Northern Ireland Assembly

Committee for Enterprise, Trade and Investment

OFFICIAL REPORT (Hansard)

North/South Interconnector: NIE Briefing

24 October 2013

NORTHERN IRELAND ASSEMBLY

Committee for Enterprise, Trade and Investment

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Members present for all or part of the proceedings:
Mr Patsy McGlone (Chairperson)
Mr Phil Flanagan (Deputy Chairperson)
Mr Steven Agnew
Mr Sammy Douglas
Mr Gordon Dunne
Mr Paul Frew
Mr Fearghal McKinney
Ms Maeve McLaughlin
Mrs Sandra Overend

Witnesses:

Mr Michael Atkinson	Northern Ireland Electricity
Mr David de Casseres	Northern Ireland Electricity
Mr Peter Ewing	Northern Ireland Electricity
Mr Robert Wasson	Northern Ireland Electricity

The Chairperson: I welcome Peter Ewing, deputy managing director and director of regulatory affairs; Robert Wasson, asset management director with responsibility for the overall asset base of NIE; David de Casseres, transmission project director; and Michael Atkinson, head of generation connections. Thank you for being with us today as part of our review; it is good to see you. You have probably been told that the format is that we allow you 10 minutes to make a presentation, and then we have questions and answers from members. Whichever one of you is fronting, the floor is now yours. Please continue.

Mr Peter Ewing (Northern Ireland Electricity): Thank you, Chairman; good morning, Committee members. Thank you for giving us the opportunity to provide an update specifically on the North/South interconnector. You said that we have 10 minutes, so we will try to keep within that if we can. Before we kick off, I will give the Committee a brief overview of NIE's role in the electricity industry before handing over to Robert, who will provide an update on the North/South interconnector. We are obviously happy to take questions after than on the interconnector and any other matters generally as they arise.

To put our presentation in context, it is important to understand that NIE's role has changed significantly since the electricity industry was privatised in 1992. NIE's generating assets were sold at that time and, since then, the single electricity market has been established and NIE has divested its supply business. Today, NIE's activities are restricted to the transport of electricity from generating plants to customers' premises through the transmission and distribution networks. We are not involved in the single electricity market, through which generators and suppliers trade wholesale

electricity, except for providing market registration and data services, including meter reading, which facilitate the operation of the market.

Our primary objective as the network owner is to ensure that the network is safe and reliable; is resilient to adverse weather; has sufficient capacity to meet the requirements of generators and customers; and is efficient. Our network charges make up around 20% to 25% of the domestic customer bill and around 10% of the electricity bill for large energy users.

The Committee will be aware that we have been unable to reach agreement with the Utility Regulator on the price control that governs NIE's network charges from 1 April 2012, and that the matter has been referred to the UK Competition Commission. One of the key issues in dispute relates to the amount of investment that is required to replace an ageing network and the investment proposed by NIE to upgrade the overhead line network in rural areas to make it more resilient to extreme weather events. We are very concerned that the deferral of expenditure will create a bow wave of aged asset replacement for the next regulatory period. We expect to have the Competition Commission's final determination by the end of January or early February.

We have noted from previous Hansard reports that there have been various discussions about the investment that is required to upgrade the network to accommodate new renewable generation. It is important to note that the requirement to upgrade the network is only one aspect of renewables. The Committee will be aware that the Department of Enterprise, Trade and Investment (DETI) has recently started a piece of work to assess the overall impact of renewables on customers' bills.

On the upside, renewables reduce carbon emissions and put downward pressure on the wholesale price of electricity. The downside, however, is the cost of the incentives that are paid to renewables generators in the form of renewables obligation certificates (ROCs) and the increased costs that are associated with reinforcing the grid. DETI will look at all those issues in aggregate. Any investment that NIE makes in renewables is subject to the specific approval of the Utility Regulator. That expenditure, as well as the North/South interconnector, is outside the scope of the Competition Commission's review. With that brief introduction, I will hand over to Robert, who will talk about the North/South interconnector.

Mr Robert Wasson (Northern Ireland Electricity): Good morning, members. Referring back to the briefing note which you should have, I will briefly underscore the main drivers of need for the interconnector. There are three primary drivers for the project. The first driver is to facilitate increased competition in the all-island electricity market. For the market to operate properly it is necessary that all generators are able to compete freely to deliver their production across the island so that customers can benefit from the lowest possible prices. The present network bottleneck that we have at the border restricts that mechanism, which results in electricity prices being higher than they might otherwise be. Those inefficiencies have been estimated to cost customers across the island approximately £25 million per annum. In the context of rising concern over the level of energy prices generally, it is very important to address that bottleneck.

The second primary driver for the project is enabling the development of indigenous renewable energy resources. There are severe constraints that affect the utilisation of wind generation in Northern Ireland. Unless the interconnector is built, it will simply not be possible to achieve the 2020 target that was set by DETI in the strategic energy framework (SEF). It is worth noting as well that Northern Ireland is particularly well-suited to take advantage of its wind resource. Investment in this area has the ability to generate real and valuable jobs for many people and to assist Northern Ireland's economic rebalancing and recovery in the years ahead. The interconnector is crucial to that process because it allows new wind generators to access demand and interconnection in other parts of the island.

The third key driver, which is coming to the fore at the moment, is the assurance of a secure and reliable electricity supply. That is obviously essential to supporting economic growth and, in particular, attracting foreign direct investment. The interconnector is vital for that because it provides this part of the world with access to excess generation capacity in the Republic of Ireland and, through the existing interconnections there, to the national grid in England and Wales.

All three of those drivers are becoming increasingly relevant with the passage of time since the project was first mooted. In particular, we would like to talk to you this morning about particular concerns that we have around delays on consenting. The consenting process for the interconnector is proving extremely difficult and time-consuming, and that is leading to concerns about when the interconnector might actually be available. With a build period of three years, the targeted completion date of 2017 is

becoming increasingly challenging. Obviously, any delay in the delivery of benefits is of concern, but the key issue is electricity supply security.

The transmission system operators in Northern Ireland and the Republic of Ireland have recently published a statement on all-island generation capacity from 2013 to 2022. That statement indicates serious concern for the future security of electricity supply for Northern Ireland in particular in the years beyond 2016. The document observes the likelihood of electricity supply shortfalls. In the continuing absence of adequate interconnection with the Republic of Ireland, there is likely to be a serious shortfall in available sources of electricity supply in the years ahead, particularly beyond 2020. That would mean that there would be an increasing risk that load-shedding arrangements might have to be used, which would mean using a rota system for selected areas during times of peak electricity demand. It goes without saying that that would be highly undesirable. That underlines the increasingly critical nature of the need for additional interconnection.

What can be done about the consenting delays? Most importantly, we need an early ministerial decision on planning so that we can move ahead. Given the strategic importance of the interconnector, NIE believes that Departments, including the Department of the Environment (DOE) and DETI, must adopt a more joined-up approach to ensure that major infrastructure projects such as this one can be can be delivered with minimal delay. Measures should include the formation of a DETI-led strategic task force that specifically engages with the Departments needed to make strategic planning decisions in a timely manner. We would welcome the support of the Committee for such measures. We note the Committee's report in January 2011 that recognised the interconnector as the top priority and called for the planning process to proceed as quickly as possible. In addition, we are exploring options with both regulators to accelerate construction, for example by accelerating procurement in advance of full consenting. Lastly, we think that consideration should also be given by DETI to running the process of hearings on necessary way leaves in parallel with the rest of the consenting process, rather than sequentially.

I am aware that we are probably coming up to our allotted 10 minutes, so I have a couple of minutes in which to make three points that might benefit the work of the Committee. First, we noticed one or two references in previous sessions to weaknesses in the electricity grid — I am paraphrasing here — having inhibited economic development. That is not the case. In fact, NIE has an obligation to meet all reasonable demands for connection to the network. We have met that obligation in the past, and we have made a clear case to the Utility Regulator and, latterly, the Competition Commission for the provision in our next price control. We have no reason to believe that that will not be met.

Secondly, when the SEF was being prepared some years ago, NIE indicated at a very high level that total grid costs to achieve the 40% target could reach circa £1 billion. Time has moved on significantly from then; we now believe that the more realistic figure is potentially up to half that amount: £500 million. We will go into more detail on that with DETI when it commences its study on the overall costs of renewables in Northern Ireland. We look forward to that piece of work.

Lastly, we want to state some facts about the underground versus overhead debate relating to the proposed interconnector. Any debate around relative merits and costs of underground versus overhead is, frankly, pointless. As NIE has pointed out in planning submissions, an underground cable option for this type of connection is technically unproven anywhere in the world. That is a fact. It is especially true for a tiny, weakly interconnected system such as we have on this island. Were we to proceed with it, there is the nightmare prospect of the customer having to fund hundreds of millions for a project that might well not work. NIE would never bring such a proposal to the regulator for approval, and, rightly, the regulator would not approve it. We believe that it would help everybody and this process if that point were realised and the question of underground put to bed once and for all. I state unequivocally that it is not feasible technically, it is unproven, and people should stop considering it as if it were an option. It is not.

That is the end of our opening statement. We are happy to answer any questions that the Committee might have on the interconnector or other matters related to your inquiry.

The Chairperson: Thank you very much indeed for that. You raised a number of issues of concern. Can we go back to the difference in the computations, the £1 billion versus £500 million? Where did all that come from? How did someone, somewhere get it so wrong?

Mr Wasson: The question is really at what stage it was done. Those initial, very high-level estimates were done over five years ago.

The Chairperson: Who made those estimates?

Mr Wasson: They were done by NIE, but they would have assumed various scenarios, particularly in relation to the development of the 275,000 volt or 275 kV transmission system, which, having used consultants and our own experts' in-depth analysis of what is actually required, we now believe is not required. That is one aspect. The other thing that has changed since that position, five or six years ago, is that we have the real prospect now that there will be very-large-scale offshore and tidal developments within the next several years. The impact of that is that there is potentially less development required on that 275 kV system around the Province. Those really are the two main factors which lead to a downrating of the overall works that are required. However, as I said, we will get into that in quite a bit more depth with DETI when it carries out its analysis in the coming months.

The Chairperson: I hear the point that you are trying to articulate there, by way of a DETI-led thing with regard to strategic planning applications, but, given the course of the debate in the earlier part of the week around the Planning Bill, I think that that is going to be a non-starter for you, guys. You are into the field of politics there.

Can we move on to a number of issues? You referred to the ageing network, its capacity to do things during poor weather conditions and the need for investment in it. Earlier, you specifically mentioned the inhibiting of economic development by the network. You know that I have been with you, and met you and a number of your colleagues, to discuss the capacity of the grid for renewables feeding into it. That is one thing, though it is not specifically what I was referring to. I have been with at least two businesses where the costs being required by NIE to upgrade the network are significant and, in one case, they are pretty retardant on the ability of the business to grow. That is the first thing. The second thing is where, simply, a business which is thinking of a major expansion exercise sees the NIE situation, and the capacity of the local grid to allow for that expansion, as proving something of an issue. Mrs Overend knows the firm that I am talking about; she has been to it as well. It is a pretty big agrifood business. Maybe you could outline for us the process in those circumstances where — I would be surprised if you are not aware of it — something which may prove a difficulty or an obstacle of significant nature to economic growth is gone through to make sure that it does not become a factor?

Mr Wasson: OK. I am not aware of the specific case that you mention, so it is probably better to talk about this in general terms. Can you please clarify whether there is a specific concern in your question around connection of renewable generation by a private developer, or is this related to load?

The Chairperson: That is one aspect of it. The other aspect is simply economic development; it is not of a renewable nature. We are talking about two types of economy or business here.

Mr Wasson: OK. NIE has an obligation, as I have said, to make sure that we have network available, both for people who want to install generation on the system and for growing load requirements. From a timing point of view, what we try to achieve with those investments is balance. So, on the one hand, we want to ensure that, when people need capacity, it is available within a reasonable time frame; on the other, we do not want to invest too far ahead of time because that would be a bad idea for customers, who would have to fund that ahead of time. In relation to load, within our price controls — and obviously we still have to settle the next price control, and we are in the Competition Commission process to do that — we have provision for investment in the networks. We keep abreast of the various loading levels on the networks and make sure that, in aggregate terms, we keep ahead of customer requirements on those networks. We ensure that lines, transformers, substations and so forth do not get overloaded.

Apart from a general aggregate growth in demand in a particular area, you can also have point demands coming in. You might have a new investment coming in, or an existing factory that wants to put in an extra production line. That can lead to a step change in the network requirement at that point. What happens is those developers or customers come along and tell us about their plans, and we plan to build out the network accordingly. The only thing that delays that, really, is the time needed to carry out the work. It depends on what is required. We may have to uprate a long overhead line, which can take quite some time, or the work might be much simpler. It depends on the specific case.

The Chairperson: You touched on renewables. The last time we met, you said, as we know, with the renewables sector we are talking about mountaintops, and wind turbines and the like being strategically positioned. As it turned out, because of the evolution of industry in the North, Belfast and the east have received all, or a good part, of the investment whereas in the areas where renewables

are targeted — into the west and on top of mountains — the infrastructure is weak. I think we said last time, and you can correct me if I am wrong, that in parts of the west, in and around the Sperrins, the substations feeding off that would require something in the order of a £20 million investment upgrade. Can you advise where you are with that, and then we will move on to the North/South interconnector and ask you just one more question?

Mr Wasson: OK, that is fine. Renewable generation, and the people who seek to connect that type of generation to the system, split into two main categories that we should mention. The first is what we would refer to as large-scale generation. Typically, those are the wind farms that we see around the Province. We have connected 30 of those, and there are about another 42 at various stages in the pipeline, which is fairly significant. It represents over 530 MW connected already. The bulk of those tend to be in the west of the Province, so they tend to be west of Lough Neagh, because that is where the wind is. One of our challenges is to get that power to where the load is, which tends to be not in the west but in the east of the Province. So, a lot of the transmission-related developments — some of which have been approved recently by the regulator and which we are working on — are aimed at getting the output of that generation to where the load is.

The Chairperson: Will you provide us with some written detail on your projects and your roll-out programme of work for those projects?

Mr Wasson: I would be happy to do that.

The Chairperson: Can you give us an overview of the North/South interconnector, the process, and where it is at the moment in terms of planning? I know that you had to make some amendments, and that those had to be sent in, so where is that at the moment?

Mr Wasson: I will ask David de Casseres to talk to that. David is our project director on the North/South interconnector.

Mr David de Casseres (Northern Ireland Electricity): Just a quick update, then, Chairman. We have undertaken a major piece of work over very many years to identify alternatives for the interconnector and the best way in which the interconnection circuit could be developed while having the lowest possible impact on the environment and the least visual intrusion for people living along the route. In doing that, we engaged for a number of years with people living within 1 kilometre either side of the line. We have held open days. We have been through a great deal of public consultation and discussion stretching back many years before we made a planning application in December 2009.As many people here will remember, there was a decision taken by the then Minister of the Environment that, because of two particular issues — one being concerns over public health and the other being confusion or misunderstanding about whether undergrounding was an option — the subject should be brought to a public inquiry.

The public inquiry started in March 2012 and was adjourned fairly swiftly because of questions that were being asked about the detail that was presented, the way in which it was presented and whether it was in line with planning procedures as written. So we were asked by the Planning Appeals Commission (PAC) to go away, provide further detail and consolidate our environmental statement so that all of that detail could be easily read and understood by everyone who needed to know that. We have done that. We have taken a great deal of additional effort to go back and draw that detail together, consolidate the statement and re-present the planning application, which was done in April 2013. At the same time we also submitted a completely new application for all associated works — that means all of the accesses and temporary works associated with construction — just to be sure that we were answering everyone's questions about exactly what needs to be done and exactly what impacts would arise.

That has now all been provided to the Planning Service and the Department of the Environment. It has been publicly advertised by them, and there is now a public consultation open for people to read the application, consider the detail that has been presented and respond to the Planning Service. That process will culminate in the Planning Service then drawing that information together and returning a package to the PAC at some future date, possibly around the end of this year. Following that, the PAC will then determine a re-engagement for the process. Beyond that, we are in the hands of the procedure.

The Chairperson: Thanks very much for that.

Mr Dunne: Thanks very much, and welcome, gentlemen. I think we all recognise the need for the interconnector. It is vital for the future of business in Northern Ireland and for us to grow, as we are planning to do. Will you clarify the length of the interconnector? There is a certain section in Northern Ireland and a certain section in the Republic. Can you clarify the distances involved, please?

Mr de Casseres: The length of the overall interconnection development to make the process of interconnection happen as it should between the two transmission networks is 140 km in total. The length in Northern Ireland is just around 34 km.

Mr Dunne: How is the section in the Republic progressing?

Mr de Casseres: In the Republic of Ireland, the initial submission was made at the same time as we made the submission here; in December 2009. In April 2010, they went through what is known as an oral hearing process. At that process, arising from a number of challenges that were raised at that time, they decided to withdraw their application and go through a process of re-evaluation of the project. That process has been undertaken for a number of years. It was interrupted by the fact that the Government in the Republic have asked for particular reports to be engaged as part of that process and have brought into place new policy in relation to infrastructure as part of that process. There have been some delays there, but EirGrid, which is responsible for developing it in the South has very recently published its preferred project solutions report, setting out what it now proposes to do. It has just concluded public consultation on that in September, and it intends, we understand, to submit the revised application early next year.

Mr Dunne: I have a couple of other points. The use of pylons is your preferred option for the construction. How does that fit in with planning policy? We have had the introduction of wind turbines in the countryside, which, in many cases, have been controversial. How do you feel the construction of what people think is a rather dated system fits in with planning policy? I remember pylons going up in the countryside when I was going to school. That is a few years ago, and I do not recall an awful lot going up recently, but perhaps it is the case that you are still using them. How do you feel that they fit in with planning policy?

Mr de Casseres: First, there is no conflict with planning policy. Planning policy does not prevent or oppose the use of overhead lines in any way, shape or form. We are required, in order to provide for electricity transmission circuits, to have three legs of a stool, if you like. We have to make sure that whatever we do is technically capable of doing the job, for one thing. For another thing, it has to be environmentally acceptable. Thirdly, it has to be possible to do it at an economic cost, because at the end of the day the customer is paying for the infrastructure that we install and use. Those are three tests that we have to apply to everything that we do.

You refer, Mr Dunne, to pylons being outdated. That is not so. They have been used for many years. In fact, in Northern Ireland the last major transmission pylons were built in the late 60s and early 70s. That is because they were built very strongly and at a time when there was growth in demand. They were built with spare capacity, and they have handled that very well over the years. Now we are seeing a new need, as Robert pointed out, driven not by demand but by the need for competition in the marketplace, for renewables and for increased security. So we need a new transmission circuit that delivers results on those three drivers.

Pylons, as you call them — we call them "towers" — with an overhead line are a preferred solution throughout the world; 99% of transmission circuits throughout the world use that technology because it is the best technology, it is proven to work and it is economic. So it ticks the boxes, and that is why we are proposing to use it.

Mr Dunne: Finally, what is being done to get buy-in from the local community in the proposed area? Has there been much of an effort made by NIE and those working on your behalf to get buy-in locally for the proposed interconnector?

Mr de Casseres: As I said a few moments ago, we spent a good deal of time in the early days of planning the route talking to people in the local community, telling them why the interconnector was needed, explaining to them the options that we were looking at for routing it and inviting comments on it. We received very little feedback from the local community in this process, other than, as you will recognise, objections to towers or pylons generally.

In the years since that process was initially formulated, we have written to all parties that might be involved close to the line. We have spoken to many people in public life, including people around this table, about the detail of what we are presenting and why. We have answered questions in very many different places at different times and in different contexts and presented a great deal of information in our planning submission and environmental statement. We remain open to the process of explaining why and answering questions that people ask us.

Mr Dunne: OK. Thanks very much.

Mr Flanagan: Gentlemen, thanks for the presentation. I suppose we should be starting off by saying that the construction of two separate grids on this island was the wrong decision to take at the start, and that is what we are dealing with. In terms of where we are now, I presume that you can only speak for NIE and that you cannot speak for EirGrid.

Mr Wasson: Yes. We are here to speak for NIE this morning. However, if there are any clarifications that we can give you on EirGrid's process, we are happy to do so.

Mr Flanagan: Can we talk about your assessment of the feasibility of underground connection? It will be interesting to read what you said earlier about how we should deal with facts and simply stop considering undergrounding as an option. On what facts are you basing that statement?

Mr Wasson: I will ask David in a second to talk about that in a little bit more detail. The basic premise of that statement is that the type of system required to underground the connection is not technically proven anywhere in the world. That is a concern in itself, but it is even more of a concern when you try to apply it to the system that we have in Northern Ireland. Although we like to think of Northern Ireland and the total island as being a substantial piece of territory, it is tiny in electrical system terms. If you compare it with continental Europe in electrical system terms, it is very small. That leads to difficulties with operating those types of system.

Mr Flanagan: I am not trying to put words in your mouth, but is your justification for not doing it that it has not been done anywhere else?

Mr Wasson: It is that it is not technically proven. We would be in a situation in which there would be a very substantial investment. Some of the estimates for the cost of such a piece of technology are almost €1·2 billion. It is a very significant cost, which, of course, would fall to customers.

Mr Flanagan: Sorry, what is going to be €1·2 billion?

Mr Wasson: The cost of a DC link. Potentially, it is up to just short of €1·2 billion.

Mr Flanagan: And who came up with the €1·2 billion figure?

Mr Wasson: David will talk about the detail of that in a second. We have had some expert advice on that.

We would be in a situation where we would ask the customers to fund a very significant project of that sort with the very real prospect that it might not work at the end of the day. That is the reality. We know about the issues that there have been with Moyle. Indeed, there have been issues with the east-west interconnector that EirGrid is building to link to GB. Those things can happen. It is our belief that to go down the road of the customer investing in such a project in Northern Ireland with a significant risk that it will not succeed is a nightmare scenario. We just do not think that it should be considered.

Mr Flanagan: I will just pick up on that point. I am quoting from a report from the Joint Committee on Communications, Natural Resources and Agriculture in the Oireachtas. On the technical feasibility of undergrounding, it states:

> *"Notwithstanding EirGrid's lack of specific information the Committee feels that the following concerns remain ... There is limited information on the failure rate of HVDC cables. However in the East-West Interconnector Review ... submitted to the Committee it was stated that there is no*

reason to assume a higher failure rate for HVDC cables than for High Voltage Alternating Current ("HVAC")."

That is not exactly what you are saying.

Mr Wasson: The issue does not really relate to the failure of the cables. The key issue is whether that link will allow the operation of the two systems to happen synchronously. We are getting into power engineering terms, but, basically, you want the two systems to look as one. If they do not, that can have very significant issues.

David, would you like to talk a little bit more about that?

Mr de Casseres: I do not want to go into technical detail, and I am sure that you do not want me to do that. It is very important for us to understand —

Mr Flanagan: Do not be scared to go into technical detail.

Mr de Casseres: I am not scared of it, but I do not want to bore everyone or treat you all to a lecture. A few minutes ago, I referred to the fact that we have three tests that we have to put into place around major investment in infrastructure. Those tests, if I just say them again: we have to make sure that whatever we do will do the job and perform technically. That is the first one. The second one is that it has to be environmentally acceptable. The whole process with the PAC and the planning process is about that second one. It is a judgement that has to be made by competent authorities. The third test is economic; it has to be affordable or right, in terms of what people can afford to pay. Customers cannot pay for gold-plating. They need to pay for what is necessary and appropriate, and we have an obligation to provide that. So those three tests are uppermost in our minds and are very close to everything that we do as a business.

You asked why we oppose undergrounding. I have mentioned those three tests because we have to subject any proposal that we might consider to all three of those. I will get into this more in a moment, but undergrounding, or the use of underground cable technology, whether it is AC or DC, costs hundreds of millions of pounds more than using an overhead line. So that is the cost. Can that be afforded? As to performance, using an underground cable to achieve a circuit of this length — 140 kilometres overall — has never been done anywhere in the world using an AC cable. The longest one in the world is 40 kilometres. That is in Japan, and it is in a very strongly interconnected and large power system.

Mr Flanagan: David, I do not accept that because something has never been done, it cannot happen.

Mr de Casseres: Absolutely. I do not either. We can invent all sorts of things. I am just observing that it has never been done. That is not the whole reason, Mr Flanagan. If we were to use a DC system, which is a different technology, for connecting the two networks, that DC system, again, has never been used to link on a synchronous power system in the way in which we want this thing to work. That is back to the first test: that we make sure that it works properly. We have to consider all of those things when we come to designing this, and that is why we are not in favour of undergrounding.

Mr Flanagan: Robert mentioned a figure of £1·2 billion.

Mr de Casseres: We have set out the figures very clearly in the submission that we have just made. This is one of the reasons why the public inquiry here was called for. We are very much aware that there was initially confusion between the differences in the costs, as different costs were quoted for different scenarios and technologies. So we went away and asked independent engineers to update all the costs, bringing them right up to date with modern technology, and provide us with the cost differentials. Let me refer to that, so that I do not get it wrong. In the report, the costs are quoted in euro so that there is no confusion over things like exchange rates. The assessment of the overall cost of interconnection using an AC overhead line was €225 million.

Mr Flanagan: Whose assessment is this?

Mr de Casseres: This is PB Power's assessment.

Mr Flanagan: They are the consultants that you hired?

Mr de Casseres: They were the engineers that we appointed to do this work.

Mr Flanagan: That is all right.

Mr de Casseres: The cost of an AC underground cable was €1,070 million, so that is just over €1 billion. And the cost of a DC link, which again uses an underground cable, but which is a completely different technology, is €1·17 billion. That is where the €1·2 billion —

Mr Flanagan: Is there a difference in capacity between those?

Mr de Casseres: No. That is for the same overall capacity.

Mr Flanagan: OK. The international expert review that was commissioned by Pat Rabbitte found that the overground link would cost about €170 million and that undergrounding it cost about €500 million. However, undergrounding it was only half as effective, which is a ratio of one sixth as good, or three times the price for half the quality. Your figures indicate that it is five times more expensive. In that report, did anybody say that it is not feasible to do it underground?

Mr de Casseres: Sorry? In which —

Mr Flanagan: In the report that you got those engineers to do. Did they say that it was not feasible to underground it? Or was it simply a pricing matter?

Mr de Casseres: It depends on what you mean by "feasible". What we have just been attempting to point out —

Mr Flanagan: The phrase that your organisation keeps using is that "it might not work". That also means that it might work or it could work.

Mr de Casseres: OK, let me just get back into the technologies. We keep talking about undergrounding —

The Chairperson: We can hypothesise about that one all day. If you do not mind, will you please make your answer to that question brief? We have allowed a fair wee bit of latitude on going over there, and a number of other members have indicated that they want to ask questions.

Mr de Casseres: I will. I just wanted to make sure that we were describing the same thing. We have an AC system on the island. AC means alternating current, and Robert referred to synchronisation. For this thing to do the job that we need it to do, it needs to synchronise properly between the North and South of the island so that we have one single synchronised transmission system. That is the fundamental job that this thing needs to do. That means that it has to either be an AC circuit or behave as if it is an AC circuit. You can use a DC circuit, but then it has to have very complex and very difficult control systems put around it so that it behaves like an AC circuit. The example that has been used is the difference between using a motorway, which has continuous travel in both directions, and something like a ferry, which still gets cars from A to B but in a different way. You have to use technology, with different costs, and there are different risks and issues.

Both of those things can be done, but whether they are feasible is a matter of cost and whether they have ever been done. Robert made the point about proving, and these systems have never been used for this purpose before. It will also cost a lot of money. What we are saying is that you might spend a very great deal of money doing something that, at the end of the day, might not work. That does not seem to be a very sensible way of dealing with this matter, which, fundamentally, we require for security purposes. It is not something that you take risks with, and that is not something that we are prepared to do.

The Chairperson: Thanks very much for that. Thanks, Phil. One point on the technical aspect of things has come up. Security of supply is a major issue and is part of the review that we are conducting. Are there any opportunities for post-2016, which has been flagged as potentially being D-Year — any possibilities for the likes of cross-border linkages, say between Newry and Dundalk,

Strabane and Lifford and Derry and Letterkenny, that would help obviate that problem? You are the technical guys, and this is just simple old me asking the question.

Secondly, if, for example, all things being equal, you sign off on an underground project, it might take a great deal of time for a planning application to go through due process again. I am not sure whether that would square with the problems that we are potentially facing down the line

Mr Wasson: Chairman, I will take the first portion of that question. The short answer to whether there are any other alternatives that we could look at from an interconnection point of view is no. Extensive studies have been carried out —

The Chairperson: Just to clarify, I was not talking about alternatives. I am looking at the process and, rightly or wrongly, the slowness of where we are at the moment. With the best will in the world, your drivers and experiences do not indicate to me that you will have a North/South interconnector in place by or for 2016. Probably the word to use is "fallbacks". Are there any fallbacks so that, if we have a problem with security of supply, somebody can flick a switch and, say, connect to Dundalk, Monaghan, Lifford or Letterkenny? Is there anything that you can do to put that in place? You are the technical guys. I am just asking a simple question.

Mr Wasson: For clarification, we have two points of standby connection that are quite separate from the existing interconnector. Those are much smaller standby connectors between our networks on the 110 kV systems. Really, those are only used for fault situations and they are very limited in their power transfer capability. That is not what they are for. They are there so that, in the event of a fault, one side of the border can supply the other to a limited extent.

The Chairperson: Where are they, Robert?

Mr Wasson: One is in Enniskillen, and the second is close to Letterkenny. Therefore, again, the short answer is no. Those are purely standby connections that cannot be used for the very heavy bulk transfer of power that you need to sort the security-of-supply situation out; nor do we have other points on either of the networks that would allow that to happen. The mooted interconnector is really the only game in town for what we need to do for system security.

Mrs Overend: Thank you very much for coming today. The conversation has been very interesting so far, and you have answered a lot of my questions. I want to pick up on the previous point. Is there any chance of those two standby connections being upgraded? Is the network system underlying them not suitable for that? Is there any way of enhancing or developing those connections further so that they can become proper full-time connections?

Mr de Casseres: Those options were looked at in the early stages of looking at the overall options for interconnection. Simply put, the answer is no. Interconnecting at a lower voltage of 110 kV using multiple connections does not do the job. It does not enable the two networks to lock together in a strong and stable fashion, which is what we need to do. I referred to the synchronous interlocking of the two transmission grids. Connecting through a small-scale system does not achieve that. You could still end up with instability between the two grids. It does not provide a solution. As Robert said, it provides a short-term flow for rescue and fault conditions, but it does not lock the grids together in the way that we need to.

Mrs Overend: It just seems logical that, if there are pylons already connecting at those points, we should use those, rather than building new pylons etc. However, you have said that those are not capable of doing that. Sorry; that is just the basic logic to my mind.

Mr de Casseres: They are in the wrong place. They are in weak parts of the network and are used for power export under certain conditions. They are not in the right place so it is just not possible to use them.

Mr Wasson: I would like to expand on David's point. Chair, you asked us to send you some details on what NIE is doing generally to reinforce the system. We can send you a diagram that will highlight that. What you will see in that diagram is that, in the east of the Province, we have a very strong 275,000 volt — 275 kV — system, which is the top voltage in our transmission system in Northern Ireland. Underlying that, we have a 110,000 volt system across the Province. However, to the west of Lough Neagh, with the exception of a double-circuit line to Coolkeeragh, we have only the 110 kV

system. For the type of interconnection that we need for the bulk transfer of power that would be very close to the peak demand for the whole system in Northern Ireland, we would have to connect the 275 kV system to the 400 kV system in the South. That is what the mooted interconnector would do. The issue with the network in the west of the Province is that we do not have 275 kV there. From a planning perspective, to put that in place would be just the same as trying to build the interconnector. That is the issue.

Mrs Overend: That is fair enough. I appreciate the detail. I understand that NIE incurs certain penalties around the generators. If the generators cannot sell as much energy as they supply, NIE incurs penalties for not being able to get rid of all the energy that is generated. Perhaps, I have not got that right. Are there some sort of penalties that the generators incur and pass on to the consumer?

Mr Michael Atkinson (Northern Ireland Electricity): NIE does not directly make payments if there are restrictions on the amount of capacity at a point in time that mean that the large generators have to pull back or reduce their output. The all-island pooling mechanism, which is managed by the Systems Operator for Northern Ireland (SONI) and EirGrid, provides compensation to the generators. That is not an NIE function as such, but is administered through the all-island pooling and settlement arrangement. The generators are compensated if they have to be constrained in their outputs, but that is not an NIE function as such.

Mr Wasson: There is a fund in the trading mechanism to allow for that. That is really to get round the imperfections that are in the system at present because of transmission constraints, which are being dealt with over time.

Mrs Overend: Ultimately, who pays for that?

Mr Wasson: The customer.

Mrs Overend: The customer pays for that. So, in effect, the customer is already paying for the lack of a North/South interconnector?

Mr Wasson: That is correct.

Mr Frew: It is £25 million.

Mrs Overend: Sorry, Paul. You pitched in there about how much that was. I was just going to ask.

Mr Frew: Go ahead. *[Laughter.]*

Mrs Overend: I did not quite hear you.

Mr Atkinson: I think that it is the £25 million per annum figure that was referred to earlier with respect to the impact of not having the interconnector in place.

Mrs Overend: I appreciate that. I have another couple of questions if you do not mind, Chair. I will be quick. My five minutes are not up yet.

The Chairperson: You could ask both of them at the one time. I am conscious that Paul has to get away. He is next to speak.

Mrs Overend: I wanted to ask about connection charges. Perhaps that is not appropriate for today. You referred to the use of renewables as being key in the future. Many constituents and businesses go through the process when they want to put up wind turbines, and so on. However, they have to go through the planning process before they can connect to the grid. They sometimes find that the costs to connect to the grid are so huge that they cannot proceed any further. Have you any comments on the huge connection charges that people incur?

Mr Atkinson: I can pick up on that. I know that we are constrained by time but I may need a couple of minutes to answer that, because it is quite an important issue.

Mrs Overend: Perhaps we could bring you back to talk about it some other time.

The Chairperson: Could we get an answer to that in writing? I am conscious of the efficiency of the meeting.

Mr Atkinson: Yes. I can say, very briefly, that we will be publishing an information map very shortly on our website.

The Chairperson: That is good.

Mr Atkinson: It relates particularly to the concern that you have raised, which is, typically, the smaller single turbines. Essentially, they connect not to the transmission but to the distribution parts of our network. We are finding, in the north and north-west of the Province, that capacity is running out very quickly. As a result of that, developers are, in many cases, having to take on board quite significant reinforcement costs, in addition to the immediate costs of getting them onto the network. That is causing some very scary costs for constituents.

Through some of the more formal stakeholder meetings, such as the DARD and Greenmount events, we are endeavouring to share information at an earlier stage to help developers understand the process.

The Chairperson: We will pick up on that. The Clerk has made a note of Mrs Overend's question, which we will forward to you. Did you say that you were due to publish that map or that it has been published?

Mr Atkinson: We have spent some time pulling that together. By the end of this week, it will be available on the NIE website.

The Chairperson: That will be helpful. Perhaps someone could send that link to us.

Mr Atkinson: Sure.

The Chairperson: Go ahead, Mr Frew.

Mr Frew: Thank you, Chair. I was getting frustrated there; that is why I chipped in. The whole issue frustrates me. The time lag on the North/South interconnector, which is vital for the economy, not least for businesses and the public with regard to their bills, is a gigantic issue. It is really huge. This is one of the biggest things that the Government need to put in place now. It should have been in place by now.

Have the Planning Appeals Commission or the Planning Service, for that matter, given you any indication of when this will be resolved — either that the public inquiry will commence, the PAC will come to a verdict, or you will actually have permission or refusal of a planning application?

Mr de Casseres: I think that I mentioned earlier that the next stage is that the Department of the Environment Planning Service must return the whole package of applications to the Planning Appeals Commission. It must be satisfied that all of the questions have been asked and that it is fully valid and complete. It is going through that process and the public consultation now. It is very much aware that it has to do that fully and properly. They will take the time that they need to take because there is no point in doing it too quickly and then finding that it is challenged. They are telling us that it will take until December or perhaps slightly beyond to get to that point. Beyond that point, the Planning Appeals Commission will engage with that, examine what is in it, and decide when and how it can fit a reconvened inquiry into its programme. We are very anxious for that to happen very quickly because, as Robert said, we are very much aware of the need for this to happen quickly. The planning consent is absolutely mission critical. After that, we can move forward to do other things to accelerate construction. Until we have consent, however, we cannot start to do anything. That is why we are so engaged on this issue.

Mr Frew: I get the whole concept of the technology and the fact that this is really the only show in town when it comes to alternatives for interconnection at that transmission level. I understand the shape of the grid at present and I understand the differential in costs between overhead and

underground lines. I am perplexed, having grown up and lived in the shadow of pylons all my life. Phil, you will agree that I am pretty normal.

Mrs Overend: That is debatable. *[Laughter.]*

Mr Frew: One of the points that we have not raised here, which we should have raised because it is foremost in our minds when it comes to the Moyle interconnector and the problems there with faults, is the time differential and the cost to fix a fault in an overhead line, as opposed to a fault underground. Can you elaborate on that?

Mr Wasson: David will answer that question in a moment. I apologise for repeating myself, but, again, if you do not mind me saying so, Mr Frew, I would make the point that it is completely hypothetical. I want this point to come across clearly. Our unequivocal view, with apologies to the Committee, is that any further consideration of underground cables is fantasy.

Mr Frew: It would help this Committee to realise how much nonsense the notion of underground lines is.

The Chairperson: You cannot fix a hypothetical situation, to be fair. Mr Wasson, as we have already heard, quite rightly pointed to the fact that there is little, if any, experience of it around the world, with the exception of Japan. With that caveat, I will let you continue with your answer.

Mr Wasson: We are happy to address that hypothetical question.

Mr de Casseres: OK. By its nature, you can very quickly identify when things have gone wrong with an overhead cable. As Mr Dunne said, it is a relatively low-tech piece of technology that has been used for many years. You can send people out to climb the tower and fix whatever has happened relatively quickly. An underground cable, especially the type of cable that we would use if we went down that route, hypothetically, for this circuit, would be a very complicated piece of technology. It would, potentially, take a very long time to find a fault and potentially an extremely long time to fix it, because very specialised people with very specialised equipment would be required. It would take a minimum of several weeks but it could take months to fix even a single fault on such a cable.

The Chairperson: Are you moving into the realm of hypothesis there, or is that based on actual experience with underground cabling in Japan?

Mr de Casseres: Not necessarily in Japan —

The Chairperson: Wherever it is being used. You outlined that the main area was Japan. I do not want to get into the realm of utter hypothesis, from one week to fix something to several months. That would be a really bad situation, particularly if we are in the realm of hypothesis. Perhaps we should constrain our liberal interpretation of what underground cabling does for us.

Mr de Casseres: That is not hypothesis, Chairman. When we talked about Japan, we talked about where the longest such cable at that voltage is used in the world. There are many places in the world where cables are used. We use them ourselves in Northern Ireland; we have high-voltage transmission cables in short lengths. They are used widely throughout the world where they need to be used, usually in short lengths and where it is justified. Therefore, there is experience of what it costs to repair them. There are people who repair them and there is a great deal of statistical material that we can provide to the Committee.

The Chairperson: That would be useful.

Mr de Casseres: We already have provided that, in fact, in the material presented in our environmental statement, which sets out the times and the costs associated with repair. It is a very real issue; Mr Frew is absolutely right. It is one of the areas where the two technologies depart, shall we say.

Mr Douglas: My question is fairly brief. My colleague asked about consultation. You said that a lot of consultation had already taken place. Could you outline what further consultation will take place? Obviously, whatever we agree to, be it overhead lines or whatever, we need people to be on board.

As Mr Frew has already said, he lived beside overhead lines and he is obviously very normal. Can you outline the type of consultation that you will continue over the coming period?

Mr de Casseres: We are now past the point of formal consultation because, having performed that consultation, we have made a decision and our process has moved into an application for something that we propose to do. The decision now lies with the competent planning authorities to make that judgement. We are now in a process that is governed by the Planning Appeals Commission. Although it has adjourned, it will reconvene. In that process, it is very much the commission's decision as to whether this is acceptable, and whether we have done enough, principally on the environmental issues, for this to be considered environmentally acceptable and achieve planning approval. Therefore, we are no longer engaging in consultation as such. However, as I said earlier, we are absolutely open to explaining to people what our thought processes are, presenting the facts, and so on.

Mr Douglas: That is what I am talking about, because I imagine that people will come back to you if there is disturbance within their area, neighbourhood or land. You are open to that type of — I described it as consultation — but it is perhaps provision of information.

Mr de Casseres: Absolutely.

Mr Agnew: Thank you, gentlemen, for the information so far. It has been a fascinating discussion, as it always is on these issues. Let me return to the wider upgrade of the grid. During your opening briefing, you mentioned the downward pressure on price that the increased capacity of renewables brings. Much is made of the increase in price that is required to fund upgrades to facilitate the increased capacity of renewables. Have you made any assessment of that? I have heard a lot of figures, and I would be interested in your estimate of the money required for the extra capacity for renewables. I would like to hear your estimate because I have heard different figures. What would you have to spend anyway if you were not allowing for renewables?

On the other side of that, have you looked into estimates for the downward pressure on prices? Perhaps it is not your role, but I ask that question of everyone who comes forward and no one seems to have any estimate of the downward pressure that renewables will put on price.

Mr Ewing: We are not involved in the single electricity market, so we are not experts in the wholesale price and how it is likely to be affected by renewables. DETI just recently kicked off a study that will bring all those aspects together: the cost of the grid, the cost of the ROCs and the impact on the system marginal price. From our side — the network side — there is an increased cost, but the benefits are seen elsewhere. That should come out of this DETI review.

Mr Agnew: What are your estimates for the required infrastructure improvements? What is your estimate for the differential between what is required to maintain business as usual and what is required to facilitate the increased capacity for renewables?

Mr Ewing: We tend to look at renewables separately from our core network and maintaining its safety and reliability. In essence, we are going to be close to 20% to 25% renewables in the next couple of years. That will have cost less than £100 million in increased costs in the network, which is less than 1% of the end-user customer bill. Therefore, we can get to the 20% to 25% renewables target relatively cheaply when it comes to network reinforcement. The big issue comes when we try to go from that to the 40% target. That is when there will be substantially larger sums involved. That is the difference between the £100 million and the £500 million; the high-voltage network will require very expensive reinforcement. Again, that should be part of the DETI study, which seeks to bring together all the different aspects of this.

Mr Agnew: Those figures are significant, but they are significantly lower than the ones we were recently given by the Utility Regulator.

Mr Ewing: The £1 billion figure was a very early estimate seven years ago, and fed into the strategic energy framework. A lot has happened since then.

Mr Agnew: Even more recently, the Utility Regulator told me of a figure of £800 million, and then came back to the Committee and said that it was £1 billion. That £1 billion is a nice round figure, but it does not seem to have any basis in fact any more. Would that be fair to say?

Mr Wasson: We have a fairly clear view of what the costs will be over the next several years. To reinforce the transmission system to allow renewables, we have been, in effect, going for the low-hanging fruit first. So you make the smaller investments that will allow capacity to be released. Gradually, that gets more difficult.

We will provide some follow-up information on this after the meeting, but I will tell you about the three main initiatives that we have had on that. We started out with our short-term plan for 2010-12. That enabled connection at about 300 MW of renewable capacity at a very minor cost of £1·6 million, which works out at just over £5,000 per megawatt enabled.

We then moved on to our medium-term plan. That requires more significant work to be done. For example, we will be upgrading overhead lines and carrying out certain works at substations and so forth. Some of that medium-term plan has been completed, and other parts of it are to be completed. As you will be aware, we had recent approval from the regulator for £44 million, which is substantial part of the medium-term cost. The medium-term plan will run from 2013-16. That will enable up to 1000 MW of additional generation to be connected. There is a more significant cost of £52 million for that, which works out at just over £50,000 per megawatt enabled.

Beyond that, things start to become more difficult. At that stage, we will be into the renewables integration development plan (RIDP), which is starting to require development of the 275 kV system. There are two aspects to that. First, it is expensive, and, secondly, it will be very difficult from a planning perspective, particularly if planning processes run as they have done for the interconnector. Almost any one of the linear links that we will be proposing as part of that RIDP will be as difficult from a planning perspective as the interconnector is proving, if planning processes do not change. The cost of the RIDP from 2016 onwards will probably be in the region of £320 million.

Therefore, the total for the short-term plan that has been completed, the medium-term plan that is in progress, and the RIDP, which is to come, is about £375 million. On top of that, you have the cost of the interconnector, which brings us up close to the £500 million. That is where those figures come from.

Mr Agnew: You mentioned the constraints on wind energy due to a lack of interconnection and the required upgrade. Will the interconnection and upgrade just take us up to 40% or can it take us to 40% and beyond? Will that also mean that the connection charges referred to by the Chair and Mrs Overend for those who wish to connect to the grid come down because the grid is reinforced, or am I misunderstanding how that works? Is that going to have an impact on connection charges?

Mr Wasson: There will not be an impact on connection charges as such. As you will probably be aware, we cluster wind farms; we refer to cluster substations. The idea is that you have several wind farms connected to one node. We are trying to minimise the number of overhead lines that are built, so we do that primarily for visual amenity reasons. In effect, those developers fund the costs of the cluster substation and their own direct costs. There is not really any impact on connection charges. The deeper network reinforcement required to connect those cluster substations to the system is in the figures that we have quoted. Ultimately, that is funded by the customer.

Mr Agnew: What capacity of renewables could the grid facilitate post the interconnection and upgrade of the sort that we are talking about? Would that take us beyond 40%, or is it just getting us to where it could facilitate 40% without constraint?

Mr Wasson: The main point to make about the interconnector is that it will be almost impossible for us to get beyond the 26% or 27% figure without the interconnector, for operational reasons. I think that SONI may have spoken about that already. That is the role of the interconnector in getting towards the 40% target. In addition, other local reinforcement needs to happen on the transmission network. That is part of the various plans that I have just outlined.

Mr Atkinson: I would like to make a point of clarification. The lady spoke earlier about the high costs of connection. We are talking about large-scale wind farms where there is a structured approach to developing the infrastructure that can support them. In the case of the smaller wind turbines that you referred to earlier, there are no investment plans at the minute to deal with some of the distribution-level investments that would be required to accommodate some of those connections. We are talking about two categories. We have made some progress with the regulator on some very low-level investments in that area, but there is the potential that that problem will not go away quickly. None of the plans that we have talked about really address that.

The Chairperson: I am a wee bit lost. Distinguish for me how you differentiate between a farm application, and a multiplicity of individual applications. You should know better than anyone that, often, one farmer hears about it, and agents go round farmers and landowners saying that they should sign up to this, that and the other. Usually, the applications come in from a cluster. Will you distinguish for me the difference in the approach taken by you between a wind farm application and a cluster of simultaneous individual turbine applications?

Mr Atkinson: The wind farm applications tend to come in as quite chunky megawatt totals, maybe 20 MW, 30 MW or 40 MW. Invariably, they will connect at a higher voltage and impact on our transmission system. Whether the application is from a single turbine or a cluster of the small turbines that you referred to in the second category, they will, individually, connect at a much lower voltage into the network.

The Chairperson: Their cumulative effect is what I am trying to get at.

Mr Atkinson: They tend not to apply together, but —

The Chairperson: Sorry; I know that they do not apply together. However, their cumulative effect on a grid or the network in one given location will, presumably, be on a par with a wind farm application down the road.

Mr Atkinson: You need quite a lot of the smaller ones. The small wind farms typically produce 150 kW or 200 kW. You need an awful lot of those to get anywhere near the size of a typical wind farm connection.

The Chairperson: I am just trying to get —

Mr Atkinson: The key point is that those smaller individual wind turbines, because of the nature of their construction and how they perform electrically, connect to the network at a much lower voltage level. They connect to the network in parts that are currently not provided for in terms of any organised investment programme. So, although you can do all that work higher up the network, which tends to accommodate bringing on the larger, chunkier wind farms, provision is not being made as such to develop the network to accommodate —

The Chairperson: Why is that? Normally, as we encounter them, I am sure that all you have to do is ring Planning Service and say, "stick a few pinpricks on a map there so that we can see just how those individual ones are developing". Why is there no read-across between, say, you and Planning Service? Ultimately you are consulted as part of an application process when the approval is received for it. Why is there no joined-up evaluation or assessment of the impact on the grid? You say it is done at the wind farm level, but is there no —

Mr Atkinson: The only way I can answer that is to say that the very sizeable incentives that were put in place for the small-scale generators — which are much more significant in terms of ROCs than they are for the large wind farms — were put in place by DETI without, as far as I understand it, any structured engagement with NIE about what that might mean from a network point of view. So there have been swathes of incentives sent out to those small-scale developers. They have taken those on board with the best intentions and, as a result of that, have gone through the planning application process. They have to go through that process before they come to us. The only thing we can really do is try to have a better understanding of the volumes that are coming through planning, which continue to be quite high at the moment, and try to alert the various industry forums to the fact that there is no certainty that they will be able to get it at a reasonable connection cost onto the grid. So there is a joined-up thing that has to work through DETI, the Planning Service and us to give that joined-up view.

The Chairperson: You identified what you see as the problem, so there should be a bit more joined-up, collaborative work here, but how do you assess that?

Mr Atkinson: In terms of assessing —

The Chairperson: How could you assess it? We have identified a problem. What do you see as a solution to that problem? The people who are putting in the individual applications are coming to us on occasions complaining about NIE either charging too much or taking so long — sure I have been

with you about this on a number of occasions — to put in place a proper grid connection, or even an evaluation of the potential cost of the grid connection. What do you see as the solution to that?

Mr Atkinson: There has certainly been frustration about the time to get to some of the answers in that area. We have tried to work as best we can with the various parties, including the regulator and DETI, to bring forward some of those answers more quickly, but, ultimately, the cumulative effect of the smaller generators does require, in some cases, much more significant investments to go into the distribution grid if they are to be connected successfully. The view that we have, in conjunction with our understanding from the regulator's point of view, is that the regulator has considerable concerns about the economic benefit of making those investments in the distribution system to allow more small-scale generators to connect. So there is a fundamental mismatch or block there in how that is going to be funded.

The Chairperson: I hear what you are saying, but I just want to rewind a little bit. Maybe I am missing something that you said. Investment is one thing, but you will want to know where you target that investment, which, from what I heard, was the problem that you identified earlier. You said that you had engagement with DETI. What has been the outcome of that engagement?

Mr Atkinson: The outcome of the engagement between us, the regulator and DETI has been that we have brought forward proposals for investments in a number of parts of the Province. I will just summarise that very briefly. There are around 60 what we call main substation areas in the north and north-west of the Province that are affected. Of those 60, around 40 require investments of a relatively low order to allow significantly more generation to connect. After a protracted process with the regulator, we now have an outcome. The regulator has decided that it will allow those investments to proceed, and we will potentially be able to give some good news in the next day or so to some of those investors who have been waiting for some time to get an answer. It means that there is potentially bad news in the case of 20 or so of those substations, where the level of investment required is much more significant — maybe in the order of millions of pounds — and which the regulator does not feel is easily passed on to the general customer base. If we turn that round and levy those costs on individual developers themselves, it would probably make their projects uneconomic. So there is some bad news emerging out of that as well. Potentially, it is a stalemate which we are going to have to do a lot more work to get through. However, there is some progress.

Ms Maeve McLaughlin: Thank you for the presentation. The question I have is in and around the standby connections. You suggested that that is not a solution and that it is not enough to link up the two systems. Is that because of their location?

Mr Wasson: It is primarily because of their location. Because they are in the west of the Province, those connections are from our 110 kV network across to a similar network in the Republic. Those networks are quite distant; they are in a completely different part of the Province to our stronger 275 kV networks. To have proper interconnection, it needs to be between the 275 kV network in Northern Ireland and the 400 kV network in the South.

Ms Maeve McLaughlin: I am just thinking practically. Given the centres of population North and South along the border counties, are there opportunities there or not? Are you simply ruling that out?

Mr Wasson: It does not solve the technical issues —

Ms Maeve McLaughlin: There are opportunities? I am talking specifically about security of supply. Are there opportunities in other locations?

Mr Wasson: The short answer to that question is no. David, do you want to expand on that?

Mr de Casseres: We have explained in the presentation we made as part of our planning that we looked at a number of options for connecting the two networks. As Robert has said, there is a 275 kV network in the North and a 400 kV network in the South. We need to connect up those two networks. To do that and make it effective, it has to be done at strong points in both networks. We looked at various ways in which they could be connected and the one that we have selected, and which we have developed for the interconnector, connects both between the strongest points and between points which are sensible in that they present the least overall distance. In that way, we have minimal impact on the environment and we make sure that we keep a good distance between our existing

interconnector and the new one that we propose. If they were too close, they would be subject to the same risks.

Ms Maeve McLaughlin: Given that we are dealing with two low voltage standby systems, if we were dealing with higher voltage systems, would there be a potential for a solution to the security of supply problem? I would think that there would be. You have referenced the fact that location is an issue, because, as your map quite clearly outlines, there are issues with the west. These locations are situated there; so if they were situated somewhere else or there was a different location that included a high-voltage or higher-voltage system, would it be easier? Would it be a temporary solution? Would it be a solution to security of supply?

Mr Wasson: Let me help clarify this. We are straying into the territory of power engineering again. The whole question of security of supply in Northern Ireland is about major generation and transmission capacity. For example, the new interconnector will mean that we will have a transfer capability, North to South, of some 1,500 MW. That is equivalent to two major power stations. It is at that level that we are talking about the capability of the interconnector. It is needed to provide that high-level system security, to make sure that we have a stable system at generating station and transmission system levels within Northern Ireland. To do that properly, we need to interconnect much more strongly with the South.

That is an entirely different matter from questions of security of supply, for instance, at community level. Take, for instance, Strabane or Letterkenny. First of all, any issues that those communities would have around security of supply have, in almost all cases, already been sorted out both North and South of the border. For instance, our planning standards on the lower-level distribution system require us to be able to have standby feeds in the event of faults on any of the distribution systems. There are no issues there, as such. I just wanted to make the point that system security, which we need the interconnector for, is an entirely different matter.

Ms Maeve McLaughlin: I am sorry, Robert; I just want to make this point. We are talking about security of supply being an issue post-2016.

Mr Wasson: That is right, yes.

Ms Maeve McLaughlin: So, it has not been resolved.

Mr Wasson: No.

Ms Maeve McLaughlin: Sometimes, I just want a yes or a no on this. I am suggesting that there may be different locations for interconnection possibilities or interventions that may be used.

Mr Wasson: Yes.

Ms Maeve McLaughlin: Leaving aside the low-voltage systems in the west, would a different location assist the security of supply issue?

The Chairperson: There seems to be a wee bit of confusion around the table. We are not talking about an alternative. We want clarification, not about an alternative to the interconnector which, obviously, will not be in place by 2016, but about the stopgaps or measures that can be taken to obviate that. It is not about an alternative to the North/South interconnector. You can park it, because it will go through wherever it goes through.

Mr Wasson: I can give you a yes or no answer on that. There is no alternative. From the point of view of what we might call a network fix for that problem, we are aware that the Department and the regulator are looking at various other plan Bs for additional generation that might be brought on board in Northern Ireland. That is one thing, but in terms of a network fix, there is none.

The Chairperson: I want to have absolute clarity on this. I will ask Maeve to allow me to labour this point. There is no alternative at present. Are there measures that can be taken to enhance what currently exists to bring it to the point where it could be used as a fallback in the event of any difficulties with security of supply post-2016?

Mr de Casseres: The answer is no. You asked for a yes or no, and the answer is no.

The Chairperson: Why not? Can you expand a little bit on that? Is it prohibitive costs? What is it?

Mr de Casseres: It is not about costs. You said that you were not talking about an alternative to the interconnector. If you need something that is a new interconnection, then something has to be built that would be an alternative. What you are saying is conflicting.

The Chairperson: There is no conflict there at all. I know nothing about the technical stuff that you are talking about. Just start with a blank sheet there. Robert, you explained earlier that there were two points, one at Enniskillen and one at Letterkenny. What can be put in place with those points to ensure some sort of enhancement to aid with security of supply post-2016? In other words, why is there not a doability factor in there? Explain to me, the average five eighths, please.

Mr de Casseres: The answer is that we are talking about completely different things. The security of supply issue is about the fact that within the boundaries of Northern Ireland and its ability to access power, it has to take that from power stations that are within Northern Ireland or else it has to get power from interconnectors to Scotland or from the interconnector to the Republic of Ireland. There is already an interconnector to the Republic of Ireland which already has a high level of capability. The reason why it is currently restricted is because the system operators will not accept the risk of a sudden shock to the whole network if there was a fault on that system. It is a bit like an aeroplane that needs two engines because the risk of what might happen if it has one engine and loses it is so high. In order to use the existing interconnector to its full capacity, we need another one. When we have both, we can use it to its full capacity. That is why we need that interconnector. That is what limits the flow between north and south at the moment.

The Chairperson: I understand that bit, but what is inhibiting the potential flow from any other outlet — or any other inlet, whichever you want to call it? I just do not understand that bit at the moment.

Mr de Casseres: They are already used; they are already available.

The Chairperson: I know that they are used and available, but I am trying to get us now post-2016.

Mr de Casseres: I do not want to get too technical, but the two interconnectors that we have at the moment are at 110 kV, and if you have a system fault event that causes a need for a significant flow on the interconnector, those two interconnectors are tripped out. I cannot go into the detail of this without getting very technical, but because of stability and voltage problems —

The Chairperson: I tell you what. We will probably not get to the source of it here today, but I would appreciate some sort of a paper from you. You say that you cannot go into the technical detail, but I would appreciate having some of that technical detail to learn, and if it could be of use to the Committee, please just —

Mr de Casseres: We can do that. I assure you that it is not —

The Chairperson: Back to you, Maeve, and thank you for allowing me to intervene.

Ms Maeve McLaughlin: I want to ask about the grid strengthening proposals, the map that is about to be published and — I will be called a whinger — the differential across the North in voltage systems. I assume that that is not new information, but that it has been common knowledge for a while. Is that correct?

Mr Wasson: Michael's map — I hesitate to call it Michael's map, it is NIE's map — will be published in the next several days. People will see from it that the main issues are showing in the west of the Province. However, that is not because of particular network weaknesses in the west of the Province. It is because, in broad terms, that is where the wind blows and that is where —

Ms Maeve McLaughlin: I am sorry to interrupt you. Has it been known for some time, or is this new information?

Mr Wasson: I am sorry. Has what been known?

Ms Maeve McLaughlin: The differential in voltage systems between the west and east. Is that clear?

Mr Wasson: I am sorry. I just do not understand.

Ms Maeve McLaughlin: You have shown a map that clearly shows differentials in the north and the north-west.

Mr Atkinson: Let me explain. This map needs to be understood fully. It mainly draws attention to congestion problems on what we call the lower parts of our distribution network. Those are the parts of the network that the small generators connect into. However, it is also symptomatic that there is generally a weakness, not just in lower distribution levels here, but also in the higher-level transmission voltages as well in those areas.

This morning, we have been discussing the plans for investment. There are very structured and detailed plans for investment to take account of the higher transmission-related problems in those areas and to strengthen them so that more wind farms can be brought on board. However, there are no plans in place at the lower levels of the distribution system here to make significant differences to accommodate —

Ms Maeve McLaughlin: I am just conscious of the time. I will ask the question again: is that information new, or is it something that has been known for a considerable time? That is straightforward.

Mr Atkinson: The facts have been there for a long time.

Ms Maeve McLaughlin: Can I then suggest, or ask for, clarification? In relation to the telehouse data centre link in the north-west, the Project Kelvin hub, did NIE give advice to the project promoters, which were DETI and another company? This was heralded as a major, all-singing, all-dancing connection for the entire North. Now I am getting information that the grid is too weak.

Mr Atkinson: Correct me if I am wrong, Robert, but there are no secrets anywhere between NIE and DETI as to the nature of the grid or where it is strong or weak. That information is very much available to DETI, and it forms part of the discussions that we have had for various grid-strengthening regimes.

Ms Maeve McLaughlin: You would have been consulted

Mr Atkinson: There are no secrets about this.

Ms Maeve McLaughlin: That is all I wanted to clarify.

Mr Wasson: Chair and Ms McLaughlin, let me re-emphasise a point that I made right at the beginning. In previous sessions there has been some reference to economic development or load investments being restrained. That is not the case. For instance, in relation to Project Kelvin — and I am open to correction here — I am not aware of any issues that there have been around the connection of any loads in that particular area.

Ms Maeve McLaughlin: Well, there is certainly a suggestion that the grid is a problem. I will just leave it at that. It has been clarified.

The Chairperson: Obviously, there may well be issues around this in different geographical localities. I know that you, Robert, and your colleagues have been more than facilitating in arranging meetings to iron those things out. However, if members have particular problems in their constituencies, it would be helpful if they could follow those up with you.

Mr Wasson: We would be very happy to do that. Indeed, we would be very happy — although I know that it is, probably, not quite in line with the terms of reference of this particular group — to meet again to talk about connection issues, the grid and local issues.

Mr McKinney: It is not even a question so much as some more information. Earlier you talked about the £1 billion cost in your submission around the 2009 strategic energy framework. Now, that has dropped to £500 million. Could we get something on paper about that?

Mr Wasson: Yes. We would be happy to do that.

Mr Flanagan: Can I ask another question, Chair?

The Chairperson: Very briefly, Phil.

Mr Flanagan: If you do not get planning permission for the interconnector, what will you do?

Mr de Casseres: If we do not get planning permission for it, will be not be able to build it.

Mr Flanagan: What is the plan B? Everybody says that we need it, and we do need it. So, what are you going to do?

Mr de Casseres: As NIE, we do not have a plan B.

Mr Ewing: There would need to be more generation.

Mr Flanagan: It is what everybody wants to hear.

Mr de Casseres: It then becomes an issue for DETI and the regulator to decide whether there is another way to deal with security-of-supply issues. Any other way that it might adopt is going to cost more money and put prices up.

Mr Flanagan: So, even if planning permission is turned down, you will not explore the possibility of an underground interconnector?

Mr de Casseres: We have looked at the technology. We have told you that it is not feasible.

The Chairperson: I think that your colleague was coming on to exploring further generation options. Is that what you were saying, Mr Ewing?

Mr Ewing: The interconnector is the only thing that we can do from the network's perspective. Plan B, as you know, is to keep the units on at Ballylumford or to have other kinds of generation. It is the shortfall in generation that is security of supply, not the network limitations, apart from —

Mr Flanagan: Your big argument for an interconnector has not really been the reduction in surplus capacity, but the €25 million annual cost to consumers on the island of Ireland. If there is no interconnector, that problem still exists. How are you going to sort that problem out?

Mr de Casseres: If we are not able to build the interconnector because we do not get planning approval, we cannot build it. It is as simple as that. We could go away and look at other places where it could be built and come back and take a great deal of time to do that — because it takes many years to go through that sort of process — but we very much hope that we have put out a very clear picture. We very much hope that the authorities will provide us with permission, and do so quickly.

The Chairperson: Just one other thing. In terms of the interconnector, you know the way we have the renewable sector, and what it does is factor in a community benefit element to anything that it might or might not do.

Mr Flanagan: It is supposed to.

The Chairperson: Yes; they say that they factor it in. Have you, in your deliberations, your application or as part of your management thought process, at any stage, factored in or thought of a community benefit element to what you are doing if the application goes ahead?

Mr Dunne: That sounds more positive, Chair.

The Chairperson: You can say yes, no or that you will think about it and come back to us when you have done that and give us a few ideas as to what that might be.

Mr de Casseres: It is not that we have not thought about it, Chairman. It is a question that people have asked. It is certainly an issue that is being raised in many parts of the world as one of the ways in which infrastructure projects could gain better support in communities. However, there is no mechanism in this jurisdiction. Certainly, there is no mechanism for such a payment or benefit to be considered. It would be a matter for the regulator to decide that it was worth all customers paying whatever that payment might be to specific communities that then have to find infrastructure in their vicinities. It would not just be a matter for electricity infrastructure; it would be a matter that would affect any infrastructure that is built in Northern Ireland. So, I suggest that it is really a policy issue for government and regulators to consider whether that is something which is —

The Chairperson: So, as a company, you have ruled that out?

Mr de Casseres: It is not something for NIE to do, because we have no mechanism to pass it on.

The Chairperson: Yes. As a company, you have ruled out doing anything of community benefit which could help with the project. You are saying, essentially, that it is for the Department and the Utility Regulator — it is over to them.

Mr Flanagan: It must not be making any profit, Patsy.

The Chairperson: That is grand. I appreciate your answer.

Thanks very much indeed, gentlemen. It has been a very useful session. As you know, we have additional questions. Some were mentioned earlier. There are a number of written questions. If you are content, we will pass them on to you, and you can come back to us in written form. As well as that, I will appreciate and, indeed, look forward to your technical assessment of the point that I was trying to tease out. Thank you very much indeed for your time. It has been very helpful.

Mr Wasson: Thank you.