HOUSE OF COMMONS

Northern Ireland Affairs Committee

Oral evidence: The electricity sector in Northern Ireland, HC 51

Monday 17 October 2016, Belfast

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Members present: Mr Laurence Robertson (Chair); Tom Blenkinsop; Mr Nigel Evans; Mr Stephen Hepburn; Lady Hermon; Kate Hoey; Danny Kinahan; Jack Lopresti; Dr Alasdair McDonnell; Nigel Mills; Ian Paisley; Gavin Robinson.

Questions 381-521

Witnesses

I: Paddy Larkin, Chief Executive, Mutual Energy, and Tim Cox, Regulatory Analyst, Mutual Energy.

II: Nicholas Tarrant, Managing Director, NIE Networks, and Peter Ewing, Deputy Managing Director, NIE Networks.

Written evidence from witnesses:

- Mutual Energy
- NIE Networks

Examination of witnesses

Paddy Larkin, Chief Executive, Mutual Energy, and Tim Cox, Regulatory Analyst, Mutual Energy.

Q381 **Chair:** Thank you very much for joining us, Mr Larkin and Mr Cox. You are very welcome. As you know, we are looking at the electricity sector in Northern Ireland and we have held a few meetings already. We have two days in Northern Ireland to hold meetings with witnesses and also one or two visits. You are the first we are seeing on these two days, so thank you very much for joining us. Would you like to make brief opening statements, perhaps introduce yourselves and your organisation, tell us what you do and we will go from there, if we may?

Paddy Larkin: Thank you very much. My name is Paddy Larkin and I am the Chief Executive of Mutual Energy. I have an engineering background. After starting with NIE, I spent 15 years working in Ballylumford at Premier Power up until 2007 and then I have been 10 years with Mutual Energy.

Tim Cox: Good morning. My name is Tim Cox. I have been working with Mutual for just over a year. Most of my time is spent on electricity regulation, particularly European rules and development of the new integrated all-Ireland single electricity market, as well as ancillary services and related electricity matters.

Paddy Larkin: Mutual Energy is a company limited by guarantee and we were set up to reduce the costs of energy for Northern Ireland customers through reduced operating costs. The company is 100% debt-financed, so there is no equity in the business, there are no shareholders and we do not pay dividends. All the income and costs are for Northern Ireland energy consumers. The energy industry started off as a nationalised industry where the costs of the borrowing were very low but the operating costs tended to become a bit inefficient, then there was a move to privatisation. Privatisation tended to reduce the operating costs but the costs of borrowing increased again. Mutualisation, as we see it, is trying to strike a balance between those two aspects, picking the better bits of nationalisation and better bits of privatisation for a particular category of energy assets.

Mutual Energy own and operate the energy links between Scotland and Northern Ireland. On the electricity side we own the 500 megawatt Moyle Interconnector, a 500 megawatt high voltage direct current link. It has been operational since 2002. On the gas side we own the Scotland to Northern Ireland gas pipeline, which was built in 1996 to bring natural gas to Northern Ireland. We also own the Belfast gas transmission pipeline that brings gas from Islandmagee in Northern Ireland on down to feed Belfast. In February 2015 we were awarded a licence to bring gas to the west of Northern Ireland, the Gas to the West project. Part of that is under construction and the other part has just been submitted for planning. We are also a shareholder in Islandmagee Storage, which is a

company trying to develop salt cavity natural gas storage about a mile underneath Larne Lough in the salt strata that exists there.

We operate cross-jurisdictionally. We have licences in Northern Ireland and also in GB, licences to operate, so we deal with the regulators and departments in both jurisdictions. Also through the single electricity market we have dealings with the regulator and the department in Dublin. We experience first-hand the impacts that insufficient cross-jurisdictional co-operation or co-ordination can have and we would be keen if the Committee would focus on that particularly because that is an area that tends not to get sufficient attention. In particular, we have restrictions on what we can export from Moyle in Scotland. Basically it is restricting the benefits that the Moyle Interconnector can bring to Northern Ireland consumers and indeed GB consumers as well. Also there is a lack of suitable arrangements to allow gas storage facilities that would be located in Northern Ireland to competitively access the markets in GB and the Republic of Ireland.

That is probably it from me. I am happy to take any questions you have.

Q382 **Chair:** That is useful. Thank you. Just give us an idea, what is the size of the company in terms of turnover, number of employees and so forth?

Paddy Larkin: We try to keep our costs very low so we outsource a lot of our activity. We have about 25 employees running assets—some of our people like to quote it as $0.5 billion of assets—with a turnover of about £70 million a year.

Q383 **Chair:** But just 25 direct employees?

***Paddy Larkin*:** Twenty-five direct employees and we outsource. Our interconnector is operated by the system operator, so they look after the alarms day to day. Siemens have eight employees on site who provide first-line response on the interconnector. We outsource the control room on the gas side to SGN Natural Gas, who run the control room out of Horley and they also provide first-line response maintenance services on the gas pipeline.

Q384 **Chair:** It seems quite a small number of employees even though a lot of it is given out.

Paddy Larkin: I think the assets that we target, the assets that we believe are prime to be owned by Mutual, are assets where there is a very large capital component and a smaller operating component, and they are very stable. They are these types of large transmission assets that are built. Once they are built, there is a large capital investment. That money has to be paid off over time and the cost of operating them is small in comparison. You make a big saving in terms of being able to borrow that money more cheaply and the operating costs are very small in comparison, so the risk on the operating costs is much lower. It is very different from another type of asset. For example, you could have a distribution asset where there tends to be continuous investment in new

capital and new plant and that is very different because that company is taking construction risk as well as operating risk.

Q385 **Gavin Robinson:** Good morning to you both. We have had some evidence thus far on the Moyle Interconnector and some of it has been less than positive in that we have heard of faults and difficulties. One individual who gave evidence to us said there was no long-term viable future for the Moyle Interconnector. Could I ask you, having heard that, to respond to it?

Paddy Larkin: I suppose there are two aspects to it. One is on the faults and the second is on long-term interconnection generally.

On the faults, I am pleased to report that as from yesterday we took over our new cables from the manufacturer and I am hoping the faults are a thing of the past from now on. You never know, there are anchors, shipping, submarines doing all sorts out along the coast of Scotland. You can never be sure, but we had a spate of faults in 2010, 2011 and 2012 that came from the design of the cables. We have replaced those unreliable parts of the cables with new cables. The first one, which brought us back to full capacity, was completed last January, so we are back to full capacity from last January.

The second one that was still operating but was unreliable has been replaced over the summer and has just finished its proving run and testing period. It has all been handed over now from the manufacturer just yesterday, so from the faults point of view, the Moyle Interconnector is sorted. It was a pretty opportune time because the East-West Interconnector that also links the same two markets, the single electricity market and the GB BETTA market, ran into trouble in September and it is going to be out until the end of February, so we are delighted that Moyle is back in to keep that link going.

In terms of interconnection generally and long-term viability, I think it is completely wrong to say there is no long-term future for it. I think interconnection is the big thing going forward. Whenever they talk about the energy trilemma of costs, security of supply and sustainability, interconnection ticks all three. You get your access to lower cost power when it is there, you are able to sell your power whenever your power is lower, so you have a trade set up between markets that keeps the cost lower in both markets.

On the security of supply, obviously you can bring in power to meet the tea-time peaks, you have that capacity there. In fact, whenever Moyle was out completely in the early part of 2011, it was quite serious, we were quite close to the edge in terms of losing customers. Once it came back even half-load it relieved that issue.

On sustainability, it allows the whole island of Ireland to export excess wind. You build wind stations, but as you know, you cannot predict when the wind is going to happen. It could just as easily be blowing late at

night or whenever there is not a big demand here for it. The more interconnection you have, the more it allows you to export it to allow it to produce whenever the wind is blowing and that encourages investors to invest in it, because if an investor is going to invest in a wind plant and they might not run whenever it is windy, they just go, "That is impossible. We can't make money on that".

Whatever was said about the long-term viability for interconnection, I do not think it is true. Even across the water in GB the Government are supporting 9 gigawatts of more interconnection, even looking as far afield as Iceland to bring in more.

Q386 **Gavin Robinson:** Thank you, because I think it is important that you have the opportunity to respond to what we had heard previously. But I do want to ask you about Iceland and this proposal that we have a super-Atlantic connector that brings geothermal energy from Iceland to the UK. Have you given any thought to that connector landing in Northern Ireland and then transferring the energy across to the rest of Great Britain?

Paddy Larkin: The simple answer is no, we have not.

Q387 **Gavin Robinson:** Is it something that you think could work and would be important for Northern Ireland's sustainable security of supply?

Paddy Larkin: The idea of landing in Northern Ireland and then wheeling the power on is not such a big deal. If it landed in GB, you can wheel the power back, so as long as we have access to the GB market price, we will flow it back. Indeed, EirGrid is looking at the feasibility of an interconnection between ROI and France. If the single electricity market price goes lower than GB, the power will just flow into GB. The whole idea of the single market is to try to get a common price across the board and there will not be one jurisdiction with a lower price than another. I do not think there would be a major advantage in landing that cable in Northern Ireland rather than in GB.

Q388 **Gavin Robinson:** Even infrastructural upgrades, could you see the benefit in bringing the investment here and upgrading the connections between Northern Ireland and the rest of the United Kingdom?

Paddy Larkin: It would be a lot of investment.

Gavin Robinson: I think it would be.

Paddy Larkin: The investment itself and the work would be super. The question of who would have to pay for it would be the big issue. Even for GB, an interconnector between Iceland and GB is an ambitious project. Everyone can see the benefits of it; it is the cost on the other side that will determine whether it should go ahead or not. That interconnector will be hugely expensive.

Q389 **Lady Hermon:** It is very nice to see you here this morning. Thank you. We will stay with electricity and then move to the gas storage. I am intrigued about the proposal to store gas in a salt cavern at Islandmagee,

so we will come back to that.

You very kindly gave a written submission to the Committee before we held this meeting and I wonder if you would just elaborate. One of the things that you emphasised to the Committee in your written submission is, "The electricity network in Scotland needs to be reinforced to fully enable existing interconnections". I have written beside that, "What exactly do you mean by that?" I think it is in your name, Mr Cox, that we received the submission, so would you like to explain your written submission?

***Tim Cox*:** When Moyle was built and commissioned back in 2002, the interconnector would have paid for what is called transmission entry capacity. That is the ability to export electricity from the interconnector on to the network in Scotland. At that time Moyle was conceived as bringing energy from the lower-priced British market into Northern Ireland, so the need for sending electricity the other way was not so much of a priority. The entry capacity that Moyle enjoys in Scotland is much lower than the technical capacity of the interconnector itself. As times have changed, we see different prices in the market and users using the Moyle Interconnector have an increasing tendency to wish to export their energy to Scotland.

In the future we see that constraint on the Scottish system as a hindrance to those who are using Moyle. It would reduce their ability to export energy. The important thing is the effect on generators in the market in Northern Ireland, the single electricity market in the whole island, because let's say at times of high wind generation that wind generation will be curtailed. It will be switched off to a degree to ensure stability of the network, except if we, through Moyle and other interconnectors, have the ability to export that into Scotland. So the constraint in Scotland really does have a significant effect on the ability to export that renewable energy.

Q390 **Lady Hermon:** It is not a technical constraint in terms of the interconnector?

Tim Cox: It is not.

Q391 **Lady Hermon:** So the interconnector could carry a larger volume of electricity into Scotland and the wider GB market if the Scottish Government allowed it to do so?

Tim Cox: Yes.

Q392 **Lady Hermon:** Is it a problem created by the Scottish Government? I was intrigued by the fact that you mentioned at the very beginning in your outline statement that the Moyle Interconnector came on live in 2002, so we obviously had the Scottish Parliament in place at that time. Is it a problem with the Scottish Parliament?

Paddy Larkin: The arrangements are driven out of Westminster. The BIS Department, what was DECC, is the Department responsible, and

Ofgem is responsible for the whole of GB as well as that wider Scottish power network in that area. National Grid is the transmission system operator, so National Grid make decisions on whether you should get a connection or whether you should be allowed to flow or whatever.

Q393 **Lady Hermon:** You have applied, your company?

Paddy Larkin: Yes. We have applied.

Q394 **Lady Hermon:** You laughed as you said that. You were not enjoying the reply, so what has been—

Paddy Larkin: We have applied to increase our capacity to 500 megawatts. Whenever Moyle was built, it was 500 megawatts. You could flow 500 megawatts both ways. In every other jurisdiction in Europe, system operators basically made sure you could transfer power between their neighbours. If there was an interconnector between neighbouring countries, a system operator just by themselves made sure they would be able to transfer that. National Grid, in their wisdom, decided not to do that and said it is up to the neighbouring jurisdiction to ask us to keep power available. So because we did not ask them to keep power available, they have handed out the capacity to a lot of wind generators in Scotland and our 500 megawatts that was there has been reducing over the years. It is 300 megawatts at the minute. If we do nothing else, it will drop to 80 megawatts by next October. We did apply. We applied and said, "Please give us 500 megawatts".

Q395 **Lady Hermon:** You say you applied to National Grid?

Paddy Larkin: To National Grid, yes. To date, they went, "It is not in our interest to do that". We are pushing quite hard with the departments here and Westminster, with the two regulators, with the system operator here and with National Grid across the water, and Scottish Power and ourselves are involved in that too, to try to get a focus on not dropping that to 80 megawatts, to maintain at least 300 and then to go back up to where Northern Ireland expect to be or what the Moyle can do, 500 megawatts. The Moyle can transfer 500 megawatts in and basically we would like to be able to do that.

We have struggled from 2010 to get National Grid on the same page. This is not a slight on Ofgem and National Grid; it is the same in every jurisdiction. Every jurisdiction has its own legislation, which forces the bodies that are there to consider their own jurisdiction and not to pay an awful lot of attention cross-border. In fact, the single electricity market here was the first time that legislation was brought in to put an explicit requirement on our regulator, an explicit requirement on the regulator in Dublin, to consider the impact on the other jurisdiction. We do not have that even within the UK, even across Northern Ireland to GB. There is not that requirement in Ofgem to consider this impact on Northern Ireland customers and vice versa, although Northern Ireland has much less impact on GB than GB has on Northern Ireland. Getting people to work

together is difficult. It is difficult and the more people who are encouraging people to work together cross-border the better, I suppose.

Q396 **Lady Hermon:** Presumably this is an issue that you have taken up with the local Minister here?

Paddy Larkin: Yes, through the Department here. The Department for the Economy, as it is now, they are at these meetings. They are involved with it, yes.

Q397 **Lady Hermon:** When you say "at these meetings" you mean meetings with whom? With their counterpart at Westminster?

Paddy Larkin: Yes, and the two grid operators and ourselves. Both Departments, both grid operators, ourselves, Scottish Power and the regulators all have joint meetings where we get together to try to resolve this.

Q398 **Lady Hermon:** How often would you have those meetings?

Paddy Larkin: They have been resurrected recently and they are probably every six months with everyone around the table, with obviously correspondence inbetween times. I guess it is just people at those meetings have different focuses and different priorities and it can be slow. That is probably the biggest issue working across jurisdiction, how slow it is to get things moving because there is not one party that takes responsibility and leads it. If something is happening here, the regulator here will take responsibility; if something is happening across the water, Ofgem will take responsibility. But if it happens cross-jurisdictionally, it is very difficult for someone to champion it and say, "Your responsibility, take responsibility for that. You have a legislative remit to do something about that". I suppose that is the bit that is missing.

Q399 **Lady Hermon:** What about the local utility regulator here in Northern Ireland? Are they supportive of the—

Paddy Larkin: Yes, they are very supportive and they are encouraging Ofgem to move along that track, but obviously their jurisdiction does not extend to Scotland. They do not have any remit there, so it is all basically trying to encourage Ofgem and National Grid to do what needs to be done.

Q400 **Lady Hermon:** If National Grid is not persuaded to change its mind or their strategy moving forward, just repeat again the capacity to which the Moyle Interconnector might be—and I emphasise "might be"—reduced?

Paddy Larkin: This is not import, so just from export into Scotland, technically the interconnector can do 500 megawatts. We are currently restricted to 300 and by October 2017 the plan is that we drop to 80.

Q401 **Lady Hermon:** That is the plan of National Grid, is it?

Paddy Larkin: Yes. All of our discussion with them is to try to improve on that area. That is what we are discussing. But at the minute, if nothing comes from those discussions, we will drop to 80.

Q402 **Chair:** Sorry, just before you carry on, Sylvia, can we have a bit more clarification why they are looking to restrict it?

Paddy Larkin: Basically that capacity has been allocated to wind generators in Scotland and those wind generators are connecting. As they connect, the capacity that was available for Moyle to export is being allocated to the wind generators. Obviously, just on the face of it, wind generators do not generate all the time, so there has to be times whenever it is not windy that at the very least we should be able to export more than 80. There are things like that that we are pushing with National Grid and with Ofgem to get changes.

There is also an issue on the European legislation. I know Brexit and everything is looming, but the current EU legislation requires transmission system operators to not restrict cross-border flows due to congestion in their own jurisdiction. If they do, which is a bit of a contradiction, they need a plan to resolve that congestion so they are not restricting cross-border flows. At the minute, dropping from 300 to 80 is a restriction on cross-border flows, no doubt about it.

Q403 **Chair:** If the wind-generated electricity were more expensive, let's say, than what you could send, they would still pay that? They would still restrict it in that way, would they?

Paddy Larkin: Yes, but in fairness, National Grid is not looking at the prices at that level. It is traders. Traders will trade electricity up to a particular price and if the traders are restricted to 80, they just cannot sell any more than 80, that is it.

Q404 **Lady Hermon:** Is it the case that the Government in Westminster is looking to import electricity from other European countries?

Paddy Larkin: Yes.

Q405 **Lady Hermon:** At a time when it can be available in Northern Ireland, within the United Kingdom, within its own country, they are restricting the import from Northern Ireland into Scotland and into GB of electricity, but are looking elsewhere? Is that the case?

Paddy Larkin: Yes, that is the case. As we see it, that is the case, yes. There are billions effectively will be allocated for their interconnection.

Q406 **Ian Paisley:** Is that not an oversimplification of the real problem? Do we have the capacity to do it? Do we have the ability to do it? Do we have the interconnectivity to do it? Are we able to do it?

Paddy Larkin: Do we have the interconnectivity to send power to Scotland? Absolutely, yes. Sorry, not if it is taken off us. Yes, the capacity is there to export to Scotland.

Q407 **Ian Paisley:** Why do we have the highest prices in Europe? With so much electricity it is coming out of our ears, why do we have the highest prices?

Paddy Larkin: In Northern Ireland? At the moment we are exporting to Scotland most of the time, so at a wholesale level our prices are lower.

Q408 **Ian Paisley:** Manufacturers are not closing and under pressure because of electricity?

Paddy Larkin: There is a lot of other things between wholesale electricity prices and the price that is paid in the factory on allocation of costs, on extra add-ons in terms of grid etc. But in terms of wholesale prices, most of the time at the moment we export into Scotland because our prices are lower. In saying that, one of the reasons why our prices are lower is due to the carbon price floor. GB introduced a carbon price floor, which effectively notched up the price of electricity in GB, so we happen to be lower than that.

At other times of the day we import, so I think that is the beauty of an interconnector. I was talking earlier about prices. During the day, whenever it is cheaper on this side of the water we export and whenever it is dearer over the tea-time peak we can turn round and import. At the tea-time peak last week, that is exactly what we did, all day and all night we exported into Scotland and then at the tea-time peak we turned it around and pulled everything in.

Q409 **Danny Kinahan:** I am finding it fascinating and phenomenally complicated. You talked of meetings happening regularly, as I understood it, between the north and south of Ireland. Are those the same meetings including Scotland, Wales and Great Britain?

Paddy Larkin: On that Scotland restriction, it is Northern Ireland and GB, so Northern Ireland and GB meetings happen on that. The link to the south of Ireland is through the single electricity market. Things that Moyle does or things that affect Moyle obviously affect the single electricity market, so there are issues that concern the price on the whole island. That is the link into Dublin on that side.

However, on the gas side we would have regular meetings between the three jurisdictions on the gas side because we connect in Scotland again. Due to the issues in Scotland, the gas comes through the National Grid network in GB and then for a period of about 60 kilometres it comes through the ROI network in Scotland. A piece of pipe in Scotland is paid for by ROI customers and legally it is not regulated by the CER, but effectively it is regulated by the regulator in the south. We come through that coming to Northern Ireland and then we come through our pipeline, which comes off at Twinholm. There are regular tripartite meetings across the three jurisdictions on that and that is particularly to implement EU rules in Scotland.

Q410 **Danny Kinahan:** I suppose what I am looking for, is there a good,

joined-up strategy for the whole of GB and Ireland, Northern Ireland?

Paddy Larkin: There is not a joined-up strategy. There are regular meetings and there is a general effort by the parties involved to try to co-operate and co-ordinate, but there is not an actual responsibility on them to do it. I think that is probably what is missing, just the urgency and the importance of it is down the pecking order because single jurisdiction matters take priority all the time and those cross-border matters, which can benefit everybody, fall down the pecking order.

As well as that, there is not someone in charge; there is not someone leading it. You have three parties who have vested interests and some interest in trying to make the thing happen, but nobody is leading the charge and pulling them on. In fact, we find ourselves in that role, trying to lead the people on and trying to get them to co-ordinate and move things on a wee bit faster with a wee bit more attention and give it a bit more priority. It can be difficult. I guess that is why I am mentioning it to you guys, because you guys do have the ability to raise that priority and say, "Look, this is important that we co-operate and co-ordinate this to everyone's benefit".

Q411 **Danny Kinahan:** Which is the whole point of this meeting. That is something, Chair, we need to push at the other end.

Is there anything else hiding underneath it all that we should be pushing for at Westminster that would make the system work better?

Paddy Larkin: Ultimately, I think if there was legislation in place similar to what we have north/south here that requires regulators to work together, requires regulators to put a body together, to put people on it and to have a focus on cross-border issues, that would be our greatest aim in terms of trying to make sure these cross-border issues are addressed.

In the meantime, the two issues that are burning issues for us, one is the Moyle's restrictions in Scotland and the second one is our ability to locate gas storage in Northern Ireland. We just do not have access to the market. Gas storage is a pretty big facility. To make it work commercially it needs to have scale, and to build a gas storage facility of scale in Northern Ireland, Northern Ireland is just not a big enough market for it at all. It would not underpin that level of investment at all. But the islands here need to get storage and going forward it really is needed. In other European countries, gas storage tends to be part of the network. It tends to be a regulated asset and people just build it because it is needed and then everybody pays a tariff to keep it there. In GB, because the North Sea has been basically a massive tank of gas in the ground, it effectively has been our gas store, so it has always been just commercially provided and it has been boom and bust. Rough gas storage has been sold for a song and has also gone through the boom years as well.

Going forward, we believe gas storage is definitely needed for the whole of the islands, and I think if you really got under the skin of it, both Westminster and Dublin believe it is needed as well. Northern Ireland has a good opportunity to provide that gas storage for the three jurisdictions because of this salt strata that exists onshore. There is salt strata offshore, but onshore the costs are much, much lower to access it. It is also in a location right beside the gas network and right beside the power network. You need power for the compressors. It is beside both of those, so from a capital cost point of view it is the lowest cost, I believe, of any gas storage facility in GB. BP got involved in the project. With the collapse in the oil price, the volatility came right out of the gas market. There just was not a commercial imperative to keep the project under development.

One of the big issues is while it is the best location in terms of capital costs, access to the market is a problem. You can flow gas into Northern Ireland and then back into GB, but you cannot do it competitively and you certainly cannot do it competitively through ROI into Northern Ireland and back into GB, such that if a customer in Galway or a customer here in Ballymena wanted to store gas, they would be incentivised through the mechanisms to store gas in Rough storage in GB rather than storing it in Northern Ireland because of the costs involved.

We have been trying to encourage the three regulators to try to move on that tariff discussion. There has not been as much interest in moving that on because on the commercial side it is very difficult to justify building gas storage commercially in the current environment. The spread in gas prices is much lower at the minute, so it is very hard to move it on commercially.

At an EU level, that project has been recognised as a vital project for this region. It has what is called PCA—project of common interest—status and they have provided grants for development work on the project. All subject to Brexit, but there is the potential for a 50% grant of the construction costs, which again is important. But I suppose the nature of the store in Northern Ireland compared to the Rough store or the Hornsea store is that it is there and it is located in a position that it can serve all three jurisdictions. The EU has recognised this and has put it on that list.

Q412 **Mr Evans:** Good morning. Can I just get my head around this thing about importing electricity into GB from outside of the UK? Is the logic something to do with forcing the price of electricity down on the wholesale market?

Paddy Larkin: From a GB perspective?

Mr Evans: From a GB perspective, yes.

Paddy Larkin: From a GB perspective, their issue with providing more capacity for Moyle in Scotland is that Scotland is fairly full of generation.

There is a lot of generation in Scotland and there is a restriction in getting Scotland generation to the south of England, which is where all the demand is.

Q413 **Mr Evans:** There is a restriction?

Paddy Larkin: There is a restriction on that Scotland/England border.

Q414 **Mr Evans:** Sorry, what is the restriction?

Paddy Larkin: There just is not enough wires to carry the amount.

Mr Evans: Capacity then?

Paddy Larkin: Yes, a capacity issue. National Grid is building, for example, the Western Bootstrap. It is well underway. This is a HVDC interconnection between Scotland and Deeside and there are proposals to build an eastern bootstrap as well to try to alleviate that border. Until such time as that restriction has been alleviated, National Grid try to hold back generation in Scotland and say, "Do not build so much generation". They charge extra for connecting to the network in Scotland than you would pay if you connected in the south of England because you are closer to the demand. Up until a few years ago, they just did not allow any new generation.

Then the other side of the trilemma is sustainability. With the push to try to connect more renewables and more wind, they decided, "We will allow you to connect in Scotland and we will try to manage it on a day to day basis to make sure the power flows". We happily had a connection capable of 500 megawatts and more wind generators came on and that capacity was allocated to the wind generators. Basically, it came down from us and went up to the wind generators.

Q415 **Mr Evans:** I guess particularly if the Northern Powerhouse is going to become a reality—and it is the intent even of the new Government to do that—the demand for energy is going to increase. If it cannot be delivered from within England, then clearly they are going to have to source it from somewhere else. What is the timescale on getting the energy from Scotland down into the north of England?

Paddy Larkin: The Western Bootstrap is under construction. I think it is to be commissioned this coming summer of 2017. On the eastern one there are proposals. There are a number of different proposals that are sitting with Ofgem at the minute to give the all-clear to on the other side, but I think it is all offshore, so planning is not as big an issue on it. You are into four or five years down the track.

As more and more renewables come on here, this becomes more important for the island of Ireland to be able to export that capacity and to get it used across the water. It is more of an issue now than it was five or 10 years ago for us. National Grid is obviously better placed to say what the timescale is, but as I see it, it is about five years away to relieve that congestion.

Q416 **Mr Evans:** It is still a long time, but I guess when that happens the opportunities for you to be able to sell your energy into Scotland, which is then coming down into England, will be a reality.

Paddy Larkin: Yes. The market is such that there is a marketplace on the whole island of Ireland; there is a marketplace on the whole island of GB. From a trading point of view, once you say there is 80 megawatts available or there is 100 megawatts, the traders just get to it and start trading between the two. They do not really care where it goes in Scotland, how it flows north and south. That is National Grid's issue then to make sure they can get it to the right place.

Whenever you are designing a network—and NIE will tell you this—you have to design it to make sure that it is robust and it can withstand all the different scenarios that are thrown at it. You might put particular restrictions on generators, which means that under all circumstances you can take a particular amount of capacity. But then as you get smarter at the grid—which is the smart grid that we should be talking about, but anyway—you start to be able to do more things more in real time. For example, in cold weather wires can carry more power so you allow more power to flow in cold weather because the temperature is down. SONI is doing a lot of work here to try to get the penetration. I think they are moving from 55% to 60%—

Tim Cox: It is 55% today, 60% by the end of the year, hopefully.

Paddy Larkin: —of renewable power, the ability to accept 60% of your power from wind, which is way ahead of the curve in terms of SONI. At those meetings we are having with National Grid, we are saying things like, "Why are you not up at the top of the curve on that?" I think they are around about 40% that they will accept. "Why don't you accept more? Why don't you take more wind power on to your network instead of turning it off?"

Q417 **Mr Evans:** What is the answer to that, by the way?

Paddy Larkin: They just have not got around to it yet. I suppose they are not forced into it. SONI is forced into it because at times there is a huge amount of wind power generation in comparison with demand on the island of Ireland.

Q418 **Mr Evans:** Mostly when we drive past these wind turbines on a windy day that are not moving—and I mean all of them are not moving—it is simply because they do not have the capacity to take that energy?

Paddy Larkin: Yes. It could be various reasons but that is one reason, yes. On a very windy day, some wind turbines are constrained because you cannot take it all in, yes.

Q419 **Mr Evans:** Can I just ask one question about these cables on the interconnector that have been faulty? Who owns the cables? Whose fault was it? How much has it cost to do the repairs and who pays?

Paddy Larkin: There are a number of legal battles over whose fault it was, so I cannot say a huge pile about it. It is on record that we believe it is the manufacturer's fault. The manufacturer has replaced the cables. There was a cost to that. The cost was lower than we had expected it to be and the speed of return was faster than we expected it to be, partly due to working closely with the manufacturer and getting quite a lot of co-operation there.

In terms of who pays, ultimately as a mutual company the cost does fall on consumers, but then the cost of the whole industry falls on consumers. In the way Moyle operates, because it is constrained, we sell our capacity at auction and those auctions can bring in more than our costs or less than our costs. In the early days, we brought in more than our costs and because we are a mutual company that stayed in the business, our reserves, if you like. It did not go out as dividends. We used our reserves to pay for the replacement of the cables.

Q420 **Mr Evans:** Are you fighting that though? If somebody was at fault and you end up paying for it, it means the consumer ends up paying for it.

Paddy Larkin: Yes, we did fight it. We achieved a settlement, which was confidential between the parties. We are content that the consumer has done well out of that.

Q421 **Mr Evans:** Finally, who does own those cables?

Paddy Larkin: Mutual Energy own it. We own it.

Mr Evans: You own it?

Paddy Larkin: Yes.

Q422 **Tom Blenkinsop:** Do you think the historic faults on the Moyle Interconnector between 2010 and 2012 led National Grid to look to other interconnectors, other partners, because of those faults? Do you think that was a reason behind it?

Paddy Larkin: No. In terms of the new interconnectors that they are building, no. It is interesting. Both interconnectors between the island of Ireland and GB are fully funded and underwritten by the customers on the island of Ireland. There is absolutely no underpinning or underwriting of those by GB customers. The Anglo-French Interconnector and the BritNed to the Netherlands, so the Britain-Netherlands Interconnector, are commercial interconnectors so they do not get any underpinning, but the new interconnections that are being proposed both by National Grid and by other parties have a cap and floor regime, which means the GB customers will underpin them to an extent. National Grid has never taken any interest in the interconnectors to the island of Ireland, nor do any of their customers provide any sort of underpinning for them, so I do not think there are faults that caused them to not look.

Q423 **Tom Blenkinsop:** I find it very strange, because obviously National Grid has invested heavily in the new interconnector in Denmark to gain access

to the surplus renewable energy from Denmark, and you are saying there is a surplus of renewable energy from Northern Ireland that could be tapped via an existing interconnector and that new interconnector in Denmark is underwritten by the British taxpayer of course.

Paddy Larkin: Yes.

Q424 **Tom Blenkinsop:** Do you think half of the problem for National Grid is skin in the game?

Paddy Larkin: It could be. I don't know. I certainly think if GB are building more interconnections because they want access to renewable power, yes, there is renewable power in Ireland and the potential for more renewable power in the island of Ireland, so more interconnection.

Q425 **Tom Blenkinsop:** That is because the British regulatory system or the mainland British regulatory system has more leverage, shall we say, than the surrounding regulatory systems on the island of Ireland in terms of your appetite for export?

Paddy Larkin: Yes, that is right, it does. It is in the GB's jurisdiction where that restriction is, absolutely, yes. From a legal jurisdictional point of view, it falls totally in—

Q426 **Tom Blenkinsop:** Are you saying it is a regulatory burden of Westminster in order to fulfil the export potential of Northern Ireland in terms of electricity?

Paddy Larkin: Yes. There needs to be a decision there made to get that restriction cleared, either physically or commercially, but basically remove that restriction.

Q427 **Tom Blenkinsop:** One last question to you. Before that is done or if it does happen—and it will be interesting to hear what you think, whether that is possible coming forward—with all that renewable energy potential that Northern Ireland has, what sort of strategy do you have or does Northern Ireland have in terms of storage? Because until that export potential is fulfilled you could be storing renewable energy to reduce the cost for Northern Ireland consumers.

Paddy Larkin: Yes. Storage is the next step that is needed to go the next step on renewables, to move up from the 50% or the 60% penetration and to move generation that is generating in the middle of the night to put it in in the daytime. Storage really is where we want to go to. Unfortunately there is a technological problem with storage in that probably the only real storage that works and works well is water pump storage. There are some, Dinorwig across in Wales, here in Wicklow there is a pump storage scheme, but environmentally it is a big issue, building a pump storage scheme, because you are flooding the hills and the valleys and pumping between one and the other.

Outside of that, from a technology point of view, it is very difficult. Batteries are coming to the fore, but my understanding of batteries is

they are pretty short term. They will store a lot of power, but they will store it for 10 minutes, half an hour or an hour. If you are talking about major developments on the renewables, you need to take a day's worth of storage and do it the next day, which is a lot of storage needed.

One area that is being looked at in Northern Ireland is Gaelectric are trying to develop a compressed air electricity storage scheme, which has its drawbacks but there is potential for it and they have submitted planning. In fact, they are proposing to use the same salt strata up at Islandmagee that we will be looking at for natural gas salt cavity storage. In fact, they are working with us in terms of getting a gas connection for that plant. Because there is such a high proportion compared to demand of renewables on the island of Ireland, particularly intermittent renewables, we are probably up there in terms of the world, in terms of looking at what can we do. AES have some batteries in; they are looking to extend that. Gaelectric are looking at compressed air electricity storage. Yes, it is needed. Going to the next stage it is needed, but there is a question over trying to get the technology developed to a level that is commercial on a large scale.

Q428 **Tom Blenkinsop:** Whether you are using it for large-scale consumers, there is a way that you could be helping the industry, for example, with higher electricity prices. Also from a production frequency when you have voltage alterations, that could be the first starting point, which we have already seen in the industry, so they can avoid the peaks and the Triads.

Paddy Larkin: Yes. From our point of view, electricity storage is not something that we are developing or we are involved in, only helping or assisting the others who are bringing that forward. As I was saying earlier in terms of the interconnector switching around, because we can switch around and we can switch around quickly, we can take the sting out of those high prices when we are importing. It is just a matter of keeping ourselves available and making sure we are there whenever we are needed, which does help. It helps to a certain extent to alleviate those high-peak periods.

I am not an expert on this at all, but there was an arrangement in Northern Ireland where a large generator could generate their own power during those peak periods, so basically avoid those prices at the peak by generating themselves. A lot of them did use that facility.

Q429 **Ian Paisley:** Gentlemen, thank you very much for your evidence today. I am delighted to hear the good news about the new cables that you have in place.

How will the North-South Interconnector going ahead, the way it is supposed to go ahead, affect Moyle?

Paddy Larkin: From a trading point of view it should not have any effect, because trading is carried out at the day ahead stage and it ignores the constraints on the island, so the price of power on the island of Ireland and the price of power on GB totally ignores all those

transmission constraints. From that point of view, it does not really affect, but obviously after that, in terms of real time, the system operator will have to pull back generation in the Republic and put it up in Northern Ireland because of that constraint on the North-South.

It does not have a huge impact directly on Moyle, the North-South Interconnector. I think it is more around the market we are living in. The single electricity market was built on the basis that you had a single price on the island, and you can only have a single price on the island if you do not have major physical constraints between it. We have been operating since 2007 on the understanding that the physical constraint is going to be solved. Certainly, in my mind I do remember 2004 being the target date, but it may well have been before that, but 2004 was the target date for building the second North-South Interconnector.

If the North-South Interconnector is not built in the long term, I cannot see that you could sustain a single price in the island of Ireland. You would have to switch to two prices and if we were to go there that would affect trading and that would take a lot of traders out of the market in terms of people who trade across the Moyle Interconnector. It would also limit the amount of power that we would have to actually trade back and forward and it would raise the price in Northern Ireland. In the long term, if it is not build permanently, it is a problem. The sooner the physical situation can catch up with the commercial arrangements, the better.

Q430 **Ian Paisley:** One of the complaints that I get regularly from manufacturers is along the lines of high electricity prices. I know from all our refrigeration companies and from other major users of electricity the complaint is, "We pay far too much for electricity in Northern Ireland". It may not be a fair criticism from your point of view, but that is what they say. Under Brexit we have received evidence from one of our witnesses that they will be able to adjust the prices that manufacturers pay. Have you had or done any analysis on the impact of Brexit on electricity prices and what manufacturers will have to pay going forward?

Paddy Larkin: In a word, no, we have not. I suppose it is more the regulator who would look at those things and the system operator. From our point of view, we just have not done that analysis. I have seen some of the results of the work. There was an advisory group set up last Christmas to look at the impact of energy prices on large users, and my understanding is the way we charge large users is different from other European countries, so I cannot imagine that you would have to leave Europe to change it to be the same as other European countries, so I don't see that that would have an effect.

In Northern Ireland it is always going to be a challenge to try to keep our prices competitive. We are a small jurisdiction, not densely populated, not with a lot of large users in it, that we basically—aside from renewables that are getting a bit of traction—import all of the fuel. If we are not importing electricity, we are importing the gas or the coal to make the fuel. I think one of the other statistics that came out of the

advisory group is that from a wires point of view we have double the amount of wires per user, per customer, than the average in the rest of Europe, so it is going to be a continuous struggle to keep our prices competitive. That is day in, day out. Certainly, from our point of view, we do feel that pressure. The bit of the market that we are involved in, what we can do is work to try to keep those costs down as low as we possibly can. That is the fundamental reason why Mutual Energy was established and why we have a mutualised business there to try to keep the capital repayment costs on those assets that we look after as low as possible.

Q431 **Ian Paisley:** I do not know how that sits against your earlier evidence that we are producing so much electricity that we are able to export it. It is a real challenge to get lower prices then?

Paddy Larkin: Yes. In terms of a small jurisdiction, it is more around the infrastructure that we need to transport the power around, the size of power stations etc. that we can put in and the nature of where we get our generation from. We don't have any major hydro or nuclear, which across the water does, so we are on the back foot from the start, struggling to get it. One of the reasons I think I explained earlier as to why we are exporting into GB is because of this carbon price floor. At one level Government policy has pushed—

Q432 **Ian Paisley:** That is a subsidised issue that is allowing you to trade on. It is not a real marketplace.

Paddy Larkin: Effectively, yes. But in fairness, on the other side, we deal a lot with interconnectors right around GB, and on the French side and on the Dutch side, the carbon price floor is a wonderful thing for them. They want to keep it there as long as possible because they were already exporting into GB and now they are exporting and making even more money.

Q433 **Ian Paisley:** Finally, we have heard about the people you employ. Who are your shareholders?

Paddy Larkin: We don't have any shareholders. We are set up as a mutual, so it is a company limited by guarantee. From my point of view, I report to a board, the same as I did in all my other jobs. Effectively, I get targets and I get challenged and rewarded the same way as I did in any other company, but the difference I guess is above the board. Instead of reporting to shareholders, the board reports to members and we have 30 members. They are there to represent energy consumers and they are drawn from right across the spectrum, so there will be people from, for example, the CBI representing large users; there would be people from consumer organisations; there will be people with an interest in finance who will be looking at the way we are constructed—one of our major shareholders, obviously because we are 100% debt-financed, are our financiers—people from a finance point of view; people from a technical point of view. There is a wide range of people that make up those 30 members. The board reports to the members and the members have

similar abilities that shareholders would, so they can vote out the board or they can effectively step in and take over the company. That is the way we are constructed.

Q434 **Lady Hermon:** Yes, we are back to the salt mines. In fact, I am fascinated by gas. Would you say that the supply of natural gas to Northern Ireland is secure?

Paddy Larkin: No. Yes, it is.

Lady Hermon: You have prefaced that with the word "no", so—

Paddy Larkin: Yes, because before 1996 there was no natural gas in Northern Ireland. It absolutely did not matter whether there was natural gas in Northern Ireland was secure, because nobody used it. Since 1996, more and more of our businesses are relying on natural gas to allow their businesses to function competitively. With bringing natural gas to the west, basically pretty much the majority of businesses in Northern Ireland are going to be relying on natural gas. We already rely on natural gas for about 50% of our generation.

Q435 **Lady Hermon:** There is only one pipeline between Northern Ireland—

Paddy Larkin: There is only one pipeline, yes.

Lady Hermon: —and you own it.

Paddy Larkin: Gas Networks Ireland owns it and we have an arrangement with them to use it. In Scotland that is one of the ones that the three regulators work on.

Q436 **Lady Hermon:** It is secure?

Paddy Larkin: A high pressure natural gas pipeline, touch wood, is a very secure piece of equipment and should not be—

Lady Hermon: I would rather we were not touching wood.

Paddy Larkin: I suppose it is all I can do here at the minute, but we do a lot more back at base to make sure it is secure. Yes, we are just relying on one pipeline. Normally speaking, you would want more pipelines or some generation yourself, so from a pipeline point of view we just rely on that pipeline. GB itself, the North Sea is declining, so more of the gas in the British Isles is being imported. The supply chain is lengthening. You are going as far as Qatar to get the LNG plants and you are going into Norway with pipelines into Europe. Pipelines—

Q437 **Lady Hermon:** Do you have an expectation that gas will be coming into Northern Ireland from Qatar or somewhere?

Paddy Larkin: Yes. Gas comes into Northern Ireland from GB. The gas in GB comes from Qatar; it comes from Norway. Yes, the calorific value of it does change. We can see the change in the quality of the gas coming in. But the other side of it, which is really important for us—

Q438 **Lady Hermon:** Is the change better or worse?

Paddy Larkin: Slightly worse. North Sea gas was sweet gas. It is very good gas. It is slightly worse. What that means is you need a bigger pipe to carry the same amount of energy, but it is very important what is happening on the demand side, because on the demand side, in the past people built a power station and they could tell you the next day, "I am going to run 80% load" so you went and got 80% of their load and brought it in for them. Now they cannot tell you. Now the power station is saying, "I think I am going to run 80% but it might be 40% and it could be 60%. I will not know until tomorrow". That causes a problem because the swing that they are doing, if they do not tell us what they are going to use, that swings the pipeline. We are trying to provide that level of gas from the stock that is in the pipe. We are allowing the pressure in the pipe to go down and go up to try to provide that pressure for the power stations, and that flexibility that is being demanded is increasing. In the coming years our supply chain is lengthening and the demand wants more flexibility.

Q439 **Lady Hermon:** That is why storage is key?

Paddy Larkin: That is why storage is so important. Storage will solve that problem. The other way you can solve it is to build more pipelines and build more compressors on it to basically keep more stock in your pipes.

Q440 **Lady Hermon:** How advanced is this storage facility?

Paddy Larkin: The storage facility, from a planning and consent point of view, is basically shovel-ready. It is a market point of view on a—

Q441 **Lady Hermon:** Has it been tried before? Is it that you going to—

Paddy Larkin: Salt cavity gas storage has been happening for 40 years right across Europe, particularly in Germany and France, places that do not have their own gas supplies.

Q442 **Lady Hermon:** This is a well-tried type of facility for storing gas?

Paddy Larkin: Absolutely, yes.

Q443 **Lady Hermon:** The cost? You mentioned that in fact the EU had at some stage committed themselves to paying half the cost, but you did not say how much it was going to cost.

Paddy Larkin: It varies, because you have to put some gas into it, so it varies on the gas price, but in and around £300 million to build a facility. There has been about £10 million spent developing it and the EU has contributed about €2.5 million to that £10 million to date.

Q444 **Lady Hermon:** Is there a written commitment by the European Union, even if we leave the EU, that in fact they are going to pay another amount towards this?

Paddy Larkin: No.

Lady Hermon: There is no written—

Paddy Larkin: No. As you can imagine, there is no written commitment on any of the EU stuff, no. Anyone in the energy industry—I think this goes for the regulator and the system operators and everything—have said that the single energy market across Europe is a good thing. We would want to continue, because just from a trade point of view that is a good thing for everybody that we stay in it, but then again I hear that from every market, and you sort of go, "Right, okay". But what happens, whether one thing is traded off another, whether we stay in it, whether we do not stay in it, I do not know. But that project is a project of common interest, it is still on the list.

Q445 **Lady Hermon:** Will it go ahead irrespective of Brexit?

Paddy Larkin: Commercially it is difficult to make it work, so I do not know. This is not just this store, I think storage right across GB, it is very difficult to make it work. The Rough gas storage facility has technical problems and they cannot inject any more gas into it. Over this winter there were withdrawals allowed, but there was no injection allowed over the summer. It is yet to see how that works out. I am sure at Government level people will be considering, "What are we going to do on gas storage right across GB?" If there is consideration to requiring a certain amount of gas to be held in store from suppliers or to apply some subvention to make sure that the gas stores get built, or indeed do the same as other European countries and put it as part of the grid infrastructure, it is the low-cost way of providing grid infrastructure, so it should be a regulated asset. Whatever falls out of that, this facility in Northern Ireland is actually the lowest cost one and should be the first one to go ahead.

Chair: Thank you very much indeed, gentlemen. It has been very useful.

Examination of witnesses

Nicholas Tarrant, Managing Director, NIE Networks, and Peter Ewing, Deputy Managing Director, NIE Networks.

Q446 **Chair:** Gentlemen, thank you very much for joining us. I think you were in for the previous session, so I will not go through the preamble. Would you like to introduce yourselves and tell us about what your organisation does, please?

Nicholas Tarrant: Thank you, Chairman, and thank you to the Committee for the opportunity to give evidence to the inquiry. Nicholas Tarrant is my name. I am the Managing Director of NIE Networks and I am joined this morning by Peter Ewing.

Peter Ewing: I am Director of Regulation and Market Operations.

Nicholas Tarrant: I will spend a few minutes just briefly introducing the company and our role in the electricity market, if I may. NIE Networks is the owner of the electricity transmission and distribution network in Northern Ireland, we are the distribution system operator and we serve all 860,000 customers here in Northern Ireland, so anybody who is connected to the network is a customer of ours. We do not generate electricity and we do not sell electricity to customers. Our role is an infrastructure role, so the overhead lines, cables and substations across Northern Ireland that supply electricity to customers, they are the assets that we maintain.

We effectively keep the lights on for customers and we manage approximately 47,000 kilometres of network across Northern Ireland. We maintain it and the safety and reliability of the network are core parts of our job, making sure that it is safe for customers to use the network effectively. We also repair it if it gets faulty. For example, in strong conditions or on normal days, like today, if there are faults in the network our crews go out and repair the network. We are also responsible for upgrading the network to cater for demand growth. As demand for electricity grows, we extend the network to cater for those customers joining the network.

We also cater for the growth of low carbon technologies. For example, I am sure something you have had some debate on here at the Committee is around the growth in renewables, so connecting renewable projects to the grid is part of our responsibilities.

We also have a market operations function where we provide electricity meters and we also do the reading of those meters. We look after market registration and providing data for the wholesale and retail markets. We have a key role as well in facilitating competition in the wholesale and retail markets.

I have mentioned connections and it is important to say as well we are also working with the regulator at the moment around opening up of the connections market to competition. The first stage of that happened in June of this year. There will be full market opening in the connections market that allows customers choice in terms of who is going to connect them to the electricity market by the end of 2017.

You have also had evidence here from SONI. Just to explain the difference between how we share responsibilities on the transmission network between ourselves and SONI, so SONI are responsible for system operation of the transmission network and also for planning the extension of the transmission network. We own those assets and we build them and then maintain them once they are built. For example, in our business plans for ongoing maintenance we would include the transmission network and the distribution network, but if there are extensions to the transmission network that are required because of

growth in demand or, for example, the impact of renewables it is SONI that brings forward those projects.

We are a regulated company and we are regulated by the Utility Regulator here in Northern Ireland. The way we plan and deliver our services is based on what are called price control periods. These are multi-year periods where we get agreement from the Utility Regulator to set out programmes of work that last, in our current case, five and a half years. It runs from March 2012 up to September of next year, 2017, and we recently submitted our business plan to the Utility Regulator for scrutiny in June of this year, and it is for the next price control period, which starts on 1 October 2017 and runs to March 2024.

Just to give a sense of us, we have approximately 1,250 staff working directly for us. Currently, because we have a major work programme ongoing delivering our capital programme for our current price control, also doing things like connecting renewables and also we have an extensive meter replacement programme for electricity meters, we have on average roughly about 1,000 contractors. Many of them are local, working alongside our own staff currently.

I hope that gives you a sense of the company and we are happy to take your questions.

Q447 **Chair:** Thank you very much, very useful. Could I ask you to go over it again perhaps slightly more slowly, the difference between what you do and what SONI does?

Nicholas Tarrant: SONI look after any new projects that need to be brought onstream for the transmission network, so they look forward and they look at demand growth on the system or they look at, for example, something that you discussed in the last session, the potential constraints around renewable generation. They will bring forward those projects to get approved on an individual basis by the Utility Regulator and then at a point in time when consenting is achieved and planning permission, for example, are handed to us, we construct the projects. We own the assets afterwards and then we maintain them for service.

Q448 **Dr Alasdair McDonnell:** But you are subcontracted to SONI?

Nicholas Tarrant: It is not so much a subcontractor; it is just a split in the responsibilities. They have to decide whether transmission network or projects need to be brought forward. Once they get to a certain point, then they transfer over to us to build and own them.

Q449 **Dr Alasdair McDonnell:** But they are the strategist and you are the management?

Nicholas Tarrant: They are the strategist for the transmission network and we are the strategist and then the builder and owner for the distribution network.

Q450 **Lady Hermon:** Could we move to the North-South Interconnector? We have had a lot of evidence about it. Were you involved? Because you presumably—correct me if I am wrong—will be responsible for building the pylons, yes?

Nicholas Tarrant: That is correct. Yes.

Q451 **Lady Hermon:** How many pylons? We have asked this question before and we did not get an answer. That is why I am asking the second time. We did not ask you the first time, we asked SONI.

Nicholas Tarrant: If memory serves, there is 34 kilometres of overhead line to be built north of the border. If you just bear with me, I may have this number just here.

Q452 **Lady Hermon:** Only because you are responsible for the building. You have confirmed that you build them, so I assume—

Nicholas Tarrant: Yes. There are 101 towers in Northern Ireland, 299 in the Republic.

Lady Hermon: Sorry, 299 in the Republic of Ireland?

Nicholas Tarrant: Yes, 34 kilometres in Northern Ireland and that translates to approximately 100 kilometres.

Q453 **Lady Hermon:** How many pylons will be built in Northern Ireland?

Nicholas Tarrant: Yes, 101 towers.

Lady Hermon: When you say "towers" you mean—

Nicholas Tarrant: Yes, they are pylons; the structures, yes.

Q454 **Lady Hermon:** Because this goes through from Benburb, I think, in County Tyrone and it goes through the western side of County Armagh and crosses into the Republic of Ireland, 121 pylons or towers, that is a lot through green fields and countryside. Did you have input into the chosen design of these towers?

Nicholas Tarrant: Going back on the role between ourselves and SONI, SONI's role is to do sufficient development of the projects to allow it to be brought through planning and to go through the consenting process. We do work closely with them so we have been involved in this project. In actual fact, there are four companies involved in this project overall between ESP Networks, who will do the construction in a similar role to ours south of the border, and also EirGrid. SONI is part of the EirGrid group. Between the four companies there has been a lot of engagement around this, but ultimately it is SONI's responsibility to do sufficient of the design to bring it through planning and then a stage will come when the landowner consents have been achieved and it has got through planning that it will be handed over to us to do the construction.

Q455 **Lady Hermon:** Did you have an involvement in the chosen design of the particular pylons, 101 of them?

Nicholas Tarrant: We would have been involved in that, but ultimately, in terms of the decision-making around the plans that would have been submitted, it is SONI's responsibility. Just maybe to mention one part of this: SONI and NIE Networks, the transmission staff that are currently in SONI, some of them would have been part of NIE Networks up until about two and a half years ago. Under EU regulations, a directive called the IME3 Directive, that transmission planning function, which was part of NIE Networks, was moved to SONI. It has been done on a standalone basis, so in actual fact, in the early stages of the development of the North-South Interconnector, that was done within the NIE Networks or what was the NIE company.

Q456 **Lady Hermon:** Did you lose some staff when you lost that responsibility? Did they also go to SONI?

Nicholas Tarrant: Yes, they transferred across to SONI.

Q457 **Lady Hermon:** How many are we talking about? Were they key members of staff? Well, all of your staff are key members of staff, but how many left you and went to SONI at that time?

Peter Ewing: It was around 10.

Nicholas Tarrant: They would have transferred with the area that they were responsible for, so this goes back to the split of responsibilities as part of the implementation of this IME3 European Directive, separating responsibility for transmission planning and planning of the transmission network compared to the distribution network, for example.

Q458 **Lady Hermon:** Has NIE Networks given any thought to compensating the communities that will be affected alongside the North-South Interconnector?

Nicholas Tarrant: In the first instance, as I have mentioned, it is SONI's responsibility to deal with achieving landowner consents, so that is something that they are actively engaged in at the moment as part of this stage of the project. They have been holding a number of open days and a lot of engagement and presentations that they have been making, and from the point of view of the critical nature of delivering this project in a timely way, we are working at this stage in looking to see what we can do from the construction phase. As I mentioned, there is handover between construction—

Q459 **Lady Hermon:** Yes, NIE Networks builds it.

Nicholas Tarrant: That is right.

Q460 **Lady Hermon:** You are going to be building the towers and you are going to be responsible for the lines, so mine is a very straightforward question: have you as a company given thought/consideration to compensating communities that are affected along the length of the interconnector? It might help.

Nicholas Tarrant: It is SONI's responsibility. Maybe I have not been clear on this. In terms of engaging with the landowners at those early stages to do that, it is SONI's responsibility. Where we do have a role is during the tower construction itself. Once the consenting and the wayleaves are in place with those landowners, we would make sure that the land is reinstated. We need to get access, so we would have heavy involvement with the landowners at that point. But it is too early in the process at this stage. That responsibility is SONI's, to achieve those consents.

Q461 **Lady Hermon:** Could I just have an answer: have you as a company considered this? Has it been on the agenda for discussion?

Nicholas Tarrant: Landowner consents, in terms of our engagement with SONI, yes. I am sorry. I am trying to answer the question as best I can.

Q462 **Lady Hermon:** You are going round my question. I just want a straightforward answer. I asked has it been considered? That is your company, which has, I am sure, had a substantial profit in the past financial year and the previous financial year, yes?

Nicholas Tarrant: Yes, we are a profitable company.

Q463 **Lady Hermon:** You are a profitable company. There should be a bit of generosity of spirit shown. It may be helpful. As you know, there is some opposition to the North-South Interconnector. All I asked was has it been considered by your company that, "We may compensate those communities affected along the way?" That might help speed things along.

Nicholas Tarrant: We have worked with SONI on the proposals with landowners. It is their responsibility, but of course we have a role in working with local communities. We do that right across Northern Ireland on an ongoing basis. So it has been the subject of discussion—

Lady Hermon: Good.

Nicholas Tarrant: —in conjunction with SONI about how that landowner access will be achieved, of course, because it is critical infrastructure. Working with local communities is something that we do every day, which we very much value as part of our role.

Q464 **Lady Hermon:** Having grown up in County Tyrone, I know that on the wild windy nights when in fact it is NIE that come out to repair broken pylons or broken wires, I am enormously grateful to you for what you do, so I appreciate that.

Can I just ask about the impact of Brexit on your company? You mentioned the number of employees that you have and that you have subcontractors. Do you have many EU nationals in your workforce? Is that something that you have looked at?

Nicholas Tarrant: We are a Northern Ireland company and the majority of the staff that we have are local indigenous people here. We would have some EU nationals, but I am afraid I would not be able to give you the statistics, but I would say it is relatively small. Many of the contractors that we have are local contractors. But then we do tender openly for work, so we do have some contractors, for example, from the Republic of Ireland that would be working and sometimes those that come across from mainland GB.

In terms of the impact of Brexit on our company, what we have seen so far is maybe engagement with some of our suppliers. We buy equipment, for example, from Europe and the subject of exchange rates and the volatility around exchange rates has come up for discussion. Because we are an investment CAPEX company, or we look and invest millions over a long period of time, we look for long-term contracts with suppliers; it will be four or five years in some cases. They are looking at currency risk and they are raising that as an issue.

The other issue that does come up as well is just our ability to raise debt. The way investment works for a company like ours is that we borrow money and then we invest and recover that money through customer bills over a 40-year period. For example, in the RP6 period we expect to be borrowing in the region of about £500 million, and so access to debt markets, at a time of maybe more volatility now with Brexit, is something that we will have to bear in mind. But I am sure it is something that we will be able to work through.

Q465 **Lady Hermon:** Yes. Which European countries in particular would be your main suppliers of your equipment and wiring?

Peter Ewing: It would be the likes of Siemens for generation equipment or—

Lady Hermon: So Germany would be one of them, yes.

Peter Ewing: In terms of Brexit, the main thing I see is potentially higher inflation. The cost of imported materials is going to increase with the weaker sterling, and ultimately the higher inflation is going to feed through in terms of higher cost to customers. It is going to be the same in terms of the price of gas; anything that we import from overseas ultimately is going to feature into higher prices.

Q466 **Lady Hermon:** Are you already factoring that into your plans for the near future or distant future?

Peter Ewing: It is just a question that suppliers will not want to enter into fixed exchange rate contracts at the moment, given the uncertainty. Ultimately, if sterling stays weak, the cost of imported materials is going to increase and it is outside our control.

Q467 **Kate Hoey:** Hello, welcome. How much percentage of your work and money goes into putting up and fixing electricity poles and pylons right

around Northern Ireland, approximately?

Nicholas Tarrant: Our plan for RP6, for example, because it is a number I know well, is that our direct CAPEX spend is about £508 million. That is what we are proposing to the regulator. Of our total CAPEX spend, about 55% of it is what we call asset replacement, so this is replacing old worn-out assets that are out on the network, that because of their age and effectively their condition, because of suffering damage from service, so roughly 55% of our spend for RP6 is on asset replacement. It is by far and away the largest part of our spend, because if you think about those assets, they generally tend to last maybe 40, 50 years and some of our underground cables have lasted up to 100 years and still have life in them. That is one of the biggest drivers of our investment. There is other investment that we have proposed, but that is the largest part of it.

Q468 **Kate Hoey:** Will that get less as time goes on, because presumably what you are putting up now in terms of electric poles are very different from the old ones that you can still see around in some of the country areas? They are going to last longer, are they?

Nicholas Tarrant: We are always looking to push the boundaries in terms of how long things last. We have been in a phase. If you think about the early development of the distribution network here, and this would be similar in many jurisdictions and right across the UK, the post-World War II period was the key period of rural electrification. The period of the 1950s, 1960s and 1970s, there was very intensive work done to extend the network and to complete the rural electrification project. Much of the work that has been done over the last 10, 15 years has been replacing some of that equipment. The way we manage the investment is we invest a small portion every year to replace those assets. There would still be assets on the network that are anywhere over 50 years by the end of the next price control in 2024, for example, and in actual fact there is a risk that some of the spend will need to be increased in the future for asset replacement, because there are still old assets out in the network that will need to be replaced.

One of the things that is relevant to that as well is growth in the network, growth in electricity demand and how that will evolve over time, also the growth of low carbon technologies and how that could impact on our capital programmes.

Q469 **Kate Hoey:** If someone does not have electricity and needs electricity and is off the main road, how much are you charging now for that?

Nicholas Tarrant: I cannot give you exact numbers. Every case is specific, but we do have a statement of connection charges. That is approved by the regulator. It is up on our website. When someone looks to connect to the network and they submit an application, we quote for that work. In the schedules in the back of that statement of connection charges, there are indicative costs for various things that need to be done as part of any connection process, for example, doing the surveying work

that needs to be done for that connection, or if there was way-leaving, land access. You might have to go across a neighbouring property to be able to do the connection. Then there is the cost of physically doing the work, which as well we would give as part of the quotation for that work.

I mentioned earlier on that similar to GB, even though this happened in GB a number of years ago, that area of connections is being opened to competition for all connections greater than 5 megawatts. Since 1 June, any of the large users can go out and do the projects themselves or seek a different contractor. By the end of next year, again following the lead in GB, the full connections market will be open to competition. If you are a rural customer, for example, you will be able to go to an alternative supplier than NIE Networks to source your supply, your connection.

Q470 **Kate Hoey:** Do you have any idea roughly how many households in Northern Ireland would still not be connected to mains electricity?

Peter Ewing: It would be negligible. I doubt if there is any.

Nicholas Tarrant: Negligible, yes.

Peter Ewing: Negligible, perhaps there might be one or—

Nicholas Tarrant: Just to give you a sense that we do approximately, with new houses coming on, new properties coming on every year, new businesses, we do about 6,000 connections—I think that is what we did last year—every year.

Q471 **Kate Hoey:** That is cheaper when it is a new house, presumably, and it has all been built. That is all factored in and not so expensive for the—

Nicholas Tarrant: Yes. There is a standard charging methodology for, say, new housing estates. But just to give you a sense of the order of magnitude of new connections that we do every year, last year I think it was about 6,000.

Q472 **Kate Hoey:** When there is a storm and electric goes off and there is a telephone number that people ring, is that run by you?

Nicholas Tarrant: Yes, it is.

Q473 **Kate Hoey:** Can I just say I think it is a very good service from my personal experience, when the electric goes off in County Antrim and I am here.

Nicholas Tarrant: Thank you.

Kate Hoey: No, seriously, they seem to be very, very good at being able to work out exactly when people will come. You can pass on my thanks, for what it is worth.

Nicholas Tarrant: Thank you. It is something we work extremely hard on as a company. It is our own staff who man our contact centre in Craigavon, and just something that maybe is a little bit different in our

company compared to similar companies in GB, every one of the 1,250 staff in our company has a dual role. They have a day to day job, so even if they are not a field operative they also have a role in a storm where, for example, we would bring in people who would be based in offices to man phones, if necessary, because some of the biggest feedback that we have had from customers is the ability to be able to talk to somebody in storm conditions. We do have a system where, if there are massive volumes of calls, we have to use automated response but we are very proud of the storm response that we give here.

We have looked in hindsight as well, by having on our website a system where you can interrogate it and find out up to date information to do with particular faults on the network on a real-time basis. It is a key function for us as a company and something that we work very hard on, including, for example, doing trial runs in advance of each winter season for snow response.

Q474 **Kate Hoey:** One final thing: Northern Ireland has some wonderful, beautiful, scenic places where the sight of pylons and electricity poles, and of course wind farms as well, do rather spoil the view. Does any of your money go into working through a plan gradually to put more electricity poles underground?

Nicholas Tarrant: There are a number of aspects to that question maybe to touch on. The overhead line network was developed, as I have mentioned, going back many, many years ago. There is existing infrastructure. I have talked about SONI's role in developing transmission infrastructure and we mentioned earlier on about pylons. For any of those projects, they obviously have to go through environmental assessments. This is something that SONI do. They go through a planning process and then the projects are brought forward. There are no specific funds available that I am aware of that we would have to underground certain sections of overhead line from, say, a visual amenity perspective.

In the case of individual developers, for example, the wind farm developers, we have worked with them in some cases where they have been interested in developing underground cable connections and some of them as long as 20 kilometres long. In the main, that has been driven by getting speed of connection and the fact that there is not the same need for planning permission for overhead lines, and some of the issues that maybe you are talking about where people might complain about the visual amenity. The overhead lines are the least cost technically acceptable connection, but some of our connecting parties, like some of those wind farms, have opted for underground cables in certain situations to expedite the delivery of the project, even though it is more expensive.

Q475 **Mr Evans:** Good morning. You told Kate about opening competition to people being able to connect to the grid by going out to a specialised contractor themselves, as opposed to coming to you. Is that by the end of next year?

Nicholas Tarrant: End of next year.

Q476 **Mr Evans:** Will you have any supervisory role, even though somebody decides to go out to an outside contractor?

Nicholas Tarrant: Yes, we will. There are very defined rules and regulations about how that will work in practice. It starts with the companies themselves. At this stage I think it is in the region of nine companies have registered to partake in this market. They have to go through a process where they go through registration. They have to go through a process with Lloyd's Register to be accredited to take part in the market that they have the technical skills to be able to do the work. Some of these companies are multinational companies and have experience in GB, so they are very well-established companies, then there are some local companies.

Our role then is to publish and define technical standards that they have to live with for delivering the connections work. Then we have a role in adopting that part of the network back on to our network effectively, so we would then supervise it, inspect it to make sure that it is technically suitable and then, if there were faults in it in the future, we would be the ones who would be going out to fix those faults.

Q477 **Mr Evans:** You will have an inspector to go out who is employed by yourselves to make sure that everything is done to the standards that you have set, and you will be charging for that, I assume?

Nicholas Tarrant: Yes.

Q478 **Mr Evans:** Will that be a regulated cost?

Nicholas Tarrant: That is a regulated cost, yes. That will be included as part of our statement of charges. That will be approved by the regulator.

Q479 **Mr Evans:** I assume the whole thing about this is trying to bring the costs of connectivity down?

Nicholas Tarrant: That is right. But that is again part of the existing framework in GB, where there is an adoption arrangement where connections can be taken back over and the supervision of work. That is pitched at the right level to make sure that it is technically competent but not an undue cost.

Q480 **Mr Evans:** Are you also involved with smart metering?

Nicholas Tarrant: We are not directly involved in smart metering at this point in time. We have a work programme ongoing to replace meters that are currently out on the network. But the decision to proceed or not with smart metering is a decision that is with the Department for the Economy. We did a smart metering trial in Coleraine between 2012 and 2014 with 200 customers to look at the benefits of smart metering, but there isn't currently a decision to allow us, for example, to proceed with a

smart metering investment programme. That is a decision to be taken by the Department for the Economy.

Q481 **Mr Evans:** Is there a timescale on that? Are they actively looking at it at the moment?

Peter Ewing: They are actively looking at it, but the cost benefit analysis isn't clear. There is not a compelling case to go ahead with smart meters. The costs of it per customer would be at least £250, so the benefits of smart meters all depend on whether customers change their behaviour. It is not just only the upfront installation costs, it is all the IT and assistance you need around it.

Q482 **Mr Evans:** I have just had one put in. I tell you, it has altered my behaviour. I am still trying to get that figure lower.

Nicholas Tarrant: The trial that we did in Coleraine did demonstrate that people were prepared to shift their electricity usage away from peak times. I think the average saving for those customers who took part in that trial was about £67 per annum. Obviously since that time electricity prices have changed, but there was behavioural change across that group. That is part of what I am sure the Department for the Economy are looking at as part of the cost-benefit analysis, but as Peter says, it is a very intensive capital programme and there is a lot of ancillary equipment that needs to go in as part of that.

Peter Ewing: There are 800,000 customers at £250 a head. It is over £20 million. It would be a very substantial investment, so you need to be sure that—

Q483 **Mr Evans:** It is also feeding information back to you, isn't it, that you do not have to send people out to read meters anymore because you will have that information sent to you?

Peter Ewing: Yes, that would all be taken into account as part of the—

Mr Evans: There is a huge saving there, I would think.

Peter Ewing: Yes.

Q484 **Mr Evans:** Can I just ask about connectivity on things like wind turbines? There is a moratorium at the moment, isn't there, that if anybody puts a wind turbine they cannot now connect it to the grid?

Nicholas Tarrant: I will explain a little bit of the background to what has happened around connections of renewables in general and talk about the current status of what we are doing around connecting people. If you look at the situation in Northern Ireland overall, over 900 megawatts of renewable generation has been connected to the grid. The figure is actually 926. We also have committed pipeline at this stage of another 703 megawatts, so that is projects that we have contracted with. They have formal agreement with us. They will be constructed and connected, so we—

Q485 **Mr Evans:** Is this all wind?

Nicholas Tarrant: It is not all wind. The majority in Northern Ireland has been onshore wind and there are some other technologies as part of that. A growing feature of it has been solar, but it is relatively small in Northern Ireland compared to what has happened in GB. The development of renewables in GB has mainly been particularly in England, and the further south you go, it has been solar. But wind projects here have a high rate of achieving planning, so wind has been the main driver and the majority of the projects that we have here are wind projects. The total figure in approximately March 2018 will be about 16,029 megawatts if all those projects proceed on the basis of the contracts that we have with them.

To put that in context, the winter evening peak here, say on a cold winter's evening, is around 1,800 megawatts, and a summer night value, which is the lowest time of the year where you have electricity demand, is around 500 megawatts. So there is a programme to achieve around 1,600 megawatts. If you go back to the Government target for this that was set in 2010, it was for 40% of electricity consumption to come from renewables by 2020, but an interim target in 2015 of 20%. That target has been exceeded and we are on a path to achieving that.

That sets the background for the specifics of your question about the current moratorium, so in August 2015 there was a decision taken by the Utility Regulator to remove the requirement for projects needing to have planning permission prior to submitting an application for a grid connection. It followed a dispute that was raised by a developer and legally the Utility Regulator decided that there was not a need to have planning permission for those projects before they were submitted to us for a grid application.

Once that decision was made, we had a deluge of new applications beyond the 1,600 that is already in the pipeline. We had an on-rush of those applications, initially about 1,000 megawatts on top of that 1,600, but now that figure is up to about 1,800 approximately, on top of the 1,600 that we are committed to. What we had to do in conjunction with SONI from a transmission point of view is to take a step back and look at the impact on the grid of this new wave of applications that came in in August last year.

We went out and consulted with the industry about how we could take forward a first phase of getting some more of those processed and getting offers out to them. One of the things that we were able to do as part of the industry consultation was to re-establish planning permission as a filter to select those projects that were most developed to be able to go ahead, and match that with the remaining capacity that was available on the transmission system and the distribution system. This was us working very closely with SONI.

We are in the process of issuing a first phase of what has now become 1,800 megawatts on top of the 1,600, and I know these numbers might be confusing. There are about 200 megawatts of offers that we are in the process of issuing. Effectively what that is going to do is it is going to exhaust in particular the transmission system. There is going to be about 1,600 megawatts that will not get offers, the first 200 mainly because of transmission capacity, and also there are some areas of the distribution system that also need investment.

There is uncertainty as to what is going to happen with those projects, but if you put it in the context of the Government target of 40%, there is a path and it looks as if that target can be achieved, albeit there is some further investment that is required on the electricity grid and in particular on the transmission network. At the previous session with Mutual, you heard about the transmission constraints in Scotland that could and are impacting on the interconnector. A similar situation can arise here where if there are constraints on something like the transmission system, it needs investment to be able to unlock those physical constraints to allow wind generators to be able to produce and export their electricity into the market.

If you look at our business plan, which I mentioned earlier, that is submitted for the RP6 price control period it includes a chapter that details the transmission load projects that SONI are planning for RP6. They total approximately £250 million. Each one of those will have to be brought forward on a case by case basis by SONI to look at where there are constraints on the network with a view to using more of the wind that is going to connect. That is going to apply as well even from today, with the 900 megawatts that we have connected, up to achieving the 40% target. Some transmission investment is required for that and also some investment in the distribution network.

Q486 **Mr Evans:** The 40% target is artificial. Surely the ultimate aim is if you can do 100% renewable that would be amazing, wouldn't it?

Nicholas Tarrant: Ultimately what we do as a company is we work closely with the Government around Government targets, and through obviously the work the developers have taken on to bring forward these projects and get them built and commissioned and on to the system. It has been a success and our role is to make sure that we can connect as many as possible within the constraints of the grid.

In terms of going beyond the 40%, in the previous session you heard about the real-time limitations of operating the grid from SONI's perspective with high percentages of renewables. We are currently operating here in Northern Ireland at 55%. There is a 55% limit at any moment in time when there is solar you can have on the system. The plan under a programme that SONI and their sister company, EirGrid, are running here is to get that number up to 75%, so at any point in time you could have 75% renewables on the system. That is effectively world-leading, I would say. There is huge effort going on around that, but I

think it comes back to another area here, which is interconnection and the importance of both the North-South Interconnector and also East-West, both the interconnector in Dublin and also the one run by Mutual, because to really maximise the value of the indigenous generation from renewables, interconnection is a very important part of that.

Q487 **Mr Evans:** Yes. Can I ask one final question, which is on solar? I am not talking about the massive solar farms, which are popping up all over the place, to mixed receptions, a bit like onshore wind. I am talking about people who put solar panels on to their houses, which normally basically provides them with energy when they need it but is also providing; it goes back into the grid when they don't need to use it. Does anybody who puts solar panels on their roofs have a right to connect backwards to ensure that the energy that they produce that they are not using goes into the grid? Are they part of the moratorium or not?

Nicholas Tarrant: We have about 1,500 solar photovoltaic projects that have gone ahead at small-scale level. These are ones that would be typically domestic and they are done on what is called "fit and inform" basis where people go ahead and connect those projects. If in a particular area like, for example, a run of houses where there are a lot of applications and there is a need to upgrade the network in that area because of the level of activity to do with solar PV, what we do then is we have to take it through a second-stage assessment for those projects and do some investment to allow those to proceed.

If you take our investment plans for RP6 around this, we see the uptake of low carbon technologies in three main areas, solar PV being one, electric vehicles potentially and also electrification of heat as being three big drivers. We have made a proposal to the Utility Regulator around investment to allow the further development of these domestic and also small businesses to allow them to take forward solar PV projects. It has been a very big thing in terms of investment here in Northern Ireland. We think it is something that is going to grow and continue to grow.

Q488 **Danny Kinahan:** Thank you very much and good morning. I would like to echo Kate's comments about the staff working particularly during that snow. They were quite fantastic and they were out and about and talking to everyone, so a huge well done. Thank you.

Nicholas Tarrant: Thank you.

Danny Kinahan: On responsibility for renewables, are you responsible for the auditing of the equipment that is being put in place that is being connected and that it is going to be effective?

Nicholas Tarrant: Any renewable connection has to go through what is called a grid cold testing, and particularly the bulk of the projects that are connected on to the system are large-scale projects, so there are very rigorous testing regimes and they have to comply with technical standards to connect on to the grid. They have to meet those standards, so we would have an involvement with them. Also for the larger projects,

the greater than 5 megawatts projects that SONI control, SONI would have a role as well.

Q489 **Danny Kinahan:** I have been to see one person who claims that the windmill—if I can call it that—that is being put in is not the one, it should not be there and we are told it is not big enough to connect, and yet it is huge; it is sitting there. Is there anyone that actually checks that the equipment going in is the equipment it should be and that it does what it says on the tin, if I can put it that way?

Nicholas Tarrant: We do work with all the developers around the technical requirements that are required for any of these. Ultimately there has to be effectively a contract with every one of the generators that defines the technical parameters for each one of these turbines to ensure that it complies with standards.

In the earlier session there was discussion around frequency response, for example, and the need to be able to manage system frequencies involved in this. All those technical parameters feed into the connection agreements that are in place with all of these generators. If there is a specific query to do with any particular project that someone wants to get in touch with us, I am happy to deal with anybody on that.

Q490 **Danny Kinahan:** I will come back to you on that one, but does anyone know when it is going through planning and look and audit that what is being proposed is going to be connected, that there is a connection there, that it is the right thing? Is it followed through all the way through or is it just a question at your end of fitting what is produced?

Nicholas Tarrant: In terms of projects going through planning, the developers themselves take it through the planning process and they have to submit whatever background information and technical details, including, for example, I am sure the height of the turbines, the blade diameter, those kinds of issues, so they would go into the planning process. The technical parameters then that go with that, so the electricity requirements and the electrical specifications, are things that we would deal with for those projects, and we would liaise with them during the commissioning process and once the projects are up and running. Because ultimately they have to be able to export on to the distribution network, so we have to have full knowledge of what type of projects are connecting.

Q491 **Danny Kinahan:** Do you get a chance to say no if something—

Nicholas Tarrant: We issue a connection offer that is based on certain technical parameters, and if it turns out after the event that they do not comply with that—to be honest, I have not come across that situation. Usually what happens is the engagement happens early with the developer around what is needed and because they are putting money at risk around these projects, the level of compliance is very high with wind developers in general.

Q492 **Danny Kinahan:** There are various figures that have been thrown around of £25 million overspend in the Northern Ireland renewables for the NIRO. There was then talk of it costing consumers much more over the years. Is there a hole in the system that you are aware of, that the checks and balances are not working?

Nicholas Tarrant: It is quite a straightforward system in terms of how the NIRA works as to how developers are rewarded. Our role is around getting them connected, and from that point of view, enabling the growth of renewables, but the Government subsidy scheme is not something that we are directly involved in. It is run through the Department for the Economy, and it obviously links across to the likes of Ofgem and the relevant Department based in Westminster.

Definitely that subsidy regime has been a catalyst for the development and ultimately the achievement of what the Government's target was around climate change targets. But I am not aware of any concerns around how the scheme works in practice.

Danny Kinahan: It is overspent by a long way.

Q493 **Nigel Mills:** We have always heard in many sessions that the price of electricity in Northern Ireland is one of the highest in Europe. How much of that can we lay at your door?

Nicholas Tarrant: The overall cost of running the networks accounts for, on average, across all 860,000 customers about 21% of their bills. If you take the largest users, and in the largest tier there is about 18 of them, the cost of the network for those companies is in or around 5% or 6% of their electricity cost. If you take those 18 largest users, they would have bills that would be more than, on average, £3 million and some of them quite a bit higher than that. The average for those is about 5% to 6% for the network. For domestic customers, approximately 25% of their bill is related to network charges.

The Utility Regulator here did do a comparison. They brought in economic consultants to do a comparison of the cost of network charges here compared to ROI and in particular in GB. Our costs of running the network here are quite comparable to the numbers in GB.

Q494 **Nigel Mills:** We seem to be hearing that the reason for the higher bills is not the wholesale costs, because wholesale costs are lower here than other places. Your costs are comparable and I wonder what is going on. It is a very expensive bill collection.

Nicholas Tarrant: Yes. The wholesale costs in general have come down in recent times. It has been driven by the international price of gas, but wholesale prices have been higher than the likes of GB in the past. They have started to come down, but then there are other costs as well that feed into the overall bills that people face.

Q495 **Nigel Mills:** You do not think your costs are out of line with what a

similar customer would pay in GB then?

Nicholas Tarrant: No, they are not out of line and this has been shown by independent benchmarking that the Utility Regulator here has done. Also, part of the submissions that we have to make as part of our price control submission, we have to benchmark our costs, and it is something the Utility Regulator has to do as well before deciding on awarding us allowances, and our cost benchmark compared well to similar companies in GB.

Q496 **Gavin Robinson:** Good afternoon. You said the costs are comparable with GB, but you also mentioned ROI is benchmarked against NI, that section of the costs, so how does that compare?

Peter Ewing: The UR did a study about 18 months ago and it was comparing network costs in Northern Ireland compared to the Republic of Ireland and GB. It found that across all three jurisdictions the overall network charges were similar, although how they were sculpted was slightly different. In relation to large energy users, they found out that the network costs for large energy users in Northern Ireland were lower than GB but higher than the Republic, that we were sort of sitting halfway inbetween.

Q497 **Gavin Robinson:** Has RP6 been agreed?

Peter Ewing: No, we just put our detailed plan in at the end of June, so we expect to get a draft determination from the Utility Regulator in quarter 1 next year and then RP6 will start on 1 October 2017.

Q498 **Gavin Robinson:** It will start in October 2017, and you are estimating £508 million worth of capital expenditure as part of that. Does that entire £508 million go on the bill, if agreed?

Peter Ewing: Effectively the way regulation works in Northern Ireland, it is the same as GB, where the licence-holder is allowed to recover sufficiently incurred costs, plus the regulator's rate of return. Effectively all investment that we make on the network is ultimately paid for by customers. As Nicholas said at the start, the customers pay for that for 40 years. Effectively, once the investment is approved and we carry out the work, yes, it is all paid for by customers.

Q499 **Gavin Robinson:** What is the rate of return? Forgive me, if we take £508 million plus a rate of return, what is that global figure?

Peter Ewing: Our regulated rate of return at the moment is currently 4.1%, and our regulated asset base, which is—

Q500 **Gavin Robinson:** Takes it up to £525 million for that period of time?

Peter Ewing: The £525 million is the investment.

Q501 **Gavin Robinson:** £508 million is the investment at a 4% rate of return. Is that right?

Peter Ewing: Yes. The regulated rate of return applies to all our assets, whereas our regulated asset base is about £1.4 billion.

Q502 **Gavin Robinson:** So you say that over that seven-year period the £508 million or the £500 million or whatever is approved, you do not pay that back over the seven-year period, you pay it back over a 40-year period?

Peter Ewing: The customers pay it back. We pay for it as the expenditure is incurred and the customer reimburses us for that cost over a 40-year period.

Q503 **Gavin Robinson:** So they will still be paying at this stage and for the next 30-odd years RP5 or RP4, and so is that a cumulative growth year on year on this return? The RP5, you said that you needed to spend £825 million and you were approved about £495 million. How much are you going to spend by October next year?

Peter Ewing: Our price control for the period was determined by the Competition and Markets Authority, so we are expecting our expenditure for the period to be very, very close to what the CMA allows, so we are not expecting a significant overspend or underspend.

Q504 **Gavin Robinson:** So you are allowed £495 million. You said you could spend £825 million. We have been told you will spend significantly less than the £495 million. £495 million is already incorporated in the bill, isn't that right? They are already paying toward the £495 million.

Peter Ewing: I have seen that in some of the submissions. The numbers that should be included there are not comparable, not comparing like with like.

Q505 **Gavin Robinson:** Okay, give us the numbers. Tell us how much you are going to spend in that seven-year period.

Nicholas Tarrant: For?

Gavin Robinson: RP5.

Nicholas Tarrant: The total price control is about £900 million in total. That includes CAPEX and operating expenditure. In broad terms we expect that we are going to deliver the outputs that we were contracted to do as part of the price control as set by the CMA, which are very defined outputs. In total we expect to be, broadly speaking, close to that number.

Q506 **Gavin Robinson:** Where are you today? Because "broadly speaking" and "close to the number" does not tell us. Is there going to be an underspend?

Nicholas Tarrant: You have mentioned a number of £459 million, and I think that was a number that has been mentioned maybe by other parties. £459 million is the total CAPEX allowance that was set out by the CMA. It includes a direct CAPEX on the network, but also includes other things that are not part of the direct cost that are spent on the network.

It includes capital for indirect costs, things like tree-cutting, non-network IT and also we talked earlier on about metering. When we talk about money that is going to be spent on the network that is not a direct comparison with the £459 million.

You also mentioned a number, maybe it was £825 million. I do not have that number here, but when we made our submission to the Utility Regulator initially and when the Competition and Markets Authority reviewed this, one of the outcomes that came as part of that process was that transmission projects, for example, were taken out of the price control and dealt with separately. If you take our initial submission for the price control, it would have included transmission projects, but when the Competition and Markets Authority made their final determination they were taken out separately and dealt with on a case by case basis using a different regulatory regime.

If you go back to our discussion about SONI earlier on, about transmission projects, they bring forward transmission projects on a case by case basis. If you take the transmission projects that we would have submitted back at the time of RP5, not all of those transmission projects have happened. SONI now have that responsibility. But in terms of RP5, we expect that roughly £70 million, for example, is going to be spent on transmission. Overall, if you take this on a total expenditure basis, we expect to be broadly in line with the allowances we have been given and we are going to deliver the outputs.

Just in terms of your question about where are we today, one of the things about this process that was maybe a disadvantage of the parties needing to go to the Competition and Markets Authority is that the capital expenditure programme for RP5 has been back-ended. This price control was due to start in April 2012 and the Competition and Markets Authority process did not complete until April 2014, two years into the price control. What that meant for us was for the first two years when we did not have regulatory certainty around our allowances, we had to keep going at a lower run rate until we had the outcome of the process with the Competition and Markets Authority.

What we have now is we have a back-ended programme. We are pushing to get a lot of delivery for RP5 and all these renewable connections in time for the completion of the price control period at the end of September next year. We do have quite a bit of work to get done. We have seen something like a 35% increase in our capital spend between last year and this year as we have been on that ramp-up, and we expect a lot of work to be delivered between now and the end of the price control period in September of next year.

Q507 **Gavin Robinson:** When you boil all that down, what you are saying is you are far short of what it is you expected to have spent, but you are blaming the regulators and the back-ending of the finance. Is that right? You do expect to meet it within a year when it comes to an end, but thus

far you are nowhere close. You have not given me any figures yet.

Nicholas Tarrant: I am happy to make a submission to the Committee.

Q508 **Gavin Robinson:** What I am interested in is consumers having confidence that when you say you need to spend £508 million and that consumers are going to pay for it that that is what they get. That is why it is important.

Peter Ewing: What we said in relation to RP5, there will not be a material difference between what we spend and what our allowances were. It is pretty much in line. What Nicholas is saying, because there was a delay in agreeing the price control there is a lot of work to do over the next 12 months, but we will catch up. It is only a timing thing.

Q509 **Gavin Robinson:** In answer then to the evidence we have thus far, you have significantly underspent in those targets. You are saying there is a reason for that, it was regulation and this back-end spend is back-ending the finance, but you will do it within the next year. Is that right? Consumers can have confidence that what you have promised to do and what you have said you will do, you will achieve that in the next 12 months?

Peter Ewing: Yes.

Nicholas Tarrant: The key point here is about delivering the outputs. That is the contract we have under the Competition and Markets Authority. It is not that we are blaming regulators as part of that process. Ultimately—

Q510 **Gavin Robinson:** That is the world you operate in. They have set the terms of the game.

Nicholas Tarrant: It is the Competition and Markets Authority, and it is just the nature of the process, that it did take a resolution process with the Competition and Markets Authority, and we have to live with that outcome. The reason that we have roughly 1,000 contractors working on the network today, along with our own staff, is to deliver the work programme. On a total expenditure basis, we expect to be in line with the allowances.

Q511 **Gavin Robinson:** Do you imagine that what has caused the delay and such infrastructural expense in this RP5 period will not be happening again in RP6, or do you expect you will find yourself in that situation in the next period as well, you have to back-end everything because of the administration of spending?

Peter Ewing: The regulatory period for RP5 started 31 March 2012. Normally you would expect price control to be agreed six months before the regulatory period starts. Apparently, as the price control was not agreed until two years after the period had started, it is absolutely exceptional circumstances. It is very important for us so that we can profile expenditure properly on RP6 that the RP6 price control is agreed

before 1 October next year. That means we can plan our work, because any delay means that we will have to back-end again.

Q512 **Gavin Robinson:** What is your expectation? Do you think those issues have been ironed out now and you will get it in six months or in advance of October next year?

Peter Ewing: We will not get it in six months. We are hoping to get it before 1 October.

Gavin Robinson: Okay. That is good.

Peter Ewing: It should not happen again.

Nicholas Tarrant: It is important to say as well we want to be able to hit the ground running in RP6 and to start the investment and keep going, basically, with a strong work programme continuing into the price control.

Q513 **Dr Alasdair McDonnell:** Very quickly, because Gavin to some extent picked up on what I was going to ask about, but I will ask it again. In the event of there being an overrun or an underrun, what would happen to that block of money? In other words, you have built £500 million into the price control and you only spent £400 million, what would normally happen to that bit of money? Equally, the demand goes up, there are storms, there is whatever, there is a crisis that creates extra spend and you spend £600 million. How would you recover that £600 million? Would you build it into the next round?

Peter Ewing: Our price control is a detailed formula. If you underspend versus your forecast, that money will automatically flow through to the customer in future periods. It is called a K factor mechanism, which compares your actual revenue versus what you are allowed. The way the price control works, you are basing your tariffs on forecasts, but then the next year when you come back, you look at what you have actually spent versus what you have forecast you would spend. If you have spent less, then there would be some money to give back to customers, but if you have spent more, then you will have an undercut and that will flow through. There are protection mechanisms in the price control the same way that there are in GB, so it self-balances.

Q514 **Dr Alasdair McDonnell:** Thank you. I thought that was what was happening, but I just wanted your confirmation of it.

You talk about replacement of assets over a period of time; you talk about 40 years. Some of them are there, with my knowledge, for about 55 years and have only just been replaced. How long is it going to take you, replacing all those assets? Will you do it in 30 years? Will you do it in 35? At what stage will you have caught up?

Nicholas Tarrant: It is a bit like using the analogy of painting the Forth Bridge. It is something that you have to continuously work on and we do a certain percentage every year. For example, if you were to replace all

of the assets that you have out on the network using the modern equivalent asset value if you were to rebuild the network today, it would probably cost in the region of about £5 billion, something like that kind of number. What we do then is our capital programme is £508 million, about half of which is asset replacement. Our proposal for RP6, and this is obviously going to be subject to regulatory approval, is something in the region of £260 million on asset replacement, on an asset base that, if you were to replace it today, would cost about £5 billion.

All you are doing is doing a small portion of it during each price control period and each year during the price control. There is not a definitive answer as to what point you get to replacing everything that is out on the network. By the time you come around again, with some of these assets having maybe a 40 or 50-year life, the ones that you replace today, by the time you get to replace some of the older ones, you are back around to the same cycle. It is just an ongoing investment cycle.

Q515 **Dr Alasdair McDonnell:** Do you not think that we should be doing more about smart metering?

Nicholas Tarrant: Ultimately it is a Government decision based on a cost-benefit analysis. There is obviously a big programme happening in GB around smart metering, but it is a Government decision on that. We have seen the benefits when we did the trial in Coleraine of people shifting their demand, but you have to weigh it up in the round. One of the things that we had to do in our price control this time, here we have a chapter, for example, on consumer options. We have gone out and talked to and got feedback from consumers about what kind of things they would have liked to have seen, investing in the network. Like all of these things, things like smart metering, they are choices. There are choices here as to where to spend money, because we are very conscious that this ultimately affects customer bills and all of these things, they have to be weighed up by the regulator and ultimately by the Department for the Economy when it comes to smart metering.

Q516 **Dr Alasdair McDonnell:** Have you sustained the project in Coleraine? Was it a temporary project or is it long-term, is it sustainable? Can it feed back further information in the future?

Nicholas Tarrant: It was quite a long project. I think it was going on for maybe in the region of 18 months, so we did get good information from it. I do not think those customers are still on those terms, but I cannot say. It wasn't just a very short project. We got very good information and that is on our website.

Q517 **Dr Alasdair McDonnell:** Could you rehash for me or reproduce the figures about wind? Because you have said that our peak demand was 1,800 megawatts high activity and our minimum demand was 500 megawatts. From what I interpreted you saying was that we could cover it nearly all with wind if the wind was blowing all the time.

Nicholas Tarrant: By the time we get to approximately March 2018, we expect to have connected in the region of 1,600 megawatts, based on what is currently connected today of 926, plus the committed programme that we already have contracts with developers for. The problem with wind is that—

Dr Alasdair McDonnell: Intermittent.

Nicholas Tarrant: —it is intermittent, but also from a transmission point of view for SONI, they have a limit at any period that currently only 55% of the system demand can come from wind. That is a target that they are aiming to move to 75% over the next number of years. Something that was mentioned in the previous session by Mutual was that by year end they are hoping to be at 60%.

Q518 **Dr Alasdair McDonnell:** Sorry, they can only take 55% of the wind or they can only use wind for 55% of the demand?

Nicholas Tarrant: 55% of the demand coming from wind.

Q519 **Dr Alasdair McDonnell:** That is where the constraint is in it?

Nicholas Tarrant: Yes.

Q520 **Dr Alasdair McDonnell:** How irregular is wind? When you say we have 1,600 megawatts there, what can we count on? You are saying we can take about 1,000 of that on to the grid at 55%, but how consistent is wind? Have you any prediction on it? Have you any prediction as to how much the load can be carried by wind?

Nicholas Tarrant: The average load factor for the wind farms here in Northern Ireland is roughly 28%. Our current 926 connected, if you were to average that across the year, the average that is provided by those projects is roughly 28% of the 926. It is different for solar. The load factor for solar in round numbers is about 11%, something like that. The load factor for solar, because obviously it does not operate at night time, that is roughly what that is, but it does vary year to year, and then obviously this huge within day and within week volatility around wind. SONI are the people who manage the supply and demand when it comes to the system overall, and they do have quite sophisticated prediction mechanisms for this. Similar things are available for solar as well, as solar grows.

Q521 **Dr Alasdair McDonnell:** Is solar a better asset then than wind if it works during the peak times?

Nicholas Tarrant: What we are finding is that some developers are looking to add solar to their existing grid connection in some cases for existing wind farms, to use maximum use of the grid. Solar and wind are complementary. Then obviously solar can apply, as we discussed earlier on, at domestic level, it can be medium scale, and it can be some of the very large solar farms, some of which are starting to come here and also are quite common in GB.

Chair: We are running out of time. Thank you very much indeed, gentlemen. It has been a very interesting session. Thank you.