



Environment Scrutiny Panel
Energy Policy Review hearing with the Chief
Executive Officer for Economic Development

WEDNESDAY, 22nd May 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:

Chief Executive Officer, Economic Development Department

Also present:

Mr. R. Levett (Panel Adviser)

[10:51]

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

Good morning, everybody, and welcome to this third Scrutiny session of the Environment Scrutiny Panel reviewing the Planning and Environment Minister's draft Energy 2050 policy. Just to introduce ourselves on this side of the table, Deputy John Young, Chairman of the Environment Scrutiny Panel.

Deputy J.H. Young:

Welcome, and thank you very much for joining us.

Chief Executive Officer, Economic Development:

Okay.

Deputy J.H. Young:

The formal notice is there but of course you are well familiar with that.

Chief Executive Officer, Economic Development:

Yes.

Deputy J.H. Young:

We would like to close around 12.00 p.m. if that is all right.

Chief Executive Officer, Economic Development:

Yes, that is absolutely fine.

Deputy J.H. Young:

I do not know if you have seen a briefing note for this meeting.

Chief Executive Officer, Economic Development:

I have.

Deputy J.H. Young:

There are about 6 different subjects and I think I would like to bring my colleagues in as we go through and steer the conversation to where the main points come out, if I may.

Chief Executive Officer, Economic Development:

Of course, absolutely.

Deputy J.H. Young:

I will just start. Coming to this afresh most people would see this as an environmental strategy and what I would like to hear from you today is to what you see are the links into our economic strategy and the economic benefits that sit side by side with environmental gains for the Island such as strategy, so would you give me your high level views about that please?

Chief Executive Officer, Economic Development:

I think those divide into 2 broad camps, one of them relates to security and affordability of energy supply. As you know my experience is in the oil and gas industry and you might think that that does not lend itself to issues of sustainability or affordability but of course it does. One thing that you learn in the oil and gas industry is that things do change but that the resources are finite and that ultimately, be it short, medium or long term means that the current state of the Jersey economy and indeed much of the economies in much larger jurisdictions is dependent on fossil

fuels. That represents a significant threat because as those fossil fuels become more and more scarce, and I think we have to look at the long term indeed even beyond the long term what the energy prospects are. That threat will be realised and peripheral elements of economies such as Jersey are more likely to suffer and therefore the energy supplied as we know it today is less likely to be sustainable. From an economic perspective, diversity and sustainability of energy supply is absolutely critical to the long term future of the Jersey economy because without energy, of course the economy ceases to function. The energy future that we see as being most likely to manifest itself is a demand side which is dominated by electricity and the issue is how that electricity is generated and distributed, in that there represents economic opportunity for the Island. When I first arrived here 8 years ago one of the commonly voiced opinions was that the Island did not have any natural energy resources which, of course, is not true. We have tremendous resources primarily offshore as well as some onshore in both wind and tidal stream energy. The development of those both from the creation of I.P. (Intellectual Property) and the technology particularly for tidal stream and the deployment of those technologies represents a very significant economic opportunity for the Island. I was out in Abu Dhabi recently with the Chief Minister and we went to speak to Masdar, which is effectively the arm of their Sovereign Wealth Fund which deals specifically with development of utility scale renewables. One of the things that we were discussing with them was the potential to hook up between their investment and research capability and our natural tidal resource to deliver economic opportunity for us and investment returns for them and deliver an exportable product. Hiding underneath what you, I think, characterise as an environmental policy are some very, very strong economic drivers around sustainability and around economic opportunity related to the decarbonisation of energy supply particularly. Of course one of the other things that is in here is management of demand and that in itself, all of the elements of that, be it simple things like insulation or smart metering, all of that represents economic opportunity. For that to be deployed in Jersey there will have to be economic capacity created to allow that to happen. Businesses will have to be able to undertake that work. What Jersey has been very good at in the past is developing new businesses, new sectors and then effectively exporting that product or that service worldwide. That is effectively what the financial services sector does and there is no reason why in the area of energy demand or indeed energy supply we should not adopt the same model. That is a rather long winded answer to your question but there are huge economic drivers that sit alongside this which are not in conflict with it. They are complimentary to it and vice versa.

Deputy J.H. Young:

Thank you. That is exactly the sort of answer I was looking for and sets really the scene for where we want to focus in on. I think we want to try and talk to you about both the short and medium-term achievability issues, to do what you have said and also in the longer term what the Island needs to do to take advantage of the opportunities for renewables. I think I will probably start with

the short-term and the medium-term achievables. Can you tell us what you think are the critical things that the Island needs to do to take advantage of those economic opportunities in the short to medium term, which will give us a clue of what actions we need to be taking in this plan?

Chief Executive Officer, Economic Development:

I think a lot of the very short term actions that are required almost all sit on the demand side and that is management of demand, and this is, I think, the wrong word but I cannot think of one at the moment, the channelship from the type of energy that we use today, for instance, for road transportation to something which is primarily on electricity. What is required in terms of management of demand and if you just take the simple example of insulation, there has been a very successful programme to date of insulating homes particularly those who do not have the ability to pay but there are a very large number of both residential and commercial operations who do have the ability to pay, and in our view from an economic perspective we would like to see the economic capacity created to allow all of those need to pay premises to be brought to the same level of insulation, for want of a better word, or the same standards that we have achieved with some of the areas where we have put subsidy in. To do that, to accelerate that, requires a greater level of economic capacity to be delivered locally because if we do not do that all we will be doing is importing labour, and we have to import the materials but we will be importing labour and businesses from off the Island who will not be taxpaying in the Island to undertake the work. That would be a very significant mistake so there is, to my mind, sitting alongside this a short-term business development strategy which looks at all of the business opportunities in the short term and complements the deliverables that sit in here.

Deputy J.H. Young:

What incentives and encouragements do we need to help that to happen?

Chief Executive Officer, Economic Development:

The issue of incentives is an interesting one. It is very clear. I was in south Wales recently and you drive around in south Wales and I think pretty much every home has a solar panel on its roof now and of course the phrase in Wales is: "Where there is a solar panel, there is a grant", and it is true, and I assume the case is the same in the U.K. (United Kingdom). If you want to accelerate the deployment of things like solar heating, if you want to accelerate the roll out of properly insulated homes then I think there is fairly significant evidence to suggest that a form of financial incentive which does not have to be significant but does appear to have a disproportionate impact on the market place is a very effective way of doing that. The most effective way of doing it rather than give these notional tax breaks is to go through some form of grant subsidy or indeed even if you do not want to do go down the grant route go down the route of very long term, very low

interest repayable loans which we have begun to do within the States within the public finance model. We have looked at that within the context of the innovation fund recently.

Deputy J.H. Young:

That is for the afford-to-pay sector as well?

Chief Executive Officer, Economic Development:

Yes, basically, because what we are seeing, I think, at the moment is quite a significant deficit between what is achievable from the perspective of insulation technology and solar heating and what is rolled out across all of the dwellings and commercial properties in Jersey. There is an issue particularly in the current economic climate of affordability or perceived affordability. It is seen as nice to have rather than something which is contributing to a more sustainable energy future. To put it in its coldest terms, oiling the wheels, which is probably the wrong way to mix my metaphors, through a form of subsidy which does not have to be significant in financial terms but does appear to have a disproportionate impact on the uptake of any technologies.

The Deputy of St. Martin:

Yes, one of the things that I have put in to all our people who have come to give us evidence is this case of carrot versus stick and what you are giving us this morning is incentives, trying to get people to do it, more a carrot.

Chief Executive Officer, Economic Development:

Yes.

The Deputy of St. Martin:

At what point do you think we move over to the stick? Do we need to be looking at something like block tariffs, rising tariffs so that the more you use the more you pay so we make it easier for the people with less ability to pay, easier for them to cope with their energy bills? How far down the road do we go of incentives before we start saying: "This is not working, we now need to regulate"?

Chief Executive Officer, Economic Development:

Yes, I think the stick is a carrot in that instance. Let us look at it that, it is an issue of what is the batting order, in my mind that would have a model that would say: "Okay, you can incentivise the roll out [let us take insulation just as an example] through a form of fairly modest grants subsidy", and over a period of time you can use what you describe as a stick as an incentive. I do not think a particularly effective way of getting people to get on board with this is to get a big stick out and say: "Unless you do it".

The Deputy of St. Martin:

No, no, you want them to do it really.

Chief Executive Officer, Economic Development:

You want them to do it and when this starts happening, and this does happen, there are examples from elsewhere where this does happen through word of mouth where people's energy bills do start to drop by virtue of the actions they have taken. The problem is at the moment there is a perceived barrier to making the financial leap of faith to put the kit in, for want of a better word. I think what you will find through time is that it becomes something which requires less support because the benefits are more self-evident than they are today. I do not think we can kid ourselves about public perception on this. This is an extremely good document but there are a lot of people out there for one reason or another who are sceptical or doubting or not engaged with the environmental message and the control of the demand side that sits underneath it, and I think until we oil the wheels of that journey through the element of subsidy to roll out these type of technologies then we still will not move at the pace that we could do and indeed should do. Exactly the same thing is true for such as you talked about here and want to talk about here were electric vehicles. There are 2 barriers to the uptake of electric vehicles. It is quite simple, one is the cost of buying them and the other is the issue of range anxiety, i.e. when will the battery run out? In Jersey that is not an issue.

[11:15]

We operate an electric vehicle, indeed a Peugeot, and we probably charge it up once a week, maybe twice a week. I mean I live out in St. Martin, with a 60, 70-mile range, I would probably charge it once or twice a week so the range anxiety is not an issue here. What is an issue to the uptake of electric vehicles is the cost. In the U.K. they have a scheme whereby they incentivise the purchase to the tune of £5,000 which is a significant figure but that brings down the purchase cost to a level which is comparable, it is still more expensive, to the combustion engine. There are other models. There is one that Renault deploy which is basically you buy the car and lease the battery but all of these things, it is common sense to go down this route. If you said to somebody: "You can run your home, you can heat your home for a portion of the cost which you do today", it is common sense that people would say "Yes", as opposed to: "Do you want to pay more taxes", they would say "No". It is getting over the barriers to changing that behaviour to increase the uptake.

The Deputy of St. Martin:

In the first instance then is this a case of not enough publicity and education because if the cases are there to be shown to people, is the Government not doing a good enough job of educating people as to how much benefit there could be?

Chief Executive Officer, Economic Development:

I think you can educate people to the greatest extent possible. That will not guarantee a significant increase in uptake. There will be people who absolutely buy into the issue of the environmental elements of the energy structures and if they have not already bought into it, with some additional awareness raising they would, but I do not believe that represents the majority of the population.

Deputy J.H. Young:

Does this not involve massive public money though, potentially?

Chief Executive Officer, Economic Development:

It depends. It may involve a significant cost but ultimately what is the benefit? We have to look at the cost versus the benefit. As I said, there is albeit in the very long term a fundamental threat to the sustainability of energy supply, fossil fuel energy supply. It is probably not in terms of the timeframe as threatening as it was 10 or 20 years ago but it is still there. It is still there and one of the things that we will suffer from is that we are not part of a mainstream, core major jurisdiction. We are a peripheral part of either the French or the U.K. energy supply network. That means that that threat is more real for us perhaps than it is for those larger jurisdictions.

The Connétable of St. John:

You say "threat". We have an agreement currently with the French on power. How much longer can we expect to continue receiving power from France from a nuclear power station which must be coming to the end of its serviceable life and will need decommissioning within the next 20 or 30 years and that being case what thought has been given, although I was at meetings in France some years ago when I was a Deputy when in fact it was suggested that Jersey should lease land, zero taxed land from the French and have a base in France to operate from where we could bring in our fuels whether it be gas, electricity, oil and so on direct from a depot in France through an undersea pipeline. Has that ever been progressed? Will you change your ideas within the long term?

Chief Executive Officer, Economic Development:

We have. They are separate things. Can I just address the issue of the nuclear framework in France? France is fairly committed to continue generation with nuclear energy. It is a very large

element of its energy supply, electricity supply, a nuclear base. They have not gone down the route of the Germans as far as I understand it even though I believe the Germans are backing away from it now. So I do not see any material threat. I do not think they have commissioned it yet, but they have just built a further reactor at Flamanville. I think the thought that the French will be in a position to switch off their nuclear grid is fanciful.

The Connétable of St. John:

Can I stop you there? We saw what happened in Japan last year with the tsunami, although we do not get tsunamis up here. That said, other factors may come into play that people decide that enough is enough with nuclear energy. There is no way of disposing of the waste.

Chief Executive Officer, Economic Development:

They may very well do but if you look at how systemic nuclear power generation is within the French energy supply, I would personally doubt that that is the case. There is absolutely no comparison whatsoever between Flamanville and Fukushima. Fukushima sits on an active plate margin and that was at the heart of the tsunami that caused the issues there. You cannot compare Fukushima with Flamanville and it would be a very, very big mistake so to do. It is the mistake I think the Germans made in the reaction to what happened and I think they are having to pedal back from that now. I do not personally see any fundamental issue there and in fact nuclear energy, and we had a very interesting conversation in Abu Dhabi where they have deployed nuclear technology as well and they see nuclear technology in terms of electricity supply as the bridge between fossil fuels (and remember they have reserves coming out of the wazoo) there and the long-term future which they see dominated by renewable energy. The reason they are doing that is to reduce the demand in the short term on their fossil fuels so they can extend that life so they can allow the nuclear power to provide that bridge to give them a longer time to develop commercially viable, utility scale renewables and that is effectively what we have captured to some extent in the energy policy. As far as a pipeline, I come from, as I said, the oil and gas industry and this is a personal view and we are planning, I think, to do some work on this. Again we have done some work on it previously in terms of pipeline infrastructure from France, but as somebody who was responsible in the past for oilfield developments linked to the shore by pipeline and pipeline networks in the North Sea and elsewhere, the notion that pipeline infrastructure could be commercially viable of providing energy supply to this Island, I would say it is fanciful. I think that in the absence of significant amounts of subsidy which in terms of both capital subsidy and revenue it would be a very, very long shot and I would be personally surprised if any independent operator were prepared to undertake that type of investment. I may be proven spectacularly wrong, it has happened in the past, and the work that we will hopefully undertake in the short term will establish whether that is a case or not.

The Connétable of St. John:

Can you put a figure on it?

Chief Executive Officer, Economic Development:

Not off the top of my head, no, but we are talking millions and millions and millions of pounds. The issue is not, as many people think however, laying the pipeline. Laying the pipeline from here to France on the sea floor is not a problem. It is done pretty much every day. What is a problem is what happens on land at that end and what happens on land at this end and whether or not the economy of scale is such that to supply a population of 100,000 would ever justify the type of capital investment required without significant amounts of state subsidy or public subsidy.

The Connétable of St. John:

Exactly. You put public subsidy into this because if we have to spend X number of million moving our fuel farm and we do that every 30 years, as we have done to date, we might as well have the fuel farm there.

Chief Executive Officer, Economic Development:

Why would you think that we do not have to have a fuel storage facility at this end?

The Connétable of St. John:

But tankers, we saw what happened in Guernsey. You have tankers that they have to supply themselves or are we going to get to the point the oil industry are going to turn round and say: "We do not really want to operate in Jersey because of the size of the ships that you bring in therefore you have to supply your own ships." What does it cost to build a ship, 60, 80 million, probably more, so therefore would it not be more economical to put a pipeline in or as economical because at the end of the day if the Island have to fund a ship or maybe 2 as Guernsey have done, then therefore there is a cost implication there, therefore the Island would have to cough up.

Chief Executive Officer, Economic Development:

Yes, but what you are talking about is alternative ways of supplying fossil fuels and I think what I was trying to say is that that is not the argument. There is not a more efficient way at the moment of supplying the fuel that we need, in my view, over and above what we have today. We have a relatively robust tanker-based supply into what is effectively a very, very small market place. There are Tesco stores in the U.K. that sell more petrol and diesel in a month than we sell on the Island as a whole. If you think about it there are not many Tesco stores in the U.K. linked by a pipeline to a refinery. They are all supplied by road as well. I am not wishing to sound in any way off ...

The Connétable of St. John:

We are talking 30 or 40 years hence even before we are going to get anything else in place.

Chief Executive Officer, Economic Development:

As I said, I think that is not necessarily the truth. At the moment we have a very sustainable form of electricity supply that can be augmented, if it is offshore wind over a relatively short to medium term, if it is tidal stream over the medium term and the issue is how do we transition from an economy which for transportation to a great extent is reliant on fossil fuels to one that is reliant on electricity. That is the issue to solve, not put a pipeline in to service a declining market.

The Connétable of St. John:

Your pipeline would be one of 3 because you would be bringing in electricity as well, and gas.

Chief Executive Officer, Economic Development:

Why would you continue to bring in a fossil fuel, which is a finite resource through an extremely expensive pipeline, when it is possible to change the nature of demand in a relatively small population in a relatively small geography to something that is less dependent on that?

The Connétable of St. John:

Therefore if we build our own generation content either by air or by sea power, what are you going to do with the excess supply?

Chief Executive Officer, Economic Development:

The ability then to export that excess supply, electricity supply, back into the French grid.

The Connétable of St. John:

By pipeline.

Chief Executive Officer, Economic Development:

By cable. You just reverse the flow and connectors.

The Connétable of St. John:

That is right.

Deputy J.H. Young:

I would like to bring in Deputy Luce because obviously we are half an hour through.

The Deputy of St. Martin:

I just wanted to go back. You have obviously done some work, initial work, maybe a bit more than that on pipelines but another thing that you have spoken about which I would be keen for you to expand on if you could, would be the work you have done with cars. Now I share your enthusiasm for an Island covered in electric cars and I would like to know how far down the road we have gone talking seriously about large numbers of these vehicles to producers.

Chief Executive Officer, Economic Development:

In terms of talking about producers, there is no discussion to be had. You can buy either through Nissan, Peugeot, Renault. You can buy an electric vehicle today and in fact not just an electric car but you can buy electric vans. The issue is one of how do you increase the level of uptake, and as I said, because the one benefit we have in terms of deploying electric cars for personal transportation is that we do not have this issue of range anxiety that they have in much larger jurisdictions. It is how do you increase the level of uptake. The products are there. They are priced at the moment because they do actually sell in relatively low volumes even in large jurisdictions. If prices are quite high level, if we want to increase that uptake then that is where you put your investment but if we invested £5,000 per car in, let me get this right, 1,000 cars that would be £5 million, that would probably be, I do not know, you would be getting on for a tenth of probably what a pipeline infrastructure from beginning to end would cost.

The Deputy of St. Martin:

The sales of Renault electric cars I see at the weekend has not been quite what they had hoped it might have been. Have we spoken directly as a Government to a serious manufacturer and said: "What is the possibility of buying X hundred or thousand cars at a certain price and would you be interested?"

Chief Executive Officer, Economic Development:

Yes, we have. It must have been about 18 months ago now, maybe 2 years ago we went to Renault and Nissan just outside London with representatives from T.T.S. (Transport and Technical Services) and D.V.S. (Driver and Vehicle Standards Department) and we have dealt with or drove all of their electric vehicles, and as a consequence T.T.S. put out in their invitation to tender for their fleet a requirement to supply I think it was, I cannot remember how many now, a small number of electric vehicles to run a pilot. Hence we have 30 iOns driving around because the contract did not go to Nissan. It went effectively through ultimately to Peugeot. So yes we have engaged with the manufacturers and our engagement with Renault came through one of our initial visits to Israel where Renault were tied up at the time with a company called Better Place who had developed with Renault a battery switching technology.

[11:30]

Instead of recharging the battery in the car, you pull the car in to what is the equivalent of a filling station, it takes out the partly discharged battery and replaces it with a fully charged battery and off you go. Effectively it replaces for larger jurisdictions the role of the petrol station. That is how we established the relationship with Renault because that was a joint venture between Renault and the Israeli company, and we have pursued that in the U.K. with Renault U.K. who have, I think, the largest fleet of electrical vehicles on the road, both in terms of cars and light vans.

The Deputy of St. Martin:

I have just managed to find the page but our target for electric vehicles by 2020 is 5,500. I mean, do you think we are going to get there without any further incentives from Government? Do you think Government are going to have to step in and say: "Look, we are going to have to help this if we are going to get to that target"?

Chief Executive Officer, Economic Development:

Well, if I could predict the future, I would not be sitting here probably. But what I can say is that if we want to increase the probability of getting to that target, then it may be, as they have in the U.K. and many other places, a place for providing an element of financial incentive. The reason for doing that, if you look at the graphs of CO2 production that are in the policy, one of the big game changers is reducing the carbon footprint of our domestic transport. You know, that is a big win for us because there are a lot of vehicles on the road here, it is in a geography of a scale that does not need to have internal combustion engines running the majority of the fuel.

Deputy J.H. Young:

I want to pick up this incentives issue. The 2 key questions for me right the way throughout this is to what extent do we adopt a strategy of following and waiting until technology is mature and the price is right and to what extent do we get involved earlier and encourage and support measures to implement these goals? That issue, I think, sits both in the short and medium term and there are issues of vehicles, transport, alternative vehicles, also is longer term, which I will explore in a minute. Which of those strategies do you think is right for the Island? You are the Chief Officer leading our public sector Economic Department, where is your advice to politicians? Do you lead them towards greater risk or are we being risk averse in this?

Chief Executive Officer, Economic Development:

My advice to the politicians, and I think it is captured to some extent in here, is that we should do what we can to accelerate the uptake of existing technologies by the population. So there is, to my mind, an element of subsidy that may be required to make that happen. Now if we do that we

can create a very different image for this Island that has some very interesting indirect benefits to us. If we, as an Island, were known as an island which is dominated, for instance, by car transportation that is electrically powered, not powered by petrol or diesel. That is something that we would very heavily market and we would use that as a U.S.P. (unique selling point) and it is very difficult for Jersey to develop a really specific U.S.P. but in the arena of inward investment and clean tech and the development of renewable technologies, that sort of thing can be an interesting game changer.

The Deputy of St. Martin:

Have we asked the question of somebody like Renault if they would be prepared to sell us 5,000 cars in a block and what sort of price they could do that for?

Chief Executive Officer, Economic Development:

Yes, well that was done as part of the tendering exercise for the T.T.S. fleet. I think we were very strongly encouraging that the invitation to tender should have a greater proportion rather than a small proportion of electric vehicles in the mix. The view that was taken, rightly or wrongly, was that what we should do is start off relatively modestly with a pilot to establish what the true running cost differential was going to be or the capital cost to running cost differential. But, no, I mean, I think if we approached Renault or Nissan or Peugeot for that matter, or any of the guys that run with full electric vehicles in their model range, if we said to them we were going to go entirely down that route, I think you would establish very quickly the Island, in their world, as an exemplar that they could use around the world. Therefore there is value in that and therefore that would be reflected in the price.

Deputy J.H. Young:

Sticking to the bigger picture, thank you for that, of incentives and how we can accelerate, is there any scope for tax incentives where we have Zero/Ten to assist businesses, to encourage businesses to move faster in the uptake of this technology?

Chief Executive Officer, Economic Development:

Tax incentives are quite a difficult thing to deliver in a relatively low tax environment. Certainly low direct tax environment, of course we do have indirect taxation and I do not want to tread on the toes of Treasury tax policy here, but the levers that they have, which is effectively a proxy for providing a common incentive is to say that for a period of time, electric vehicles do not attract G.S.T. (Goods and Services Tax). But it has exactly the same effect, what it is doing is reducing the purchase price and therefore potentially increasing the uptake of that type of technology.

Deputy J.H. Young:

But in Zero/Ten, I mean, I think we have spoken about economic opportunities. I think you said earlier on the uptake of these technologies within the Island is economic opportunities for local businesses. Some of those businesses are owned off Island and some are owned by local people.

Chief Executive Officer, Economic Development:

Yes.

Deputy J.H. Young:

What was in my mind, that my question was, well, how can we tax incentivise those companies if some of them are not paying tax anyway because they are owned out of the Island. Because that is the situation with Zero/Ten, is it not?

Chief Executive Officer, Economic Development:

Well, yes, but I do not know if we have to tax incentivise them to bring them here because the incentive is the existence of Zero/Ten. The benefit we get, and this is often forgotten, I think, is an intended consequence of Zero/Ten, it is a very, very attractive fiscal regime to drive inward investment. When we talk to businesses and we have been quite successful in landing inward investment businesses from across various sectors, Zero/Ten is of and by itself a very significant tax break. The benefit we get from those companies coming here is to deliver the economic capacity so that they can deliver, they need to employ people. The fiscal strategy that we have, effectively does not tax the corporate revenue streams or corporate property streams, it taxes employment.

Deputy J.H. Young:

Locally owned businesses, shareholders would pay tax on dividends, would they not?

Chief Executive Officer, Economic Development:

They would pay tax on dividends, yes, at 20 per cent. Yes.

Deputy J.H. Young:

So really there is probably no scope there for those tax incentives to encourage ...

Chief Executive Officer, Economic Development:

You are taking me into the world of fiscal policy here. If I could, I would leave it at this point, is there a case for a form of financial incentive to increase the uptake of renewable technologies? Is there a case for a financial incentive to make sure that we attract and develop businesses in the

Island to realise the economic opportunity? Yes, there is. Is that through some changes to the fiscal system? That is an issue for tax policy.

The Deputy of St. Martin:

I am just thinking of ways of your indirect tax examples that you were putting in my head and I just ... it came to me that at the moment, anyone who does any development pays a percentage for art and it would occur to me that if you diverted, you know, 5 per cent of every £1 million spent on construction would pay your £5,000 towards your electric car. So is that the sort of thing that you would say: "Hang on a second, no more nice sculptures, but we are going to move the Island towards electric vehicles."

Chief Executive Officer, Economic Development:

Well, it would do but of course ... that is one option, and you could do that.

The Deputy of St. Martin:

That would have to be one of many though.

Chief Executive Officer, Economic Development:

But maybe the best thing to do is to ally any financial incentive to the development of buildings that meet B.R.E.E.A.M. (Building Research Establishment Environmental Assessment Method) excellent standard and therefore have the lowest possible carbon footprint. One of the other things that we see is that commercial property is, again, from a demand perspective, using probably far more energy than it needs to. Certainly if things are built to ... the modern buildings that we are building here at the moment are far, far more energy efficient and if you want that standard to be maintained, and you use the planning system to do that in part, but if you really want to take it up to that ultimate excellent standard notch, there is a commercial penalty in doing that because there is a cost associated with it. Maybe you want to achieve the objectives in here by applying the incentive to the development rather than to link it to something which is in a different area. But I think these things have to be as simple as possible, which is why, if it were me, I would advocate: "If you want to put incentives into the process of increasing the uptake of electric vehicles, you do something that is related to the purchase or operation of the electric vehicle."

Deputy J.H. Young:

Phil, I think you wanted to change it.

The Connétable of St. John:

Yes, 2 years ago when you came in front of the panel, or thereabouts, you covered a number of areas: gas, geothermal, heat grids, electric vehicles, which you have done quite a bit on, and wind turbines, et cetera. At the time, the details that you gave us re the geothermal, there is potential for geothermal power, district heating in St. Helier, which is an opportunity to link potential use, et cetera, et cetera. You also mentioned that it had been done successfully in Southampton and you mentioned Andy Scates' involvement. Are your views still the same on geothermal for the Island, have we still got potential?

Chief Executive Officer, Economic Development:

Does the Island have geothermal potential? Yes, it does. It sits on a granite pluton, which is always very helpful because it is relatively hot. So, yes, I think that is the case but again, these are quite significant departures that would require quite significant elements of infrastructure investment to make them work. So is it a desirable form of alternative energy? Yes, it is. Is it deliverable in the short term without significant investment? No, it is not. But the potential there still exists.

The Connétable of St. John:

You mentioned the Sovereign Wealth Fund, et cetera. Given we have got volcanic rock on the east of the Island and there are hot spots down there, would that be the kind of area, if obviously the States were to do the right investigation, for your Sovereign Wealth Funds to get involved in?

Chief Executive Officer, Economic Development:

I do not know but I have not discussed that with them but what they are looking at is the ability to invest in what could be utility-scale perennial energy deployment, which could be tested here. I think, in terms of the model we were looking at would be in the United Arab Emirates. The test bed is here, in terms of developing the technology. The I.P. would be created and owned jointly by ourselves and the U.A.E. (United Arab Emirates) and then it would be exported worldwide to an area where they had significant tidal ranges. Northwest Europe is a very, very large market for that. In terms of geothermal energy at true utility-scale ... well, it may be a significant scale in Jersey, but at true utility-scale it would be too small, in my opinion, for them to look at. But I do not know, is the answer to the question.

Deputy J.H. Young:

I think that introduces nicely to our lighter scale renewables and you spoke about it. It sounded very interesting, what you told us about your discussions with Abu Dhabi. Can I take it there has been a dialogue with the Renewable Energy Commission with Sir Nigel Broomfield and his team?

Chief Executive Officer, Economic Development:

Yes, because they are doing ... I think they have done some extremely good work to move things forward. The key to any engagement in terms of commercialising this energy policy is the access to our sea floor for deployment of renewable technologies. At the moment, as I am sure Sir Nigel probably told you, subject to agreement with the Crown, we do not have that availability. What they have been responsible for, and I think it is a tremendous thing to have, it was something that we were able to discuss over in the U.A.E., was that they have facilitated effectively some fairly comprehensive mapping of the title resource. We are now moving on to do that, not under the Energy Commission banner but under one of the other banners with the plans to deploy some wind turbine testing on the Ecrehous and Minquiers and other areas. But they have moved that agenda forward tremendously because one of the things that we have, as I said at the outset, is a very significant natural resource in our offshore waters either for the deployment in the short term of wind or in the longer term for a marine type. The most important thing there is to map that resource. That is quite often a government function. Once you have mapped that resource and you have control of the sea floor to allow you to licence it to private sector operators, that is when you start to deliver commercial advantage from it. That is what they have been doing.

[11:45]

Deputy J.H. Young:

So that work has been done that you have seen, has that given you any numbers to allow you to even form some preliminary views of long-term financial viability of such investments?

Chief Executive Officer, Economic Development:

There is no doubt that at the moment, marine offshore tidal stream energy is not competitive in terms of its unit cost of production with conventional sources, nuclear, whatever it may be. There is some very good research, not just being done through Sir Nigel Broomfield's group, we have had access to their opinion, but by Southampton University, who have a dedicated research team that looks at this very issue of just the type that has been relevant, that looks at the potential trajectory of unit cost production for marine tidal stream energy. There is a medium to long-term future which drives it down to levels which are commercially competitive. What will happen through time, by the way, as the cost of fossil fuels inexorably increases, which they will because the supply demand equation is not really moving that far in the opposite direction, it will become more competitive simply because the cost of fossil fuel generated energy will increase.

Deputy J.H. Young:

So there will be a crossover?

Chief Executive Officer, Economic Development:

So there will be a convergence and there is a little diagram ...

Deputy J.H. Young:

Yes, what I was driving at though is, on the yield ... is the resource capable on the estimates that you have seen, of generating the volume of energy, if you like? Does the mathematics work on the calculations that have been done on tidal flows and so on?

Chief Executive Officer, Economic Development:

Well, the basic mathematics works quite well because the energy produced is a function of a cube of the tidal velocity, which is extremely efficient. So the issue is, do we have in our offshore waters a sufficient area where that resource is at an exploitable level to deploy generation arrays that will allow us both to supply into Jersey and to export? Now that is still open to question ...

Deputy J.H. Young:

Is that what is mapping? What you said about that?

Chief Executive Officer, Economic Development:

The resource mapping is starting to take us off down that route, yes.

Deputy J.H. Young:

We have not done that yet?

Chief Executive Officer, Economic Development:

No, we have done some of the resource mapping, but what you need to do is bring that together with the technology to establish what the true generation potential is. So what we have got is we have mapped, effectively, what the direction and velocity of a lot of the tidal streams are in our offshore waters and the bathymetry, which is very, very important as well. You will see that, I think you have probably been given access to the particulars.

Deputy J.H. Young:

No, we have not seen the particulars, we have not seen the details.

Chief Executive Officer, Economic Development:

So when you combine that with the technology, that allows you to look at whether or not at a commercially viable level you can generate sufficient electricity.

Deputy J.H. Young:

So is that work funded now? You are talking about that research, are we able to do it?

Chief Executive Officer, Economic Development:

Well, one of the reasons we were discussing for instance with the people in the U.A.E. is because they have the research capability to undertake that work. We are moving away from the hypothetical now into the area of commercial exploitation and using Jersey as a potential test bed to establish whether or not commercially viable utility-scale marine renewables can be deployed.

Deputy J.H. Young:

Thank you.

Chief Executive Officer, Economic Development:

But one advantage, the other advantage that is very important to comprehend is there will always be a requirement to merge, be it nuclear or fossil fuel with renewable technologies in terms of the energy supply. Now, one of the problems, the offshore wind and to some extent, solar PV suffers from, it is not predictable. So merging a controllable with an unpredictable resource is always a difficult thing to do and that affects the unit cost of total production. The beauty of tidal stream, because it is tidal and it is governed by the moons ... the guys at Masdar said Newton worked out how to do it many, many moons ago. You can find out quite easily what the level of the tides are off St. Helier in a thousand years' time right now. You can predict very accurately and this was done in the work that was undertaken by Sir Nigel Broomfield's team, you can predict on a daily basis or on an hourly basis exactly where you sit in the tidal stream and exactly what the potential to produce electricity from that tidal stream is if you have a commercially viable technology. The ability therefore to integrate that with your controllable sources is probably the greatest opportunity to produce the unit costs in total.

Deputy J.H. Young:

So the implications of what you have said there is that there is the potential ... there is no doubt about the potential there, it is predictable, but it needs to plug in, if you like, to other energy sources. That presumably means using the electricity network as a distributor into the existing network.

Chief Executive Officer, Economic Development:

Yes, I mean regardless of what the nature of electricity generation is, you need to match what you generate to the demand profile because the demand profile controls everything more than everything else and that is what I mean and demand changes. It is a lot easier to vary your controllable source if you have got a predictable renewable source sitting alongside it.

Deputy J.H. Young:

But it also takes you towards needing to work with partners. You have spoken about the opportunity that might be there.

Chief Executive Officer, Economic Development:

Yes.

Deputy J.H. Young:

That sounds to me as if there is potential commercial interest. There are expressions of interest out there.

Chief Executive Officer, Economic Development:

Yes, it was quite interesting talking to the guys in the U.A.E. They were very encouraged by what we were talking about because tidal stream renewables was not something that they had looked at and dismissed, they had not looked at it because their concentration is on wind and solar PV given where they are and ... but the Masdar Institute, which is a joint venture between Masdar and M.I.T. (Massachusetts Institute of Technology) and I have been in regular dialogue with them since, are very keen to work with us to establish, initially from a research perspective but then beyond that, the extent to which we can move towards using Jersey as a test bed to roll these technologies out. The key to marine renewables, apart from having access to the sea floor, is quite simply materials technology. You can reduce the unit cost of production if you can reduce the operating expenditure. Nobody is going to tell you that the marine environment is anything other than extremely hostile and a tidal stream is effectively like sandblasting. It carries a huge amount of stuff in the water column and the reason that a lot of these technologies do not work to the extent that people would like them to is effectively they cannot keep them in the water for long enough and when they have to take them out to service them and make sure they are still operable, that is where a lot of the cost is.

The Deputy of St. Martin:

As a person who has operated machinery in 3 foot of seawater, I can certainly vouch for that. I just want to go from utility-scale renewables to micro. Obviously we have been talking there about something to do everything but to take it to the other extreme, talking about everybody doing a little bit, do you have a view on feed in tariffs? And if so, what ...

Chief Executive Officer, Economic Development:

I think we should have some viable ones, yes.

The Deputy of St. Martin:

So you think there is a case on the Island for the J.E.C. (Jersey Electric Company) turning around and saying: "Well, we will pay a sensible level for feed in. People want to generate a little bit of micro, we will pay them a sensible amount of money to feed that into our grid"?

Chief Executive Officer, Economic Development:

That is my personal perspective, yes. I think there should be because I think that is one of the other things that we encourage the roll out of some of the existing technologies that could be rolled out today. It is one of the potential barriers. You know, as I said in Wales, where there is a solar panel subsidy but there is also an effective regime for ...

The Deputy of St. Martin:

Well, it might not be a grant in Jersey but we could find ourselves a situation with the J.E.C. where people look at the payback and say: "Well, it is not 25 years." It might be 3, 4, 5 years and they see a target which is reachable and achievable and they tend to go for it.

Chief Executive Officer, Economic Development:

It would be quite difficult to imagine an environment where we seek to roll out these type of technologies where there was not that type of involvement from the ... particularly when it is a monopoly distributor and supplier of electricity. We would certainly like to see an effective feed in tariff regime developed. Because (a) it would increase, we believe, the rate of deployment. That in itself creates a requirement for economic capacity to supply that. It goes back to my previous point ...

The Deputy of St. Martin:

Is there a developing industry in the supply of these microtechnologies? I mean, do we need to get the Department for Planning and Environment to take the brakes off if you are doing anything in the way of micro energy? It is not an application, let us just get on and do it ... a little bit extreme.

Chief Executive Officer, Economic Development:

I mean, I do not want to enter the world of fiscal policy and I certainly do not want to enter the world of planning policy but what I would say is that it is very clear ... I mean, I grew up where I was the other day for my sister's wedding, in the Brecon Beacons National Park, where planning constraints are greater than they are here. However, the driver towards sustainable energy generation through solar PV is seen as something which has primacy over, perhaps, some of the other planning considerations in what is a national park. There is very significant scale of deployment of solar PV on people's roofs there and I was not joking, you drive around and they

are all over the place. They are not ugly and they do supply ... they do what they say on the tin. They do have the ability to feed in excess energy back into the grid and it is dealt with in a proper way. I think that we would have to think very seriously about whether or not the planning system took a more benign view to that because it effectively, if it does not take a benign view, it is a further barrier that is in the way of that type of rollout. There is no doubt a renewable future ... there will be and there are currently ... the largest one in northwest Europe that is being rolled out at the moment is the wind farm which will increase it more. There are utility-scale renewables that are deliverable now and they are certainly going to be deliverable in the future. But is there potential to complement that with microgen, so effectively change to some extent the perspective of having central generation and distribution, the distributor generation ...

The Deputy of St. Martin:

Do it the other way around.

Chief Executive Officer, Economic Development:

Absolutely and that, I think, is one of the things that ... that change is something that we have to comprehend and not put too many barriers in the way of it happening. That is not to say that everybody has to have wind turbines all over their houses, because that is ... well, you may wish to but solar PV particularly here this far south, we do have a benefit over the U.K. I can guarantee you, it is more sunny than South Wales because it rains all the time but if it is deployable there in a national park with the right feed in tariff environment, then I see no reason why it should not be.

Deputy J.H. Young:

Thank you. I would like to bring in Roger in the last few moments. I think you said there were points you wanted to pick up, Roger.

Panel Adviser:

Yes, thanks. I am struck that across the whole range of issues that have been discussed, your message seems to be there are huge opportunities to get both the environmental benefits and business benefits, provided the various bits of the Jersey Government and private interests co-ordinate and act together and all push in the right direction. I would like to ask you about any implications you would like to draw about the institutional framework needed for that. The plan suggests an energy partnership, bringing together various sectors to drive this. I would like to hear your views on whether that is a good idea and what its conditions for success would be and one specific question, a lot of what we talked about would require a more active and interventionist style of utility regulation, particularly relating to electricity to require certain tariffs, to require certain kinds of behaviour. Interested to hear your views on that.

Chief Executive Officer, Economic Development:

I will deal with the first one first while I am thinking about what I am going to say to the second.

Deputy J.H. Young:

We did say we were meeting the regulator this afternoon, but the J.E.C. are not coming with us today.

Chief Executive Officer, Economic Development:

What we need from government is within government, effectively ... to bring what government needs to bring to the table in terms of policy, funding, delivery. We need a multi-agency approach but we need to have a clear leadership. Now that can either come from a single department having been given leadership and very much the Department for Planning and Environment and the Director for Environmental Policy and co have taken that role so far. What we must not do is we must not fragment the Government ... as we move into implementation and delivery of a lot of this stuff and delivering this policy, we must not continue to do it in a fragmented way. So from a government institutional perspective, I think we need to bring it all forward into a single point. That point has the responsibility for working within what is a very fragmented governmental organisation to bring all the pieces to the table. Yes?

[12:00]

I think that if you can then bring from the other side of the coin, the generator in the private sector to do the same thing and maybe what you do establish is a private-public partnership. Not necessarily created as a body but an entity that works with the principle of partnership. Effectively, I think it is potentially an extension of what we currently call the Energy Commission-type model but which can bring together government to a single point, industry, generator, J.E.C. and it got into a single point but it has to be worked in a co-ordinated way. What I think this suggests in its partnership is what effectively is the delivery vehicle? Now, we can construct that under any number of governance structures. In E.D.D. (Economic Development Department) we have got everything from doing it entirely within government to having it entirely filled independently, such as Digital Jersey. We can do that, it is fully funded and it delivers, the Government has representation on the board, or we can do it through something which is a little bit more partnership based, which I think is where we will probably go here. But the most important thing from my perspective is that I think throughout this conversation, hopefully, we have got to the point of realising that different elements of government have an ability to make this happen or indeed prevent it from happening. If we do not work horizontally at government level to bring it to a point where the Government can engage, albeit with J.E.C., with private sector in terms of developing economic capacity and with other parties that I think we will delay what is implementable. As far

as energy regulation is concerned, we oversee, as you know, the C.I.C.R.A. (Channel Islands Competition and Regulatory Authority) or the J.C.R.A. (Jersey Competition Regulatory Authority). In a not universally welcomed move, they looked at the whole issue of electricity generation and that was based really on the current supply and they have concluded that there is not an overwhelming requirement to move to a regulated ...

Deputy J.H. Young:

When did they do that? Is there a report on that?

Chief Executive Officer, Economic Development:

Yes, it was just on the J.C.R.A. website.

Panel Adviser:

But that was from a specific consumer protection price ...

Chief Executive Officer, Economic Development:

It was from the perspective of the current ... that is exactly right, yes. Would the type of moves we have been discussing today require a different form of regulatory oversight? They may very well. It certainly should not be ruled out because I think that one of the things that we have discussed today is that the market often by itself does not always respond in the way that you would like it to in terms of delivery of the ...

The Deputy of St. Martin:

So your P.P.P. (Public-Private Partnership) for want of a better word would need some teeth? It may need the power to regulate?

Chief Executive Officer, Economic Development:

Well, no, I do not think it has the power to regulate but I think that if we are going to put any form of regulatory environment in place, it is something that, from a government perspective, we have to work with the regulator and there are the other elements to decide what the most effective way of doing that is. This is no different to what happened when we were looking at regulating, we are looking at the moment, but in regulating the ports of Jersey, or we did with Telecom and Postal. If there is going to be a regulatory framework, it is not something that we sit and magic up in isolation. It would have to be worked collectively. Ultimately, you know, within the P.P.P., within any P.P.P. of this nature, there would be entities within there who would be subject to that regulation and there are others clearly who would not.

The Deputy of St. Martin:

And the champion for that P.P.P., a politician or a private sector individual or A.N. Other?

Chief Executive Officer, Economic Development:

It is going to need political leadership and it is going to need a political champion, I think, you know, from a Government perspective. I mean, what we are really talking about here is taking this and delivering it and making it ... you know, it happened on the ground. So that is going to need political support, it is going to need funding and it may very well require changes to legislation right across the piece that would have to be taken through by ...

Deputy J.H. Young:

Your gut feel on funding? What is your rough ... can you give us a figure?

Chief Executive Officer, Economic Development:

No, I do not ever talk outside the M.T.F.P. (Medium-Term Financial Plan), as you know. **[Laughter]** But I do ... I mean, seriously, I think that if there is a collective view that we need to take this seriously, it becomes an issue of re-prioritising spend across the entire spectrum of States activity and within E.D.D. for instance as well.

The Deputy of St. Martin:

You are talking the next M.T.F.P., I presume?

Chief Executive Officer, Economic Development:

Well, I think if we sit around until 2016 and wait for this to happen then that is rather a long time. You know, the M.T.F.P. is a very, very good vehicle because what it does is it gives all States departments certainty over their funding over a 3-year envelope. What it does not seek to do, is it does not seek to describe exactly what that distribution funding is.

The Deputy of St. Martin:

So you are saying we need to redirect some money almost immediately before this.

Chief Executive Officer, Economic Development:

No, no. That is not what I am saying. As we are working towards 2014 roll out ... I will just take the E.D.D. business plan. As we are moving towards the 2014 preparation for our internal business plan, we are working to a single number and that single number is what we have been allocated within the M.T.F.P. How we distribute that is a decision that the Minister will make and I am sure this group and panel will have a view on it. Now, if we were to say within that, as it is

possible if not probable, that we need to place greater emphasis on the commercialisation activity that sits alongside this then we would deflect spend to do that.

The Connétable of St. John:

Have you got in your department, a Minister who could champion this? Because within Environment, he has many other things on his plate but he also wants Utopia and that will never happen, so therefore we have to move forwards with this type of project sooner rather than later and it needs to be championed by somebody who goes out there, is middle of the road and it has to come from the Minister or Assistant Minister.

Chief Executive Officer, Economic Development:

The one thing you will not drag me into doing is anything about politics. But you know, should the Minister for Economic Development provide an element of leadership given my very opening comments about the economic potential that this may result in? The answer is yes.

Deputy J.H. Young:

Thank you. At that point I think I am going to close the session. Thank you very much for your very full and frank answers to us. Thank you. I close the session.

[12:07]