



Environment Scrutiny Panel
Energy Policy Review hearing with Jersey
Electricity

TUESDAY, 9th JULY 2013

Panel:

Deputy J.H. Young of St. Brelade (Chairman)
Deputy S.G. Luce of St. Martin (Vice-Chairman)
Connétable P.J. Rondel of St. John

Witness:

Mr. C. Ambler (Chief Executive Officer, Jersey Electricity)

Also Present:

Mr. R. Levett (Panel Adviser)

[14:30]

Deputy J.H. Young of St. Brelade (Chairman):

Good afternoon, everybody, and welcome to the afternoon session of the Environment Scrutiny Panel, continuing our review into the Minister for Planning and Environment's draft *Pathway 2050: Energy Plan for Jersey*. This morning we met with the Minister for Treasury and Minister for Planning to follow up first rounds of interviews, and this afternoon we welcome Mr. Ambler. Welcome to this afternoon's session.

Deputy J.H. Young:

Thank you very much, Chris. We had a very good meeting with yourself and Mr. Wilson on 11th June. I do not know if you have had a chance to look at the transcript of that. I understand that you have sent us a note as well that you wanted to follow up on a number of matters. I wonder if you could just introduce your purpose and we will try and follow your approach, if we can. We have reserved an hour for this afternoon's meeting. Obviously it is in public. Would you like to just introduce it and tell us your thoughts?

Chief Executive Officer, Jersey Electricity:

Yes. Obviously, thanks very much for taking the time to hear from me again. I was just conscious that we had covered a lot of ground in the last meeting and there were one or 2 aspects, despite that, that we were still unable to really address fully. I did have a brief look at the transcript and there are one or 2 points that I wanted to make sure that I was clear on as well, so that was really my purpose for reverting back to you, and it was really around a few areas: competition, electric transportation, smart metering and gas infrastructure, should that be of interest, but recognise that we are not in the gas business, and also options for funding, because I was conscious that I had raised a number of things in the last session which at face value come at a cost and we obviously spent a lot of time looking at that side of the equation without looking at how we would perhaps raise the funds to cover that. So broadly speaking, that is what I was hoping to cover.

Deputy J.H. Young:

Before you start, we were talking about whether there were any subjects that equally had come out of our other sessions where we could take the opportunity of checking out where you were or where the J.E.C. (Jersey Electric Company) is on, and I think we would like to just talk to you very briefly about your views of the future of wind and marine renewable resources, because there does seem to be quite a divergence of view in other witnesses, so we want to see your view. If my colleagues are in agreement, we will ask you Chris to kick off on your agenda.

Chief Executive Officer, Jersey Electricity:

Is that okay?

Deputy J.H. Young:

Yes. What I would like you to do is cover each subject in turn and then give us an opportunity to come in with questions, because we have some thoughts and points we want to raise with you on those.

Chief Executive Officer, Jersey Electricity:

Okay, yes. I will try and keep it sort of fairly high-level, and if you want to come back on things, then please do so. Last time we talked quite a bit about first of all the competition question, we talked a bit about regulation and why we, Jersey Electricity, think the existing regulatory structure, the existing level of oversight was appropriate with the Electricity Law that is in place at the moment, the Competition Law and also the levels of transparency on our business¹. So we talked a little bit about regulation. We also talked a little bit about the wholesale markets in Europe and why we have and why we enjoy access to competition through those markets. There are other suppliers other than EDF that we can draw off there. We buy at a price that is linked to a published index which represents supply and demand in that market. We were also discussing the fact that electricity can be generated from various fuels; oil, gas, hydro-electric as well as nuclear sources and renewables, so to the extent that there is a collapse in price of any one of those, effectively we, as an electricity provider, can get access, we can enjoy those lower prices because those are the plants that will be dispatched preferentially into the French network.

What we did not talk very much about was local competition. Our view is if you look at the cost structure in our business locally and look at the prices charged and profit levels earned locally, the opportunity for Jersey Electricity to super-profit is relatively limited. I mentioned earlier that we have full transparency to our financial accounts; we publish those. They are relatively simple. They are published to a timetable. We only make 6 per cent to 7 cent return on assets, which is, generally speaking, the minimum level of return that one needs to justify any future investment in infrastructure². I think we should also be mindful of the fact that 70 per cent of the cash costs of running our business is attributable to bought-in power, imported power from France, and obviously, as I said a few minutes ago, we get access to competitive markets there³. So in terms of the cost structure and our financial performance, our opportunity to earn super-profits is relatively limited.

Now, notwithstanding that, we do compete intensively with oil and gas, ie across fuels. Clearly, we are not allowed to breach the Electricity Law, nor the Competition Law. That means we cannot abuse our dominant position and if we were to abuse our dominant position, we would open ourselves up to a legal claim from a customer potentially or from another supplier under the competition law and there are pretty penal measures for doing that, if we were to do that.

The Panel was subsequently informed by Jersey Electricity that:

¹ Listing on the London Stock Exchange obligates the Company to publish its financial details to a timetable and recognised international standard.

² This return of 6-7% is benchmarked from empirical evidence of what regulated entities in the UK seek to achieve on average.

³ Jersey Electricity also pool their imported power demand with Guernsey Electricity to ensure that the Islands enjoy as many economies of scale as possible.

I think Deputy Luce asked a question as to whether we would allow an outside company to connect to our network, who wanted to use our network to distribute electricity, and I just want to be very clear on my response to that. We would not have any particular issue with purchasing power from a third party for resale purposes. As long as we do not breach the fundamental premise - a fundamental philosophy, if you like - of the way we run our business that I have set out previously, which was we want to make sure that such action is good for our customers and in their interests. We want to make sure that they would benefit from that – that the price of those alternative forms of energy were not higher than alternatives – and that we could both meet our security of supply objectives as well as our low-carbon goals. So as long as we could put ticks in all those boxes, we would be open-minded to contract with a third party, and in fact we do contract with a third party today. We contract with T.T.S. (Transport and Technical Services) for an electricity supply from the Energy from Waste plant; we procure power from them. We have done that and we accept that because we would not breach that fundamental philosophy of continuing to add best possible value for customers. Just to be clear, it is very, very unlikely we would support the opening up of Jersey's network to competition, so while we would be comfortable with the concept of procuring power from a third party for distribution and onsale via our network, I think that opening up the Jersey network to competition is likely to fall foul of that fundamental premise. What I mean by that is that in our view, it is likely to disadvantage customers and it is likely to disadvantage customers because effectively you would break up the electricity market into smaller units of production and supply; there will be less scale in our business; the cost of procuring power from France would go up; the costs of hedging, billing, customer care, we would lose all that scale, all those benefits of having a simple, concentrated business running through those functions. We would also have higher transactional costs because then potentially you could have multiple suppliers connecting into the electricity network all contracting with each other for access, supplies and services. We would have to match supply/demand. There is a cost associated with doing that. There would be much more supply complexity, there would be issues around metering, for example, which would be complex. There would also be confusion around how we would treat strategic assets such as the La Collette Power Station. At the moment, that facility costs us £3 million to £4 million a year, but we are prepared to make that investment because we think that is in the best interests of the Island overall, but it comes at a cost. If you were to open up our broader network to competition, it would throw a question mark over our willingness and the case for keeping that open. So in a nutshell, we think that breaking the market up into smaller units and opening up the full network to competition is likely to lead to higher costs and therefore higher prices to customers, damage services, and as important as both of those things, a significant reduction in our willingness to invest. As you know, we are investing significant amounts in infrastructure at the moment.

Deputy J.H. Young:

Thank you for that. That is a very clear, comprehensive statement. Obviously we need to explore that area, because I think our understanding of what the Minister for Environment told us this morning runs very much in a different direction, i.e. having a multiplicity of suppliers accessing the network, which the Minister expressed a view would lead to advantages. But just following your line for a moment, would you accept that in that monopolistic - or perhaps almost monopolistic situation - that does make the case for stronger regulation of electricity supply, particularly if we want to see and encourage micro-renewables?

Chief Executive Officer, Jersey Electricity:

I think this is where we need to be clear about what we are trying to achieve here. I think the goal per se should not be competition or regulation. The goal should be affordable, secure and sustainable energy for Jersey. I set out in the first interview with you our performance in those areas. Power prices are presently very competitive: we are 12 per cent cheaper than the European average, cheaper than Guernsey, cheaper than the Isle of Man, cheaper than Ireland. I will not go over all that in detail because we covered that last time, but power prices today are very competitively priced. Security of supply is very strong, typically 7 to 8 times more reliable than the U.K. (United Kingdom), accepting the fact that last year there were some challenges. And power distributed on the Island is significantly lower in carbon intensity than any of the other fuels - and will be, despite the loss of the first interconnector last year - and significantly lower in carbon intensity than the U.K. and most of Europe.

So if our objective is to provide affordable, secure and sustainable energy, then while we would always want to be better at what we do, we are performing pretty well at the moment. The real risk is if you introduce deep, interventionist regulation and competition of the sort that you might see in much, much bigger economies that ironically could lead to a deterioration in services, higher prices for customers and lower investment, and that would be damaging for the local community.

Deputy J.H. Young:

What about if there is an objective to increase the use of renewables and encourage micro-generation? Is there not a case for having a regulator assisting in designing feed-in tariffs and so on?

Chief Executive Officer, Jersey Electricity:

I think that there is a way of achieving that without going down a route of regulation and competition. I think that it may well be that we can construct support funding through another mechanism that will provide the funds to facilitate and encourage that sort of development. But I think we have to be very, very careful not to look across the water at some of these bigger

economies and say: "Oh, the U.K. has got a regulator, the U.K. has got competition." That market is 1,000 bigger than the Jersey market. It comes at a significant cost and that in our view would be damaging to what is a very small market, but I accept to some extent what you are saying, that there may be certain measures that we can put in place and ring-fence to encourage and incentivise certain activities, such as development of micro-renewables.

Deputy J.H. Young:

Could you give us an example of what alternatives might be available to help us do that?

Chief Executive Officer, Jersey Electricity:

One example might be to introduce some form of levy on carbon emissions, given that is what this policy is all about, it is all about reducing the carbon emissions, and ultimately it comes down to the same thing. At the end of the day, if you want to incentivise technologies that are presently uneconomic, somebody has to pay, and unfortunately it ends up being with the consumer, either via the taxman or directly via some other means. But I think that there are modest measures that can be put in place either via a carbon tax or a levy on road fuel which would be very moderate and would provide at least some early-stage funding to start this market going in micro-renewables in particular.

Deputy J.H. Young:

Okay. I will pass to my colleagues.

The Deputy of St. Martin:

I know we are moving into funding options ...

Chief Executive Officer, Jersey Electricity:

Yes, we are a bit.

The Deputy of St. Martin:

... and I think we are all looking forward to hearing your view on funding options, because the things we particularly explored this morning, or we tried to, especially with the Minister for Treasury, was how we get over this eventual difficulty that we may well have with the political vision on one hand and the commercial reality on the other.

[14:45]

We spoke a lot about regulation and how if we particularly decided - and the Chairman has alluded to feed-in tariffs or what have you - that was a political direction we wanted to go in, how we can

then work with you or otherwise to resolve the commercial reality difficulty that you have of paying more feed-in tariffs costs somebody, who in your case it is your consumers that have to pay for you to pay out more.

Chief Executive Officer, Jersey Electricity:

I think if I might just step in there, Deputy, I think we need to take a holistic view and look at the overall energy market. I do not think you can look at each individual fuel. What we are trying to achieve with this policy is reducing overall carbon emissions from any fuel and we have got to constantly remember that electricity is presently the lowest-carbon alternative. The carbon emissions from oil and from gas are significantly higher, so you are going to achieve your biggest bang for your buck by displacing consumption in those areas if that is your governing objective.

The Deputy of St. Martin:

I know it is only micro and it does not feature particularly in any of the overall percentages, but micro-renewables you would agree do not figure in carbon emissions particularly, because once you have installed it, there is no carbon involved. There might be initial ...

Chief Executive Officer, Jersey Electricity:

They do. Energy that is generated locally through a micro-renewables system will displace energy used in other areas. For example, somebody could put a solar P.V. (photovoltaic) panel on their roof and it means that they will not need as much electricity or they will not need a gas boiler to give them hot water in the summer. But, yes, unfortunately, we are in a situation where there are some technologies that are presently economically viable and we should be encouraging the market to invest in those naturally, and obviously we are a commercial organisation; we are trying to achieve that anyway. A good example is Energy Efficiency, and there are other technologies that are not presently economically viable. If they are not economically viable, somebody has to pay in some shape or form and there is no way that I can do anything about that at the moment. Now, one might believe that technologies will come down in price as we go forward, and energy prices, yes, there is variability, but they are going to go up over the long term, and at some point these technologies will become economically viable of their own merit. But I think there is some merit with the States looking into selected ring-fenced funding opportunities to incentivise the take-up of certain of these technologies.

The Deputy of St. Martin:

The finance to run those schemes would be States money as opposed to J.E.C. money?

Chief Executive Officer, Jersey Electricity:

Yes. I think that one might argue it all comes from the same pocket. At the end of the day, it comes from consumers and their willingness to accept the extra prices of doing that. But I think there are ways of doing it. I think it has got to come from the States, in a way, because if it comes from electricity, it can only come from Jersey Electricity's customers and you are penalising our other customers for consuming a low-carbon product that is competitively priced, which is wrong and why you need to take a holistic cross-fuel view including transportation. If your goal is to reduce carbon emissions, you cannot ignore oil and gas, or any other fuel either.

Deputy J.H. Young:

You seem to be saying very clearly if anybody is to make investments to encourage micro-renewables, it should be the States.

Chief Executive Officer, Jersey Electricity:

I think the States have the mechanisms in place to raise the funding to put in place the regime that will generate the funding, whether that is an enhancement on road fuel duty, or whether that is through some carbon tax type arrangement.

Deputy J.H. Young:

So you are really advocating new taxes?

Chief Executive Officer, Jersey Electricity:

I think that we should seriously consider that, if that is what we are wishing to achieve with this policy and you want to deploy non-economically viable technologies.

The Deputy of St. Martin:

The Minister for the Environment this morning gave us the view that he would very much like to use the carrot and encourage people as much as he can to adopt this and reduce their emissions and reduce their consumption. Do you feel realistically that this policy can be achieved by persuasion? Would it not need some regulation or quite a bit of regulation to achieve its goals?

Chief Executive Officer, Jersey Electricity:

I think it could get there in the end of its own will, but I think it would take longer to do that, and I think there is a case for providing some selected States funding for this.

The Deputy of St. Martin:

There was one question I had ...

Chief Executive Officer, Jersey Electricity:

Deputy, if I can just give an example - I was going to cover this a little bit later - let us just take road fuel, for example. If you needed funding, you could increase fuel duty by 5 pence per litre on road fuel. That is roughly a 10 per cent increase in road fuel duty and that would increase road fuel prices from 120 pence to say 125 pence per litre. That would generate £2.2 million of funding. You can do quite a lot with £2.2 million of funding and what we are talking about here is 5 pence per litre on fuel. Fuel prices on this Island at the moment, last time I looked, were somewhere between 115 pence and 125 pence per litre. Interestingly, there is quite a variation of retail pricing on the Island, which suggests that there are some people out there who are not that price-sensitive, but if you increase fuel prices from let us say an average of 120 pence per litre to 125 pence per litre by charging this premium on duty, you could then generate £2.2 million of funding which you could do quite a lot with, either energy efficiency, low-carbon transportation, whatever technology that is or micro-renewables. What I am suggesting is - putting aside the numbers, because you can argue whether it should be 5 pence or 1 pence or 3 pence or whatever it is - a relatively small premium in fuel duty would be a modest first step that could create sufficient interest to really catalyse these opportunities and get people more interested, get some momentum behind these technologies.

The Deputy of St. Martin:

How far would that go in increasing percentage-wise the feed-in tariffs that you pay at the moment, do you think, and obviously they would enhance your own tariffs, but would the feed-in tariff double with this? I do not know the numbers or number of units.

Chief Executive Officer, Jersey Electricity:

I would have to run the numbers specifically, but you could certainly create enough of an incentive to encourage the take-up and make it commercially viable for people off their own back to invest in these low-carbon technologies off their own back to the point where 2 per cent to 3 per cent of electricity's annual distribution is covered from micro-renewables. It is of that sort of order, which is the start in this process. There is only so much rate of supply the market could accommodate with these sort of solutions. So that would be a sort of ring-fenced modest measure that would create the right sort of 'stick and carrot' incentive that could start to have an impact. I would certainly advocate that sort of scale of activity rather than some sort of wholesale restructuring of the market.

Deputy J.H. Young:

Sorry, I missed that. What was the initiative there that led to that change? Sorry, I missed that.

Chief Executive Officer, Jersey Electricity:

Sorry, I probably did not explain it very well. That was a small, modest increase in fuel duty.

Deputy J.H. Young:

The fuel duty change, the £2.2 million?

Chief Executive Officer, Jersey Electricity:

Yes, the £2.2 million.

Deputy J.H. Young:

But could I just check, you have part of your business, do you not, that deals with this micro-renewables?

Chief Executive Officer, Jersey Electricity:

That installs the systems, yes.

Deputy J.H. Young:

You must know what customers are looking for in terms of viability.

Chief Executive Officer, Jersey Electricity:

Yes. Customers vary in their approach. There are some that will invest in these technologies without them being commercially viable because they want to do the right thing for the environment; they do it for other non-commercial reasons. That is, of course, the market that is being addressed at the moment, but it is a very small market.

Deputy J.H. Young:

So that is the market now where people are asked altruistically, if you like, for environmental commitments to go ahead, so it does not mean that nobody ... effectively the financial equations do not work for consumers generally on micro-renewables?

Chief Executive Officer, Jersey Electricity:

It depends on the technology. There are some technologies that in my view are economically viable today, for example, solar water. It always amazes me that there is not more solar water being used on this Island. Most people have their heating on in the winter, they want to switch it off for 6 or 8 months during the year over the summer, but they still need hot water and that is a market that can be addressed through solar water. As long as you take a sufficiently long-term view, that is an economically viable technology. If you know you are going to move house in 2 years' time, it is probably not, but if you are going to be in your home for the next 5, 6, 7 years

plus, that is a technology that you can seriously consider. But it is not just about the technology being economically viable. People have got to be sufficiently confident to invest a chunk of cash upfront with the hope and expectation that they will recover that over the term of the investment.

Deputy J.H. Young:

Phil, do you want to come in on this before we move to the next?

The Connétable of St. John:

Yes, because I am concerned, what you are telling us about this 5 pence a litre on fuel et cetera to cover some of these things. Are you not a bit concerned now that shale gas seems to be raising its head quite fast in America, the U.K. and Europe are now looking at it, 5 years down the road you might find that you are not as economical within your business as it is today and we might be going through another cycle for the next 30 years or 40 years where they have got oil and gas coming out of the ground and that is going to give you a lot of competition? That being the case, you are trying to get your markets in place now, or you have got your market in place now. Can you just answer me one question: how robust is your electrical supply, i.e. if Jersey Gas were to close down in the next 12 months for whatever reason, could you take over their 12,000 customers or thereabouts, 10,000 customers, at a very short period of time and give them the power they require?

Chief Executive Officer, Jersey Electricity:

Constable, can I just rewind, because I think you made a couple of statements there that I would not necessarily agree with. The shale gas thing for sure is a massive global opportunity and we have seen that in the United States and there is an awful lot of interest in the U.K. There is a huge amount of excitement there. I think that yes, there is a potential opportunity. Firstly, there is a lot of work that needs to be gone through and there is a lot of risk that needs to be understood before we can properly exploit that opportunity in the U.K. I have to say, whether there is any locally in Jersey or in Jersey waters is a whole new question, and certainly from the initial research we have done is it is very unlikely that there will be any shale gas accessible to the local community directly. But you are quite right in a sense that there may be more global gas that appears on the scene. The great thing about electricity is that it is a carrier technology. It is not a technology that is dedicated to a certain fuel type. We can connect in whatever electricity generation source you want. So if - and I do not believe this will be the case in the near term – but if there was a sudden flood of gas into the European market, then Jersey Electricity and its customers would automatically be enjoying the benefits of that through its own network by virtue of its own connections into the French network. It just means that gas-fuelled electricity generation in France will be preferentially dispatched and that would feed electricity to the grid and we would enjoy the benefits of that through effectively lower costs and therefore lower prices to consumers. So in

many ways, electricity is future-proofed in that situation. We could have all sorts of new technologies appear on the scene which can connect into a grid anywhere in Europe and arguably we could enjoy the benefits of that.

As regards your question in your scenario of the failure of the gas company locally, we do have contingency plans prepared around that. As you know, we are investing significantly in new interconnection and we have got a £70 million project for a subsea cable, which should be in service by 2015. We are also now committing to a replacement of EDF 1, which is the cable that failed last year, so within 2 to 3 years we should have 3 active cables between Jersey and France. That gives us an enormous amount of physical resilience using two separate geographic routings.

The Connétable of St. John:

Yes, you told us that last time, but where I am coming from is to pick up an extra 12,000 households - or 10,000, whatever the number is - currently you would probably have a single-phase small supply into some of these properties.

[15:00]

What timeframe would you need to be able to pick them up, because most of these would have gas heating or gas water heating and the like. They will not have gas lighting, they will have a small electric supply in some place, and gas cooking. So what would you need, because if you turn on 8,000 or 10,000 gas electric cookers at 5.00 p.m. in the afternoon, what kind of demand are you going to need over and above?

Chief Executive Officer, Jersey Electricity:

We have looked at that; we have got contingency plans in place. It would require a lot of investment at that time. We think it is a scenario that we could cope with, with the support of the States of Jersey. We think they would need to work with us in order to do that, but we think that it would be possible to transition those customers across into our network within one to 2 years. So I am not making light of that situation. It would be a challenge, but I think it is one that we could deal with.

The Connétable of St. John:

You said you wanted States ...

Chief Executive Officer, Jersey Electricity:

Sorry, Deputy, and of course because we are already investing into interconnection, we have got plenty of on-Island generation, more than we need to meet the Island's full requirement locally, plus we have got interconnection, we should have 3 interconnectors within the next 2 to 3 years.

The Connétable of St. John:

The generation and the interconnection, fine, I do not have a problem with any of that. It is, shall we say, if I was to hit the centre of St. Helier with the bulk of these gas units on, the turmoil that would be created for the parish, for the Island, having to put larger mains or substations in that particular one square mile ...

Chief Executive Officer, Jersey Electricity:

It would be a challenge, but we think it is possible. It would require the States of Jersey to be very, very focused and work with us very carefully to get the investment needed in and to get that investment to happen on a timetable, but we think it is possible.

Deputy J.H. Young:

Can I ask you to clarify what you mean by "very focused", what the States of Jersey would need to do?

The Deputy of St. Martin:

It is not something we do well, being very focused.

Deputy J.H. Young:

I think I know what "focused" is, but I want you to be a bit more specific.

Chief Executive Officer, Jersey Electricity:

I think we would want clearly defined resource within the States of Jersey to facilitate this. We would want a clear understanding of how the financing of the transition would take place and we would want, for example, a high degree of prioritisation on sites for new substations and things like that. You are probably aware we are having enormous difficulties at the moment finding a site for a new substation in the west of St. Helier, which is a crucially important substation. We certainly would not have time for any sort of protracted discussions or negotiations. We would need quick decisions to do that. We are not talking about lots of new sites though. In fact, the existing infrastructure in many cases would be capable of accommodating the extra demand, but it would require cable reinforcement in some selected areas.

The Connétable of St. John:

So therefore you would be looking at a big increase in the labour force for lifting the roads et cetera and making it good over that period of time?

Chief Executive Officer, Jersey Electricity:

We would certainly be looking for an increase. We would not be talking about a radical change in the structure of our organisation to deliver this.

The Connétable of St. John:

Not changing your organisation, but T.T.S. and other bodies would have to reschedule an awful lot of their workload.

Chief Executive Officer, Jersey Electricity:

Probably, yes. It would require some focus, some prioritisation on the part of the States of Jersey.

Deputy J.H. Young:

If we can now move on to ... you told us you wanted to talk about gas infrastructure. We have touched upon one aspect of it. I think I will give you an opportunity there to say what you wanted to say in your note to us.

Chief Executive Officer, Jersey Electricity:

Yes. I will not labour this. You are quite right, we have covered this before.

Deputy J.H. Young:

Partially, I think.

Chief Executive Officer, Jersey Electricity:

We have talked a little bit about shale. There is no evidence from what I have seen of shale being present in Jersey or Jersey waters. Even if there were, there are risks around how that could be accessed, risks around contamination of ground water, risks around earth tremors and so on. So I suppose what I am saying is do not hold your breath for shale to suddenly be the saviour of all of our energy problems. I do not think it will, although we may be able to get some fringe benefits by virtue of our connection to the French network. Regarding a pipeline or L.N.G. (liquefied natural gas) certainly it is possible to install a natural gas pipeline between Jersey and France; it is possible to install L.N.G. facilities, but the size of the market locally is so small that commercially it does not make sense. Just to take L.N.G. as an example, from the work we have done, the minimum size of jurisdiction you would need is a population of north of 3 million people, and as you know, we have only got 100,000 here, so we are miles out of kilter from a scale perspective

for L.N.G. to be economically viable and the installation costs are enormous. The gas conversion costs from L.P.G. (liquefied petroleum gas) to natural gas is about £1,000 per home, so if it is 10,000 customers, you are talking about £10 million just on the conversion of homes. So it is a big, big cost. If people think that it is a fantastic opportunity and commercially it makes sense and will lead to lower-cost energy for consumers, then why do they not just crack on with it in the same way that we are with our cable investment?

Deputy J.H. Young:

I think one of the questions in your notes, you spoke about smart grids and energy storage as a way J.E.C. is able to take advantage of the flexibility of the European network. Would you like to expand on that a bit, please, particularly energy storage?

Chief Executive Officer, Jersey Electricity:

Energy storage is an interesting opportunity and we are always interested in offering our network, which is a fully integrated network, to technology developers who might want to test technologies in storage. We believe it is enormously valuable, because there is a huge variation in the demand for electricity during the day and even through our contract, but even if we were generating locally, it is more costly to generate power at certain times of the day than at others. So if you are able to generate it during the cheap times, store it and dispatch it during the times when there is a lot of demand and people pay a high price for it, then potentially that could deliver enormous benefit to the community. So energy storage is massively valuable.

Deputy J.H. Young:

But this is long term?

Chief Executive Officer, Jersey Electricity:

This is long term and it is very technology dependent as well.

Deputy J.H. Young:

Roger, do you want to follow up on that one?

Mr. R. Levett:

Yes, can I just follow up on it? Are there any technologies which you have in mind particularly for storage?

Chief Executive Officer, Jersey Electricity:

For storage?

Mr. R. Levett:

Yes.

Chief Executive Officer, Jersey Electricity:

There is not a 'slam-dunk' opportunity out there for us. There is fly-wheel technology, there is fuel storage locally, there are hydrogen cells, there are other things, batteries for example and pump storage. There is not really an emerging slam-dunk technology that would transform our system, but we are always on the lookout for it.

Mr. R. Levett:

There is one possible connection: the *Zero Carbon Britain* report by the Centre for Alternative Technology pointed out that if we went for electric vehicles, you could use all these batteries as ...

Chief Executive Officer, Jersey Electricity:

Yes, of course, and clearly that is of interest to us. If we can catalyse the electric transportation network, then potentially we can use, if you like, the distributed battery cells that are sitting in people's vehicles to transfer energy backwards and forwards when it's needed. The great thing about our situation - and this is yet another reason why you do not want to break the market up through competition - is that we own and operate the full supply chain and that makes the technical and commercial solution, so much more simple than the drama that they are going through in the U.K. They are having a nightmare in the U.K. with some of these technologies, because the supply chain has been broken up into lots of separate competitor markets, and as a result, they have built in huge transaction costs between those different entities.

Mr. R. Levett:

But does it not create a corresponding problem, that you need to be able to demonstrate fairness, transparency in the various cost and charging structures?

Chief Executive Officer, Jersey Electricity:

It does, and that is one of the reasons why I think the community gets a lot of benefit from the fact that we are a simple business, we publish our accounts, we make 6 per cent or 7 per cent return on assets and our pricing is competitive.

Mr. R. Levett:

That does not answer the question of whether if I let you use my electric car's battery as a storage, you are paying me a fair price and you are paying me the same price as somebody else with more market muscle that you are also doing deals with.

Chief Executive Officer, Jersey Electricity:

No, but there is some line of sight into that. I think if people had concerns about that, then they would be in their rights to raise it with us or they would take their complaint to C.I.C.R.A. (Channel Islands Competition and Regulatory Authorities), the regulator.

Mr. R. Levett:

Should it have to be that way around, for somebody to have to make a complaint, rather than there being a consistent, transparent, regulated structure within which all these prices are justified?

Chief Executive Officer, Jersey Electricity:

You can certainly do that, but that comes at a cost and the cost of regulation is enormous in these small jurisdictions. Look at J.T. (Jersey Telecom), for example. The cost of regulating J.T. is about £1.5 million a year. There is only one group of people that pay for that, and that is customers in the form of high tariffs. So I think the present level of transparency is good, I think it works. I think if people have issues, there are plenty of escalation processes on the Island through which they could raise concerns ... well, that would catalyse a review and that would give people confidence. Let us take the review that was done a few years ago under the Electricity (Jersey) Law 1937. Any politician in the States can bring a proposal to the States to investigate us under that Law, pretty much at any time.

Mr. R. Levett:

But that is putting the onus on somebody who feels that they are being discriminated against, rather than the onus on you to say: "Here is the structure. Here is the justification for this structure. Here is how we can reassure you that we are treating everybody fairly."

Chief Executive Officer, Jersey Electricity:

I hope you have got the impression from me that that is a really important part of what we do here, and we do not want to cross-subsidise one customer across the other. That is one of our philosophies of running our business and there is an enormous amount of transparency, there is an enormous amount that is published. Yes, you could build in all these processes, but they come at a cost and it really is does the benefit outweigh the cost, and in my experience it does not. If you look at the U.K. they are having a nightmare at the moment. They are massively under-invested in infrastructure. They have got to invest £200 billion over the next 10 years. That is one issue that Jersey does not have to worry about.

Deputy J.H. Young:

But is the logic not of what you said that because there is one supply chain and we do not have these inter-bodies transactional costs, should we not be able to achieve what we want to do, which

is structure this to be able to save energy, encourage more sustainability and use of energy?
Should it not be easier for us to find that solution in Jersey?

Chief Executive Officer, Jersey Electricity:

I think it should be a simpler problem. It should be a simpler problem. A good example, you mentioned smart metering a few minutes ago. The U.K. have set out an ambition to install smart meters across the whole of the U.K. population by 2020. They are miles behind that but we are champing at the bit. We started our programme a number of years ago. We have already got 7,000 units installed. We are desperate to get on with it and I think there are certain things we can respond very quickly and we are responding very quickly on. Smart metering is one, investment in new generation at La Collette is another, investment in new interconnectors with France are others. We are not expecting any special handouts from the States for that. We are just getting on and doing it and I think there are a number of examples that we can cite where we have really got on to the front foot and we are champing at the bit to get on with things. Nobody is forcing us to do it.

The Connétable of St. John:

Can I just move on to that one, because you are champing at the bit, you say, and yet how many electric vehicles have you got on-Island?

Chief Executive Officer, Jersey Electricity:

We are champing at the bit and we are making very good progress across a number of areas. There are some areas that we would like to make more progress on and electric transportation is one of those, but it is very difficult to make the economics work without some form of support mechanism. One of things that we are proposing to the States is that they try and ring-fence a small amount of funding to catalyse that market, but to answer your question, there are probably 25, 30 electric vehicles on the Island at the moment.

[15:15]

The Connétable of St. John:

I am not sure how many electric vehicles the States either owns or leases. Why have you not got in bed with T.T.S., you being a quasi-States company, the States having a 60 per cent holding? Why are you not getting together with the Minister for Treasury and Resources, hitting the noggins together and saying: "Look, we have got an ideal opportunity here to be a world leader in a small Island of 9 by 5 of becoming 50 per cent, 60 per cent of our vehicles within 5 or 10 years all being powered by electricity?"

Chief Executive Officer, Jersey Electricity:

We are doing that. We are having those discussions and we are trying to incentivise this market, so those discussions are happening. T.T.S. are using all electric vehicles. I think they have 10 at the moment. You have to start somewhere. I agree with you, we need to do more, we need to do much more, particularly as the vehicles themselves now are technically viable. They are very functional, they work very, very well and the running costs are very low. They cost peanuts to run. The problem is the upfront costs are relatively high and at the moment, we are in a recession, people do not want to invest a lot of money in a discretionary purchase. So that requires some level of incentivisation, which by the way, the U.K. are doing. The U.K. are incentivising the take-up of electric vehicles to the tune of £5,000 a vehicle or up to 25 per cent of the purchase price of the vehicle.

The Connétable of St. John:

Could I suggest that when you give your annual cheque to the Treasury that you negotiate that a certain figure per annum goes into electric vehicles?

Chief Executive Officer, Jersey Electricity:

We would love to do that, and again, I would not want people to think that road fuel duty is a sort of self-service buffet place to go when we all want money, but a one penny increase on fuel duty is £500,000 of funding. That could fund ...

The Connétable of St. John:

Leave the fuel duty out of it. Do it out of the profits of your company. When you give the Treasury their bonus every year ...

Chief Executive Officer, Jersey Electricity:

Say that we have deducted some?

The Connétable of St. John:

... tie it into a percentage of new vehicles coming in.

Chief Executive Officer, Jersey Electricity:

We are already doing that. We are already investing a lot in infrastructure for electric transport. Do not think that we are just sort of sitting around waiting for other people to fund these things. We are investing in infrastructure: we have now got 5 public charging points in the major car parks.

The Connétable of St. John:

Can I put it slightly differently? Obviously I am not saying that you are not, you are doing your bit. Get the States to do a bit more, like when you hand them over ...

Chief Executive Officer, Jersey Electricity:

It would be great if we could have some political support for that.

The Connétable of St. John:

But next time you are sitting around the table with Senator Ozouf, you say: "Look, can you put £2 million of this cheque we are giving you here, our ..."

The Deputy of St. Martin:

I think to be fair, Chris, the Constable is probably being a bit utopian, inasmuch as you are going to be dictating to the Minister for Treasury what he might do with his dividend payment.

Chief Executive Officer, Jersey Electricity:

I will certainly have a go, Constable.

The Deputy of St. Martin:

I am sure many of us will. In fact, we had a go at him this morning, because I highlighted to him on this very issue the differential is around £10,000 a vehicle at the moment, on a very ballpark figure, between an electric car and a diesel or petrol alternative of the same vehicle. Your £1 million or your £500,000 does not go very far when it comes to achieving the targets that are set in the policy for electric vehicles.

Chief Executive Officer, Jersey Electricity:

Yes, that is true, but it is a start.

The Deputy of St. Martin:

It is a start.

Chief Executive Officer, Jersey Electricity:

It is a start and it will gather momentum, it will gather interest and momentum and it will mean that others are willing to invest. A lot of this is about confidence, giving the private sector confidence that the States is serious about decarbonising transportation.

The Deputy of St. Martin:

Is there anything that your company can do to help sweeten the pill on that?

Chief Executive Officer, Jersey Electricity:

We are doing a lot on that. We are investing a lot in infrastructure to support this, to encourage the take-up of electric transportation.

The Deputy of St. Martin:

Do you see the price of batteries coming down or the cost of electric vehicles coming down significantly in the near future?

Chief Executive Officer, Jersey Electricity:

It has come down already. I think it needs to come down a little further. I do not think it is that far away from what the market could accept. If we could replicate what they are doing in the U.K. I think that could generate real interest in electric transportation, but we have got to remember that this is a marathon, it is not a sprint, so even if we had a fantastic subsidy regime, the number of people changing vehicles every year is a relatively small number, which is why I think it is a relatively low risk politically to support some of this.

The Deputy of St. Martin:

The take-up at Renault, for example, has been not as good for their electric vehicles as they hoped. Who would initiate a deal with Renault to take on any number, hundreds of vehicles? Would it be you or would it be the States ready to go to them or to go to any manufacturer, for that matter, and say ...

Chief Executive Officer, Jersey Electricity:

We would love to have a discussion with a manufacturer, particularly if they were long on stock, they had excess stock that they wanted to move, and that is quite often what happens here. I think it would be great if the States were part of that. It is really the fleet operators, the big users of vehicles, and it is not just cars, by the way, it is light vans as well. In many ways, it is easier to make the economics work with vans than it is with cars, because of course the mileages are that much greater, because the running costs are so low, it is much easier to make the economics work on a light van than it is with a car.

The Connétable of St. John:

This morning the Minister for Treasury and Assistant Minister mentioned that super diesel was taking over from electric vehicles. Do you know anything this, because we have done the research and we have not found a great deal about super diesel vehicles.

Chief Executive Officer, Jersey Electricity:

I think all the vehicle manufacturers are constantly working on fuel efficiency with diesel engines or petrol vehicles, but what they have squeezed out of a petrol engine, I think they really are getting into sort of flattening returns. Electric cars use a brand-new technology, it is a transformational technology. What we are advocating is: "Look, we are one of the wealthiest islands in the world. We should be doing our bit. We should not be relying on the bigger economies." The bigger economies have managed to structure a £5,000 a vehicle grant for electric cars or 25 per cent of the purchase price of the vehicles. We think we should be doing something similar here that would demonstrate our commitment for doing our bit for the environment. There is a way of doing it that is relatively low-risk and that is relatively contained. For example, the Treasury Department might say: "We are going to support, we are going to provide grant funding for the first 50 vehicles and that is it and then the tap switches off and we will review the situation." So I think it is these sorts of modest pockets of investment to incentivise certain aspects of the energy market. I think there is a case for doing that.

The Deputy of St. Martin:

That takes us neatly into funding options, and I am aware that the time is rolling along. Other than the road fuel and the obvious ones, are there any other funding options that you wanted to suggest to us that might be of interest?

Chief Executive Officer, Jersey Electricity:

I think really the main one is a carbon levy or a road fuel levy as a means of constructing the right carrot and stick, but doing it in a modest way. We are not talking about decimating the market here; we are not talking about severely penalising consumers. At the end of the day, we have got to remember who we are doing this for and who is paying for this and so we have got to be sensible about how much it is going to cost. I think we have got to ring-fence some funding and we have got to trial certain things.

Deputy J.H. Young:

The carbon levy, would you like to explain that a bit more, how you see that working?

Chief Executive Officer, Jersey Electricity:

In essence - and to be clear, I do not have a fully fleshed-out proposal here - in concept terms, you could levy a tax based on the carbon emissions of a fuel, gather the investment that comes in off the back of that and then redistribute that investment into worthy causes that help drive the strategy agenda forward. So one might be energy efficiency - I would suggest that is the number one priority, crucially important - and I think you could carve out something for low-carbon transportation, whatever technology that would be, not just all-electric cars, it might be other

things, hybrid cars, for example. You could also siphon off some of that funding to support renewables as well locally, micro-renewables. As regards large-scale renewables, I think the scale of funding for large-scale renewables will be such that that really would be quite costly for the local community. I think we should fully exhaust all the opportunities to work with our European colleagues to see whether Jersey could get access to support mechanisms from Europe in return for offering some of that low-carbon generation to them (as carbon credits) that would help them achieve their targets.

Deputy J.H. Young:

When we saw you last time, you were very bullish about the opportunities for large-scale renewables. You certainly seem to be more optimistic about our prospects there than many other contributors.

Chief Executive Officer, Jersey Electricity:

I do not know whether I meant to be bullish. I think it is a serious opportunity that we should focus on and I think the opportunity has a limited shelf-life. The reason why it has a limited shelf-life is because a number of the European nations have legal commitments to generate a certain proportion of their energy from renewable sources by 2020. There are countries out there that are going to struggle to meet those targets and if we could offer some development, working with us, working with the community in Jersey, to enable a development of a site that would help them achieve their targets more cost-effectively than their alternatives, that might help Jersey generate some income locally, generate some economic growth locally and also help energy security, because fundamentally we import 97 per cent, 98 per cent of our requirement, then that could be very valuable for the Island. I think that it is not going to be an easy opportunity by any means, and I think there are a lot of political challenges with it, but should we go for it? Of course.

Deputy J.H. Young:

That will be investment made by the J.E.C.?

Chief Executive Officer, Jersey Electricity:

No. I think the scale of investment we are talking about there, we are talking about billions of pounds worth of investment and we are not a big enough utility to fund that kind of development.

Deputy J.H. Young:

So we should rule that out?

Chief Executive Officer, Jersey Electricity:

We should not rule it out, but we should be working with partners. The only way we are going to deliver that opportunity is by the States of Jersey working with Jersey Electricity and working with other third-party experts and specialists and capital providers off the Island.

Deputy J.H. Young:

Such as?

Chief Executive Officer, Jersey Electricity:

Potentially it could be one of the big French utilities; it could be a U.K. utility; we could work with the French Government, the U.K. Government, even some of the smaller European nations. Some of them are going to struggle to meet their targets.

Deputy J.H. Young:

Would that provide us a way of getting access to some of these E.U. (European Union) funds we have heard about?

Chief Executive Officer, Jersey Electricity:

Potentially. Certainly there is a legal mechanism for doing it. We would need to get over the various political hurdles. They would be challenging. I think it is possible, but I think the upside would be so great that it is worth us exploring every possible avenue to access those.

Deputy J.H. Young:

Okay. Roger, you wanted to clear up some points on smart metering before we run out of time.

Mr. R. Levett:

Thanks. Yes, I would like to pick up. Under smart metering in the note that you sent you said: "Thereby optimising existing infrastructure assets and investment by using smart meters and smart grid technologies to deliver a flat load curve." Now, surely the way you do that is you use more fine-grained demand information to inform incentives to people to drop their peaks or shift their peaks or shift their demands, but surely that is straight back to what we have talked about several times already, which is different smart tariffs and cross-subsidies?

Chief Executive Officer, Jersey Electricity:

Differential smart tariffs, yes, absolutely, and we are looking at those. An extreme case would be time of day tariffs and instantaneous pricing response to demand changes. That is kind of a long way down the curve. Interestingly, we already do in a sense the first step of this, because we have a twin element solution here in Jersey, whereby we have quite a large number of customers

who have their heating energy supplied on a different circuit to their general light and power and they pay a different tariff for that circuit than they do for the general domestic circuit. That is because Jersey Electricity has got a certain amount of control over that second circuit, which means we can deliver energy to consumers much more cheaply and it is much more attractive as an energy for heating. So that in a sense is already a form of time of day tariff, really. We have constructed something that we think works for the application, i.e. heating and storage heaters, and smart metering is really about taking us along a journey to a more sophisticated supply/demand/pricing response.

[15:30]

Deputy J.H. Young:

Steve, Phil?

The Connétable of St. John:

Say we went down the road of converting 50 per cent of our vehicles in some way or another over to electricity and the loss of revenue is colossal to the Island. At what point would we start putting a charge on the electricity to get our revenue back to balance our budget?

Chief Executive Officer, Jersey Electricity:

I think that is something that you can determine further down the track. I think we should be quite clear, while electric transportation is an opportunity for Jersey Electricity, it is not going to transform our business. Even if we transformed the whole of the road fleet in Jersey to all electric vehicles, it would probably increase our turnover by somewhere between 8 per cent and 10 per cent. Now, electric cars are not suitable for certain applications: you cannot get viable electric lorries. If a typical family might have 2 vehicles, there is no reason why one of those vehicles, the city runaround, cannot be all-electric, and I think it is quite a nice proposition for a family, to have a petrol-driven saloon and have a little all-electric city runaround. But I think we are long way from having a material impact on fuel duties. But even if that were to come, you could change the road fuel duty regime to recover those and potentially you could look at that.

The Connétable of St. John:

We see that: the drop-off in cigarettes, for instance, when it used to be a holiday place, where there were cigarettes everywhere. Nowadays they are expensive and the money that was going to service the hospital, it has to come from other sources because no one is buying cigarettes. If you do the same ...

Chief Executive Officer, Jersey Electricity:

I think the States always have the power to do that if they wish to. Hopefully, you are talking many years down the road before you get to that scenario.

The Connétable of St. John:

Yes. I am just being the devil's advocate here.

Chief Executive Officer, Jersey Electricity:

I hope by that time, you see, the technology would have changed such that the cost structure is so much different, so yes, there might be a small penalty for consumers, but it is significantly more attractive than a fossil fuel alternative anyway. I think we have got to be mindful of what consumers want and what they are willing to pay for. For me, those are the 2 crucial litmus tests.

Deputy J.H. Young:

Roger, you had one more point.

Mr. R. Levett:

Yes, thanks. Your answer to the question about funding I could, a little rudely, say is taxing everybody else's fuels on the basis that they are high carbon. There is an argument that says we should try and reduce energy use rather than just carbon use, because even if we are using low-carbon electricity, the marginal generating capacity that is put on to the system is likely to be high carbon, that it is mostly nuclear power that we are using when somebody turns on a light; the next thing in the merit order to be dispatched is likely to be higher carbon. How would you feel about an energy tax rather than a carbon tax?

Chief Executive Officer, Jersey Electricity:

It really goes back to what you are trying to achieve here, and the fundamental goal is to reduce the Island's carbon emissions. I think people should be reducing their energy consumption anyway, whether we incentivise it or not. Through the Energy Efficiency Service, which we seeded, we should be getting the message out there, and the irony is that while it is not a terribly exciting subject and the media do not get very excited about energy efficiency at all, whereas they get terribly excited by renewables, the real opportunity here is to get people using energy efficiently and that has got to start with new build, we should have the right sort of standards in place. At the moment, we are 4 or 5 years behind the U.K., and it has also got to start with the States of Jersey as well. I think there is a huge opportunity for the States to reduce their consumption and they should just be getting on with it.

Deputy J.H. Young:

On that note, thank you very much for your contribution this afternoon and I will close the session.

Chief Executive Officer, Jersey Electricity:

Thank you.

[15:34]