even within an environmental framework. In many ways, that is the key challenge.

The Convener: We will explore some of the issues around market signals later on.

Dr Neal Wade (Newcastle University): I would emphasise the interconnectedness of the electricity and heat systems in Scotland and how they will become more interconnected and interdependent in the future. I would also

emphasise interconnectedness with the rest of the GB system. Your question is about how the balance of energy supply is made up and whether it is appropriate for the rest of the supply to come from the rest of the GB system. The most economic way to build a system is to include diversity, which is what the network provides, so trying to become completely isolated in terms of energy security is not the approach that I would follow. I think that you need to make use of the resource that comes from GB, which may or may not be of a level of decarbonised energy that is similar to that of the resource that Scotland is able to produce.

The Convener: Okay. Mr Giuli, have you taken a view on this?

Marco Giuli (European Policy Centre): I agree with the final points that have been made. Energy security cannot be fully achieved in a completely insulated system. Basically, systems are made up of a mixture. Even when the role of renewables in the mix is massively enlarged, security can mainly be assured only through interconnection. The more that we enlarge the geographical deployment of renewables, the better they contribute to the system. In that way, they can really exploit synergies.

One of the big problems that we have had with renewables in Europe relates to the completely unco-ordinated patchwork of very different support schemes. It would probably have been much more efficient and secure to have had a co-ordinated approach—one that insisted on wind in the north of Europe, for instance, and solar in southern Europe. That has not happened, which is why we now have so many problems in the internal market.

10:00

Dennis Robertson (Aberdeenshire West) (SNP): Perhaps I can explore with Marco Giuli the issue of interconnection with Europe. If our capacity margins are narrowing in GB, will the situation not be the same in Europe? If other member states are having the same problem, especially in times of high demand such as winter, and we go ahead with the interconnections with Europe, how will that secure supply for GB?

Marco Giuli: For a long time, the approach in Europe has been one of encouraging interconnection, but that has had quite meagre results. There has been a lot of advance in coupling, which has brought some results—coupling involved GB as well. Unfortunately, there is a problem with the original design of the internal energy market. Basically, Europe elaborated the internal market at a time when renewables had not yet displayed their—let us say—disruptive effects on the energy mix. Coupling alone did not deliver.

Before 2012, when Germany decided unilaterally to go for its energy agenda, we had a good convergence of prices in central and western Europe. Since 2012, that price convergence has reduced, which is very much related to a lack of interconnection. Although there is a new political impetus to encourage interconnection, there is also the fear in the European Union that the unilateral adoption of capacity mechanisms might jeopardise integration and interconnection efforts.

Dennis Robertson: Is it feasible to set up the proposed regional operational centres in Europe to ensure direct supply on demand? I ask whether that is feasible because the pricing structures in GB and, perhaps, in the rest of Europe, are not compatible, which means that there will be some variation and that the approach may not be in the interests of GB consumers or, indeed, of some European consumers.

Marco Giuli: The regional approach was proposed because it was considered the most feasible. The top-down proposal of a completely uniform market design was rejected. Even the regional approach is not in very good shape right now. It is an approach that would be quite consistent with the whole philosophy of the energy union. However, we have seen from the Council of Ministers a half endorsement of the energy union, while member states have insisted on keeping a flexible market design. If we read between the lines, that means that they are not very confident about a regional approach.

Dennis Robertson: I will bring in other witnesses in a minute, but I first want to explore an aspect of the European Union approach. The approaches to climate change targets in Scotland, the rest of GB and Europe are somewhat different. The approach to supplying energy is also different. Those different approaches are not compatible, are they?

Marco Giuli: I can refer only to the European approach to climate change; I cannot specifically comment on the Scottish case. We have new targets for 2030, but the approach will basically not change.

The Convener: Dr Wade is keen to come in.

Dr Wade: Dennis Robertson asked what benefit the interconnectors provide for security of supply and how much we can depend on them. The interconnectors will be included in the capacity mechanism from, I think, 2018 or 2019. At the moment, the way in which interconnectors are operated does not necessarily contribute to security of supply, but they will be included in the capacity mechanism. I cannot say for sure how that will pan out.

Gina Hanrahan: I will talk about the principle of how interconnectors can help to contribute to security of supply. First, although peak demand might occur at similar times in markets that are close to us, unplanned outages do not tend to. If a big piece of kit comes off the system because of problems with seaweed, jellyfish or anything else like that, it is unlikely that the same thing will happen at the same time in another country.

Also, the more integrated and interconnected we are as an energy union in the long term, the more we can benefit from the energy choices that different countries have made. For example, Norway has a lot of pumped hydro storage. In many ways, that is the natural complement to high levels of wind and other sources of renewables, such as those in Scotland. Interconnection has an important role to play. It helps to keep down the overall cost of the energy transition.

Interconnection is considered conservatively in security of supply analyses. Many academics and others have argued that we could account for more interconnection as firm capacity for meeting peak demand. We are very conservative about that. Analyses by Pöyry, Redpoint and a number of other respectable consultancies have shown the value of interconnection to security of supply.

Malcolm Keay: I have a small footnote to add on the interconnection point. A lot of what has been said applies to a large and fully interconnected area such as Europe. The situation is slightly different for an island. The normal criterion for security in a city system is what is called N-1, which means that the system should be able to do without its largest single unit of supply. In traditional systems, that means thinking about a power station going out. However, in the modelling that was done for the WWF report, the largest single item is one or other of the interconnectors. In a sense, that is replacing one risk with another, as there is a risk that the interconnector will not be available. With island supplies, there is a question of size. In a fully interconnected system, that is not a problem, because there is a large excess of capacity, but that is not necessarily true of an island.

Dennis Robertson: I am still trying to see where the security of supply issue would be. Do you envisage that we would be an exporter or a net importer given our situation? At a time of high demand, and with a better pricing structure in operation in other member states, surely the electricity would flow to them rather than to GB. Would that not be the case? The electricity would flow to where it would be most beneficial to the companies, which would be the member states where they make a higher profit.

Marco Giuli: The issue of how many peak load hours are shared between member states needs to be based on some rather technical assessments. I refer members to a study by the European Parliament research centre, which dates back to the end of 2013 and which used that methodology to explore the potential that existed at that time for coupling. However, we know that that is not enough and that we also need a degree of physical interconnection to achieve good results. In most cases where there are a lot of bilateral matches between countries and between regions, and between single countries within a particular region, although there are a lot of discrepancies, the average share of peak load hours was below 40 per cent, which makes us think about the good potential for coupling.

When we evaluate performance, the picture is much more complex, because in some cases coupling gave very good results—between Spain and Portugal, for instance—and in other cases price convergence just did not happen, so the price differentials stayed just the same, as in the case of France and Italy.

Gordon MacDonald (Edinburgh Pentlands) (SNP): I have a quick supplementary question for Gina Hanrahan. The "Pathways to Power" report suggests that Scotland does not need any large-scale generation and that we can depend on wind power, but there is the issue of the interconnectors. Professor Haszeldine said in his written evidence, in reference to the closure of large-scale generation in Scotland:

> "That prospect would require to treble or more the present interconnection. There will inevitably be technical problems related to frequency stability at 50 Hz, and to maintaining equable voltage dependent on peaks and troughs of wind output."

If we did not have large-scale generation in Scotland, and therefore did not have the interconnection capacity to rely on imports from south of the border, and if there were other issues to do with stability of voltage and so on, how would we make up the shortfall?

Gina Hanrahan: I heard Stuart Haszeldine's point about the need to triple interconnection. The analysis that DNV GL did based on our scenario indicated that the number of transmission capacity upgrades that are in the system, in planning and being discussed in the long term are more than adequate to deliver security of supply through the transmission network on those relatively rare occasions when there is very little wind or other renewables on the system. I do not think that there is a need to spend phenomenal amounts on transmission capacity as a whole. The pipeline that is there is more than adequate.

The report deals with the question of stability and the quality of electricity supply. From DNV GL's perspective, there are no show-stoppers. It thinks that the supply can be adequately managed

in the system that we envisage. At the moment, National Grid and others are trying to come up with tools to address how the system will be operated in a high-renewables scenario. One way or another, we are in the midst of an energy transition across the UK, across Europe and globally. We will have to develop the tools and practices to manage high renewables and to maintain voltage in those circumstances, and the best minds out there are struggling with those issues at the moment. That does not mean that it is impossible. We are not talking about an overnight change to the system; we are talking about a transition over 15 years or so, which we think is adequate to prepare for those kinds of issues.

Gordon MacDonald: As you mentioned, Professor Haszeldine has said that interconnections will have to treble. I presume that one of the interconnectors that you have talked about as being in the pipeline is the high-voltage direct current western link. However, the website for that states:

"The Western Link will bring renewable energy from Scotland to homes and businesses in England and Wales."

That means that it is predominantly aimed at exporting electricity. We know that the UK energy market, which is mostly south of the border, is dependent on imports using the interconnectors in France, the Netherlands and Wales, and on Scotland's exports. In that case, where would the extra capacity come from?

10:15

Gina Hanrahan: Most of the time, the system will continue to operate exactly as it does now, with Scotland continuing to be a net exporter, given the strong renewables potential and existing capacity that we have.

The concerns about security of supply at GB level have been overstated. Although the capacity margin has narrowed last winter and this winter, it is clear that it will increase again in the coming years. The Office of Gas and Electricity Markets and National Grid have introduced a suite of new tools to address the short-term issues, such as the supplemental balancing reserve. In relation to the longer term, the UK Government has introduced the capacity market, which is specifically designed to ensure that the GB system as a whole has the capacity that it needs to meet peak demand.

We believe that the capacity market could do better. It could incentivise demand-side response and demand management better and it could be a bit more consistent with regard to our decarbonisation objectives, but that tool is specifically designed to ensure that we have the capacity that we need to meet peak demand at the times when renewables are not available in the system. However, to go back to the point that Malcolm Keay made, we have to ask what market designs we need in order to incentivise what we want to happen.

Dr Wade: The system that is being talked about in relation to that vision is different from the system that we have now, so the same rules of system design do not necessarily apply. We will need new elements in the power system in order to make it happen, including things such as much more use of demand-side response, cross-sectoral energy exchanges such as converting electricity to fuel or some type of gas and energy storage at all levels in the power system. It can be difficult to imagine the future system if we do not include all those elements that need to be brought into the system as a whole.

Lewis Macdonald (North East Scotland) (Lab): I want to get to grips with the European energy union possibility. I have a couple of questions about it, one of which has been touched on but not fully dealt with. Capacity margins are narrowing in Scotland and in GB, but they are also narrowing in other European Union countries, for the same reason as here, which is that thermal plants are coming offline and are not being replaced with like-for-like provision and there is an increasing dependence on renewable energy. All those developments are in line with policy decisions that have been made in member states and more widely.

That raises a resource question. Northern European countries are all moving their energy policy in the same direction and face the same challenges in relation to, for example, low pressure during winter months, when the wind does not blow. Malcolm Keay has addressed some of those issues, so perhaps he would like to kick off on that point. Does the approach that is being discussed contain solutions within it, or is it just a helpful back-up that still begs the question of what is to be done to ensure sufficient generation here and in other member states?

Malcolm Keay: I agree that there is a problem. In the short term, capacity payments and the sort of mechanisms that Gina Hanrahan talked about will probably have to be introduced. However, I think that they are not actually the right measures for the longer term. As I hinted earlier, the fundamental problem is one of broken markets. There is no proper way for markets to give signals to producers or consumers about what they should be building and when they should be operating it. That means that they are not performing their proper function.

Capacity payments are, essentially, a short-term fix. They are a patch on a failed operating system, and they will not allow a new operating system to

develop. As Dr Wade said, the new system will be very much more complicated. It will not be just a matter of forecasting peak demand and ensuring that enough supply is available; it will be about integrating a large number of sources, and Governments have not yet remotely started to get to grips with that. At the moment, according to a report for the EU, something like 90 per cent of support for the process of decarbonisation, or indeed for Government interventions in energy more generally, mainly benefits the supply side. Only 10 per cent is on the demand side, and a small proportion of that is in energy efficiency. Absurdly, the largest single measure of support on the demand side is in special tax favours such as relief from carbon taxes, which is perverse given the situation that we are discussing.

The first thing that we need is a much more integrated policy overall. Markets need reforming. Support on the supply side is basically about pushing investment on to the system; it is not market reform although it is described as that, and there is nothing in it to optimise and ensure the right mix of investment, or the right mix between supply investment and demand investment in things such as storage. There is nothing equivalent to feed-in tariffs on the demand side, so we are currently creating an unstable situation in which, as has been said, we can get an excess of a certain sort of generation. There is nothing in the markets to cope with that.

Ultimately, it is difficult for any Government under current circumstances to say what will be optimal—we simply do not know. We do not know how much consumers value reliability, how much they would be prepared to put into storage, whether they are prepared to be flexible and use things such as off-peak storage heating or battery storage in the house, or how much central system storage would be economic. There are currently no viable signals in the market for those things, so it is premature to say that we know what the outcome will be, because we do not. We will not know that until we have tested a lot of those things, which is the first thing that we should do. Meanwhile, we must live with the suboptimal situation that has been described and try to use patches such as capacity payments and so on to cope with the fallout. That cannot be the ideal long-term solution.

Lewis Macdonald: I am interested in the views of other witnesses, but perhaps I can follow that up. If Governments have not yet reached the right solutions in their national territory, does that mean that the creation of a European energy union might be premature? How do we put together different systems effectively if the systems that are being put together have not yet solved the problem?

Malcolm Keay: Ideally, the energy union should be an opportunity and not a problem—I say "ideally" because the small print in the energy union European strategy paper states that the Commission will consider a new market design to integrate better renewables and demand response. It recognises the challenge but—perhaps I am being unduly pessimistic—I am not sure whether it will come up with something adequate to meet it, although at least that is a first step. For the reasons that have been discussed, it makes sense for something to happen across Europe, and it will be much cheaper for it to happen on a basis that allows resources across Europe to be used.

We mentioned the deficit and capacity in northern Europe but, in southern Europe, Spain, for example, has about twice as much capacity as its peak demand. It has excess capacity because, by law, people are not allowed to close a power station there, so it has a lot of power stations that it does not need. Even in Germany, there are rules about when a power station can be closed. It is a bit of a messy situation across Europe, but there is no doubt that all that resource could be used better. For example, the huge solar resource in Spain could probably be better used from a European point of view, but only if there is some coherent way of co-ordinating that. Given the complications that I have mentioned, I am not sure that Governments sitting centrally can do it; I think that we need market signals to help it to happen.

Marco Giuli: We must bear in mind that the energy union will require a change of mindset by member states. It is labelled as a union, but in technical terms it is not a union because there is no shift of sovereignty towards a more centralised level in the documents. In legal or procedural terms, policy making will stay as it was in the past.

A capacity mechanism might provoke some sort of delay in or harm to the process. It is difficult to find consistency. The energy union communication clearly stated that a functioning internal market does not need a capacity mechanism. An important first step would be to have a common assessment of generation and adequacy, because the combination of member states elaborating their own capacity markets and assessing the generation adequacy raises the possibility of a concentration of capture and undesirable consequences that might be harmful for further integration.

Lewis Macdonald: I am sure that that is right, but if the sovereign authority over each member state's transmission system remains at member state level, is there not also a risk of political judgments being made? For example, a member state might choose not to follow the market and instead decide to look after domestic priorities

over interconnection and transmission. Is that a realistic risk? Clearly, political issues from eastern Europe lie behind energy union, but there are also political issues in western Europe.

Marco Giuli: Indeed, that risk is present. Member states have gone for very national considerations so far. For example, France has put a lot of obstacles to its interconnection with Spain. As a result of the political impetus coming from the energy union process, the European Commission has been able to strike a deal between France and Spain to pave the way for further interconnections. Those are steps that go in the right direction, but at the same time there are a lot of steps that might go in the wrong direction.

Malcolm Keay: I will add a small footnote to that. It is not just a question of political interference, as national regulators have duties, obligations and responsibilities that are framed in national terms and are to their national consumers and systems. Co-operation between national regulators can take us so far but, until there is a body at European level whose duty is to the European system and European consumers in general, we will never get out of that. It is not just a question of political interference; it is a question of the structures that are in place and people following their duties and obligations in a perfectly fair way. That would still create problems for the sorts of things that we are talking about.

Lewis Macdonald: Going back to the convener's earlier line of questioning, I note that the Scottish Government's electricity generation policy statement assumes that there will be a number of things by 2030, including substantial investment in renewables, three new thermal power stations with capacity for carbon capture and storage and increased interconnection, but I do not think that we have heard a witness say that all those things are going to happen or are desirable in Scottish generation in the 2020s. Is it time for the generation policy statement to be updated? Does it need to change?

Gina Hanrahan: From our perspective, the EGPS is a foundation but is no longer fit for purpose. It is not in line with commercial realities and it does not have enough emphasis on the demand side of the equation, because it is very much a generation policy statement. We would like the Scottish Government to come forward with a clear demand reduction strategy, whether as part of a wider electricity statement or as a standalone strategy.

Although the Scottish Government does not have all the levers in that respect as it is primarily a UK competence, it has some significant levers. The interaction between the electricity system and areas that the Scottish Government controls, such as heat and transport, is significant, and some money could be put towards incentivising demand reduction and behaviour change. The EGPS needs a review.

10:30

Gordon MacDonald: The energy union fact sheet that the European Commission has issued says about the EU energy market:

> "the Commission will provide enhanced rules for cross-border energy trade and propose appropriate measures to encourage renewable energy producers to better integrate in the wider electricity market."

What do you think those new rules will be? Might they include the introduction of a level playing field for flat charging regimes, given that 25 of the 28 countries in Europe have some form of flat charging regime? If such a regime is introduced for transmission charging, will it mean that the existing transmission charging regime has been a disadvantage to Scotland? If we become part of a wider EU market and retain the existing charging regime, will it also be a disadvantage to the UK in attracting inward investment?

Malcolm Keay: I am not sure that we know exactly what the European Commission means. In its market reform proposals, it has come up with some new proposals on state aid for renewables, and it is obviously trying to introduce some uniformity. Given that the underlying treaty position is that this is a matter for member states, the Commission will not expect that it can do away with separate national renewables regimes, but it can introduce a degree of co-ordination. A lot of what it is doing is not so much about renewables support—apart from what it has done through the state aid guidance—but about technical aspects such as the way that balancing markets work.

There are different rules in different member states about, for example, constraining-off when there is too much renewables generation and how far renewables generators have to keep within their forecast production. For a wind farm, precise production forecasting is not easy, and it may not be done unless there is an incentive. In countries such as Spain that have a lot of renewables, the renewables generators face exactly the same obligations as other generators and they manage to forecast pretty well. The Commission is looking at co-ordinating such technical aspects and getting roughly similar systems.

As you probably know, renewables are supposed to have priority of access to the transmission system, but precisely what that means in practice is interpreted in different ways by different states. The Commission understands that member states will continue to support renewables in different ways, with different prices

and support schemes. That is a problem for the single market, but the Commission sees no way out of that.

Dr Wade: Transmission charging tries to be cost reflective. For example, connecting a distant wind farm may be relatively expensive, but the benefit of having that wind farm installed may be that it has a very good wind regime. The location has the benefit that a large amount of energy can be produced there, but that comes at a cost because the transmission costs are higher. The transmission charging regime provides a way of judging whether a scheme is economically viable. It is a complicated regime because of the different subsidies that are given—carbon credits and so on—but it puts a brake on projects that would add significant costs to the transmission system.

The principle of it being expensive to connect generation where it is difficult is not wrong, but it is important to look at all the incentives that are available—and the disincentives—to see whether the right balance is being achieved.

Gordon MacDonald: What about the view that the charging regime could disadvantage inward investment? Do you agree with that?

Dr Wade: As I said, we have to look at it as a whole. If a wind farm's wind regime—the amount of wind power that we can take from the location—is good, the amount of energy that it can produce may be better than the amount that locations that are closer to a firm bit of transmission system can produce. It is about balancing those two things.

Joan McAlpine (South Scotland) (SNP): My questions are about whether the market structure is in place to deliver a decarbonised electricity regime by 2030, which is what the Scottish Government wants. Incentives for pumped storage are important to complement Scotland's wind energy. Are the necessary incentives for pumped storage in place?

Gina Hanrahan: The current market design will clearly not be enough to get us to 2030 and beyond—to the truly flexible, dynamic, low-carbon system of the future towards which we are working.

At present, the UK electricity market provides no real incentives for building new pumped storage. Two significant projects are in the pipeline in Scotland: Cruachan 2 and Coire Glas. However, at the moment, there is no way to get a return on investment through the capacity market or any other mechanism. If we accept that we will need some sort of storage in the future and that pumped storage might have a role to play, we have to assess how we might incentivise it. I do not have the answers, but the UK Government needs to get together with the energy companies and others who have interests in it to discuss how it might come about.

More widely, the market as currently designed does not incentivise demand reduction or demand-side response adequately. We know that the least costly way to decarbonise is to privilege energy efficiency as the first fuel. At the moment, in the capacity market, demand-side response has only a one-year contract, whereas new gas-plant or flexible generation is able to attract a 15-year contract, so there is not a level playing field in that market.

The capacity market exists only because there are concerns about whether there will be enough available capacity in any given year. Once we move past any concerns about that, we need to think about how we can incentivise energy efficiency in the longer term through a feed-in tariff or another mechanism, as Malcolm Keay mentioned. The signals are not there, and we need to think about how the electricity market works for those other system services that will be of great importance in the future.

Joan McAlpine: I understand that the UK is way behind many other developed countries on investment in energy storage. Does anyone have any suggestions as to how policy could be adjusted to change that and help us to catch up with places such as the United States and other European countries?

Dr Wade: It is really the US, and particularly California, that is leading. Driven by its renewables commitments, it has recognised that storage will be critical to make the system work.

Let us treat pumped storage as conventional energy storage, as it has been on the system for 30 years. We are trialling unconventional energy storage projects in the UK, such as the use of batteries or liquid air as a medium for storing energy, and anything that can be done to enhance those demonstration projects and roll them out as more routine solutions in electricity networks will certainly be beneficial.

It is worth saying that the location and size of energy storage have quite a big impact on what it can do in the system. The regulation and markets that exist are not well developed in relation to allowing an energy storage developer to recover value from the services that it provides. One aspect of the demonstration projects is to show how the markets and regulation need to change to accommodate such storage.

The issue of security of supply goes much wider than the sense of having enough generation—there is also security of supply in the sense of having an electricity network that can deliver power to all the nodes or demand points in the network. Energy storage can play a role in making

that more secure—more so than in the absolute provision of energy.

Malcolm Keay: I am not sure that we are necessarily as badly off on energy storage as Joan McAlpine implies. The UK has quite a large amount of off-peak storage heating—more than most countries—and that is a form of electricity storage. That brings out the wider point that we should think not just about particular technologies such as pumped storage but about markets and pricing more generally, so that individual consumers have an incentive to look at ways of balancing their demand and storing in whatever way. That requires people to come up with imaginative retail offerings, which is what off-peak storage heating was—it was a nice simple offer that worked in the long term. I can envisage companies offering such packages if there were incentives to do so.

It is partly a matter of the way in which wholesale markets operate but, to a large extent, it is a matter of the way in which retail markets operate. There is absolutely no incentive for any consumer to store electricity, as the costs are the same whether they use electricity at 5 in the afternoon or at 2 in the morning, unless they happen to have an off-peak meter. For some politicians, more complexity is a problem, but I do not think that it should be seen as a problem. The fact is that, as we have all said, the whole system is changing. In particular, it is changing from one that is based on what are called in economic terms marginal costs—that is, fuel costs—to one that is based on renewables, which have fixed capital costs.

When we look at other such systems, such as those for telephone or internet services, we do not believe that we always have to think in terms of gigabytes or minutes of call. We used to think that way when we had centralised suppliers, but people are now able to cope with subscriptions. They pay a fixed amount and get a fixed amount for it, perhaps with extra payments if they exceed the fixed amount. There are ideas such as that.

In the electricity system, we need more innovative offerings at the retail end. That will allow us to work out how much storage consumers value and how much they need. There might well be cheaper ways of providing that sort of security in the system than simply putting a pumped-storage scheme somewhere in the middle. Who knows? Off-peak storage heating might well be a better bet, but we will not really know until consumers have had the opportunity to respond to some sort of retail offer and make some decisions.

Joan McAlpine: In our evidence session a couple of weeks ago, Dr Eddie Owens of Heriot-Watt University suggested that smart metering is worth exploring. You talked about the way that charging works for telephones and so on. He said that we could move towards a system where people get cheaper electricity when the wind is blowing and they have smart meters and a weather prediction service. Is that viable? It is already happening in environmentally conscious communities across Europe. Could we give cost incentives for people to use renewables?

10:45

Malcolm Keay: I agree with the general approach, but I personally think that it is much too complicated to have different prices when the wind is blowing, because that means that people have to keep looking at their meter to work out the price. We need a simple retail proposal such as that on off-peak heating that says that people can get cheap electricity when electricity in the system is cheap. In a system like the future Scottish one, which will involve a very high amount of renewables, that will be the case for quite a lot of the time, and people will pay more at certain times. There are vague parallels: for example, the French used to have—and still do, to an extent—a red-light tariff. When a little red light came on in the house, people knew that electricity was more expensive.

The problem with smart metering is that the programme is rather half-hearted. At present, it is set up to help utilities—it avoids companies having to go out and read the meters. It is not really set up to do much else. As long as Governments keep on saying, “We want to keep everything simple,” it will be very difficult to be open to innovation and to try new ideas and so on, because the pressure is always to keep the system simple rather than do those things.

That will have to change, however, and it will—I am afraid—require a degree of Government intervention. At present, as I said, all the interventions are on the supply side, and we need some intervention on the demand side to encourage flexible approaches in order to make things easier for consumers and to help to subsidise costs. That would not just involve smart meters—they would have to be linked with smart appliances. For example, you could tell an appliance to turn off when the price went above 20p or whatever.

We do not know yet, so it is difficult to say what we should be doing, but those are the areas that we need to explore if we are to get a well-defined overall system. I take slight exception to the title of the committee’s inquiry—security of supply is a bit old-think. The question now is not just one of forecasting demand and ensuring that there is enough supply in the future. The system is much more complicated, and all the sources that Dr Wade spoke about have to be integrated into it.

There is still a question of security, but not just of supply. We need to consider the security of all sorts of things that feed into the system. We need to start to experiment with the options to find out what people like and what they can cope with. At the moment, frankly, we just do not know.

The Convener: Dr Wade wants to come in, but I will make one comment. I recently hosted an event about smart meters. It occurs to me that, when we talk about promoting smart meters, one example that is always given is that people could turn their washing machine on when they go to bed, because the power is cheaper then. Of course, the one thing that the fire brigade says that you should never do is turn your washing machine on when you go to bed, because it is more likely to burst into flames and burn you and your family to a crisp while you are sleeping. There are various issues that we need to consider around the fringes.

Dr Wade: Smart metering programmes in other countries have not included energy efficiency—or energy reduction, rather—in their business case. The business cases have related to the theft of energy and the reduction of utilities costs in getting the meter data. However, the UK smart metering business case includes an element of energy reduction—that is expected to come from the programme.

We do not necessarily want to think about demand-side response in terms of cost. The cost signals are typically very small, so the amount of value that can be given to the system by reducing consumption on an individual level is quite small. However, there are investigations going on into whether, by educating people about their role in the energy system and building a community level of interest in energy use, we can aggregate those very small benefits that can be gained from people's interaction with the power system. We could approach that in a much more community-based way.

We need people to become more familiar with their impact on the energy system, and generally more conscious of the effect of their actions and how that fits within the community. We do not necessarily have to chase pence, which is ultimately what any saving would be. We need people to understand the system and to appreciate that they can play a role and that perhaps, as a community, they can get some benefit from that.

The Convener: Patrick Harvie is keen to come in with follow-up questions about demand reduction, but before we leave the issue of storage, I want to mention a point that Professor Haszeldine raised in his evidence to us last week. I am talking specifically about pumped storage, and the volume that would be required.

Professor Haszeldine said that, if we had a simple system in which we were heavily reliant on wind power, that would mean that

"we would need around 10 or 15 additional Cruachan-type pumped-storage schemes."—[*Official Report, Economy, Energy and Tourism Committee*, 27 May, 2015; c 38.]

That would be a huge amount and the capital cost of building those schemes would be very substantial, if indeed we could ever find the sites.

Does anyone have a view on the level of storage that we would require?

Gina Hanrahan: If it were accepted that we were going to have a very simple system based entirely on wind power, that would be a feasible scenario, but we are moving towards a very complex system involving a diversity of electricity sources. In that context, we would need much less pumped storage than Professor Haszeldine envisaged. His scenario does not take into account the need for demand reduction. As we move towards a low-carbon, lower-demand system, the need for new kit of any sort is lower.

Dr Wade: Once lower demand levels are reached, we need to look at a different type of energy storage. We might need to consider converting to a fuel stock that can be stored. Doing that might be relatively less efficient, but it is a case of looking at the whole system—that relatively low efficiency might be acceptable.

Another thing that could be done to look at the system as a whole would be to establish industries that can manage that level of flexibility within their processes.

Patrick Harvie (Glasgow) (Green): Several witnesses have mentioned demand-side issues and we have started to go into those in a little more detail. I want to explore two basic questions. Both Governments would say that they are doing something on energy efficiency. Energy efficiency is a good thing, but it is not the same as demand reduction. We could use energy more efficiently and end up using more of it.

As well as demand reduction and energy efficiency, we have considered more complex ideas, such as the idea of an energy internet that Malcolm Keay hinted at, which would be more like a BitTorrent exchange than a simple download. In those circumstances, price signals might not affect individual behaviour, but they might tell distributed generation to switch between putting its energy on to the grid and putting it into distributed storage for use later.

Given the range of responsibilities that are shared among the UK Government, the regulator, the Scottish Government, the power generators and National Grid, what can the Scottish Government do—because that is who we are here

to scrutinise—to give greater leadership in a way that would be effective?

The second question is about the balance between how much can be achieved technically and how much requires cultural change. How much change will be required to move us to a scenario in which no one thinks that it is normal to put the blinds down and to burn 100 light bulbs in the room?

Malcolm Keay: Instead of focusing on security of supply, the report that the committee produces could stress the need for the Scottish Government to have a fully developed and integrated demand-side strategy. The Scottish Government will be constrained by its powers, but at least it can do one of the things that it does very well, which is to provide a lead for the rest of the UK. It could say that it was addressing the issues and could suggest that others look at its strategy and try to follow it.

I do not necessarily agree that the Scottish Government should start with energy efficiency. Energy efficiency is not the right concept. What we are talking about is something more like smart efficiencies. To give a few examples, it is not just about creating efficiency overall; it is about creating more responsive demand, in line with the sort of demand response that we have been talking about. It is not just about having standards for reducing the energy consumption of a product; it is also about having standards that will enable products to fit into this new, more flexible system. There should be some sort of standards for smart products.

One thing that the Scottish Government could very well do would be to trial some of those things, because there are differences in Scottish circumstances. The housing and the dispersion of population are quite different in Scotland, and there could be different approaches. That is another set of things that the Scottish Government could do.

The main thing for the Scottish Government to do is work out whether it could develop an integrated overall strategy that properly integrates the demand side. I go back to my numbers. Some 90 per cent of Government interventions in the energy sector mainly benefit the supply side and most of the remaining 10 per cent are in tax relief. That does not seem to me to be the right balance.

The Scottish Government could at least think about what is possible in that area. Obviously, there are constraints. I am not suggesting that it will be able to come up with a groundbreaking policy overnight, but it could lead in the UK, because it has shown itself to be imaginative in that sort of area.

Gina Hanrahan: In addition to the issues that Malcolm Keay has talked about, the Scottish Government has quite clear powers in the heat and transport sectors. As we electrify heating and transport over time, there will be much more interaction than there already is between the electricity sector and those sectors.

Although the Scottish Government does not have full powers over the delivery of energy efficiency, the Smith commission recommendations and the Scotland Bill will give Scotland the power to design a new energy efficiency programme—on top of additional programmes, or to replace those—that will work better for Scotland. There is therefore a huge opportunity to do something quite substantial on the heat side of things.

We have called for energy demand reduction to be considered from an infrastructure perspective. Very clear goals should be set in relation to upgrading our housing and building stock. We should try to take an approach in which the capital budget begins to work much better for the changes that we need to make so that we start to invest significantly more in energy efficiency than we have been doing with a very clear, long-term goal and a holistic, whole-of-Government approach.

More can be done on heat, and we must acknowledge that transport policy—particularly energy demand reduction in transport policy—is very problematic in Scotland. There is no real transport policy in the report on proposals and policies 2. It is very much the forgotten poor relation of electricity. Heat is also a poor relation of electricity; maybe transport is third. We have to do more to reduce energy demand in that sector so that, when we move to electrifying vehicles, we do not create a massive problem for ourselves. There is a multiplicity of ways of addressing that. Scotland can do a lot by looking at heat and transport.

Patrick Harvie: Thank you.

Dr Wade: I agree with that.

It was mentioned earlier that there is concern that transmission charges might reduce investment in renewables. The other issue to consider is the connection cost, which is driven by the ability to connect to the network in a timely and cost-effective manner. Methods are being investigated to make connection costs lower.

Patrick Harvie: Do you mean for consumers to connect?

Dr Wade: No—I mean for generators.

Patrick Harvie: I see. I am not sure how that connects to the demand-side argument.

Dr Wade: It does not really connect to the demand side explicitly, but it relates to how the networks are built and what the energy mix is. I was addressing the point that there is concern that people might stop building renewables facilities in Scotland if the charges are too high. There are connection charges as well as transmission charges, and they will have an impact on whether a project goes ahead. A lot of the projects that are consented are not built because of the difficulty in connecting. That is one reason why they are not built. That also relates to the planning regime. The Scottish Government can have some direct influence over the connection of renewables.

Johann Lamont (Glasgow Pollok) (Lab): What changes are needed in the planning regime?

Dr Wade: I do not know the details of that, but I know that it is holding things up. I am not sure whether it was the local authorities or the Scottish Government planning section that gave evidence, but that evidence highlighted that there are issues. For instance, planning consent is in place only up to around 2020, so there is uncertainty about whether that will be renewed from 2020 onwards. As more renewables facilities are built, that reduces the ability of new generation to come in. Essentially, the accumulation of more wind turbines tends to reduce the success of planning applications.

The Convener: That brings us very neatly to the end of our time. I thank our panel very much for coming along. The discussion has been extremely useful. We will now have a short suspension to allow for a changeover of witnesses.

11:00

Meeting suspended.

11:06

On resuming—

The Convener: I welcome our second panel of witnesses and thank them for coming to the committee. We are joined by Eric Leavy, head of transmission network planning, Scottish Power Energy Networks; Kersti Berge, partner, electricity transmission, Office of Gas and Electricity Markets, and head of Ofgem in Scotland; David Gardner, director of transmission, SSE; and Mike Calviou, director, transmission network service, National Grid.

We have about an hour and 15 minutes or so for this session and quite a lot of ground to cover, so we will get straight into it. As ever, I ask members to keep their questions short and to the point and if the responses are equally short and to the point, that would be helpful. As we have a large panel, I ask members to direct their questions to one panel member initially. If you would like to respond to a question that was addressed to someone else or to agree or disagree with a point that someone has made, please catch my eye and I will do my best to bring you in, as time allows.

I will start with transmission charging. I will address this initially to Mike Calviou and bring in the views of others after that. In the evidence that we have taken in our inquiry, we have heard that the transmission charging regime is an issue for many people in the sector. If we take the view that Scotland needs new thermal capacity—there is a debate about that, as you will know from the evidence that we have heard previously—it appears that the current level of transmission charges acts as a barrier to its construction.

Mr Calviou, can you explain in fairly simple terms why we have the current transmission charging regime in the UK and who benefits from that. Who are the winners and who are the losers, what are the alternatives and why do you think that the current system is better than those alternatives? If you could answer that in a few sentences, that would be very helpful.

Mike Calviou (National Grid): Thank you, convener—I like a challenge.

In GB, we have an energy market that has a single energy price, which means that everyone has open access to the same market and we pay the same for energy coming on and off the grid at the wholesale level. The locational transmission charges act as a signal to market participants about the long-run impact of their decisions, such as where to build and where to close, on the cost of transmission networks. As you know, an awful lot of generation is coming on in Scotland and National Grid and my colleagues in SP Transmission and Scottish Hydro Electric Transmission are having to invest an awful lot in the grid. In effect, the transmission charges provide a long-run economic signal to the market reflecting those costs.

The costs are equal and opposite for generation and demand. The generation costs are higher in the north of England and Scotland, and lower for demand customers. That is a key point. The opposite is true in the south of England, where the costs are lower for generation—they go negative—but much higher for demand customers. That reflects the direction of flow on the network.

Scotland has an excess of generation. Peak demand is 5.4GW and around 11GW is generated and connected. I have a further queue of 13GW of additional generation with contracts to the connection network. That is the background position.

The benefit, and Kersti Berge can probably add to this, is that, as all our studies and those by Ofgem have basically shown, that cost reflectivity has long-term economic benefits for all customers. It encourages overall an efficient network to be developed and planned, which benefits customers.

Clearly, if you went away from that approach—people talk about flat charging—you would not get that benefit. In Scotland, the immediate impact of going to flat charging would be to raise bills by around £10 a customer. However, that would benefit Scottish generation.

There is a lot of talk about Europe and what other countries there do. No doubt, over time, we will see increased harmonisation of our approach to transmission charging. Many countries in Europe do not have locational transmission charges for generation, but they have locational energy markets. Scandinavia effectively runs a single market, but with different price zones across the region. Therefore, the locational signal comes through the energy market rather than the transmission market.

The European Commission's proposals for a single energy market talk about concepts known as market coupling and market splitting. We could move to a world in which we do not have locational transmission charges, but we have more granular price zones in different parts of the network. Therefore, the market would be split into different prices zones where there were big transmission constraints. The impact would be broadly the same. Energy prices in Scotland would on average be lower, because of the excess of renewable generation. Indeed, when the wind is blowing, we would see very low prices. Obviously, that would be good for consumers, but not good for local generation. Equally, we would probably have higher energy prices on average in England and Wales.

There is a debate about whether it is better to do the locational signal through the energy market or through the transmission prices. We can probably argue for either. The current method has the benefit of simplicity; moving to a fully locational energy market would be complex. I think that it could be argued that there would be long-term economic efficiency opportunities from moving in that direction.

The Convener: I am keen to bring in Kersti Berge and others, and I want to hear about the impact on consumers, which is quite important. However, I will first follow up a couple of Mr Calviou's points.

Mr Calviou talked about the increased capacity on the grid that is coming. Is it the case that the more capacity is created in an area, the more the charges go up?

Mike Calviou: No. The charges are long-run average charges. Broadly, the charges reflect the direction of flows on the network and where we are having to invest. The charges are quite dynamic and responsive to what is happening on the network.

Next year, subject to the judicial review over the summer, we are splitting our new charges into a peak security and an economic charge. That recognises that we are building a lot of the network for intermittent renewables, which is causing us to make a lot of investment. However, that is not necessarily the same as the network that we need to meet winter peak when, for example, the wind is not blowing.

The impact of next year's changes will be that charges for Scotland will go down with project transmit. If there are further closures of base-load generation capacity in Scotland, a signal will emerge for new peak capacity, storage or demand side or whatever the right economic solution is to meet those peak demands via the transmission charging signal. It is quite a dynamic system—the numbers move around. Broadly, though, more investment in the transmission network does not by itself cause the price to go up. In effect it is just a feature of the net generation demand in each area and where the power is flowing on the network.

The Convener: If more wind capacity is coming on to the grid, and more is being created, what impact does that have on the charges for base-load conventional plant? Does it push those up?

11:15

Mike Calviou: The charge for a generator in zone 9, which is where Longannet is located, is currently £17 per kilowatt hour. Assuming project transmit is implemented by next year, as planned, we forecast that it will go down to £13 per kilowatt hour, given the current generation that we expect to be on the network. However, we have not yet had any formal notification of Scottish Power's intentions for Longannet. Assuming that Longannet closes, as Scottish Power has indicated it probably will, the charge would reduce to £3 per kilowatt hour. It is quite dynamic in relation to what is happening on the network.

The charge for the intermittent wind farms will be higher because, effectively, that is where the economy criteria kick in. It is basically a charge that applies to generators that are running throughout the year and it depends on their load factor. We are moving to a more sophisticated system. It is splitting out peak security from year-round running and it will depend on the nature of the generation connection network.

The Convener: This is quite interesting. Scottish Power told us previously in evidence that, because of high transmission charges, there was no business case to build a new gas station in Scotland, for example on the Longannet site. However, you have just told us that, if Longannet closes, there would be a substantial reduction in transmission charging. If somebody wanted to build a new gas station, it would not face the barrier that it would face at the moment.

Mike Calviou: It would depend on how big it was, because the charges depend on what is connected. If you were to build a 1GW or 2GW facility, in effect replacing Longannet, you would go back to where you started. What ScottishPower Generation said is absolutely right.

You have talked about what happens post-2023 or whenever the existing nuclear stations close, when there is a clear need for investment in further peaking capacity. I say peaking capacity rather than thermal because it is up to the market to work out how most efficiently to deliver that. The point that I am trying to make is that the charge is sufficiently dynamic that there is scope in the transmission charges to incentivise that when it is needed. My view, based on the work that we have done, is that that is not needed at the moment. Even if Longannet closes, there is still an excess of generation over peak demand in Scotland.

The Convener: It is fair at this point to bring in Mr Leavy to give us Scottish Power's perspective on the transmission charging regime.

Eric Leavy (Scottish Power Energy Networks): Good morning. SP Transmission does not really have a bearing on how the charging regime would operate. It is a bit opaque from our business point of view. We provide assets, on the basis of need, to allcomers who require transmission capacity. We do not really get involved in the market for generation or the use of the system. We provide the assets in a cost-effective and efficient manner.

The Convener: Yes. Sorry—I appreciate that you are not from the part of Scottish Power that is involved in electricity generation. Perhaps we should have made that clear at the start. You are from the transmission side.

Eric Leavy: Yes. For business separation purposes, the wires business is totally separated from the generation and retail parts of Scottish Power.

The Convener: But does Scottish Power have a policy stance on transmission charging?

Eric Leavy: It is not really appropriate for me to comment on the views of other parts of Scottish Power. From a transmission owner's point of view, we do not have a bearing on what the policy should be. Our focus is to keep the cost down in providing the infrastructure.

The Convener: Mr Gardner from SSE, are you in the same boat?

David Gardner (SSE): We are in a sort of similar position. Corporate SSE has submitted written evidence that covers the wholesale generation side, but I can add to it from the perspective of the north of Scotland. We have a system in the north of Scotland and I have a lot of customers who are connected to it. Being a transmission operator, I would like more people to connect. If transmission prices reduced in the north of Scotland, that would help my business to expand. That is my personal position. However, with regard to any other comments, I am very much aligned with the position of SP Transmission.

The Convener: Kersti Berge, I want to go back to the point that we touched on a moment ago about the cost to consumers. What is the impact of the transmission charging regime that we have, as opposed to a socialised or postage stamp system that we might move towards?

Kersti Berge (Office of Gas and Electricity Markets): First, thanks for inviting me to give evidence to the committee. I want to emphasise a point that Mike Calviou made. The reason why we have our present transmission charging regime, which is a cost-reflective regime, is that it keeps costs down for all consumers. That ensures that, when firms invest in generation, they take those costs into account when they make those decisions. Consumers ultimately pay the cost of the whole energy system—the fossil fuel price, the transmission network, the distribution network and so on. That is the bit that we really have to hold on to. Having a cost-reflective charging regime incentivises the parties on the market side of the business to keep the costs down as far as possible while still ensuring that we have security of supply and meet our environmental targets. Of course, that has different impacts on generators in different parts of the country.

As part of project transmit, which was our review of charging arrangements—Mike Calviou alluded to it earlier—we asked what the cost would be of taking a more postage stamp approach and socialising the cost of transmission charging across the board. We found that that would add about £7 billion to consumers' bills. There was a lot of support for that conclusion, which logically flows from the fact that, if you do not incentivise parties to take the most efficient decisions, it will cost more.

The other point to bring out, which Mike Calviou also talked about, is the fact that charges are paid by generators directly and by consumers.

Currently, in the UK, generators pay about a quarter of the charges and consumers pay about three quarters. Of course, generators that are located in Scotland and remote areas will pay higher charges than generators that are close to the areas of high demand, but the converse of that is that consumers in those more remote areas pay significantly less through the three quarters of the transmission charges that they pay for directly. That impacts on businesses and on domestic consumers. For example, a large-demand customer in the charging region where Longannet is would pay transmission charges of about £2 million a year, whereas an equivalent type of customer that was situated in London would pay about double that.

The Convener: So you are saying that the current system protects consumers in Scotland.

Kersti Berge: This goes back to the point that Mike Calviou made. Because there is an excess of generation in Scotland, consumers benefit from that, to some extent, because they are situated quite close to where that excess is.

The other point that Mike Calviou made was that this is a fluid and dynamic situation. When a large power station closes, the balance changes, with the effect that consumers pay a little bit more and generators pay a little bit less.

Gordon MacDonald: I have a number of questions about whether the system benefits consumers. Everybody says that the important factor with the existing transmission charges is the transfer of electricity to where the population is. For modelling purposes, where do you envisage the population centre to be?

Mike Calviou: When people talk about population centres, they are trying to simplify the issue. It is a function of where the generation is coming on to the system and where demand is coming off the system—obviously, population centres drive large demand. There are large population centres in Scotland, and if there was not much generation, there would be a low transmission charge because it would be close to the population centre. Because there is currently more generation in Scotland than is needed to meet peak demand, that excess generation is flowing down the system towards the south of the country, where there is not enough local generation. Therefore, the model reflects the fact that those transmission wires are under pressure and need further investment to carry that power down south. It is not quite as simple as looking at where the local population centre is.

We know where the demand is in all parts of the system, and where it is coming off or going on, and we model that. That model is published and everybody in the industry can run it themselves. We can put in different scenarios and we try to be open and transparent. If anybody in the market wants to try different scenarios with different generators turning on or off, or different views about whether demand is increasing or decreasing, that is available.

Gordon MacDonald: Basically, you are saying that generators are being penalised for trying to keep the lights on south of the border. SSE's written evidence states that the average figure

"masks the wide differences in the charges paid by generators in Scotland (up to £25,540 per MW per annum)".

In Cornwall, generators

"receive £5,804 per MW per annum for using the transmission system."

Who ultimately pays that? Is it the customer who pays and bears that difference, which is in excess of £30,000?

Mike Calviou: The charges provide a cost-reflective signal about the cost of using the system. For example, there is still a reasonable amount of demand in south-west England and not much local generation. Therefore, we have to spend money reinforcing the system to get power to those customers. If local generation locates there, that generation is deferred, which is a benefit. The negative charge to generators in those areas reflects the cost that we save in terms of our investment in the system. As Kersti Berge says, ultimately this is all paid by consumers, and the locational aspect provides a cost-reflective overlay on what they pay. That is important to know.

Obviously, you are particularly focused on what happens in Scotland. The overall transmission revenue for my colleagues in SP Transmission and SHE Transmission is currently about £630 million a year. The amount raised by Scottish market participants, both generation and demand, is less than £300 million. The transmission charging mechanism is ultimately getting English and Welsh consumers to pay a large amount of the cost of reinforcing the Scottish network.

Gordon MacDonald: But that is to keep the lights on south of the border.

Mike Calviou: That is to reflect the benefit—a lot of generation is coming on in Scotland. I would not necessarily agree about keeping the lights on, but it is to transport efficiently all the low-carbon generation coming on in Scotland into the rest of the system.

Gordon MacDonald: In 2013, we had record export levels to south of the border; in fact, 10 per cent of those energy requirements are dependent on interconnectors and imports from Wales and Scotland. We are basically penalising Scottish

generators for keeping the lights on south of the border.

Secondly, you said—

The Convener: I think it only fair to let Mr Calviou respond to that, Gordon.

11:30

Mike Calviou: It is not penalising; it is a signal of cost effectiveness, given the amount of generation that we have applying to connect to our network. We have more generation applying to connect to our network than we can connect at the moment in the timescales that we need to connect them. All transmission companies are dealing with that challenge and are trying to get as much generation in Scotland on to the network as we can.

As I have said, it is not penalising; it is providing a signal. In effect, the economics—the benefits of the wind resource in Scotland—outweigh that signal, so we ultimately get to the right answer—which, in this case, is to build the most effective low-carbon resource in Scotland and to reinforce the network. In other cases, there might be stuff that it does not make sense to build in Scotland, because there is no underlying advantage here and so we might as well put it closer to the demand. That is the way the system works; it incentivises efficient decisions.

Gordon MacDonald: It is claimed that the market and the transmission charging regime work to the benefit of keeping down prices to consumers. There are two elements to consumers: households and industry. If we look at the Eurostat numbers comparing prices from 2011 to 2013 for countries that are connected to the UK and can sell electricity to it, we see that, during that period, the price to households increased 7 per cent in France and 10 per cent in the Netherlands, while it fell 10 per cent in Norway. In the UK, it went up 22 per cent.

There is a similar pattern for the price to industry, albeit that, in the Netherlands, the price also came down by 2 per cent at the same time that the costs to industry in the UK went up 20 per cent. In 2013, which is the year for which we have the latest Eurostat figures, all three countries—France, the Netherlands and Norway—had substantially lower prices than the UK for providing power to industry. That affects whether a company can be competitive, because power costs are one of the largest costs that a company, especially a manufacturing company, can bear. If the market and the transmission charging regime are delivering low costs, why is that not reflected in the Eurostat numbers?

Mike Calviou: An awful lot of things go into those end-customer views, such as generation mix and access to natural resources. I absolutely believe—and agree with—Ofgem's analysis that the transmission charging regime leads to efficient decision making and that it has benefited consumers. If we try to analyse exactly what is driving different prices by country, we have to take into account different exchange rates, different taxation regimes and a load of stuff that I am not the best person to explain to you.

As you have heard from other witnesses, there are clearly opportunities to get benefits through efficient trading between European countries. Some European countries have access to natural resources or, in France's case, a large and—one might argue—subsidised nuclear programme. Increasing interconnection with them provides opportunities for consumer benefits, particularly as we move to more intermittent low-carbon generation, because we will have lots of opportunities for sharing between different countries.

Kersti Berge: This is probably a good point at which to take a step back and think about the different components of the energy bill and the role that transmission, distribution and other charges play in it. I will probably not get my numbers exactly right, but I think that wholesale prices account for something like 50 to 60 per cent of the bill, while distribution charges account for about 20 per cent and transmission charges about 5 per cent.

As Mike Calviou has said, energy prices to households and businesses are driven by a range of factors. A very big part of that is the composition of the energy mix. I think that, for the period that you have highlighted—what was it again?

Gordon MacDonald: It was from 2011 to 2013.

Kersti Berge: The countries that you have mentioned have very different energy mixes. Again, I will not be precise, but France's energy is primarily nuclear and Norway's is something like 98 per cent hydro. There is a lot of water in the lakes high up in Norway and a rainy year will really influence prices there.

We still have—and, in that period, had—a fossil fuel-dominated energy system. Therefore, if oil prices are high and if as a consequence gas and coal prices are high, costs to consumers are unfortunately going to be higher in GB as well. I am not sure whether the differences that you have highlighted reflect much about the transmission charging regime, particularly given the proportion that it represents of what consumers are billed. That is not to say that the issue is not important, but it is probably not the key driver of such differences.

The Convener: Okay. Two more members want to come in on transmission charging and then we will need to cover other ground.

Dennis Robertson: Ofgem raised concerns about security of supply back in 2009 and, in its work, looked at the energy mix that was available at the time and the mix of energy resources that could be utilised. In Scotland, those resources are both onshore and offshore wind. However, Ofgem does not seem to be moving in the direction of ensuring that those projects can go ahead.

Part of that is about connection charges. Ofgem tends to prefer connections between, for example, Norway and the UK rather than looking inward and looking to, say, the Western Isles for the security of networks. Should we not be looking at inward investment for security of supply, given that we do not know what is going to happen within the EU?

Kersti Berge: You have raised a number of points, the first of which was about support for offshore and onshore wind and different technologies and the second of which related to the role of transmission charges with regard to such support. Then you talked about interconnectors and asked about interconnector projects coming forward.

Dennis Robertson: I should also acknowledge that the UK Government determines the policy and that Ofgem is independent of that.

Kersti Berge: You have anticipated the first part of my answer, which is that deciding the appropriate support mechanisms and taxes for different types of energy is the role of Government and is what the Government does through the energy market reform policy. It has contracts for difference to support renewables, it has different pots for different types of technology and it has the capacity market in place to support peaking plant. The key decisions are made by Government, and those decisions drive what our energy mix is going to be.

What is the role of transmission charging in all of that? In the light of Government policy determining the energy mix, a cost-reflective charging regime keeps end costs down for consumers. I do not think that it is right to use yet another policy instrument to tinker with support for things, because Government clearly has the tools to do that through the energy market reform programme.

On your question about interconnectors and connections to the Western Isles and Scottish islands more generally, a number of projects on which we are working very closely with SSE have been proposed to connect the Western Isles and Shetland to the transmission network. We have had the Scottish island renewables delivery forum, which was set up by Fergus Ewing; we have discussed the progress of the projects and agreed plans to make sure that they progress in a timely manner; and we have been working closely with SSE to make sure that those links come on when they are needed.

Coming back to Government policy, I think that the critical thing that is going to determine whether wind farms get built is the Government support mechanism. As far as the Scottish islands are concerned, the first decision that we need before either SSE or Ofgem can go ahead and say that there should be a link to the islands is on the CFD levels—in other words, the support levels that the wind farms are going to get.

There should absolutely be a link if the generation is coming on and the link is needed, but it all comes back to the costs to consumers. The transmission network is an expensive business. For example, the cost estimates for links to the Western Isles are, I think, about £800 million and SSE's investment for the Caithness Moray link, which we have just approved, is just over £1 billion. Those are big investments, and we need to ensure that the generation at the end of it comes on before companies start to pay a lot of money.

Dennis Robertson: But are we not looking at a long-term benefit with regard to security?

Kersti Berge: Absolutely—and that brings me to the second part of your question, which was on ensuring security of supply. Representatives of National Grid and other bodies might want to comment on this, too.

One way of ensuring security of supply is by having a diverse energy mix. That will ensure that if there is a shock in one area—if, say, there is an oil price shock or the wind is not blowing—there are other sources to draw on. We can do that with our domestic energy mix. Another way of doing it—and this is done in almost all other markets—is through trading with other countries so that, if a shock happens in our country because the wind is not blowing as much, we can get imports from other countries.

Dennis Robertson: As long as they do not need that energy themselves.

Kersti Berge: That is a valid point. In energy and electricity, as with many other goods, we are connecting with quite diverse and different markets. As I have said, the market in France is primarily nuclear and, in Norway, hydro. In Denmark, the market is wind, but the wind patterns are a bit different from those in the UK. Those interconnectors connect us to markets with different energy mixes, and because the probability of shortages or of things being tight in our market and their markets at the same time is much lower, that contributes to security of supply. That is reflected both in the support that they

might get through participating in the capacity market and in our assessment of interconnectors.

I have a couple more things to say about interconnectors, but you might want to move on.

Dennis Robertson: I wanted to ask one more question before I bring in Mike Calviou. Is it feasible that the UK—or Great Britain—could organise its supply and demand without having to rely on any other European connectors so that we could produce the energy that we require at all times?

Kersti Berge: I would like to bring Mike Calviou in on that.

Mike Calviou: It is clearly feasible but Kersti Berge has already pointed out that, as with any other commodity, such an arrangement will involve spending more money than you need to. For the reasons that she has outlined such as different generation mixes, there is a clear benefit from interconnection and trade between countries. It is worth noting that even the time of peak demand on the GB network differs from that on the central European network, which in itself reduces the chance of simultaneous peaks and our having a problem at the same time.

There are real opportunities here. We see security of supply benefits from interconnection, but interconnection is primarily about the economic benefits of sharing and trading resources efficiently. In planning the system, we take into account the fact that we generally see imports to GB over peak—or at least we have done in recent years, although we then tend to export to Ireland—and we try to make sensible assumptions in that respect.

If you go back and look at some of the work done by the panel of technical experts that was appointed to conduct an independent review of our assumptions for the Government's EMR programme, you will find that we were criticised for being too prudent. The panel thought that we could have been a bit more optimistic about the ability to import from other countries at peak. We try to make prudent and sensible assumptions about that, but we recognise that there is a benefit from connecting to other countries. We could be fully self-sufficient, but it would come at a price.

Dennis Robertson: Could we be a net exporter?

Mike Calviou: It all depends on the generation mix and the relative economics. Assuming that we continue with the big build-out of low-carbon generation and wind, I think that, when the wind blows across GB and other parts of Europe are less windy and sunny, we will be exporting.

Dennis Robertson: We need to create that wind in the first place, and it needs to be connected.

Mike Calviou: Indeed.

Dennis Robertson: I am sure that Kersti Berge will not be surprised to hear that one criticism levelled at Ofgem is that it does not have the expertise to make some of its decisions about engineering capacity. How do you respond to that?

11:45

Kersti Berge: In making our decisions, we draw on a range of evidence and skills. Many decisions are about engineering—in other words, the system's technical capacity—and many are about the economics. We have a number of very good engineers in Ofgem, and we are looking to recruit more. We have a lot of excellent in-house engineering expertise.

Because the nature of our work can be a bit lumpy—for example, when we assess large transmission projects such as the Caithness Moray project—it does not make sense as far as organisational efficiency is concerned for us to have a lot of engineers. We have a core set of engineers who are very expert and have worked in the industry for many years—in some cases, for more than 20 years—and we hire in good consultants to help us assess the proposals that are being made to us.

In addition, there is the system operator. A lot of what Mike Calviou does is electrical engineering, which is all about how the system functions and what happens if the voltage is low. I am not an expert on that, but we have incentives for the system operator to make sure that they do their job right and take the right decision. That combination of in-house expertise with a core set of engineers, incentives for the companies that we regulate and the use of consultants where appropriate makes us comfortable that we have the right level of expertise.

Dennis Robertson: You are independent, but how influenced are you by the charming Mike Calviou? Does he help you on your way towards making those decisions? Are you really independent or are you working so closely with Mike that there is little independence in your decision making?

Kersti Berge: I am not going to comment on Mike's charm or otherwise, much as you might like me to, but are we independent? Absolutely. We regulate the companies, and we have to be independent of both the system operator and the transmission companies that we regulate. I worry

about that kind of question and I would have to ask for evidence of our lack of independence.

Dennis Robertson: I am not saying that there is such evidence, but there is such a perception. How do you get away from that? If such a perception exists, you need to try to address that.

Kersti Berge: We try to be as transparent as we can in our own analysis and assessment of the companies. In the past, for example, we have provided our own commentary on security of supply analysis, which National Grid also carries out as a system operator and with which we have not always agreed. It is no bad thing to have several—but perhaps not too many—voices on security of supply issues, and that is an example of how we try to make it clear that we are independent of the system operator.

Dennis Robertson: Thank you.

Johann Lamont: It will not surprise anybody to hear that I am quite in favour of pooling and sharing resources across the United Kingdom. As for the characterisation of Scotland stopping the lights going out south of the border, if the situation were reversed, we would probably not want such a characterisation, particularly when we are talking about security of supply.

I am interested in how the costs are worked out. There is a logic to getting the costs down as much as possible and making things as rational and as logical as possible. That would be okay if all power was the same as all other power and if there were no other policy pressures. However, how can you create an incentive to move to renewables, which help us to meet our climate change targets, if your view is simply that all power is the same? That seems to be a contradiction, although you talk about supporting renewables. If you are pricing them out through transmission charges and if the cost is too much to create one of those projects, you are making a choice in another direction.

Kersti Berge: The Government sets the targets and determines the energy mix—how much renewable energy and other energy should be in the system—to meet its climate change and environmental targets. The Government also sets a security standard that says that it wants the system to be reliable and as secure as it can be. It asks National Grid to analyse security of supply, which it does through a range of publications such as the future energy scenarios, which will be published in July. There will be a session to look at the shorter term—the outlook for security of supply over the winter. Likewise, I believe that there will be a summer outlook session.

The Government sets the policy on the energy mix and it also sets security of supply targets to ensure that, given the energy mix policy, we can still meet its security of supply objectives. It places obligations on National Grid to monitor that.

I do not know whether that answers your question.

Johann Lamont: Does the Government not have obligations regarding climate change targets?

Kersti Berge: Absolutely.

Johann Lamont: If the pricing regime prevents people from maximising renewable opportunities, is that a matter for you or is it simply for the Government to recognise that?

Kersti Berge: We come back to asking what the appropriate tools that different parties can use are. The Government manages what we refer to as the trilemma: the balance between achieving security of supply, meeting environmental targets and, at the same time, keeping bills as low as possible for consumers. Through the electricity market reform programme, which includes the CFD mechanisms that we have talked about, the carbon tax and the capacity assessment, the Government has put in place incentives to generators that will facilitate the energy mix that it wants. At the same time, it keeps a close eye on security of supply.

Most people do not think that the charging regime is a tool that effectively incentivises energy mix. That is incentivised by using one tool—support for generators—and, once that is done, the charging regime is used to deliver the energy system that meets the targets at the lowest possible cost. That is why we have a cost-reflective charging regime.

I do not know whether that quite answered your question.

Johann Lamont: You seem to be saying that the issue is about the best deal for the customer, which nobody will deny is a good thing. However, if a situation is created that makes it less likely that renewable energy will be brought online, that is a bigger policy issue. I presume that you are saying that the issue is beyond the regulator; it is about Government decision making.

Kersti Berge: That is right. The Government uses the CFD mechanism to determine the level of support that it gives renewables generators. That is the Government's main lever for determining how much plant comes on to the network. When the Government sets that, it is fully aware that we have a cost-reflective charging regime and it supports that. It uses the contract for difference as a sort of guaranteed price for renewable energy, to incentivise the wind energy that it wants on the system—be that onshore or offshore—and other forms of renewable energy.

Joan McAlpine: My question follows on neatly from that. If you were designing a system to maximise Scotland's advantage with onshore wind, to the benefit of Scotland and the rest of the UK and to meet our climate change targets, you would invest in pumped storage to even out the intermittencies in onshore wind. SSE and Scottish Power have schemes that are ready to go. However, SSE has told the committee, and it says on its website, that its scheme cannot go ahead because of

"the existing transmission charging regime for pumped storage".

How can that possibly be justified? That means that we are wasting a lot of the renewable wind energy that we could store.

Mike Calviou: Storage clearly has a lot of advantages in a system that is becoming increasingly intermittent. There are a number of technologies; pumped storage may be the traditional tried and tested one, but a number of new technologies are being talked about—the committee will have seen the recent announcement about distributed home Tesla storage.

It is probably for the market to develop the most efficient form of storage. I believe that between the mechanisms that Kersti Berge outlined—the capacity mechanism and the energy market—there are mechanisms to incentivise investment in storage if and when that is economically needed on the system. There will be an increasing need for that, but at the moment storage is probably a bit too expensive.

Kersti Berge mentioned the future energy scenarios that we will publish in July. We are doing a case study on storage, because when and if we will see large-scale deployment of additional storage is a big debate for the industry. We are saying, "These are the things that you would expect to see; these are the price signals and technology leaps needed to make it more economic before you can expect a large-scale roll-out."

Storage is one of a number of options that might help in managing intermittency and providing peak power when the wind is not blowing. Another option is having a really active demand side. Rather than almost taking bets on particular technologies, my view, and that of the Government and Ofgem, is that it is best to provide the right economic signals and then let the market come up with the best ways of operating.

Joan McAlpine: SSE and others are not happy with the way in which things are going. You are talking about new forms of storage. That is fine—I am all for that—but let us look at what you call the tried-and-tested pumped storage that we currently have in Scotland. SSE says that it needs a

"satisfactory and supportive long-term public policy and regulatory framework."

When will it get that?

Kersti Berge: In an energy system, we need flexibility, particularly when we have intermittent wind. I welcome the fact that the committee is looking at demand-side response and flexibility alongside security of supply, because that is important. Pumped storage or other forms of storage are an important part of that and are likely to be increasingly important in the future. We need to incentivise more storage, and different forms of flexible generation—I see storage as part of that—will have different costs. The Government has put in place the capacity market to incentivise the provision of energy generated when the wind is not blowing—that is where the peaking plant comes in. Pumped storage can also participate in that.

We have sharpened prices in the energy market. The balancing market happens just half an hour before the real time when energy is delivered, and it is managed by National Grid as a system operator. Facilities such as pumped storage are likely to bid into that kind of market because they will get higher prices.

We are doing things to sharpen the signal for flexible generation, but different types of generation and support have different costs. I do not know the details of SSE's costs, but we want to create an energy system that provides security of supply at the lowest cost to consumers. Given current costs for storage, some of the proposals that have been mentioned will not do that compared with other forms of storage.

Joan McAlpine: You have talked about costs. The UK Government is planning to subsidise a new nuclear power station in Somerset at a cost of £50 billion, which is around four times the amount of subsidy that has been given to onshore wind. That is a political decision.

Consumers will pay the cost of that. Investing in pumped storage would cost a great deal less, so for you to suggest that the approach is all about delivering a good deal for the consumer is misleading, because you are following a political policy lead that has been set by the pro-nuclear UK Government.

12:00

Kersti Berge: You are absolutely right that that is a political decision. It is for the Government to decide whether it supports nuclear and the extent to which it supports other forms of generation. We have talked about renewables through wind. It is

up to the Government to decide whether it provides support for research and development on storage or for other financial mechanisms to support storage.

Joan McAlpine: Yes, and the Government has decided to subsidise nuclear ahead of pumped storage.

Kersti Berge: Yes, but we do not want to drive transmission charging differently from the Government on the energy mix. That is not our role. The Government sets the policy, which determines the energy mix. We as a regulator—we are slightly boring technocrats—make sure that we can deliver the system at the lowest cost to consumers. Cost-reflective transmission charging does that, given what the Government has decided about how it supports different technology.

Mike Calviou: I will add a couple of points. Obviously, pumped storage can facilitate the use of wind energy and other intermittent energy generation, but it does not in itself produce green energy. That is a difference.

All storage technologies that I am aware of have a cycle efficiency. Typically, pumped storage is about 80 or 85 per cent efficient. Sometimes, there is pumping when the supply is from not pure renewables but fossil fuel generation. Although I agree with Joan McAlpine's point, net pumped storage is not a completely green technology.

There will be an increasing role for storage. I heard some previous witnesses talking about the need to think about energy storage holistically in the system. I absolutely agree that this is not just about pure electricity storage.

If we look at the system from an energy storage perspective, the largest energy source that we have is piles of coal outside power stations. The second largest energy source is gas in large storage facilities. We will lose those piles of coal between 2020 and the mid-2020s. At a holistic system level, more storage is needed to replace the big energy stores that we are losing. Whether that is pumped storage or distributed storage in the home—we have talked about heat storage—is an interesting and complicated problem to which no single person will ever come up with an optimal solution. Therefore, the best approach is to get the market signals right—people can debate whether they are completely right—and let the market come up with the right solutions. I think that more storage will be deployed, particularly in a 10 to 20-year horizon. Whether that will be pumped storage, Tesla batteries or some other new technology is an interesting question.

Lewis Macdonald: I do not want to miss the opportunity, with the transmission companies all here, to ask about the transmission network. Ofgem's submission highlights £2.9 billion of investment in the Beauly to Denny power line and the west coast interconnector and so on, as well as £2.5 billion of potential investment in the islands and the Moray Firth link and so on.

Are the big infrastructure decisions made effectively and efficiently? Is there the right mix of market and direction? Are the right bodies influencing that? We are talking about large investments that are critical to connecting new generation. Are we doing that in the right way? What improvements could be made in the view of the Scotland-based transmission companies, National Grid and Ofgem?

David Gardner: I will have a go at starting. Over the past four years, SHE Transmission has invested around £1.5 billion. Kersti Berge mentioned the challenge on engineering resource in Ofgem.

We have achieved approval of just under £2.5 billion of projects. That includes the Beauly to Denny project and Kintyre to Hunterston, for which the subsea cables started to be laid today. It also includes Beauly to Blackhillock and Beauly to Dounreay.

Some of the projects have been completed and the rest will be completed in the course of this year. From our perspective, that is a big spend; it has happened. We also have Caithness to Moray, for which cable is being manufactured at the moment—people are on the ground. That is another £1.2 billion of funding.

Although the process can be frustrating at times, it is pushing on and we are delivering the assets. Five, six or seven years ago, SHE Transmission had an asset value of around £300 million, but we are pushing on and, within three or four years, it will have an asset value of £3 billion. That is quite a substantial increase. That asset-value increase does not take into account projects such as those in Shetland and the Western Isles. Those are two of the projects that we are trying to achieve and get close-out on.

As well as that, there is quite a number of onshore radial circuits—quite a few hundred million pounds' worth of projects—that at the moment it would be difficult to justify and demonstrate efficient expenditure on to Ofgem. That includes projects such as Beauly to Tomatin and Taynuilt to Crossaig.

The process that we have, which involves SSE's working relationship with Scottish Power, National Grid and Ofgem, is challenging, and it is right that it should be. The key challenge is to do with having better clarity on the contracts for difference that feed into that. That is the key area from the point of view of SSE pushing on with the projects that we need.

Lewis Macdonald: Is your company the driver of the investments in the projects that you have described? Those projects would achieve connectivity within the north of Scotland area and more widely from there. Do you make the investments? Does the initiative lie with you, with the regulators or with Government policy?

David Gardner: The way this works is that the developers or generators come to us and ask for a connection offer. They come through National Grid, which passes on the request. We look to see what we can do: we have to give them the least-cost option, which provides the local connection to the grid. We then have to work out whether we need greater infrastructure improvement, such as the Beauly to Denny line.

Before things such as the integrated transmission planning and regulation project and the enhanced system operator process are introduced, it is up to us to put forward proposals to Ofgem on big infrastructure projects, showing why we believe we offer value for money for the customers, and that we are not going to end up with assets that are stranded—assets that are not developed because the developers do not have the appropriate CFDs or renewable obligation certificates to support their projects.

Eric Leavy: I will go back to the question that was asked about whether we are happy with the way that these decisions are being made, and I will make a couple of points.

Over the next 10 years the electrical-energy position is going to change dramatically. That was referred to earlier. We have some certainties: in that 10-year window we will be looking at losing conventional generation and nuclear generation. The other thing that is fairly certain is that we will see a rise in the renewable contribution.

The area that is of most concern, from the point of view of the transmission and distribution network, is to understand the level of take-up and the direction that the Government's policy will drive for decarbonisation, particularly the diversion of energy from fossil fuels to electricity for home heating and other purposes, and also changes in transport.

The existing network is capable of supporting small, incremental changes in load over a short period of time. However, if a large change of load comes in over a 10-year timeframe, that period is consistent with the time that it takes to develop large-scale infrastructure, whether it is a power station or a major transmission connection. At the moment, we are looking at having to make decisions on some options that will take 10 years to build while there is uncertainty about the take-up of additional electrical loads and demands.

Demand-side management is important, and the absolute reduction in the consumption of electricity from an efficiency point of view will happen. However, what might not happen is a fall in the load that the network has to serve, because additional loads will be added through other policies. At the moment, then, it is a bit tricky to foresee or forecast just how much capacity will be required in 10 years. More certainty about medium-term policy in certain areas would help us to decide how to satisfy demand.

Lewis Macdonald: I appreciate that point, because we would all like more certainty about what will happen in 10 years. Are there mechanisms in place that can help to achieve that?

Eric Leavy: In terms of the future energy scenarios that Mike Calviou referred to earlier, yes, there are mechanisms that mean that we as an industry can agree what we want to achieve in order to meet the demand that is forecast or foreseen from the take-up of Government policy. However, what we cannot do is build a 10-year project that gets us to a particular place only to find that Government policy has moved during that 10-year timeframe. We therefore need to be very careful about what we are being asked to provide capacity for.

Mike Calviou: What David Gardner and Eric Leavy have described for local connection is absolutely right. The challenge is the big wider-work projects. They tend to have big impacts on the system and are sometimes driven by the net impact of an awful lot of smaller individual decisions. We have the real challenge that investing in new transmission generally tends to take four to eight years—depending on whether it is a new overhead line with planning consent and all of those issues—but the generation sometimes changes a lot more quickly than that. Certainly, we have seen that wind can probably come on in a shorter timescale and we are starting to see that some solar photovoltaic—which is probably coming on further south more than it is here—can come on in Scotland in less than a year from virtually nothing to a connected project.

Eric Leavy is absolutely right that we are slightly at the mercy of Government policy shifting in timescales that are shorter than we can respond to, but we have mechanisms to deal with that. We look at future scenarios and, under the ITPR project that David Gardner referred to, we will in effect be systemising rigorous planning across the whole of Great Britain against all the future scenarios that we think could happen, deciding what is needed and then using that to inform decisions on what projects we should take forward, where we need to start doing pre-

construction engineering and when to take projects to Ofgem for approval.

That process is important for looking at, say, when we should start worrying about the scenario of early nuclear closure in Scotland. That involves quite a hard decision because it is one that we will probably always get wrong. Is it better to invest early to be on the safe side, even though it might turn out that lots of stuff that has been built is not needed? Or is it better to leave it and rely on other solutions coming along, even though they might be quite expensive? Those are not straightforward solutions, but we are trying to put a mechanism in place to deal with that situation.

In the past, Ofgem has accepted a concept that we called anticipatory investment, which means investing in something before we know that we need it. I suspect that we will probably have to continue to use that sort of mechanism, which has been good in the past and is why the western link project has come forward in a timely manner—we started it before we knew that we needed it. We did need it, although, as has been said, there will be benefits flowing both ways.

12:15

Kersti Berge: Lewis Macdonald's question is a very good one, because it is about whether the regime for planning and delivering the network assets is appropriate. As we said, the companies are investing about £7 billion in transmission assets over the current price-control period, which is the eight years between 2013 and 2021.

We looked at the issue as part of the ITPR project that others have referred to—it stands for integrated transmission planning and regulation. We looked at exactly that question, and our finding was that there could be improvements. We took our decisions on that earlier this year. That was in the spring—it is a bit hard to tell the seasons apart these days.

As Mike Calviou said, National Grid produces future energy scenarios, which set out what generation is likely to come on. The transmission owners look at them, consider developments in their areas and bring forward proposals for transmission build in light of that consideration. I come to the boring but very important technical part. In their licences, the transmission owners have the obligation to develop an economic and efficient system, which means bringing forward proposals that are built to deliver the energy and for us to assess in a timely manner.

The changes that we made to the regime for planning and delivering the system were to give the system operator a stronger role in looking at the options and assessing whether they are the best options that the transmission companies could come forward with. That is another level of scrutiny. Are there other ways in which things can be done more efficiently through managing the system or through build? The companies need to think really hard about the trade-offs. Is lots of big kit, such as pylons and undergrounding, always needed, or are there are other ways in which we can manage the system more effectively? We want the system operator to engage more closely with the transmission companies in doing that work. That is what we have done on the planning side.

We also think that things can be done better on the delivery side. That is set out in our proposals. In particular, we think that, to drive down costs to consumers, there is a role for bringing more competition into building onshore transmission network. Therefore, we have said that large new separable transmission projects can potentially be tendered out and delivered by competitive parties. That is a controversial decision, but we looked very carefully at the matter. We looked at evidence of what has happened in the offshore regime here and evidence from other countries, and we came to the firm conclusion that the approach can deliver benefits to consumers not in all projects, such as in small, complicated ones that are part of the very meshed networks, but in very big separable projects. In those projects, there are benefits in bringing more competition into the market and pushing down prices and ultimately consumer bills.

Lewis Macdonald: Is it too early to know whether that might happen? Is it too early to know whether serious bids might come in from new potential players?

Kersti Berge: We are looking to move quite quickly on the matter. Some changes to legislation and processes are required, but we hope to be in a position to tender projects around the end of 2016-17.

If projects are in train that need to be delivered for a certain time and we know that generation is coming on, we do not want to cause undue delay to them, but we really think that, in the longer term, we can drive down costs to consumers by introducing more competition onshore, as we have in respect of interconnectors and offshore connections.

Lewis Macdonald: And—

The Convener: I am sorry, Lewis, but we need to move on. We need to finish the session by 12.30, as the minister is coming in. Other members still want to ask questions.

Chic Brodie (South Scotland) (SNP): I apologise for being late. I had a problem with personal transmission from Ayrshire to Edinburgh.

I have four brief questions, which I am sure will be answered briefly.

My first question is for Ms Berge. You just mentioned that you are looking for competition, but your submission says:

"Ofgem regulates the monopoly companies that own and operate the transmission and distribution networks".

I think that you talked earlier about the basic costs, which I think are a bit fanciful, because there are other costs associated with companies running transmission networks and so on. Can you briefly tell me how you regulate those companies? What do you look at?

Kersti Berge: The transmission companies bring forward proposals to us. They will say that a transmission link is needed in Caithness and Moray, for example. We will look at the company's case and whether there is a need for that. We look at whether we expect generation to come on in the area and therefore whether there is a need for a substantial reinforcement of transmission. That is the first point—is it needed?

The second thing we do is to look at the cost of the investment that has come forward. These are monopoly companies, so it is not like a competitive market in which the price from different companies competing against each other can be observed.

In the Caithness and Moray case, we said that yes there was a need. We said that there was clearly a lot of generation coming forward in the north of Scotland that needed to be transmitted to the demand centres further south. We then looked very carefully at the costs for that project. As I have mentioned before, it will cost about £1 billion to build. SSE came to us with proposals for the cost and we made quite significant reductions to them. That goes straight into a reduction in consumers' bills. That is how we regulate.

Chic Brodie: You say that it goes into consumers' bills, but we have had investment in the past that has not resulted in reductions in bills. I would therefore contest that.

When I look at monopoly companies, I look at much more than the investment. I look at the companies themselves. As well as the management, I look at all the other elements of cost. On that basis, can I ask Mr Calviou who the Berkeley Group is?

Mike Calviou: I am not particularly familiar with the Berkeley Group, but I suspect that it is a financial player that works in capital markets.

Chic Brodie: So you are not aware that you have a joint venture with it and are dealing in property in up to 24 sites. This is from your report at Companies House.

Mike Calviou: National Grid property is a completely different part of the National Grid from the one I work in. We do property development and have a number of sites that, particularly in England, used to have disused gas holders in them. We are experts at redeveloping land, carrying out an environmental clean-up and releasing it to provide housing—

Chic Brodie: That is all very worthy, and forgive me for interrupting, but we are short of time.

Your half-year financial report talks about

"how the joint venture with the Berkeley Group should unlock value of London property portfolio over time."

How much time are you spending on transmission, which is your core business as far as we are concerned, and how much on investing elsewhere? It comes back to the issue of not looking at all the costs involved in monopolies.

Mike Calviou: To be clear, I spend 100 per cent of my time on transmission. That is my business.

The people in National Grid plc who deal with property are in a completely different part of the business and apply the appropriate resources to it. We are a large corporate with many parts to the business, and we make sure that we have the appropriate resources. We take resourcing our activities extremely seriously.

I am recruiting massively at the moment as a result of some of the enhanced responsibilities that Kersti Berge talked about. We need more power system engineers, and we have been investing about £1.5 billion per annum every year for probably the past five years in the transmission network.

Chic Brodie: You can understand my concern about who is paying for this, or paying for part of it, when we talk about getting bills down but they are not coming down and you are investing in non-core business. I am not saying that it is wrong. I am just saying—

Mike Calviou: Any investments outside the transmission business would be made only on the basis that they paid for themselves. Investing in those areas would not affect consumer bills. The amount that we are investing in the transmission network is to provide the ability to move power from where it has been generated, such as in Scotland, to consumers in other parts of the network. We are regulated by Ofgem, as Kersti Berge has described.

Chic Brodie: Okay. I wrote this down immediately after you said it. You said—coming back to investment in generation—that you cannot get generation in the timescales you need. Is that true or is that a mistake?

Mike Calviou: I said that generation can often come in on a shorter timescale than the timescale to which we can build the transmission that the generation would ideally require. We have had to put in a number of mechanisms to deal with that.

I do not buy generation. I do sometimes contract with generators around specific balancing services, but ultimately it is for the energy market to develop generation.

Chic Brodie: I have one last question for Ms Berge, Mr Leavy and Mr Gardner.

The Convener: Briefly.

Chic Brodie: Is the National Grid the right body to act as our systems operator?

Eric Leavy: I can take that one. The organisation that Mike Calviou is responsible for is the system operator. That has quite different functions from the organisation inside National Grid that owns transmission assets. Although they are under the same umbrella, they perform two different functions.

We relate quite closely to Mike Calviou and his team about connections to the system and how reinforcements need to be planned to meet needs, but we also relate to the other side of the business—the owning side—in terms of the physical connections and how we arrange our physical activities on the ground.

Someone has to be the UK system operator—someone has to hold the ring. The only question would be: is there sufficient independence between the two parts of the business, one of which is overseeing the national business and the other of which is, effectively, in competition with us?

David Gardner: My answer would be very much the same. You need a single system operator to ensure that the optimum solutions are developed for the development and running of the system.

Kersti Berge: My answer is going to depend on what everybody else's was. [*Laughter*.] No, that is not quite true: my answer is that the National Grid is the right body, but it is a good question.

We want to ensure that we have confidence that what the National Grid does as the system operator—SO—is separate from what it does as the transmission owner—TO. I think that that is where you were going with your question, Mr Brodie. For example, with the enhanced duty that it has as a system operator, following our ITPR project, we have set stronger ring fences with regard to how it can share information and who can take decisions within the SO, in order to limit the interaction between the SO and the TO.

Chic Brodie: Thank you.

The Convener: Patrick, are you still keen to come in?

Patrick Harvie: I think that the moment has passed.

The Convener: We have three minutes left. Does anyone want to ask a follow-up question?

Lewis Macdonald: I wanted to follow up the conversation that we had a little earlier about transmission operation and the bids that companies might make to construct that.

One of the other aspects that has come up in some of the evidence relates to other consequences of building the necessary connections—for example, in relation to economic development in remote areas and creating the critical mass to enable electricity generation to go forward. Do witnesses feel that the structure and the system that we have at the moment achieves those objectives as well as it could, or should there be a consideration of other aspects of policy when deciding whether infrastructure projects go forward?

Kersti Berge: We need to be clear what our role is as a regulator. Unfortunately, much as I might have personal preferences and be very interested in regional development, that is not my role as the regulator. Our duty is to protect the interests of energy consumers, not to act as an employment-generating agency. You do not want the regulator to be the employment-generating agency; you want Government to take those policy decisions.

Government takes decisions on training and skills policies and employment support policies, although it is to some extent constrained by European legislation with regard to the kind of industries that it should support in what places and the kind of energy mix that we have, through the EMR policy. The regulator's role is to ensure that the transmission companies deliver a network that delivers the Government's objectives in the most efficient way.

Lewis Macdonald: When you invite potential competitive tender bids, will you simply go for lowest cost?

Kersti Berge: That is the criterion that we apply, but the bid has to meet safety, reliability and timeliness standards. It has to score against all of those points. Quality matters, as well as cost.

The Convener: We are out of time. I thank our witnesses for coming along and helping the committee. We will have a short suspension to allow a changeover of witnesses.

12:29

Meeting suspended.

12:36

On resuming—

Subordinate Legislation

Registers of Scotland (Voluntary Registration, Amendment of Fees, etc) Order 2015 [Draft]

The Convener: Joining us this afternoon is Fergus Ewing, the Minister for Business, Energy and Tourism. He is joined by Colin Miller, head of policy; Claire Anderson, drafting solicitor; and Charles Keegan, head of land register completion, all from the Scottish Government. I welcome you all.

We are here to take evidence on a piece of subordinate legislation. I invite the minister to make a statement.

The Minister for Business, Energy and Tourism (Fergus Ewing): The draft order that the committee is considering today is a significant step in the process towards the completion of the land register, which is one of the key policy objectives underpinning the Land Registration (Scotland) Act 2012. As the committee knows, the Scottish Government has asked the keeper of the registers of Scotland to complete the register by 2024.

The main purpose of the draft order is to provide an incentive to increase the uptake of voluntary registration applications. It seeks to do so in three ways. First, the order provides for a 25 per cent reduction in the fee for voluntary registration across each of the ranges of consideration paid or value. If Parliament approves the order, that fee reduction would come into force on 30 June this year.

Secondly, the draft order provides for the closure of the register of sasines to the recording of new standard securities from 1 April 2016. The effect of that is that a person who owns land that is recorded in the register of sasines would be required to apply for voluntary registration of the title to the land in the land register so that the standard security can be registered. Where voluntary registration is required to allow the registration of a new security in that way, the draft order removes the fee for voluntary registration altogether. Once again, that provision would come into effect on 1 April 2016.

Finally, the draft order removes with effect from 1 April 2016 the keeper's current discretion under section 27(3)(b) of the 2012 act to refuse an application for voluntary registration.

Registers of Scotland estimates that those provisions, taken together, would result in an increase in the number of voluntary registration applications of the order of 5,000 per annum. Over the period to 2024, when the register is due to be completed, that would equate to some 5 per cent of the total number of unregistered titles.

As I mentioned, although the proposed 25 per cent reduction in the fee for voluntary registration would come into force on 30 June if the order is approved, the remaining provisions relating to the closure of the register of sasines to new securities and the removal of the keeper's discretion to refuse applications for voluntary registration would not come into effect until 1 April 2016.

Following consultation with interested parties, the reason for allowing that relatively long lead-in time is to ensure that mortgage lenders and others have sufficient time to make any necessary changes to their systems and processes. Registers of Scotland will work closely with all interested parties to ensure that they are aware of the proposed changes and that the process of implementing them is as straightforward as possible.

Although the main purpose of the draft order is to provide incentives to increase the uptake of voluntary registration applications, we have taken the opportunity to make a number of relatively minor changes to land register fees. The first is to provide that a disposition for the sole purpose of evacuating a survivorship destination is to be charged at a fee of £60 for each title sheet that is affected, instead of a value-based fee, which in some cases—as the convener will know—can be prohibitive.

Secondly, the draft order provides that the current fee of £30 where an application is rejected or withdrawn will not apply where the sole reason for rejection or withdrawal is that another related application in respect of the same land or title number has been rejected or withdrawn.

Finally, the draft order provides for the keeper to be able to charge a small fee of £16 plus VAT, or in one case £30 plus VAT, for copies or extracts of documents, such as a copy of a search sheet from the register of sasines.

The main proposals that are set out in the draft order were included in the consultation on land register completion that took place between July and November 2014, and they were finalised after further stakeholder workshops and feedback from business, the legal profession and mortgage lenders.

I believe that the provisions that are set out in the draft order will be a significant step forward in the journey towards the completion of the land register, which will be a major national asset for Scotland. I am happy to respond to any questions that members may have.

The Convener: Thank you, minister. Do members have any questions?

Patrick Harvie: I am sure that we all welcome steps towards the completion of the land register. Can the minister tell us the level of income from fees that will be foregone if the increased registration rate that he anticipates is implemented?

Fergus Ewing: Well, it will be 25 per cent.

Patrick Harvie: Which amounts to what, in terms of the overall cost to the taxpayer to administer the register?

Fergus Ewing: I think that Mr Keegan can answer that question.

Charles Keegan (Scottish Government): First, Registers of Scotland has its own income from its own fees so we do not take anything from the taxpayer directly except through applications.

With regard to the number of voluntary applications through the process, we would expect there to be approximately 5,000 a year, which we estimate based on our average fees at around £1.3 million. Obviously that depends on the level that comes through due to market activity, and how attractive the 25 per cent discount will be to applicants.

Fergus Ewing: Mr Harvie makes a reasonable point, but it would be reasonable for me to point out that the purpose of taking this step is to meet the objective of the 2024 timetable, which I think Mr Harvie supports. In one sense, if we do not make this change, many of the 5,000 applications that we anticipate may not arrive. In other words, the change may not actually lead to reduced income; it may lead to more applications that would not otherwise come if we did not make the change.

Therefore, if there are more applications than there would otherwise have been, one could argue—time will tell; I am not making an assertion one way or another—that, if we have 5,000 more applications that we would not have had, or if we would otherwise have had only 1,000 or 2,000, the fee for each application would be reduced but the global aggregate income may in fact be increased.

I just required a moment's reflection to deal with Mr Harvie's perfectly reasonable question. I should make the point that the change will not necessarily result in a drop in income for the keeper. It could actually result in an increase in income, and of course is a policy imperative that I assume Mr Harvie supports.

Patrick Harvie: I was not seeking to argue against the course of action; I simply wanted to understand the scale of the amount of income from fees that would be foregone in comparison with a situation in which registration is required and fees are required to be paid, too.

The Convener: I have a question in a similar vein, minister. Are you satisfied that, if an extra 5,000 transactions will be coming to Registers of Scotland, the organisation has the capability and staff to handle them? It is quite likely that some of the applications for voluntary registration will involve quite complex titles and large estates that have sold off little parcels of land over the years, or historic titles that are perhaps not plan based. One can see that there may be quite a substantial increase in workload for Registers of Scotland staff. Are you satisfied that the capability exists to deal with that increase?

12:45

Fergus Ewing: Yes, I am. I have had the benefit of working with the keeper for several years now and I am absolutely confident that her staff will deal with the work and do so extremely professionally.

Claire Anderson has pointed out to me that, had we not made the changes that we propose to make in the draft order, the method of dealing with matters would have been to require a keeper-induced registration rather than a voluntary one. Were the status quo to apply, a keeper-induced registration would attract no fee. Therefore, it is necessary to move to the lower fee to obviate the situation that would have resulted in the use of the keeper-induced method to attract more registration on to the register of titles, perhaps held in trust of the state. That is a technical point but it is correct for me to put it on the record.

I think that I am right in saying—my colleagues might be able to help me—that 5,000 is a large number but a small one in comparison with the number of annual property transactions, which I think is in the order of 200,000 or 300,000. Perhaps Mr Keegan or Mr Miller can refresh my memory and the committee's.

Charles Keegan: It depends on market activity, but we currently get between 300,000 and 400,000 applications a year, so the 5,000 would not be an insuperable additional number.

The Convener: If I had an unregistered title and I wanted to submit it for a voluntary registration, I would be charged a fee but, if I did nothing and, eventually, the keeper came along and induced it, I would not have to pay any fee at all. Why would I not just wait?

Fergus Ewing: Claire Anderson will answer that question.

Claire Anderson (Scottish Government): The benefit of voluntary registration is that a solicitor is involved in the process and it is more likely that

there will be a grant of the keeper's warranty, which is a particularly good benefit for the title owner. In the case of a keeper-induced registration, it is less certain that that warranty would be granted.

The Convener: So it is a job creation scheme for solicitors. It is all the more welcome for that.

Fergus Ewing: To be serious, I have advocated voluntary registration to people who have substantial landholdings and their representatives. I did so in 2011 and 2012 for that reason. At that time, many of the big firms in Scotland were laying off young solicitors. Therefore, for a long time, I have advocated the idea that landowners in particular should play a part in helping to generate work that enables us to avoid shedding the services of young solicitors at a most difficult time.

I hope that we have moved on economically since then, but the argument remains the same. If voluntary registration is taken up—I am confident that it will be—it will help to secure legal work for young practitioners and will give them good experience at the beginning of their careers. I expect that they will end up doing quite a lot of the hard work, actually.

Chic Brodie: This is perhaps a silly question, given the legalities of the matter. If we are making a point of trying to get as many people as possible to register, what will be the mechanism for communicating it as widely as we possibly can?

Fergus Ewing: It has already been communicated fairly widely. We have had the Land Registration (Scotland) Act 2012 and members of the committee played a part in bringing that to fruition. The keeper has also had meetings with stakeholders. I think—I will ask Mr Keegan or Mr Miller to expand on this—that there was recently a meeting with 26 solicitors who have clients who are likely to be able to avail themselves of the draft order's provisions.

Charles Keegan: In Registers of Scotland, we have good contacts with solicitors and the surveyor community, so we will send out information to them electronically. As the minister said, we have also had a number of meetings with key stakeholders and professional advisers of particular groups of landowners to explain the benefits of voluntary registration. Working on the land register, it was encouraging for me to hear those stakeholders thinking about being on the land register as a better thing. We are working out what we could do to help them in the pre-registration world by providing information to them in different formats from those that we have used before. The landscape is encouraging.

Chic Brodie: Very good.

The Convener: There are no further questions for the minister, so I point out to members that the Delegated Powers and Law Reform Committee considered the draft order on 26 May and no points arose in relation to it.

Motion moved,

That the Economy, Energy and Tourism Committee recommends that the Registers of Scotland (Voluntary Registration, Amendment of Fees, etc.) Order 2015 [draft] be approved.—[*Fergus Ewing.*]

Motion agreed to.

The Convener: Are the committee members content for the convener and the clerk to produce a short, factual report of the committee's decision and arrange for it to be published?

Members *indicated agreement.*

The Convener: We now move into private.

12:51

Meeting continued in private until 13:02.

Members who would like a printed copy of the *Official Report* to be forwarded to them should give notice to SPICe.

Available in e-format only. Printed Scottish Parliament documentation is published in Edinburgh by APS Group Scotland.

All documents are available on
the Scottish Parliament website at:

www.scottish.parliament.uk

For details of documents available to
order in hard copy format, please contact:
APS Scottish Parliament Publications on 0131 629 9941.

For information on the Scottish Parliament contact
Public Information on:

Telephone: 0131 348 5000
Textphone: 0800 092 7100
Email: sp.info@scottish.parliament.uk

e-format first available
ISBN 978-1-78568-733-4

Revised e-format available
ISBN 978-1-78568-747-1

Printed in Scotland by APS Group Scotland