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the tabled evidence/statement



**HEARD BEFORE DR R SOMERVILLE QC (CHAIR), MRS G BAUMANN,
MR W GARDINER AND DR R CHAPMAN, MEMBERS OF THE BOARD**

TUESDAY 23 JUNE 2009

**HELD AT THE HERITAGE HOTEL, ROBERT LAIDLAW 2 ROOM,
35 HOBSON STREET, AUCKLAND**

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HEARING OPENED [10 am]

APPEARANCES

Mr B Leyland

Mr P York and Mr R Gardiner, Federated Farmers of New Zealand

Mr C Fincham, King Country Ltd

CHAIR: Well welcome Mr Leyland and thank you very much for your submission. We appreciate you taking the time to do with the submission and also for appearing today. I'd be grateful if you could stand at the lectern and we're in your hands. If you wish to read through your submission or speak to it, it's entirely for you. But I just need to advise

you that we are recording what you say and it eventually will find its way onto the website.

MR LEYLAND: That's fine.

CHAIR: Thank you very much. So look forward to hearing from you.

MR LEYLAND: Right I'll sort of wander a wee bit if I may because I think it probably suits. My own background, I've been in renewable energy, hydropower, virtually all of my life. I started off in Sierra Leone in 1967 on a hydro scheme and then I came to New Zealand and I've been doing small and large hydro schemes every since. Both New Zealand, overseas, recently in Iran, so I have quite strong feelings about what's going on there at the moment. I've worked on bio fuel projects in Samoa and other countries. I've worked on tidal power scheme in North Western Australia and I'm working on another one now which I'll tell you about later. I've got some experience in solar power. I've done a lot of work on the economics of wind power and I've appeared as an expert witness in several hearings on wind farms and I have been operator and part owner of a 920 kilowatt small hydro scheme in Golden Bay, which if we get an emissions trading scheme and a carbon tax, will make more money, so I am standing here opposing what - my own financial interests, because I think I rather like New Zealand. I'm sorry, but that's it.

So I've got to do a little bit on the climate change. The reason that we're all here is because people believe in man made global warming. They believe it's real. They believe it's dangerous and they believe that if we spend a lot of money on renewable energy it will make a difference and I would argue that none of those are true. There's no evidence it's real in that if you look in past history the world's been warmer without man made or any other high carbon dioxide concentrations. It's happened several

times. There's no evidence that it's dangerous because what we do know is that in the Medieval warm periods, the Roman warm periods and the Manóan warm period, civilisations prospered. We know that in Little Ice Age it was a pretty miserable time to be around. The Cathedrals, the Aztecs and the Romans, all those blossomings of civilisation occurred in warm periods. And they were warmer than now.

If you look at the recent climate history, then – and you can see here in my submission we're looking at mid tropics, their temperatures, which are – which should if the global warming theory is true, show up most strongly the effect of man made global warming. But basically there was a peak in 1998 but since 2002 they have declined. This is widely believed by a lot of people to be a sun spot affect. We are now in a period of a very quiet sun. Current sun spot cycle has not ended. So it's the longest we've had for a long time. History tells us that long sun spot cycles are followed by periods of quite intense cooling. So the argument that we're headed in for intense cooling, which would be bad, is at least as strong as any other argument. And so a prudent society would be prepared for climate changing as it always does and being equipped to deal with it, whichever way it goes.

The main reason that people believe in global – man made global warming is the computer predictions used from the IPCC and over the last 10 years they've proved to be a lot of (inaudible), there's a picture on page 2 which shows you that. And people say ah well, the warming's going to start again, well maybe it is and maybe it isn't, but what we do know is that the computer predictions have not been correct. A few years ago Dr Wratt (ph) said to me, I was having a newspaper debate with him, but he said, Mr Leyland has to realise that it will be 10 years before we know whether they are right, we can't predict the climate in the short term. Well those 10 years are up and it's getting colder. I think there's a significant –

all right, that's – everything's changed and people are trying to tell you that the trend is still upwards, so it's not cooling, but that's nonsense. If you are driving up hill, and you get to the top and you drive along the top and start going down, and your passenger says well we're still going up because we are higher than we were when we started, you say, get real, we're going down. So if you argue from a trend line that it is still warming, that's nonsense. The fact is the world is cooling. The debateable thing is whether or not it is going to continue.

But you go from – that's enough I think on climate change, but I'm sure you will have some questions. A quick one on wind power. Wind power is the main hope of renewables. It's something that has been around for a long, long time and something that everybody has said is suitable and will be economic. It's not happening here or anywhere in the world. Wind power exists because overseas Governments who believe in dangerous man made global warming are paying huge subsidies. I was talking to an engineer from the UK at a conference a couple of days ago. If you build a wind farm in England at the moment, the price that you will get is twice what it costs to generate power on the open market. Not only that, you get free transmission and you get free backup for when the wind doesn't blow. So the real cost to the consumer of wind power in the UK is about three times the cost of power from alternatives, coal, gas and nuclear. It doesn't make sense. Now the UK wants to go to offshore wind power and the subsidy they are offering is three times the price of alternative generation. This is crazy. By any means this is crazy.

And still we know and more and more we know, that in a – you can get calm patches over the whole of Europe which shut down virtually all of the wind power. So it cannot be relied on to be available when you need it and that happened last winter in the UK. It's happening in New Zealand right now.

If you go onto slide three. This is the situation last night. Actually it's a shot of – was at midday yesterday. Unfortunately you can't see it very clear. In the bottom, the circle there says, here we were at that high morning demand and there was virtually no wind power. You know, this has been happening virtually every day for the last three weeks when the load has been high and I've been watching it all the time. We've had very little wind power. As you know it's been calm and clear and very cold.

What we had, on the upper right you can see that the peak demand went up very sharply and then down again and this caused a peak in prices in the North Island which was up to about four times normal. Now one of the arguments that we have is that our hydro resources will back up wind power when the wind doesn't blow. The existence of that peak shows that it didn't happen. That high peak was caused by the cost of bringing on another thermal plant. And unfortunately most of our thermal plants are unable to respond rapidly and they are getting older and more decrepit every day.

If we move onto slide four. This is the power output from wind farms in the Manawatu, measured every 30 minutes. You can see how they go up and down, how rapidly they go up and down. The peak outputs are a 160 odd megawatts. The installed capacity is 184, but if that was 1000 megawatts you could imagine what stresses that would imposing on the rest of the system. And right now we're struggling to meet even changes in demand, which are predictable.

So looking forward to our power system, particularly the situation that it is now, and just to go over it, Otahuhu A – Otahuhu B station, our main combined cycle station is now 10 years old and its boiler is in serious trouble. Taranaki combined cycle is about the same age; it's boiler is in

serious trouble. There's a new combined cycle station at Huntly which does seem to be a bit better. Huntly Power Station has got four old units. One of them has got a damaged generator. All three of them have got boilers which are struggling and they do not like changing load on them rapidly. So we've got a – we're in the position where we have an unusually cranky shonky set of thermal generation to try and back up any large amount of wind power.

[10.10am]

The cost of power for wind farms centres on how much they cost. It's not easy to find out how much it costs. Slide five shows the database I've developed for the cost of wind farms. This has never been challenged. I've used this at hearings on – at wind farm hearings, notably Hayes. It was said that my figures were wrong, but nobody actually challenged any of these figures. So the cost is about \$3,500 per kilowatt. For \$4,500 a kilowatt we can build geothermal stations. Three times the output and they run for 90% or 95% output all the time. It's very expensive power.

Slide six is a curve that shows the output duration curve of a wind farm and it gives you an idea of how often you can rely on it being at a certain output. Down the right you will see that the output of the wind farm is virtually never above 90%. That says that 10% of the time we can be pretty confident there will be no output. And we can also say that for 80% of the time the output will be below 70% of the installed capacity and so on.

And over on the right you will see what is called a wind energy gap, which is the energy we need to fill in from thermal or other stations in order to get a reasonable output from a wind farm, so that's the supporting energy. That is about a third of the area on the left. That means that wind energy

needs something like 30% support from thermal stations in order to meet the load. Now that 30% might be wrong. It might be only 15, because that's quite complicated calculations. It's certainly above 10. So if you are relying on wind power, we will never, because of this, be able to reach the target of 90% renewables and frankly I'm amazed that anybody has ever pretended that we could. It just doesn't add up in terms of operating a real power system in a real country.

The other problem with wind power is that it is seasonal and S7 shows that during the autumn period, February, March, April and May the outputs are lower than average. Last year it was unusually lower and it was actually about 30% below its average output. That means that wind power doesn't help our hydro storage situation. The wind blows when it's raining in the spring time and the snow's melting. The wind doesn't blow when it's not raining and our hydro schemes are struggling for water. So if it was the other way around, wind power would be useful. I said at one of the hearings if it costs half as much as it does and the wind blew in the autumn, I'd be all for it. And that's what it would take.

Then we're doing other things like tidal stream power and there's talk of this in the Cook Strait. There's a picture there of the SeaGen prototype. It's the only one that I know of that's even worked for a short period and it weighs a 1,000 tonnes which means it costs probably 8 or 10 million dollars and it delivers an average output of about 300 kilowatts. That alone makes it uneconomic. It's very heavy. The amount of power it generates, therefore it's expensive and this weight is fundamental to it.

There's talk about putting tidal stream units in the Kaipara and there's – I could talk for quite a while on this. There's no chance in my view that it's got any chance of being technically successful or economically successful. The units they are talking about using are what's called Open Sensor

Units and they put them in the bottom of the sea and the SeaGen website will show you that if you have something close to the bottom of the sea, the current is much weaker so you generate half as much power. So they are putting it in the wrong place. The other problem is that they have a very clever magnetic bearing for the rotating part and unfortunately we are running them in water that will have iron sand in it. Now if you have a magnetic bearing in iron sand, I think you are going to have a delightful crash very rapidly.

In this Polarmis (ph), the sea snake, which is a wave power machine invented by a friend of mine 20 years ago, he abandoned it. They put some out off the coast of Portugal and shortly afterwards abandoned them for financial and technical reasons. Again, too heavy, too complicated.

Solar voltaic farm in Spain. A huge area, for 60 megwatts and if a cloud goes over the sun it loses 60% output. Every night it loses 100%. The subsidy is 5.6 times the wholesale cost of power and it's locked in for 20 years. That's crazy. And the other thing, of course, it's a lot of glass to clean, if you want to put one of them in the – thousands of them in the Sahara Desert which people are talking about, one sand storm will take them all out and if it abrades all the glass they'll never be the same again. These are real problems.

Finally Kelp (ph) has a project in India. I am a member of the Expert Advisory Group. It's the largest tidal power scheme in the world. It will not go ahead because it's not economic. Much to regret, I have to say. I'd love to be involved in a huge tidal power scheme. The tidal range is 80 metres and we've got advantages of scale. We've got a huge basin, we've got everything on our side and we can't make it happen.

So I think I've talked quite enough.

CHAIR: Thank you. That's very interesting. Now is this from you too?

MR LEYLAND: Yes. That's just a backup to what I've already said on the climate change.

CHAIR: Can you just give us the pedigree of this report please?

MR LEYLAND: Yes. It's produced by the Hartland Institute which is an independently and privately funded outfit, which does not get money from any companies. It has been accused of getting money from Exxon. I think they got a few hundred thousand 10 years ago at a time and since then Exxon has given 200 million to renewable energy. So Exxon were fairly balanced in their money, they got a small amount of it. Anyway, I can argue, I don't care where the money comes from, whether what they say is true is the only thing that should matter.

I know personally quite a few of the authors. That may or may not prove their credibility. Fretzinger (ph), Avery, Bob Carter I know very well. Richard Courtney I know well. Fred Goldberg I know well. Vincent Gray from New Zealand is one of the authors. He is immensely learned; an incredible nit picker. If you can get anything passed him it's got to be sound. Hans le Bond (ph) in the Netherlands. Christopher Monkton, who is an absolute eccentric but very, very clever, which is quite, quite surprising. And it's they're basically bringing out hard evidence and they have been very careful to document everything and show that – quite important stuff, so I think it's as good a summary of the sceptic's side if we could call it that, the climate realist side of the climate change argument, as you will get. Another excellent one is the book by Ian Wishart. I went into that with much suspicion and certainly Vincent Gray – Vincent Gray said it was good and if Vincent Gray said it's good, it's amazing. I've

never heard him say anything was good before. He can be very difficult man.

MR GARDINER: Brian, I am interested in your own little venture in your backyard. The output from that little hydro of yours, does it service just your place or does it service –

MR LEYLAND: No, no, it's in Golden Bay. Just west of Takaka. It feeds into the local system. We sell straight into the spot market, so we're in exactly the situation of the sort of – we are prime example of renewable energy that the Government wants to sponsor. And basically it's marginally economic, the reason is the Resource Management Act added about 30% to the costs and we're still fighting those battles, and the costs that it added have made no difference to the environment. That's what really upsets me. Huge – sorry about the word but “buggeration costs”. But very little, if any, real benefit to the environment.

MR GARDINER: Thanks for that. I'm really interested in using those kinds of schemes for more isolated parts of the country, like East Coast, Northland.

[10.20am]

Now we had the Northland Regional Council here yesterday who are keen to develop small scale electricity generation plants that serve local communities. That might be at the end of the line, but nevertheless they may choose to want to head in that direction. You are just saying that the economics of that is not great.

MR LEYLAND: No some are. I've just spent two days up in a hill country farm way up the Rakaia and they've got a scheme which I think they can make economic. It's going to be difficult but I think they can do it. No I'm all in

favour of them, but that's all on their own farm, so they are not going to get tangled up in the Resource Management Act, which means that they've got a chance of being economic. The Resource Management Act that killed them. I say to people, if you've got to deal with the Resource Management Act, then anything less than about 5 megawatts, forget it. You cannot afford to go through that process.

MR GARDINER: Thank you.

DR CHAPMAN: Just to follow that up, what is it about the RMA that's made the costs of that small hydro higher?

MR LEYLAND: Good question. Delays, endless delays.

DR CHAPMAN: In re-consenting or -

MR LEYLAND: In consenting – it took years to get a consent to build the scheme and then got lots of restrictions placed on us during construction. We wanted to run our pen stock line down a ridge which used to be cleared and was grazed years ago and now it's (inaudible) scrub this high and we wanted – we needed a fairly wide space. There was sort of the width of this table to get machinery down and then down. We got a space of just over 8 feet, so there would be 20 Manuku this big. In our terms worth about \$10,000 each.

DR CHAPMAN: So restrictions on bush clearance and so on?

MR LEYLAND: Yeah. Five miles away somebody's clear filling a whole pine forest. Or somebody else is clear filling their own native forest and it's just unreal.

DR CHAPMAN: I know the Pupu Springs Hydro, I've had a look at that one recently. Is it near there?

MR LEYLAND: Yep. Not far along. We work quite closely -

DR CHAPMAN: Further up the valley?

MR LEYLAND: Yeah.

DR CHAPMAN: Okay.

MR LEYLAND: But we're along halfway to Collingwood. It's the old Onekaka Iron Works -

DR CHAPMAN: Oh so it's slightly further north?

MR LEYLAND: Yeah, north west. It's the scheme that was built for the old Onekaka Iron Works and we reused the dam and everything else and basically the pen stock, but there's another example. That dam's been sitting there abandoned since 1950. It's been a liability on the District Council. We've probably spent \$40,000 now on getting reports on its safety and we've got to have quite an expensive insurance policy on that dam, but for us it would be full of dirt and nobody would be looking after for it and it would be the TDC's risk. They ought to be helping us. We've taken a risk off their hands. All they are doing is making it difficult and expensive. And there's just lots of things like that. I mean I've been trying to get minor changes in the water rights. I've spent three years doing it and they're heaping compliance costs on it, which are irrelevant to our operation and irrelevant to the actual real environment. These compliance costs, you know we're talking \$10,000 a year. It's not peanuts

in a small scheme. Nothing to do with the environment, just how you demonstrate compliance.

MRS BAUMANN: Well just taking that point up, would you agree that's the purpose for Policy 5, to try and get some realism into that – into the small scheme and do you support that?

MR LEYLAND: Yes. No, I would. I mean – most definitely and it would be good, but – that I see for the same reason as Wira does, it's quite an advantage, especially if you've got an isolated area which needs power and things like that. That's how we built New Zealand. We built New Zealand – we were one of the earliest to go into rural electrification. Our rural electrification in 1940s was higher than America's and it was because to a large extent people like Lloyd Mantano (ph) and others who I worked for went out and built schemes and we got spots of electrification and then we tied them together. This country is built on hydro power. Without it, it would be a different country and not as nice to live in.

MRS BAUMANN: Because the way I hear your submission is it's largely about the objective.

MR LEYLAND: Yeah.

MRS BAUMANN: But if one was able to put the objective to one side, and look at the actual policies, I'm interested in your views.

MR LEYLAND: I am against subsidies.

MRS BAUMANN: Against subsidies, yes.

MR LEYLAND: Yes. In principal. I think every time you subsidise something you distort it. A subsidy is about a Government picking winners. Governments usually get it wrong. We all know that.

MRS BAUMANN: So are you suggesting the policies themselves are subsidies?

MR LEYLAND: Yep. Any – the policies associated with wind power, with – fears of man made global warming amount to subsidies. The carbon tax is a subsidy on renewable generation and a penalty on coal fired, but a huge tax on the public, because by increasing the cost of coal fired generation we have increased the cost of electricity to everyone and people like you and me will finish up paying carbon tax on hydro power.

MRS BAUMANN: But I've just said putting that to one side, and actually looking at the policies, which are to do not with carbon tax or anything like – just to do with the RMA, and picking up your point that New Zealand was built on hydro, a renewable, most people agree, how do you feel these policies will alleviate barriers to hydro?

MR LEYLAND: I've been overseas several times since I wrote this, and I've only just come back, you might have to remind me what the policy is. Anything that makes it easier to build hydro and geothermal, I'm in favour of because they are fundamentally economic schemes. But what we want to do is, removing the barriers are okay, subsidising I don't agree with.

MRS BAUMANN: Because if you look at Policy 5 which just on the heading, whether the words quite deliver the heading, just – that sort of –

MR LEYLAND: I think you can support it and make it a bit easier, but don't kid yourself that it's going to make a big difference.

MRS BAUMANN: So don't make –

MR LEYLAND: It won't make a big difference.

MRS BAUMANN: Vis a vis?

MR LEYLAND: Vis a vis what it needs – I mean at the moment we need to shut down Huntly and we've got – faced with at least a thousand, maybe fifteen hundred megawatts of large scale thermal generation being forced to shut down because it's so decrepit. We are making no plans to replace that generation. We don't even acknowledge it's a problem. So it's all very well doing this, but let's not take our eye off the target which is an economic and renewable and reliable supply of electricity for our people. That's what the electricity market was supposed to bring and by ignoring the real problems, and this in a way is diverting us, we're putting our whole power supplies and economy at risk.

MRS BAUMANN: Can I just ask you to then look at Policy 3 which I think seems would be unacceptable to you because it seems to suggest that there should be a favouring of wind or how do you read that?

MR LEYLAND: That scares me. I mean, when you build a hydro scheme it's there and if you want reversibility on a hydro scheme you're not going to build it. That's it. You are making a permanent change to the environment. Whether or not overall it's an improvement or not, it's hard to say. If you are a rower you would say that Karapiro was definitely an improvement to the environment, because otherwise you would be rowing down rapids. If you are everybody in New Zealand who is benefiting from the cheap power, you would say it's an advantage because your alternative would have been coal fired generation, so I think reversibility of it, I wouldn't have anything to do with it.

DR CHAPMAN: Brian I just wonder if we could explore some of the points you made about hydro backup and wind fluctuations and so on.

MR LEYLAND: Yes. Each are important.

DR CHAPMAN: On the question of hydro backup, there's a rather critical point about how much you know wind can contribute and so on.

MR LEYLAND: Yes.

DR CHAPMAN: Your comment really seemed to be that peak prices show it doesn't really happen and you point to slide three where prices have peaked, I wonder if you could explain the dynamics of that really and I've always understood the hydro can kick in fairly quickly and –

MR LEYLAND: I know, everybody tells you it's true and they're doing computer studies that show it's true. However, last year I got all the data on hydro generation at the time of peak demands on the system. The average output from the wind farms I think was 23% on three out of the six peaks that I monitored. I stacked the highest six peaks. The output was effectively nothing. This year I got the same data for the North Island generation and the North Island wind power from – during May and up to about the 12th of June, the average was 15% of the wind capacity and once again, the three peaks, effectively nothing.

[10.30am]

And the fact is that the New Zealand hydro power system - the New Zealand power system used to always have enough electricity to get over a peak demand, but the lakes ran too low, so you could call on the

hydro schemes to generate for a couple of hours but not for three weeks. But we're now pushing the system much harder and now on a peak demand day we are both short of capacity from the hydro schemes and short of lake level, and short of water. So last year we just had nothing in reserve. If the wind dropped and one day it did, and you know, on these days what we have been seeing is there's no wind, we're in trouble. On the 4th of February last year of all times we were running close to the margin and the wind in the Manawatu suddenly dropped and we lost 240 megawatts, that all but caused a system emergency. Now if it had been true that hydro could have backed up this, over 1,000 megawatts in the North Island it would have cut in. It wasn't there and you talk to the hydro operators and they say –

DR CHAPMAN: Was that because of low lakes at the time or?

MR LEYLAND: Yeah, yeah, that was, but that's the critical thing. What determines whether – when we need new capacity is when we have a dry year and the analysis that has been done it was considered an average year. Forget about average years, when the chips are down, hydro hasn't got any spare capacity and when you get, as you see in S4, because I've said critical dry period, well you can get a week or two with virtually no wind which is what we're going through now. If the lakes were low before that, you've sucked them dry. If we have – if we had huge lakes like Norway and other people and Tasmania that store three years worth of water it would be a different story. But we're in New Zealand. We've got very little storage and wind puts extra strain on the storage. It doesn't reduce the strain on the storage.

DR CHAPMAN: Can I ask as a follow up to that, is that partly a function of the wind being very concentrated in the Manawatu at the moment?

MR LEYLAND: No it's not because I got the output of White Hills Wind Farm in the South Island and these ones and put them together – I can't show it to you because I got the data confidential from Meridian. They hated giving it to me and it shows that very often there's no wind in the South Island at the same time as there's none in the North Island. You get a slightly better result, but it means that the maximum output you ever get is lower, because it is hardly ever blowing strongly in both places at the same time and the minimum output's a bit better, so thank you for probably nothing during critical peak demand periods, but probably 5 or 10%. It's not enough to make a difference.

DR CHAPMAN: Okay, so that's only a sample of – would you accept that's only one wind farm, relatively small, outside the Manawatu, in your slide?

MR LEYLAND: Yes. I do accept that, but the Electricity Commission is now getting wind data for the whole of New Zealand and doing that and they're using these places where the wind's most likely to be concentrated. But we know that White Hills correlates with Hayes for instance, because I've done a correlation. So it's fairly characteristic of the Otago stuff and the Manawatu is, well we're going to have 600 megawatts there quite soon. That's where the (inaudible) blows and Makara in Wellington is not dissimilar.

DR CHAPMAN: Makara in Wellington?

MR LEYLAND: Makara, sorry. And I flew out of Wellington a couple of weeks ago and it was howling with wind and the wind farms had shut down.

DR CHAPMAN: Yeah although – yeah, it's probably fairly early in its piece to judge that.

MR LEYLAND: I would have thought that it was a good site for a wind farm and that was it, but now I'm not quite so sure and it turned out to be very expensive. More expensive than I thought. If you look at my little table, it's the bottom one, \$3,800 a kilowatt. There are special reasons for that and it does have a better output than others and it wasn't cheap.

DR CHAPMAN: Can I ask on that slide, slide five, the cost of wind farms, where that data is from?

MR LEYLAND: Yes. I trawled the internet, particularly a power website that specialises in news, so I just trawl it every day and I've been doing it for probably two years. Whenever I find what looks like reasonably convincing data on the cost of a wind farm I put it in my database. Nobody's challenged that. I mean, I had expected that when I presented it at Hayes somebody would go through those and point out that I got some things wrong. Now a lot of those are estimated costs, so they could easily be higher when they finally build them. And one or two of them like Puerto Rico there's a 5,500, is a nonsense cost because that's – they're calculated from the contract they signed and it doesn't tell you the actual cost of power, but I decided I would put all data in so that nobody – I could never be accused of skimming the data. So there's also some low cost data which I'm equally suspicious of in there.

DR CHAPMAN: So for example the Makara in Wellington cost at 3,800 New Zealand dollars per kilowatt, is that the sort of data that Meridian would accept or?

MR LEYLAND: It came out of a newspaper and my understanding is that Meridian did not challenge it. It's almost impossible to get the people who build wind farms to tell you exactly what they cost or give you a cost breakdown. It's highly confidential and I'm not surprised.

DR CHAPMAN: Yes. So while it hasn't been challenged, we can't be sure that it's reliable.

MR LEYLAND: No. No, but the thing is that that's a reasonable sample of publicly available information and it's - I think it's pretty solid. And people say, oh well we've got estimates like this and so on, and I say look my experience is if you can find the costs of a completed scheme, you've got something reliable. If you can find the cost of a half completed scheme, you're better off - and somebody says, oh we've got this scheme and it's only going to cost - been there. There are not many schemes that are built for less than the estimate.

DR CHAPMAN: I'm finding it a little hard to read these graphs. Is it possible you can supply -

MR LEYLAND: Yeah I can - I'll send you the - I should have brought my computer but I dashed out of the house in a bit of a hurry this morning.

DR CHAPMAN: My other questions were around the costs of alternatives, particularly the tidal and concentrated solar power and I accept that concentrated solar power is unlikely to be a big goer for New Zealand, but are there any circumstances in which it might make sense?

MR LEYLAND: Personally I don't think so and actually I'd rather we don't put it in. The problem is the one that nobody talks about which is energy storage. If you've got a vast amount of solar power, just to give you an example, you know it's going to go off every night, you know that the capacity factor is going to be around about 22% and you know that some times of the year, in the summer time there will be lots of sun and in the winter there won't. If you have a system with a winter peak demand,

you're in trouble. So you say, well let's store the energy. Now the only way we have of storing large quantities of energy at the moment is hydro pump storage which I happen to know quite a bit about. I've done three studies in New Zealand on it and the average pump storage scheme has got 10 hours of full load operation in its pond. To integrate solar power into a system with a winter peak you'd need three to six months storage. You would need - in New Zealand you would need to be able to store about a third of our annual energy demand for six months. Now first you have to find the site. There actually is one in New Zealand. It's up above Roxborough.

DR CHAPMAN: Above Roxborough?

MR LEYLAND: Yes and I helped with the study – with the study on that. I doubt if you'd ever get it through the RMA, but it could treble the amount of storage we've got in New Zealand, but who is going to pay for it? If you did pay for it, if you could get it built and paid for it, then I suspect that if the solar power cost you nothing you would still be coming out with really expensive electricity, because the single cost that you might save, you've got solar cells, use solar cells as an example, if you got them for nothing you still have to collect all that electricity. You still have to turn it from low voltage DC to high voltage alternating current with things that cost money. You still have to arrange to get the glass cleaned every time there is a dust storm and in America I hear that's three times a week. And you're getting thousands of acres of glass. You've still got to be proofed against a hail storm. What happens if you've got a really severe hail storm on one of those. It is a real problem unfortunately. And then of course if you get a cloud going over the sun, a big sweeping rain storm going over your solar farm, the output's going to drop at a huge speed. Something else is going to have to pick that up and if it's hundreds of megawatts it's going to have to – it's something quite interesting.

[10.40am]

Once again, pumps (inaudible) hydro dam can do it. Most of our hydro schemes can't because of RMA restrictions on rate of change of flows. Most of them can't respond rapidly. Not allowed to. So I'm – you know, I hate to be pessimistic, because I'd love to say it's true, but – and I always say to people is it cheaper than nuclear power? Because that's the benchmark to me, of costs. All right, you can argue what you like about wastes and all this sort of thing, but at least it's a benchmark that you can apply all over the world. And if it costs as it does, about three times nuclear power, then how much money can you spend on persuading people that it's possible to get rid of waste material or put them through processes that eliminate them? The answers, a lot.

DR CHAPMAN: Is there a place for concentrated solar in locations like Northland where you've got very limited you know sources of –

MR LEYLAND: A year ago I was in Rockhampton on an Electricity Conference by Ergon Energy who run all the – all the power systems out there and they are putting some solar reflectors in at Cloncurry and he said – I said, how does it compare with diesel power and he said, it's a lot more expensive. And you're talking 80 cents a kilowatt hour. And I was surprised. I thought that, you know, out in the middle of your Australian desert would be one place where you could make it work. He said no. I was surprised. But I know that he knew what he was talking about because he's going to do it, or he is doing it.

MRS BAUMANN: Is there information on that, to back up that 80 cents? Can we see some backup information on that?

MR LEYLAND: I can send you a copy of his paper, yes.

MRS BAUMANN: That would be useful, yeah, because it's much higher than I've ever heard.

MR LEYLAND: I don't think he's got that statement in it because it's not something that you say just after your boss has said, we're all for global warming and renewable energy.

DR CHAPMAN: Are you aware of the stuff – I'm not particularly advocating concentrated solar power, I'm just trying to get a sense of the costs. There's quite a lot of talk about it coming from southern parts of Europe and the you know –

MR LEYLAND: Well the talk is of the Sahara Desert, yeah and –

DR CHAPMAN: Or even Spain or, you know –

MR LEYLAND: But you see that one in Spain, with that (inaudible) in Spain and they're talking \$8,800 a kilowatt. You know, later ones have been cheaper than that, but they are still expensive. But when you think that's a 20% capacity factor you've got to multiply it by a factor of four to compare with nuclear. That's \$32,000 a kilowatt. I will sell you a nuclear power station for this amount –

CHAIR: What is the nuclear power kilowatt power?

MR LEYLAND: Nuclear in American dollar terms is reckoned to be four to five thousand dollars a kilowatt. A lot of that is regulatory costs and a lot of it is because they're still prototype plants. The mass produced cost. When they get these plants into production, (inaudible) production, it will go

down a lot. The other thing is that they are developing small nuclear power plants between 100 and 200 megawatts which are sealed and they arrive from the works sealed, usually in two pieces and you bolt them together and when the hot bit wears out you unbolt it, ship it back and they ship you a new one. Now that's where I think that's a future – that could be the future of energy for the world. That is real distributed generation.

DR CHAPMAN: Leaving aside nuclear for the moment, just going back to solar voltaic or concentrated solar, is there any trend line on the cost per kilowatt?

MR LEYLAND: There's a trend line on the cost themselves, yes and they're going down because the production levels are getting very high. But the production levels are getting very high because the German's are subsidising them even more than the Spaniards. But there are, you know there are just bottom limits. Not only do you have to make them, you've got to get them out into the sites and you've got to put assemblies, you've got to have the whole assembly moving to follow the sun, you've got to have it all cabled out and you've got to have people cleaning the glass. You just can't eliminate – and when you've got a lot of little things, they cost money.

DR CHAPMAN: Right. Have you followed the Australian experiments in, you know the big one, the solar tower and –

MR LEYLAND: Yeah. Dreamworld – I can't see it going any where. Once again, I'd like to. I mean it's a lovely idea. Good tourist attraction. Wonderful tourist attraction. What you really want to do is get – is stand at the bottom of the thing with a parachute on and (inaudible) the top. Maybe a paradigm.

DR CHAPMAN: What about tidal? Thanks for your SeaGen prototype data. Can you just go over the cost per kilowatt there again?

MR LEYLAND: Basically, well again I've – I wished I had brought it, I do have some data on the cost of that one, but they were talking of getting it down to I think about 4,000 New Zealand dollars per kilowatt with mass production. And once again you've got a capacity factor of 20%, multiply that by four - or three or four and you're way above the cost of alternatives and that was their optimistic projections on serial production. The problem is it's blink'in heavy because it's sitting in the sea and there's huge currents going passed and it has to be big and heavy otherwise it gets washed out to sea. And weight costs money.

DR CHAPMAN: What about the Cook Strait tidal –

MR LEYLAND: That's crazy.

DR CHAPMAN: I beg your pardon?

MR LEYLAND: That's crazy.

DR CHAPMAN: Why?

MR LEYLAND: Why, because they dreamed up some machine which has never been tested, which has very obvious serious problems and they're going to put it in one of the most vicious tidal streams in the world and a friend of mine monitors the DC link and he said, we've had the tide going in one direction for 18 hours. Those people just don't understand. Nobody understands what they do with the eddies and things like that, so you put this thing in, expecting the tide will do this and that and it starts coming in from the side. And once again it's more – it's closer to the bottom of the

sea, so it gets a lower velocity and then you've got all the marine fouling problems and you've got the maintenance problem. Sixty percent of the wind farms in America are behind in their maintenance. Servicing a windmill is very easy compared to servicing one of these and there's more things to go wrong with one of these.

DR CHAPMAN: So one of the problems with tidal would be pulling it out and servicing it on a regular basis?

MR LEYLAND: Yeah and you've got to do it at slack tide and slack tide might last for 10 minutes. Not for me.

DR CHAPMAN: Okay. We could go on for some time –

MR LEYLAND: Yes I'm sure we could.

DR CHAPMAN: So thank you very much.

CHAIR: Just before you go Mr Leyland, the policy statement we're dealing with is looking at the planning cycle through to 2025 and it's the planning cycle in respect of local authority plans and instruments and we're meant to be directing local authorities as to how to expedite or enable more renewable electricity. It does appear from the evidence we're hearing and I don't doubt you disagree, that within the next 20 years for instance we're going to need a considerable – we're going to need more capacity --

MR LEYLAND: Yes.

CHAIR: -- considerably more in fact if you allow –

MR LEYLAND: More than people are allowing for, because nobody is allowing for the loss of this geothermal –

CHAIR: And your evidence about your small station at Golden Bay has been very helpful. At the moment this policy statements suggests a 4 megawatt cut off, if you like, for expediting procedures as opposed to the more comprehensive resource management procedures. We have heard that, from some submitters, that they would prefer a 10 megawatt cut off, you gave us a 4 megawatt cost - sorry 5 megawatts – you said you thought 5 was the – is that 5 megawatt at the threshold, is that as a result of resource consent processes or the plan, impediments within the plan itself?

MR LEYLAND: No it's primary resource consent. You're just not making enough income. I mean our income is a couple of hundred thousand dollars a year, \$240,000 a year. Well I mean we don't have the money to repay the cost – when we got our water right extended it cost us \$100,000.

CHAIR: Yes, so basically –

MR LEYLAND: You know that's six months income. Just to get it extended. An existing water right extended.

CHAIR: Yes, well that brings in three components that I need to just explore with you briefly. The first thing is, so if the application costs and preparing the assessment of affects and the filing fees and your consultants fees and all that, for under 5 megawatts, that's the first level of cost which you are saying is too high.

MR LEYLAND: Yes.

CHAIR: All right. The second level comes to the actual hearing costs, the actual Commissioner's costs and that –

[10.50am]

MR LEYLAND: And the lawyers costs. That's where it really gets you.

CHAIR: Well there we go. Well we won't talk about that. So that's the second stage. Now do the streamlining procedures that are proposed through the Resource Management Act before us, do you believe they will assist or not in reducing the costs and that?

MR LEYLAND: It's just come to me that maybe with the smaller ones you try out a mediation process. See I was an expert witness at a mediation process the other day and the expert witness on both sides chatted to each other. Now that's far better than producing things and shooting at each other via expensive lawyers.

CHAIR: Yes. And now the third stage, the third stage which is of particular interest to us is the – any impediments there might be in the plan itself, in that area you would have – it's a unitary plan isn't it, the Tasman District I think – both, yes it's an authority which deals with the –

MR LEYLAND: No, I don't think we had a – because it was an old scheme, I don't think it was that – I mean part of it certainly is a particular person who, with the best will in the world is making life very difficult for us.

CHAIR: Yes, but so in the plan itself, have your advisors or consultants said to you, well those provisions in that plan are the difficulty, for instance the activity status for re-consenting an old structure.

MR LEYLAND: Yeah.

CHAIR: Can you remember?

MR LEYLAND: No, oh it's hard to say. I mean it really is and I could argue that in our particular case, with our water right, we unfortunately did have a lawyer who was not good and he – no, and I'm not –

CHAIR: I'm not going to ask for his name.

MR LEYLAND: No, no, it's an example. We should have and I suggested to him that we go and talk to the locals and try and sort it all out first and he wouldn't let me.

CHAIR: Oh I see.

MR LEYLAND: And so a bit of it was self inflicted to be honest with that.

CHAIR: Well what I'd like you to do because this is very helpful, is to give Ms Beruldsen any information you've got about the difficulties you have had with your re-consenting or getting it going again. That would assist us. Also anything you've got on this 5 – why you say 5 megawatts, rather than 4 or 10 or –

MR LEYLAND: Yeah okay. I've given this some thought because there's two things, the power output is a function of the head and the flow.

CHAIR: Yes and I realise you're talking –

MR LEYLAND: Those are the two things that really need to be brought into it.

CHAIR: Yes.

MR LEYLAND: Because a 5 megawatt high end station is actually fairly, fairly minor. A 5 megawatt low end station is actually quite large.

CHAIR: A lot more water.

MR LEYLAND: Yeah, because it's handling a lot more water. So I think the point is I'll try and think about that and write something that would bring those factors into it.

CHAIR: That would be very helpful and we've heard evidence about these turbines in the Rangitata conversion race for instance, just little ones.

MR LEYLAND: Little ones, yeah.

CHAIR: Yes. The other thing, final thing, is that putting aside whether you believe the 90% is sensible or not, but is this mix of renewables versus non-renewables, in the long term, going through to 2025, whatever the consenting processes or the planning processes, whichever source, we're interested in how you can facilitate to deal with that growth, but at the same time there aren't impediments for renewables. So that, if you think of that –

MR LEYLAND: Yes, I'll certainly think of that. I point out that if you build a hydro scheme, a power scheme that the turbines and generators were made in 1920 and they'll be running long after I'm dead. With a wind farm you can't guarantee a life of more than 20 years. So with hydro – all right, your MPV is not much but you know that in a hundred years time it will still be doing a good job for somebody. Hopefully my great granddaughter.

CHAIR: Just tell me, just tell me finally, what is – how much per kilowatt hour is it costing to set up a new hydro at the moment, in your opinion?

MR LEYLAND: If you are very lucky you can get it down to 9 or 10 cents, but you don't – I mean if you can't get it down to that, you don't even try.

CHAIR: And wind?

MR LEYLAND: Wind, the best you could do as far as I could make out 11.6 without any allowance for backup.

CHAIR: And geothermal?

MR LEYLAND: Geothermal, about 8 ½. Eight, 8 ½. Surprisingly cheap.

CHAIR: And solar?

MR LEYLAND: I just wish we had more of it, but we've been very slow in implementing geothermal. We've really dragged our feet on that.

CHAIR: And solar and tidal were off the graph.

MR LEYLAND: Off the graph. Over 20 cents.

CHAIR: All right. Thank you very much Mr Leyland.

MR LEYLAND: Thank you.

CHAIR: Now gentlemen I'm sorry for your delay but we're grateful for your patience.

MR YORK: Well after that interesting stuff, I hope mine's not too dull and boring. Although I think it's just as equally as important.

CHAIR: Just before you start, I won't introduce the panel because you see our names here, but can I just remind you that you are being recorded, so anything you say is going to be out in the ether.

MR YORK: So I'm not allowed to swear then, although I did pick up an odd word before.

CHAIR: Now if you could just identify for the record please your name?

MR YORK: Phillip York.

CHAIR: Mr York.

MR YORK: Yeah I'm the Federated Farmers energy spokesperson.

CHAIR: Yes, and Mr York could I just thank you for your submission. We've read them through and we're really in your hands as to whether you wish to speak to them, read them through or whatever.

MR YORK: I do have a - I think I probably would like, if we do have sufficient time I think I'd like to read them through. Well perhaps before I start, perhaps I could just make a couple of observations. I mean after the distinguished gentleman before, I've only got a Diploma of Agriculture after my name, but sir I'm a simple cow cocky, but as such I'm involved in the political side of agriculture, but I have a farm in Cleveland in south

Auckland and it takes me probably just over half an hour to drive into the city. We've got a – probably we've had frosts now for the last sort of week or so and it's quite a long time since we actually had wind. It's not unusual, but it's probably 10, 15 years since we've had frosts like this and I live on the top of a hill as well and it's very rarely that the frost actually gets up there. For the last three mornings we've had a good white frost at the top of the hill. Driving into the city, at Alfriston probably just before I get to the edge of the city and it was zero degrees. That was at, coming up to 9 o'clock this morning and as soon as I came round and got into the city properly the temperature went up by five degrees, almost instantly on my – I can't say it's 100% on my car temperature gauge, but it went up by five degrees within a matter of a kilometre or two. And the sun certainly wasn't having that affect at that time, but it's just the heat island affect is something that is – that farmers observe but it seems to get left out of the equation quite a lot of the time and it's just an observation anyway.

My name is Phillip York. I'm the national spokesman for Federated Farmers on electricity matters and with me is Richard Gardiner, my colleague, a senior policy advisor with the Federation who one of his – he specialises in electricity. Now Federated Farmers opposes the National Policy Statement. Federated Farmers generally does not support the establishment of National Policy Statements in general. In our view, National Policy Statements should be limited to matters that can be shown to apply equally to all local authority environments and such is not the case for renewable energy projects.

Once an NPS is finalised, local authorities must give affect to it, both in their existing local authority plans and in any resource consent decisions they make.

The RMA was set up to provide for local guidance to ensure that local authorities are able to take into account any relevant implications for their particular territory or region. This local input aspect is particularly important in the case of renewable energy projects which have varying effects according to differences in the areas in which they might be proposed. And we think that to override this local guide in aspects, by means of an NPS would be imprudent.

So we believe it's inappropriate to provide overarching directions through use of an NPS on renewable energy projects.

Federated Farmers is also concerned that the proposed NPS directs local authorities to give excessive recognition to renewable energy resources as a national significant activity.

[11.00am]

Bearing in mind, however that hydro and geothermal in our minds are definitely renewable resources and as such are very proven technology and a cheap technology as we no doubt heard before.

Accordingly, we're concerned about the implication of the NPS, that the issue of renewable energy sources should be raised to one of national significance, particularly because this will come at a cost to the use of other valued natural and physical resources.

The NPS is inappropriate and unnecessary. We believe the NPS is inappropriate and unnecessary because the RMA processes over time provided guidance on the issue of renewable energy through Environment Court and other decisions and yet there is nothing in the proposed NPS to give guidance to local authorities who will be required to

implement its objective and policies. There is no direction as to how to balance the national interest and an application that has been proposed against relevant local interest and private interest, which policy statements and plans are required to provide for. Rather the NPS seeks to elevate renewable energy projects to a level of national significance with seemingly little regard for the balancing decisions that local authorities must make on resource management matters.

Further, Federated Farmers considers that there is already adequate provision for the national interest to be taken into account. Part 2 of the Resource Management Act is of general applicability, both in situations where there is a national interest component and situations where there is not. It is not necessary to issue an NPS on the matter of renewable energy in order for the national interest to be considered under Part 2 of the Act. Already section 7 of the RMA directs local authorities to have particular regard to the benefits to be derived from renewable energy, thus the balance to be achieved between the national interest and the local and private interest in the Resource Management Act as it currently exists is already well provided for.

Now, property rights and compensation, which is a particular interest to us. Federated Farmers considers that the proposed NPS will take away private property rights. We think that without there being a rigorous process in place to ensure that land owners are compensated fairly for private property interest, the NPS should not go forward.

Overall we think the NPS pays insufficient attention to private property rights and the legitimate expressions of the owners of private land in areas that might be affected by it. Federated Farmers is strongly opposed to any diminution [sic] of property rights without proper compensation being paid. We think it is extremely important for instruments that derive from

the RMA to provide sufficient by way of checks and balances to ensure that they work for everyone's benefit.

The electricity produced at sites where renewable energy is available needs to be conveyed to the areas in which it is to be used by way of transmission lines. These transmission lines, much like any infrastructure, have an injurious affect on the land they occupy and they also have an impact on the surrounding land through the imposition of reversed sensitivity type affects. Federated Farmers are particularly concerned that the NPS made no mention of how the electricity generated on particular sites is to be conveyed to where it is able to be used. Federated Farmers' experience in such projects is that the transmission aspects of renewable energy projects are provided by way of a compulsory taking of an easement interest in the relevant land under the Public Works Act. In other words, the private gains to be made by electricity generators who establish renewable energy projects are made at a cost to the private individuals across whose land this electricity needs to be conveyed, purportedly in the national interest. We think that the requirement to compensate private interests so affected for the private property rights taken at a national interest are grossly inadequate. We are particularly galled that neither the NPS itself nor the process under which it is established examines the compensation aspect. In our view this is contrary to the provisions in the Public Works Act that specify compensation measures. Without a rigorous process being in place to ensure that land owners are compensated fairly for private property interest taken, the NPS should not go forward. Where these affects can be minimised, the land owner ought to be fully compensated for the burden that transmission infrastructure has placed on them and their land.

As things stand at present the outcome by way of compensation for renewable energy projects is that people with generation facilities on their

land are well compensated for the burden the facilities place on them and their land, usually by the way of a generous annual payment. While those with transmission facilities on their land, which arguably places a greater burden on the land owner, are eligible to receive only a modest lump sum payment. Something that the Federation is looking to address. The annual payment option is something that we are looking for in all transmission generation.

Competing uses. Federated Farmers is concerned in general terms that because the NPS places more emphasis on renewable energy projects, the balance and the competition for resources will be shifted in a way that may not be economically efficient. By way of example, if the NPS results in more water being allocated to hydro projects, then that may mean less water available to irrigation. I was thinking about variation 6 in the Waikato at the moment. At any time given that in any given situation it might be far better for the country as a whole for water to be allocated to irrigation and the country's electricity is met from another alternative source.

In our view it is impossible for an NPS to provide adequate direction on such a major issue. Rather these judgements should be left to local authorities to be made on a case by case basis.

Federated Farmers considers that the matter of competing uses provides a good example of the varying circumstances from which an NPS cannot provide blanket direction. We suspect that there are also many other competing uses for the resources that the NPS directs should be allocated to electricity generation which should be considered. In this context we note that the new Government has removed the ban the previous Government imposed on generating base load electricity from thermal sources and the matter is discussed in section 2/9 of our submission.

In the submission we state that although we don't endorse the Emissions Trading Scheme in the form it had at the time, we believe that that scheme – that the scheme should, together with a ban on thermal generation, already provide sufficient incentive for the renewable sector and although the ban on thermal generation has been lifted, Federated Farmers stands by that submission. If it goes ahead. No, if it goes ahead, the Emissions Trading Scheme in whichever form it takes, is likely to result in a price being set at a cost of carbon emissions which will alter the balance between non-renewable electricity generation and renewable electricity generation in favour of renewable electricity generation. We think this alone would be sufficient to provide an adequate incentive for the renewable sector.

Policy 5. Supporting small and community scale renewable electricity generation. Despite our opposition to the NPS as a whole, Federated Farmers supports small and community scale projects. However, we do not consider that an NPS is the best way to provide for them. Federated Farmers recognise that benefits exist for some small and community scale renewable electricity generation and some of our members are currently developing small scale projects that are of benefit to them personally. And in many cases to the community. We are supportive of these projects and consider that the RMA process is adequate to provide for them properly as it stands. It empowers local authorities to consider local issues that are relevant to such applications properly. In the circumstances, overarching direction from central Government seems an inappropriate way to give particular weight to particular aspects of such projects.

In conclusion, Federated Farmers does not support the establishment of a National Policy Statement on Renewable Electricity Generation. National

To be read in conjunction with
the tabled evidence/statement

Policy Statements should be limited to matters that can be shown to have equal applicability to all local authority environments, which is not the case with the renewable energy projects.

The NPS is inappropriate and unnecessary and pays insufficient attention to the private property rights of land owners across whose land transmission lines from generators make using of renewable energy sources must necessarily pass. We are concerned that the NPS will cause the balance in the competition for resources to be shifted in a way that may not be economically efficient. Nevertheless, we want to indicate that we support small and community scale projects, although we consider that an NPS is not the best to provide for them.

Finally, we want the Board of Inquiry to recommend to the Minister that we not – that it does not proceed with the proposed NPS and thank you for the opportunity to be allowed to give our submission.

CHAIR: Now does Mr Gardiner wish to add to that?

MR YORK: Mr Gardiner will be helping me back up any questions.

CHAIR: Yes. What we might do, because we do have some questions. We're very interested in the matters you raised, we might just take a brief adjournment now. Mr Gardiner unfortunately, not this Mr Gardiner, Mr Gardiner on the panel, unfortunately has to get away but he'll read the record, so he'll catch up later on, but if we could take a brief adjournment and we can arrange a cup of tea for you for a few minutes, I'm sorry for the delay.

ADJOURNED [11.13am]

Audio file: 23June2

RESUMED

[11.24 am]

CHAIR: Thank you very much for your submission. Would you like to start, Dr Chapman?

DR CHAPMAN: Thank you. First of all I just wondered if we could explore your opposition to the NPS, on the grounds of it applying - you know, you say "National Policy Statements should be limited to matters that can be shown to apply equally to all local authority environments". Now, I'm just wondering about electricity transmission for Coastal Policy Statement at both NPS's. In each case there are different implications in each local authority area and the NPS we propose will have different implications, depending on the characteristics of the local authority area and so on. So what's the line of distinction you draw if you like between, say, the Transmission Policy Statement NPS and this one?

MR YORK: Generally, to my mind it would be seem that you're favouring one particular type of generation over another. That would be the case, wouldn't it? In that case it would distort it. Now, as far as individual councils are concerned, I mean, Richard's our man at particular local government who would know. Maybe you'd like to comment on that Richard?

MR R GARDINER: I can try. I think the thing about the Policy Coastal Statement is it applies to the coast, so there's always coast involved where there's a Coastal Policy Statement or coastal environment involved, so that's relatively easy, in that sense. The difficulty we have with a policy statement on something like electricity generation is that each council's going to have different circumstances wherever it is, like in the South Island there'll be lots of, sort of, run of the river type-of-things. We

were talking about that. In the North Island they're more likely to, well, in parts of the North Island I'd be working on the Waikato windfarm, the proposed Waikato windfarm, between Raglan and Port Waikato, recently. There the circumstances are quite different from other parts of the country, like down in the South Island where the wind farms are proposed down there, there are, sort of, different types of land form, different types of coastal environment as opposed to Central Otago, which is not coastal at all. So all those sort of different circumstances, which means that the thing will apply - the National Policy Statement will be applied differently wherever you go. That's why we think it's - it's that sort of reason why we think it's (inaudible). So something like - the only one I can think of at the moment is the National Environmental Standard, like if we have a National Environmental Standard on air quality, if it's bad air - if it's bad in the West Coast it's going to be just as bad for somebody there as it is up here. So you could say well the standards are the same, or the effect of the standards is the same wherever you go? But it's that sort of argument really and I wish I could think of a good reason in a policy sense.

DR CHAPMAN: Perhaps we can distinguish the effect of a, say a National Environmental Standard where you've got different circumstances in different local authorities, but one policy which applies. We'll certainly intent which applies right across. Is that not the approach of this NPS? We've one intent and one set of policies, perhaps one set of guidance, but different circumstances in each territorial -

MR YORK: Are you trying to say that it will always be a loose interpretation or be completely defined exactly in what it will mean? So if you're saying that in different areas it can be interpreted differently? Is that what you're saying? Or am I -

DR CHAPMAN: No, I'm really saying - what we're struggling to achieve here is one consistent set of policies, but recognising that there will be different circumstances in different local authorities and I'm wondering what the nature of your concern is and perhaps to draw on that NES, National Environmental Standard in relation to air quality, you've got one standard, but different circumstances in different local authorities and I guess people sometimes find that difficult, but generally seem to be accepting that they can handle that. Is this not rather like that?

MR YORK: Well, I think it attempts to be. I think policies - I know Dr Somerville will know the case where a policy can be as directive or as detailed or as undirected as you like. I think if you took it at a very high level a policy that would be okay, but if you came down and said you have to do like it came down to the metropolitan urban bits in Auckland where they can all - where a policy can be as detailed as drawing a line on a map. So it can be as high a level or low a level as you like. I guess if you took it to a higher level it would be okay. There comes a stage at which it is okay and I think here we're concerned that really it's just so many variables, you know, there are so many variables in place that really it's just not practical really to have a policy at the level that they've got, I think.

MRS BAUMANN: Can I just explore that a little further? As I understood the task before us is to have a policy statement that will direct, encourage - you can argue about the verb - local authorities through their planning process to deal with issues about renewable energy - electricity generation. Do you accept that as a need that there needs to be - that the local authorities need to be encouraged to deal to that in a planning sense?

[11.30am]

MR YORK: Well, could I ask in the situation we've heard, as far as I can see in the country, its water storage is and for generation and for irrigation are probably one of the priorities. Would you be saying that a National Policy Statement would actually encourage and alleviate some of the costs, for example, that we've heard before that's going to occur when people are setting up such enterprises? Would you think that that would help? I know I'm reversing around, I'm asking you a question.

MRS BAUMANN: Yes, you are and I can't answer, but -

MR YORK: But that sort of follows on from what I thought you were saying in that particular instance, you know.

MRS BAUMANN: We just heard a submission, you heard from Mr Leyland that an area of concern in respect to renewables is in respect of small-scale and the costs of achieving that so we may, therefore, endorse or modify one of the policies so that local authorities in their planning confront that by reducing the barriers.

MR YORK: But I was thinking large-scale ones are probably - if we really want to get into generation of cheap and sufficient renewable electricity then we should be dealing with the larger schemes. I don't know whether - have you taken into account the fact that there maybe if - I mean, this is a by-the-way - but if Comalco, for example, that we were going to have 15% electricity - 15% of electricity just available. At the moment you can't even transport it out of the area. We've known that because they couldn't transport it out when one of the pots was down recently and as such as Federated Farmers we were having to deal with the matter of - through Transpower the generation - removing this power from the area where it's generated to where it's actually needed.

MRS BAUMANN: We can't really get into that, it's a separate policy statement in place on transmission.

MR YORK: No, I realise that, but I wonder whether the NPS is actually going to concentrate on a lot of small schemes when in fact it could be used to create a lot more larger ones.

MRS BAUMANN: We're agnostic about that too, but I was just using that previous submission that you heard.

MR R GARDINER: Just to come back to answer your question. I think, probably, the response in my mind was to sort of suggest that people who wanted to generate renewable electricity or generate electricity of any sort would probably do what we do, which is go along when (inaudible) come before council to say to them, well provision needs to be made and you've planned for this or for farming or for whatever it might be and they bowl up and say, well provision needs to be made for renewable electricity, and we want this, this and this. That would be a preferable a approach, I would have thought, but it suggests to me the fact that nobody's doing that suggests that it may not be as economic as meets the eye.

CHAIR: Yes. I just wonder if I could intervene for a moment here because I think we have – has the Federated Farmers actually made a submission on the Freshwater Policy Statement. Do you know Mr Gardiner?

MR R GARDINER: I imagine we have.

MR YORK: Yes, I would imagine we have now, it's just not in my brief that's all.

CHAIR: No, no, well this is the difficulty of these things because there's so many of them it's to line them up. The reason I mention that is because the

irrigation issues, consumption views have been addressed in that policy statement and it's of concern for us too because that may be - that policy statement may follow our policy statement and we've got to try and make sure there's not too much inconsistent. Now that's the first thing. It would be really helpful if you could get us a copy of your submission on that one, even though - you don't need to speak to it, it's just that we'd like to see that and we're asking everybody for these, so we can line them up.

The other one that you have raised, which is particularly important, is the transmission issue. Now, there is a National Policy Statement Transmission as you know, which is actually promulgated now. It's an instrument. I would be grateful if you could get back to us on whether or not the impediments dealing with compensation of the Public Works and I'm particularly aware of them in the sense that you've had to deal with enquiries on transmission lines and so forth. Has a submission been made to Government for the second stage of the Reforms and Resource Management Act, because I understand there's a work stream looking at that very issue. Once again, it's an issue of whether we should be addressing that or whether that's the place to address that issue and again if you could just confirm with Ms Beruldsen whether or not you're making a submission and dealing with compensation Public Works Act matters under that Inquiry. I realise we've got so many Inquiries in place at the moment, but that one seems to be the most direct root to getting changes.

MR YORK: We have commissioned a study with NZA, we're doing it in relation to annual payments and review periods in terms of pylons on farmers' property. It's probably due some time in August, it's an independent one and it'll just show exactly what the cost would be to actually give farmers an annual rental for farming pylons.

CHAIR: Yes, well we have heard some submissions in relation to that, which may - we'd be grateful for your help on, which aren't particularly Public Works Act compensation issues, which you can address through the reforms and it appears that there's going to be a lot of work done on that. August should be okay because it's taking longer for that than the first stage, the streamline stage. The submission we've heard is in respect to wind farms, which does affect your members, there has been a suggestion mainly in the Manawatu area because of the number of wind farms that are starting to appear there, that there needs - even if compensation is paid or some arrangement's met with the landowner for the lease of the land for the towers and continual grazing and so forth amongst the towers, there has been a concern that the properties alongside them, the next door farmer if you like, is getting nothing at all, so there's no injurious affection for the next door owner and the suggestion was there should be a buffer where there's the opportunity to either relocate or compensation paid for a reverse sensitivity buffer, which could be up to a kilometre or even two kilometres away, with these very large wind farms.

MR YORK: Are we all -

CHAIR: It's mainly for amenity. It's visual, but also for noise and also there's a perception that there would be land devaluation too in the sense that if you were wanting to sell your farm there will be a perception on value that you're not going to get as much. Now, whether that's a fact or not, we know with the transition lines sometimes it's hard to tell, but would you have a view on that issue?

MR R GARDINER: Well, perhaps I could help you. I did create a farmer's submission on this proposed wind farm in the Waikato and that's the Board of Inquiry - I'm' not sure if you're familiar with it, but the Board of

Inquiry commenced its hearing and as it proceeded it became more and more apparent that Contact Energy, which was the applicant in that case, hadn't done much more than put a proposal on the back of an envelope in the hope that the Board of Inquiry would fix it up as they went along. The Board of Inquiry - eventually there was so much - they were sort of severely wounded by the end, they were limping on and eventually they applied for an adjournment themselves so they could go away and patch up their application. But some of those issues you mentioned did come up there by way of cross-examination and so on in the submissions and our - I have to say I think Federated Farmers' basic position is that people should be able to do with their land as they saw fit so, in other words, the good farmers who had the good fortune to have turbines on their land and the numbers basically were - they were getting round - something around about 20 to 30,000 dollars a year by way of compensation, as opposed to some of the transmission tower people who were getting lump sums of maybe a bit over a thousand in some cases. There's a huge discrepancy there. So that's our basic position, is that it's your land; you should be able to do what you please with it. But you're quite right. In that instance again, I think that the closest that people got to some of these turbines was pretty - there wasn't much - it was within a kilometre for memory. People were quite a long way away, but there were big objections from people who looked at these things. But again, the evidence that Contact produced was that I think they've done surveys around the world and 70% of people didn't actually mind looking at turbines, as opposed to nobody liked looking at transmission towers at all. Whereas, there was really only about 30% people who objected strongly to - these are world - these are off the top of my head as well, these are sort of world sort of, source studies. And most people didn't mind living with turbines and some people did object strongly.

[11.40am]

MR YORK: You could say turbines were quite therapeutic.

MR R GARDINER: So, those are the things. But all those figures have to come into account. I guess, I mean, certainly in terms of noise there is an aspect there. Although again, the evidence was that they were getting quieter, the design was being changed, so they were getting quieter and quieter.

So, I think in terms of a buffer, I don't know, as I say, there obviously is a need for some sort of a buffer in terms of noise and perhaps you know, visual, them not being too close.

CHAIR: It's really difficult. We have to address whether or not it's even within our jurisdiction to address. Because it maybe that it is an injurious affection issue. That somebody, the effects caused from the land that's being used, on land that's not being used and that's something that will be addressed in the reforms. 'Cos injurious affection is a big issue with motorways, everything like that.

MR YORK: If you could take into account the fact that, we're discussing costs of things you know, I mean the cost of a nuclear power station is for example, taking away the whatever it is, the radioactive material and dealing with it. You know, those sort of continuing effects on - or even they take a decommission into the cost of building them now. But when you actually do the whole thing it's all these things have be put into the mix to end up with a final price. And as far as we can see, the farmers have been adequately compensated for problems should be put into the whole mix as such and taken into the cost of generating this electricity. You know, it's not - to us it's - without the transmission towers it doesn't work. It's a thing going round and round and as such, the whole cost of

that should be built into any cost in relation to the generation of a renewable, particularly wind, but all the others too.

MRS BAUMANN: But isn't that common for all generation, not just renewable?

MR YORK: I think it is and I think it's been something that's been particularly overlooked.

MRS BAUMANN: Yes.

MR YORK: I think a lot of people -

MRS BAUMANN: Well, we can only look at renewable issues.

CHAIR: But also it seems that the point that you're making on the transmission lines and compensation and that . You've still got an opportunity even though that policy statement's in place. You've still got an opportunity to go through the reform.

MR YORK: See we're thinking it's completely outside of your brief..

CHAIR: Well certainly the public, any Public Act issues, Public Works Act issues on compensation is outside our briefing.

MR YORK: Are you not allowed to comment or?

CHAIR: We are able to comment and we're very aware of your submission. So, whether we comment or not, but at least you made the submission which is very helpful.

MR R GARDINER: I think perhaps we could just refine it slightly by saying, it obviously applies to the big wind farms.

CHAIR: Yes.

MR R GARDINER: Smaller ones would feed directly into the local supply line which is more than likely going to be along the road anyway. So, no real issues arise I don't think with the smaller ones.

CHAIR: Now, can we ask you to give us some help too on the rural areas basically. Where there's large costs associated with reticulating electricity to those areas and so forth. You mentioned your dairy farm operations, have you been looking at the question of solar for instance on the roofs of dairy cow sheds and things like that?

MR YORK: I think that's something that when it was coming into discussion before and that's not a generation thing that's actually a propensity of generation in a way isn't it? If you had solar 'cos in solar heating for example, I mean you could argue the fact that you could prevent building any generation if you gave everybody in the country a solar water heater on their house. You would reduce the transmission, you would in effect prevent having to build a new power station as such. And you could almost argue that it could be economic and down there the country capitalises it and pays for everybody to have one. Surely, that's not within your -

CHAIR: Well, the Resource Management Act has a provision in section 7 which refers to the efficiency of the end use of energy.

MR YORK: Okay.

CHAIR: And at hearings involving new projects there is often a good deal of evidence given about the energy savings if you like, conservation. And so we would be interested to hear whether or not you've done any work on the economics of using alternative forms of energy generation such as -

MR YORK: I think in the end it's been left to the individual whether they're prepared to spend the capital on the item. 'Cos it's always a capital versus a use, trade-off sort of thing. If it's a - you know, you pay your power bill once a month and you don't have to fork out \$20,000 in a lump sum to start with, if you know what I mean.

CHAIR: Yes the capital cost.

MR YORK: And it's always been that trade-off and some individuals like the idea and they go ahead and do it. And they're quite happy to do it. Pay off a ten year period or something like that, as such. But other ones, well say we have a system here now that it comes down a line to us and we just pay on a monthly basis, you know.

CHAIR: Yes and the same with wind I suppose, little standalone windmills.

MR YORK: Yeah I think that's been the same capital. And the fact I think to a degree, I mean I've always looked at these things at field days and such. But they've always seemed to be slightly Heath Robinson and unreliable. But they're getting better.

CHAIR: Yes and we're dealing with it.

MR R GARDINER: But that's why the submission made on the continuous of supply we made recently where it was due to disappear in 2013. When it was done 20 years ago it was deemed at the time that in 2013 we would

be living on the moon and we would have a generation out in the sticks that was going to be perfect. But in effect, we've got - we're getting towards 2013 and things haven't actually changed that much.

MRS BAUMANN: It's been announced that they're defending that. Yes, it's no longer going to - ceased that requirement to supply.

MR YORK: But we would have liked it if we didn't need to have that continuous, if in fact technology had moved that far that we could afford to do it. But we are not in that position are we, at the moment?

CHAIR: No.

MRS BAUMANN: And also there's the question of security of supply, if that alternative generation fails yeah, which is not great for dairy sheds.

MR YORK: No and I live half an hour from the centre of Auckland and our electricity can be damn near 3rd world sometimes. Which really can be quite bad.

CHAIR: The final one I've got on the alternatives if you like, for your members. Is the small hydros, I'm aware of high country stations for instances, a lot of small hydro stations. Mr Gardiner, do have you had any - ever done a survey of your members who are using these small projects?

MR R GARDINER: No, I'm not aware of anything like that. I think - and you mentioned, I think somebody mentioned earlier on about Northland Regional Council --

CHAIR: Yes.

MR R GARDINER: -- were down here yesterday and I know they've done - they're quite keen on it and they have done some work on that themselves in their area. I think there's streams that they're putting in these run of river type generating plants. They're quite encouraging of it I think. My recollection is we were involved in a plan change the last couple of years where they themselves provided for that to happen.

CHAIR: Yes and you'd mentioned issues with plan changes at the moment right throughout the country.

MS BAUMANN: In Waikato particularly.

CHAIR: Well, Waikato is a variation there, but also there are others around too I think.

MR YORK: There is a -- at our Auckland AGM - Northland AGM a few weeks ago and there is a term or something where you've got to - when you putting in power back into the supply and I can't think of it at the moment.

MS BAUMANN: Feed in?

CHAIR: Feed in tariff.

MR YORK: Yeah, that's right, yeah. And there is -- and the small ones are having major problems actually dealing with that at the moment. And I think that's something that, if that could be cleaned up that in itself would be a step forward and it would perhaps encourage people to do it.

CHAIR: And that's -

MR YORK: But without a statement.

CHAIR: That is an area where if there are impediments on District Plans for your members with their own properties, putting in their own alternatives to give them more security of supply, that we are particularly interested in. So, if there's anything further you wish to add on that even, not today, but if you think about it please send it.

MR R GARDINER: Nothing really other than it's probably the same old story, I mean, if you need a resource consent it starts to become very costly. The sort of schemes that farmers are implementing, like Bryan Leyland was saying, the cost of consent starts to become a very large cost of actually undertaking the project itself. I think here, with all due respect for this, it'll just be one more instrument that councils have to take into account when they actually do the analysis. I would have thought it would actually put the cost up rather than down.

MRS BAUMANN: I hope not.

CHAIR: There's also the issue about, if they're directed to change their plans and make it easier for smaller capacity generation then that maybe less costly to your members at the end of the day.

MR R GARDINER: Yes. But I think, well possibly, I'm a bit worried that we'll wind up as the plans - in my observation, the plans as they're updated, as the requirement - it might appear to be easy, but often there's more and more requirements and you find there's more and more consultants need to produce more and more reports to show that you're not adversely effecting the environment and all this sort of thing.

[11.50am]

So, it actually you know, with all the best will in the world, we're finding the costs are going up. I think a good case of course the Kaipara District Plan at the moment which is one of the very first that came into being. It was quite a light plan, a light-handed plan shall we say when it came in, in about 1993 or '94, I think. And now they're reviewing it and the council's spent - it's a small council, the population is 18,000 and they spent \$1.2 million already and they haven't even got a draft plan out as yet, that's as I understand from the council figures. So, it's becoming - some of these things are becoming more and more costly and I don't imagine it's going to be any less light handed that it was originally, no matter what happens.

MR CHAPMAN: Just one other thing with generation that would be nice to cover from your point of view. We've heard when we were in Palmerston North from some people in the pig industry, pork industry, I guess, about biogas. To what extent is that a feasible, you know, small scale technology -

MR YORK: Dairying digesters and such I think the technology is quite proven. But it just bowls back down to the capital cost again, that's all.

MR R GARDINER: I think from my understanding is that it's actually quite feasible for the very large herds. It is quite feasible as I understand just from my readings. Not sure whether anybody's doing it or not.

MR YORK: But there is an opportunity cost because but in saying that once you've done it, gone through the digestion period - digested process there is still fertiliser left. But you know, there is an opportunity cost and actually the cow muck or the slurry has got a value as a fertiliser. I think you'll find that pig farms often work with arable farms because they need to put in very little fertiliser because they use the pig slurry on the arable farm.

MRS BAUMANN: Do you know if there any obstacles to that sort of development in plans around the countryside or you're just not aware of them?

MR R GARDINER: Well, I'm not aware of it. Mostly, if people were doing it I think they'd do it in conjunction with building a new shed.

MS BAUMANN: But if it requires the kind of consultants and costs for what we think something should be encouraged. I mean we -

DR CHAPMAN: That'll be the lawyers.

MRS BAUMANN: Yeah, not only lawyers, there are other consultants in this world too.

MR YORK: It's certainly not a new technology I remember going to a campsite in Spain in the '70s where they were using human waste to provide the energy from - so it's been around a long time. But just in the end it just boils down to capital costs.

DR CHAPMAN: I accept capital costs are very important. Can you give us some sense of feedback periods for that sort of thing or --

MR R GARDINER: I don't know.

DR CHAPMAN: -- does it depend too much on -

MR YORK: It's ten years for solar, so I don't know, I wouldn't know for the digestive system. But in the end economies of scale come into it, if there's a lot of people start doing it then all of a sudden something becomes, if it's

a complicated system, can become a simple system and everybody can just - you can buy it off the shelf, you know?

CHAIR: Well we've heard witnesses say that if they'd been appearing before this Inquiry 20 years ago they would have said that there's never any possibility of wind generation in New Zealand. It could never happen. And these are expert witnesses who - but just returning to Mr Gardiner's point about the plan, still have the impediment of going through a hearing on the plan and that layer, there is a provision in the Resource Management Act which would allow us to direct that specific provisions are included in the plan without any further to-do. So, they're there from the minute we direct it. So that might be something that - it's section 55 if you'd like to have a look at that sometime Mr Gardiner. In dealing with other national policy statements such as the freshwater one that may be of some assistance to you.

MR R GARDINER: Well thank you for that.

CHAIR: All right, is there any further questions?

DR CHAPMAN: We may have now covered it actually. That's fine.

CHAIR: Could you also thank your analyst for the work she put into the submission it's been very helpful and thank you for coming along, I realise that you've got a lot to do. And we'll - if there's anything further you wish to let us have please just feel free to do so.

MR R GARDINER: Well, I've got a note of Freshwater National Policy Statements.

CHAIR: Yes.

MR R GARDINER: I'm sure we've done one, just wasn't me that did it. Public Work Act in phase two, I'm not sure what work we've done.

CHAIR: Yes, we don't need to see the work, it was just to get your confirmation that you're looking at that as with the - which eventually will be Select Committee and draft Bills. The other one is whether you've made a submission on the Coastal Policy Statement.

MR R GARDINER: Well, we certainly did that, I did that myself.

CHAIR: Did you, good. Could we also have a copy of that?

MR R GARDINER: All right, I'll note that down. That should be out pretty soon actually.

CHAIR: Yes, indeed.

ADJOURNED [11.55am]

RESUMED [2pm]

CHAIR: Well welcome, Mr Fincham is it?

MR FINCHAM: That's right. Yes.

CHAIR: Pleased to meet you and just to let you know that Mr Gardiner unfortunately can't be with us this afternoon but the evidence or your submissions, they're being recorded and they will find their way onto the website eventually, so he will be reading the material, but rather than adjourn we thought it was best to proceed. Can I just indicate that we have read your submissions and are very grateful to you for the amount of work you have put into them and also for the information you have given us, particularly with your company being so involved in renewable electricity generation. So we are in your hands as to how you wish to proceed, whether you wish to speak to your submissions or you would like to summarise them, or read them out or whatever.

MR FINCHAM: Good afternoon, my name is Chris Fincham. I'm the energy supply manager for King Country Energy. Okay, I have some reading notes here. I don't know if you'd like to have a copy of them just while I read through. What I'm proposing is rather than just reading out my evidence is just to – it can be taken as read, as you've suggested, and really just to go through the salient points of our submission in the reading notes summary and then be available to answer any questions. I gather from what you've said that will be acceptable.

CHAIR: That's fine and now you have some colleagues with you, have you?

MR FINCHAM: Yes I have. Yes we have got Gary Schofield from Rada Consulting. He's our planning advisor and this is

Vladmir Kavonov (ph) our generation operations engineer from King Country Energy. He's come along really just to get some experience in how hearings processes operate. And also being the operations engineer he's obviously impacted by the results of resource consent processes and policy statements.

CHAIR: Yes, well do feel free if anybody wishes to add anything but as long as you do it at the microphone so we can record it and identify yourself. Thank you.

MR FINCHAM: Okay. Do you want to read these notes or – okay, you've got them, okay that's great. Okay, well I'll just start from the third paragraph then.

“King Country Energy is a renewable electricity generation company that owns and operates four hydroelectric power schemes which it considers to be small scale. These schemes are currently being consented, well these and others currently being consented provide security of supply to the company's retail division and they are crucial for the future growth of King Country Energy and as such, the NPS is of great interest to King Country Energy.

The main points of the proposed NPS are that our support of the objective is currently drafted. I would like Policy 1 to be strengthened by increasing further – increasing or further clarifying the list of benefits associated with renewable electricity generation.

I would like to see Policy 2 extended to assist in removing barriers of access to land, particularly with respect to the conservation state land. I consider point 3 should be deleted in its entirety. Policy, sorry policy 3.

Policy 4 needs to be redrafted so that its intent is made clear. There has been some confusion that has developed over this policy.

Policy 5 should be amended so that small scale projects as defined – as small projects, that having stored electricity generation capacity of 10 megawatts or less, this policy should also be extended to require local authorities to recognise the national significance of all new and existing renewable electricity generation proposals when notifying their plan changes.

And we are proposing an additional policy to be added to the NPS which requires decision makers to consider the benefits associated with maintaining or enhancing the existing generation capacity and the existing environment when considering proposals to consent and/or enhance existing renewable generation activities.

I am now available to answer your questions of the Board and with the assistance of Gary Schofield from Rada Consulting.

CHAIR: Thank you very much.

DR CHAPMAN: Yes I didn't have many questions. But I wondered if you could take us through on Policy 2, if you could take us through the logic of, in your para 14, removing barriers of access to land, particularly with respect to conservation estate land, bearing in mind you know the difficulties that many would see around that. Could you elaborate on you know, why it is so important and how you would deal with that?

MR FINCHAM: Yes, okay. Well it has been our direct experience with the Department of Conservation that access to land for development is usually on the fringes of larger DoC areas and what we have found with the

responses from DoC is usually the local smaller authorities see the benefits in having these sort of schemes, particularly on the margins, because as we've said in there, we've made – we've come to an appropriate mitigation package and that's actually helping to enhance an area they didn't even know they had on their books. But then what we find on the back side of that is when we try and deal with the actual land issues, with DoC head office, they take – I know it's obviously in their policy to do so, but they take a very strict view about using any particular land for development. So trying to acquire DoC land for access is a long process.

Maybe I should – can just go a step further to say that recently we've been part of a generators group that has actually met with DoC and I think they've internally acknowledged this particular issue itself and are looking at ways to actually help overcome the challenges faced. And really fundamentally what I'm saying is that we find that within the company they, as the land owner and as an advocate, they find it difficult to separate the two roles.

DR CHAPMAN: But you're not necessarily saying that you would need ownership?

MR FINCHAM: No, actually you're perfectly right there. DoC can maintain ownership and I suppose that's really an option that we could consider, but really what we've found with their perspective is that based on the responses we've had, we find that a difficult matter to deal with. I'm thinking particularly here with hydro generation. I haven't had any direct experience with any wind plants with DoC yet although I must say we are looking to approaching DoC fairly soon on an issue and really trying to get – think of a strong strategy to deal with it. Because we half expect the way they're going to respond.

DR CHAPMAN: Have you explored the issue of, or projects involved in being in conservation the benefit of land swaps and so on?

MR FINCHAM: Well actually yes. That's what's happened with our Mokau site. Yeah we were inundating DoC land and that's eventually the situation we've agreed to. The appropriate area of land that we've inundated is now going to form a marginal strip around the lake of, you know, of the new hydro lake, so DoC see that as a huge asset and you know instead of having a natural area that's going to be – well half of that area is going to be bounded by water rather than a farm or something like that. So they see the huge conservation value in that asset and also just from DoC's aspect of public access and resource, they see that as a huge plus. You know, that we've got a recreational resource that borders on DoC land and that's affecting part of the mitigation package we've proposed. So yes it has been success, in that particular case but it was a long and convoluted process to get that far.

DR CHAPMAN: And you recognise that some of these issues go beyond the RMA?

MR FINCHAM: Yes, we do, yes.

DR CHAPMAN: But you're seeking a recognition in the policy of this constraint?

MR FINCHAM: Yes, and I think we are also thinking that maybe slightly as a larger picture as well. That particularly with renewable generation, they are going to be in areas where there are natural values and of course DoC has a very strong interest in those areas, probably will have land ownership in just about every case I think, yeah. Yeah and particularly with renewable sources.

[2.10pm]

MR SCHOFIELD: Gary Schofield speaking. I just wanted to add that in terms of the relief sought, it's I guess, providing some recognition that sometimes the most optimal site can't physically be accessed, so it's just recognising that – yeah, there are impediments to land ownership or gaining a land agreement to actually use an energy source on a particular property, so we're not necessarily limiting that to the DoC estate but just I guess recognising that there is an issue there of securing land access to get access to that energy source.

DR CHAPMAN: If I might just pursue that, how would you see that being interpreted by decision making authorities?

MR SCHOFIELD: During the resource consent process, considering alternatives and I think they could give consideration during the decision making if an applicant has looked at a number of different sites as a justification for proceeding with the current proposal, would be, yeah - I think the main route that local authorities could use that provision.

DR CHAPMAN: So practically they might ask the applicant whether they had looked at alternatives and --

MR SCHOFIELD: Absolutely.

DR CHAPMAN: -- give more favourable consideration in cases where they have?

MR SCHOFIELD: Yes, yes.

DR CHAPMAN: This issue under Policy 4 of no go areas, Policy 4 at the moment is pitched at asking local authorities to give consideration to looking at enhancing and encouraging, but we've heard from various submitters that a possibility is to identify no go areas which could be ruled out essentially if certain values were specifically high in those areas, so what's your view on that sort of approach?

MR FINCHAM: I would prefer a no go area scenario. I think with the electricity market the way it's structured, it is a competitive environment and so to actually have third party in a sense picking winners and losers is not the ideal option, from that sense and what we have found from some of the projects we've investigated in the past, that actually having a no go area identified early on up front, particularly with councils, would have made things a lot easier for, yeah, ruling out options. I mean just to say we actually have been going through a similar process with the One Plan with Horizons. They've tried to take a similar strategy and from King Country Energy's point of view we are proposing the same aspect with them.

DR CHAPMAN: So it easier in the sense that it's a very clear, it's very transparent what's going on –

MR FINCHAM: Yes, well yes –

DR CHAPMAN: And the plans actual costs are reduced?

MR FINCHAM: Well yes I think because as a company or as a development company what you effectively do is take a particular resource, identify all the options in the area and you say, okay which are the – I mean the aspects like access, access to network connections, obviously the fuel itself and then you actually decide on some initial studies which is the best option to choose. Now obviously our best option might not have been

developed in the past due to history, we might not know, or actually is written out through the council or protected land, so it's – yeah so actually having an identified no go area would be a huge advantage.

DR CHAPMAN: You specified particular language under revised Policy 4. Any particular reason for choosing significant environmental values and/or sensitive areas?

MR FINCHAM: Well I think what you're trying to say there is that it has to be identified as – because natural area's now been defined through landscape values. If council's are going to identify areas there really has to be a qualification why that has been identified as a no go and this is maybe just to avoid some of the say local level politics that might come in the influence, when you're considering this is a national issue. You know, we – it needs to, you know, the rules in terms of identifying the no go areas need to be quite strict. I think that's why we proposed them to use significant areas and also to give the opportunity in some cases to actually put cases forward where there might be a grey area, you know, that – there might be a truly remarkable energy opportunity in an area that is marginal on significant or – in terms of a landscape area.

DR CHAPMAN: So you'd see the wording as still leaving some grey area but steering the applicant in the right direction?

MR FINCHAM: Can steer, yeah.

DR CHAPMAN: Is there any particular reason you wouldn't advocate for example defining – you know, highlight constraint areas when your – you know, generation may be restricted such as areas where section 6 values are important. In other words, could you envisage broadening the scope of those words to section 6?

MR FINCHAM: Oh yes, yep, yes. Yes we could, certainly.

DR CHAPMAN: You wouldn't be adverse to that?

MR FINCHAM: No we wouldn't be adverse to it, no.

MRS BAUMANN: An area which you haven't covered in your submission that I wanted to ask you about is whether you have any views about the process to get what I call re-consenting, I know they are new consents but consenting of existing, whether we should be encouraged to recommend an easier regime for existing hydro in particular?

MR FINCHAM: Well it is one I definitely would support, that approach. I think we've – that's part of our Policy 6 if that's correct, yeah that's we propose that under our new Policy 6 which is actually to deal directly with that issue. I mean I'll just do a bit of anecdotal comment here, that we recently had two sites we've had to re-consent. The consent process for both of them started in 1996.

MRS BAUMANN: Which ones were they?

MR FINCHAM: That's Wairere Mokauiti hydro schemes. The Mokauiti we settled out of Court eventually in 2000 – sorry the Wairere we settled out of Court in 2005 and the Mokauiti went to the Environment Court and eventually got settled – decision made in 2007. And yeah, and on top of that while of course when the original project went in, the environmental standards weren't that stringent then, so of course the environmental standards applied at the re-consenting, there's a lot of pressure on us to provide residual flows et cetera, which of course we see as a strong environmental value, but of course impacts on the economics of the

scheme and so there was a lot of discussion trying to find the right balance between us being able to carry on operating scheme versus providing suitable environmental outcomes to enhance the area, so rather than using existing site as a base line, to actually enhance environmental values of the rivers that we were on. And I mean and KCE acknowledges yes that a lot of the older schemes do have environmental issues that need to be dealt with, but we do also need to provide a smoother path for re-consenting and actually have some acknowledgement that the erosion of existing renewable resources is – will just gradually decline in a renewable percentage in the overall strategy, yeah, and the worst case scenario will actually make projects uneconomic, that they will have to literally shut down, due to – if environmental standards are placed on them. But from a process point of view, yes you would definitely encourage a smoother process. If anything has been tabled we would definitely like to see some ideas around that.

MRS BAUMANN: You may not want to put on record, but are you prepared to give any indication of the kind of cost KCE went – had to suffer in what was a very long process –

MR FINCHAM: It was a long process.

MRS BAUMANN: Maybe just an adjective would suffice.

MR FINCHAM: Yeah well it's – okay probably what I – let me just do some quick maths in my head here. I mean we're looking at about probably looking at about 15% in the order, in the order of 15% of the value of the asset.

[2.20pm]

MRS BAUMANN: That's a very good – I mean we don't need - it's just to give us on the record some idea of –

MR FINCHAM: And that's the cost of actually going through the process and then the mitigation effects as well because we get a certain percentage.

MRS BAUMANN: 15% of the value of the assets –

DR CHAPMAN: Sorry can you just clarify that last point there, and the value of the mitigating –

MR FINCHAM: Mitigating effects –

DR CHAPMAN: Mitigating the effects, but it's not the loss of the power?

MR FINCHAM: Well, sorry – well yes, okay for example I'll use Mokauiti by way of example. That was previously a dry stream, the bypass, and we used 100% of water flow if it was available and so what we have to put now is we have to maintain a residual flow and at the same time we are having to put in fish passages and do trials and transfers, so the fish system and the residual flow are effectively the same event, but the – of course the upshot of it is this water's not going through our scheme, so there's obviously the cost of doing the fish mechanisms, fish passage mechanisms, plus the lost generation.

DR CHAPMAN: And how much was the percentage loss in generation?

MR FINCHAM: Okay well this is based on the study – I'm just trying to remember now going back to our, the hearing, and it was in the order I think 3 to 4%, that's what we had estimated it as in terms of the lost generation, per annum. And when you consider that the cost of capital for

utility assets in the order of 8%, 3% plays a significant role in reducing the terms on renewable assets, long term assets.

MRS BAUMANN: The only other area I want to ask for any further response to is Policy 5. In that policy there's a definition of small scale renewables, 4 megawatts. What's your position on that level?

MR FINCHAM: Yes. Our proposal is that we would like to see that increased to 10 megawatts. The reason why we chose 10 was that's consistent with the Electricity Governance Regulations. There's a hurdle to cross in terms of going above 10 megawatts in that you have to become a participant for dispatching and trade in the market. Currently all our sites are less than 10 megawatts and we know there's at least an extra man resource to deal with that.

MRS BAUMANN: Sorry, all your sites are less than 10 are they?

MR FINCHAM: Well all our embedded sites sorry, are less than 10, yeah, so we do have the half share at Mangahao.

MRS BAUMANN: At Mangahao, yes.

MR FINCHAM: And Mangahao is dispatched and obviously based through that relationship we know what the costs associated with that are. Okay I suppose just to be clear when we talk, our offices are based in Taumarunui and all our hydro assets are within 45 minutes drive of that area. There's the embedded ones and then Mangahao sits in Shannon and is actually operated by Todd Energy anyway, so we just basically have a high level management role with that.

MRS BAUMANN: So you support the 10 megawatt?

MR FINCHAM: Yes definitely support the 10 megawatts.

MRS BAUMANN: On the logic of the electricity market rules?

MR FINCHAM: Yes, yeah because it just makes a natural hurdle for – it's consistent with both areas, so if you want to choose a scheme, I mean then 10 megawatts is a natural hurdle to choose.

MRS BAUMANN: I mean we have heard evidence that a 10 megawatt may be a very large installation if you were talking in solar or something like – whereas obviously with hydro it still can be –

MR FINCHAM: That's true, yes.

MRS BAUMANN: Do you have any response to that?

MR FINCHAM: Yeah, maybe we have looked at it purely from the hydro perspective.

MRS BAUMANN: Yeah.

MR FINCHAM: A 10 megawatt wind site, I mean you're looking there at about half a dozen turbines. Well I mean depending on the site, but the capacity of the turbines – well there could be lots of little ones, but yeah, but would be looking at say from six to 12 turbines. Because we're currently looking at a wind site and that's sized for 20 megawatts there altogether, but we're actually looking to secure the sub 10 size purely from the hurdle, having to trade in the market. We want to bite off a section that suits us.

MRS BAUMANN: Yes you don't see yourself as a market participant?

MR FINCHAM: Well we just know that we are not geared up for it and unless all of our assets moved up over that hurdle, you know, there's no value in us just having one asset –

MRS BAUMANN: That brings you into that, yeah.

MR FINCHAM: And I think what you're trying to highlight here in terms of small scale and community based is that in our experience what we have found is that there does tend to be this natural size difference. You know, you very rarely see projects going under 20 and you very rarely see projects going over, you know that 10, 20 range.

MRS BAUMANN: Yes it's either under 10 or over 20, is that what you're – or around 20?

MR FINCHAM: Yeah, yeah.

MRS BAUMANN: What's Mangahao, 19 or something is it?

MR FINCHAM: Well our share is 19.

MRS BAUMANN: Yeah it's 38.

MR FINCHAM: Yeah, yeah altogether, yeah.

MRS BAUMANN: I may make the observation that even being under 10 you've had some consenting or re-consenting hurdles?

MR FINCHAM: That's correct, yes. And it has been – actually all of them have had some interesting challenges, you know because we've re-consented

all of our embedded sites since '99 and all have actually had a direct impact on operation, the generation operation, but they have been worked through and there is an argument to say the RMA process itself does work. But yeah, I think we've had some really good outcomes. Communities are very positive with what we're trying to achieve in all our sites.

MRS BAUMANN: And just remind me, the last question, you have a retail base too?

MR FINCHAM: That's correct, yeah.

MRS BAUMANN: How big's that?

MR FINCHAM: Okay, it's roughly twice the size of our generation portfolio. So we are short of generation and while our retail base steadily grows, yeah, we are trying to secure numbers there and I'm not sure if it's highlighted in the evidence, I think we did mention it but it really provides security, having our own generation. This is definitely our experience, as opposed to having to then purchase energy from other participants, yeah.

MRS BAUMANN: Thank you.

CHAIR: Just a matter of housekeeping, your submission which came in, which includes your suggested changes to the policies, are they – there's no difference is there between what you presented today in your suggested additions to the policies than the original submission? I'm sure there isn't I just want to make sure that I'm not missing something.

MR FINCHAM: No, we are supporting what we've advocated for in the appendix which is our suggested changes.

CHAIR: So your appendix A, Relief Sought, is the same as in the original submission?

MR FINCHAM: Perhaps Gary can just read through –

CHAIR: Yes, yes if you wouldn't mind. I just want to make sure we're relying on the right documents.

MR SCHOFIELD: Sure. Fundamentally it's the same. It's just in regards to Policy 4. There's two different solutions advanced and that was just to deal with the differing interpretations of how that rule is to be, yeah, effectively interpreted.

CHAIR: Yes certainly. Oh no that's helpful. I was sure that wasn't – I just wanted to make sure. The next thing is with because of your concentration on hydro, did you make a submission with the proposed National Policy Statement and freshwater?

MR FINCHAM: Yes we have made a submission on that. Yes.

CHAIR: We'd be grateful if you could provide a copy of that to Ms Beruldsen.

MR FINCHAM: Sure, yeah.

CHAIR: And the reason for that is just to ensure that we understand where you are coming from on that, because that does refer to hydro structures as you know and we – at the moment our Board of Inquiry is, or this Board of Inquiry is meeting ahead of the other one. I'm not sure whether they'll catch us up and pass up or whatever happens, we want to try and understand your case over all the resources. Did you also present in

respect of the National Coastal Policy Statement or is that outside your area?

MR FINCHAM: No for King Country Energy that was outside our area. We had some emission involvement with some of the other generators but we quickly realised it wasn't –

CHAIR: So the Mokau project, does that involve – that runs to the sea though doesn't it?

MR FINCHAM: It does run to the sea, yes.

CHAIR: But there's no issue there?

MR FINCHAM: No there's no issue there from the Coastal Policy Statement, no.

CHAIR: With your projects which are under the 10 megawatt, have you gone through a mediation process with those consents, both your new and your existing re-consenting?

MR FINCHAM: With re-consenting, yes we went through – well obviously in both mediation process with Wairere we settled on the mediation. Yeah and then with the Mokauiti we couldn't find solution at mediation. Well, on a number of issues we found solution, but there were a number of – but there were four fundamental issues that we couldn't find solution.

[2.30pm]

CHAIR: And as far as the Environment Court hearing is concerned did that add additional conditions to the original consent or did it just go through basic evidence, can you confirm –

MR FINCHAM: No, well the Environment Court is effectively presented with options, you know so the – in the end the issues that actually went to the Environment Court weren't related directly to King Country Energy. It was largely around fish passage and using natural methods and unnatural methods for moving fish and the local Iwi group opposed unnatural methods for fish passage, whereas the regional council insisted on unnatural methods as well, yeah, so we did natural methods as well. That was agreed. We agreed to that. It was just the actual inclusion of unnatural in there.

CHAIR: I see, so did you have a fish ladder, a bypass –

MR FINCHAM: Yeah, well we actually do carry out trap and transfer, so downstream we have our traps. We effectively put them in the back of the truck and take them upstream and drop them off. And the Iwi were completely opposed to that. They wanted natural fish ladders. We've got natural fish ladders as well, but we do trap and transfer and have the natural process on the insistence of the council.

CHAIR: So both native and exotic?

MR FINCHAM: Yeah, yes. Well just native fish species.

CHAIR: So it's just native species?

MR FINCHAM: Yes.

CHAIR: So you've got a ladder for eels?

MR FINCHAM: For elvers yeah, upstream elvers and downstream eels.

CHAIR: Oh for downstream?

MR FINCHAM: Yeah.

CHAIR: Now if I could just work through the wording of these proposed policy changes. I understand your reasoning from your submission, but just a few additional things. On Policy 1 we've got the new and existing activities, do you see any advantage in including in the benefits the sub-cost benefit of renewing existing structures? In other words, where the environment has been modified because of an existing dam and so forth, that there is a benefit in retaining those structures and – is that something that could be picked up in benefits do you think?

MR FINCHAM: Yes that's definitely something that could be picked up in benefits.

CHAIR: We're open to this, I'm not suggesting it should be or not. I'd just like your views on it.

MR FINCHAM: Yes. By way of example our Kuratau scheme has created a natural wetland area that's now considered one of the best wetland areas in the region. You know, the Kuratau lake is weed free and we have the national fly fishing championships, we've had the world – world fly fishing was held on our lake. There's a lot of recreational and aesthetic value to the assets we've brought to what we've created, from a natural point of view and I mean this is obviously apart from the site of the generation, the same cost of a physical asset, but I mean this is from a natural and

recreational point of view, yes we see that would be a huge advantage being considered as a benefit.

CHAIR: Yes, but it's under Policy 1, the third line you've got "relevant to all new and existing" and it was just whether or not there's any advantage in continuing in the list some of the benefits from existing and from a renewable energy point of view the provision of electricity from existing generation facilities on how long term, would be a benefit. The other thing is roman four, "maintaining or enhancing New Zealand's reputation as a green nation", we've received that suggestion from a number of submitters, all of whom seem to have Radas as a consultant Mr Schofield, so I believe you might need to defend that one. Would you like to speak to what benefit that has in the National Policy Statement on electricity, green clean, green nation.

MR SCHOFIELD: Sure. If I could just clarify first on the existing investment that you've just talked about. I would just note that it's also displacing the need to create additional energy from another source, renewable or non-renewable, so I think there is some merit in adding that as a benefit.

CHAIR: Yes, would you like to, with your expertise, perhaps draft something you think might be of assistance and pass that through to Ms Beruldsen?

MR SCHOFIELD: Sure.

CHAIR: Whether we do it or not I'm not sure, but it's just – it would give us something to work with. Thank you.

MR SCHOFIELD: And in terms of maintaining New Zealand's reputation as a clean, green nation, obviously renewable energy is seen as often clean and green. It does in itself often create a lot of recreational opportunities

and I think as a nation encouraging tourism to New Zealand, it's often advertised as being that clean and green place to come to as a sort of selling point, differentiating it from perhaps other countries that use other nastier forms of generation, sort of like nuclear etc. Yeah, so it's just really I guess highlighting that there are additional spin off benefits from renewable electricity generation beyond I guess just the demand for electricity.

CHAIR: And be reassured that your other two colleagues have said exactly the same.

MR SCHOFIELD: That's what I like to hear.

CHAIR: Thank you. Now if we can move onto Policy 2. The constraints. When we're dealing with barriers or impediments we're particularly interested in the issue of difficulties with planning instruments in the sense of both regional and district plans, whether those instruments to date have been creating barriers and whether or not they could be improved in the sense of promoting renewables. Can you help me, in the districts you deal with do any of the plans, district plans, have policies in respect of renewable electricity? We know about the One Plan, because we've heard from Horizons, but any of the district plans, if it comes to say wind opportunities?

MR FINCHAM: Okay, we deal with Otorohanga District, Waitomo District, Ruapehu District and Taupo District. Those are the ones I have a direct relationship with.

CHAIR: Yes and do they all – all non-complying in all those districts is it?

MR FINCHAM: As far as I'm aware there actually aren't any direct references to new generation. I'll have to be honest here, we actually really focus on the regional first, because that's really where the environmental impacts on.

CHAIR: Which you'd be dealing with water –

MR FINCHAM: And in our experience we've found that the District Councils are really quite keen to follow the Regional Council's lead, unless there is some specific issue, but what we have found is that the District Councils will usually try and tag their hearings on at the same time as the Regional Council and sit on the same hearings and really just follow the Regional Council's lead. So they just take their line from where the Regional Councils go. And Mr Schofield and I do have some evidence -

CHAIR: That would be helpful, because you do mention the non-complying activity difficulty in classifications and I wondered whether or not there were any policies that helped you overcome that.

MR SCHOFIELD: Sure. In terms of hydro I've recently dealt with a case in Ruapehu District. Interesting there were no objectives or policies covering the matter, but there was a raft of Rules controlling hydro development and they actually had limits on the power limit, it was limited to 50 kilowatts and the maximum diameter of the pipe was 200 mls. I actually went down and met with the Council to discuss the rules and the planner was actually a bit – well I asked what was the reason for the implementation of these rules and she didn't have an answer because there were actually no objectives or policies that it flowed from, so it seemed to be a bit of a, yeah a bit of rogue set of rules that had appeared. I can certainly provide those rules too if you wanted to see them, but yeah

it was an odd situation, that it had actually limited the output of yeah hydro schemes to somewhat random 50 kilowatt limit.

CHAIR: So it would have assisted you, would it, if the district plan had both policies as well as a more permissive rule rate?

[2.40pm]

MR SCHOFIELD: Absolutely. Having rules I mean that set an arbitrary limit without any justification or flow through from the objectives or policies seemed a bit nonsensical. You were going back to a general amenity type objectives and policies which you know, say for instance if a pipe line was buried, once it's been buried, covered over and grew grass, there's no long term amenity issue with that, but they had limited the size of the pipe to 200 millimetres.

CHAIR: How about the Regional Council, have you had a look at the proposed – the One Plan or whatever it is, have you had a look at the proposed policies?

MR SCHOFIELD: No I have not. I have not. Not getting through to the specific objectives and policies. But I take the point that was made earlier about, sorry just skipping about a wee bit, it was in terms of identifying significant environmental values and overlays and I just know from the One Plan there is a hilltop overlay and it seemed to cover the majority of the region. So if you are undertaking earthworks on a hilltop you had to go and get specific consent and I guess in terms of if you are creating significant areas – sorry this relates to Policy 4, if you are going to identify significant areas or sensitive areas, I guess there just needs – the definition of those areas needs to be quite well considered, otherwise you face a situation

where there's a blanket approach which isn't really advancing the objectives and policies set out under the policy statement.

CHAIR: Would there be a benefit Mr Schofield in us recommending or directing Regional and District Councils to include policies in their instruments that discriminate between existing and future activities, renewable electricity?

MR SCHOFIELD: I'm a bit hesitant to discriminate between existing and future activities. I think there does, in terms of the re-consenting of existing schemes, obviously I think there needs to a recognition of that.

CHAIR: Well how, through policies or just through activity status or what? How would you do that?

MR SCHOFIELD: I think you could do it through a policy and/or rules. I think it would be more under a rule – sorry, under a policy would be –

DR CHAPMAN: Policy 6 you mean or?

MR SCHOFIELD: Yes. So having regard to obviously existing generation and tying in with that was a definition of the existing environment, because often with the re-consenting exercise there's a bit of confusion as to whether to take the site as it was before the hydro scheme was established. Obviously in a number of cases they have been there for 30, 40 plus years. And then obviously our preferred approach is to take into account the existing environment with the electricity generation infrastructure actually in place, which obviously it forms part of the existing environment, if it's been there for 30 years, it should be considered as part of the existing environment.

CHAIR: So you favour doing it at a high level policy approach rather than directing particular methods to be used, when it comes – I’m just talking about existing facilities.

MR SCHOFIELD: Sure. I think it would be worthwhile having a policy at higher level just to provide that direction because –

CHAIR: They would need – the local authority would then need to change its plan to implement that policy so how would you see that happening?

MR SCHOFIELD: Yeah, I guess for a majority of the whole National Policy Statement there will have to be changes made in any event and I’m just trying to think of my feet here a bit – I’ll just thinking about it for a moment and -

CHAIR: More than that, I’d rather you took more than a moment and actually got back to us with your view on that because all these policies, if there were a direction that they have to be translated into the interior instruments within a certain time, to make them meaningful we’ve got to look at how that could happen.

MR SCHOFIELD: Sure.

CHAIR: Because they have to be implemented under the Act, or given effect. And with Policy 3 which you’ve got lines through and we understand your submission on that. Did you read that policy as distinguishing between re-consenting and community development? For the first line it had “develop new renewable electricity generation activities”. But we have heard some submissions about the fact that some local authorities are treating enhancements or say a small project that’s downstream or upstream or something of an existing one as being new rather than part of a system on

a river. If that policy were still there is there some uncertainty around the words “develop new renewable”?

MR FINCHAM: Chris Fincham here. Primarily our concern's around what reversibility and let's say, putting in a hydro scheme you have to dig out the side of a hill to put your dam wall in. You're not going to stockpile the bit that you took out to reverse it. And it just raises a huge question mark in terms of what is the benchmark you have to refer to? I mean and we hear of Pioneer Generation's submission and they actually don't really see this as much of a hurdle it's just degrees of reversibility.

And I think conceptually, yes we're happy with that approach, but I think our concern is that it could be used as a weapon in some cases to actually say; well no that project, once you've dug that hole you're not going to be able to reverse that hole and that's it. Your project can't go ahead and it might be used by - to an extreme point to try and block a project.

And it's just, we actually had debated for a while in terms of can we have any tolerance on this and really it was; well the easiest thing to do was just to take it out and base it on the fact that, as Mr Schofield has said, that after 30-odd years of being onsite that now becomes a new environmental benchmark to take it to the next hurdle.

CHAIR: Have you, either of you looked at the issue of bonds and things, the transaction difficulties for the bond? Imposing bonds to address clean up and things like. You may not have.

MR FINCHAM: No, no we haven't even thought of that. I mean, all I can do is just state it to the existing site to try and to get through the consent process now. If reversibility becomes a requirement then looking at the capital value, the project wouldn't go ahead. Well, what it does effectively

do is for hydro, place a more onerous financial penalty compared to say other generation assets. I mean, also if you're thinking geothermal I mean, how do you - I mean, there's a whole question mark what happens underground? I mean, how do you measure what the benchmark is and what the reversed position is?

DR CHAPMAN: We've heard some pretty strong submissions from people such as Forest and Bird about the desirability of avoiding hydro developments that markedly change, biodiversity conditions and so forth. And so they see some advantage in Policy 3. In your view, is there a better way to achieve the protection intended by Policy 3 without using that particular mechanism of talking in terms of reversibility?

MR FINCHAM: In terms of options well, I can only say off the top of my head you know, I mean, this is really just some ideas that come up. I mean, that's really what the consent process is for, is to look at the long term effects of the new equipment you put in. And our objective is to show that through a variety of mitigation measures we can overcome the significant impacts of those. I mean, just by way of example, our Mokauiti scheme was put in the '60s, did not have any fish passage. Under the re-consenting process we went through recently we've had to put it in. Yet that - all that knowledge we've gained through that we are now applying to our Mokau project is when you put that in, it will have fish passage from day one. So, I think really from our perspective that's what we see the consent process going through, is actually addressing the long term effects of the assets you're putting in.

[2.40pm]

CHAIR: One advantage would be some sort of policy that addressed the fact that you're not looking at alternatives are you, when you're dealing with a

reconsenting, under the 4th schedule you're obliged to look at alternatives 'cos there are significant environmental effects. The reversibility issue, this policy, again its back to the question Mr Schofield, of how you would implement that if you were a local authority in its current terms? Now I know you've suggested it be deleted.

MR SCHOFIELD: Yes.

CHAIR: But as somebody experienced in resource management instrument would that, the words "relative degree of reversibility" give you any assistance at all when it comes to drafting an instrument based on this policy?

MR SCHOFIELD: As with a number of terms in any policy, or objectives that are out there, it's subjective from one person to the next. And what might be relative to a generator may not be relative to someone, a conservationist perhaps. And I guess our concern is really – yeah, I guess flipping the question around is; what was the intent of the policy from the outset? What was it trying to achieve? Obviously, decision or local authorities have a requirement to consider adverse effects on the environment when considering that. Well, both adverse and positive effects on the environment when considering a resource consent. And I guess, I'm just curious as to why reversibility has actually made it into the National Policy Statement and whether it was intended to cover all types of generation. Yeah, I sort of question that I guess in some respects which may not be terribly helpful. But I think the relative degree of reversibility is potentially still open to interpretation.

CHAIR: So there's uncertainty around those words.

MR SCHOFIELD: Absolutely.

CHAIR: In your view. Now what about the word “appropriate” in Policy 4? In the third line or sorry, third line of your submission. Where it says “and where appropriate methods”. The word “appropriate” is that of any assistance to you as somebody involved in drafting plans? The second line in the actual Policy 4, last word. And that’s where we were talking about referring to methods before, dealing with rules, activity status and so on.

MR SCOFIELD: I think with that particular policy it is, yeah where appropriate ‘cos they may want to introduce specific rules. Obviously depending on which interpretation you’re going down ‘cos obviously we put forward two different options there. But certainly yeah, there may be cases where they’d want to introduce a specific rule to highlight particular constrained areas and aiding specific activities.

CHAIR: So you would leave that bit there would you?

MR SCHOFIELD: Yes.

CHAIR: Did you travel up from Taumarunui today?

MR SCHOFIELD: Yes we did.

CHAIR: Well we really do appreciate that and thank you very much for coming to us rather than us coming to you. Now if there’s anything else that you wish to raise as a result of discussions today please feel free to have that information through the secretariat, through Josie. But we are particularly interested in any barriers you may have found through a lack of policy or lack of appropriate methods in your district, your district plans you’re dealing with when it comes to reconsult.

MR SCHOFIELD: Okay. Yes, I'll have to – 'cos there's two sites that were consented before my term in King Country and I can dig up through this. All I can say is, to the more recent ones, the two that I was involved in, at a district level there was never any hindrance, in fact we had complete support from the district council. Just the challenges of going through a building consent and that but that's one side, consents were issued. Our resource consents were issued, we have to do building consents as well for certain structures. But just in our experience, what we found is that the district councils rather than putting policy in just tend to follow the regional councils lead.

CHAIR: Yes.

MR SCHOFIELD: That's all I can say in our experience to date.

CHAIR: So, you've got Horizons and the other one is?

MR SCOFIELD: Waikato.

CHAIR: Are you submitting on their variation 6?

MR SCHOFIELD: Yes we are.

CHAIR: I thought you might. Well thank you very much and I appreciate your time.

MR SCHOFIELD: Thank you.

ADJOURNED [2.55pm]