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HOUSE COMMITTEE PROCEEDINGS**

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**COMMITTEE: SPECIAL COMMITTEE ON CLIMATE CHANGE**

**Thursday, February 3, 2005**

**SUBJECT(S) BEFORE THE COMMITTEE:**

Further consideration of the topic of Climate Change.

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**NOTE:**

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**COMMITTEE**

**MEMBERS PRESENT:** Wayne Collins, Chair  
Wes MacAleer  
Wilfred Arsenault  
Jim Bagnall  
Helen MacDonald  
Richard Brown

**MEMBERS PRESENT:** Honourable Robert Ghiz

**ABSENT:** Honourable Chester Gillan  
Carolyn Bertram

**GUESTS:** Part I - Maritime Electric  
Part II - Honourable Jamie Ballem,  
Minister of Environment, Energy and Forestry  
- Wayne MacQuarrie, PEI Energy Corporation

**STAFF:** Marian Johnston (Committee Clerk)  
Erin Swansburg (Committee Assistant)



**Special Committee on Climate Change**  
**Thursday, February 3, 2005**  
**10:00 a.m.**

**Part I - Maritime Electric Co. Ltd. : John Gaudet, Robert Younker, Kim Griffin**

**Wayne Collins (PC) (Chair):** I'd like to bring the meeting to order this morning the fourth meeting - may I have your attention, please - of the Special Committee on Climate Change and I would mention that Honourable Chester Gillan, unfortunately is absent today and could not be here. Minister Ballem has been delayed, however, we're very happy to have as our first presenter representatives of Maritime Electric and I'll give them an opportunity to introduce themselves very shortly. Mr. Arsenault.

**Wilfred Arsenault (PC):** Mr. Chair, thank you. I'd like to make a motion that, I'm not sure if it's possible, but could these hearings be transferred to the worldwide web to have them broadcasted on the web?

**Wayne Collins (PC) (Chair):** Is that technically possible this morning?

**Marian Johnston (Committee Clerk):** It is, Mr. Chairman.

**Wayne Collins (PC) (Chair):** It is? I note that yesterday there was a case for the Agriculture Committee, that it went around the world and I think it is a great idea. If we have the technical opportunity to do this, I certainly welcome it and I wonder if everyone on the committee will be in agreement on that? Very well, so with the agreement of the committee, we're going on the worldwide web broadcasting under the Prince Edward Island Legislature banner and we're very proud to welcome anyone listening right now from Hong Kong to Tokyo and all our expatriate Islanders, we hope they're going to keep abreast of the actions of the Special Committee on Climate Change here and if anyone is listening for the first time on this, we want them to know that hopefully all of the other committees of our Legislature will also be busily at work on this.

So to begin this morning, I'm going to turn things over to representatives of Maritime Electric and I do note that Kim Griffin is here. It's her fourth day with Maritime Electric. We welcome her back to Prince Edward Island and it's wonderful to see her

and I'm sure we'll be hearing a great deal more from her in the future in her role with this fine company. So I'm going to turn things over to Mr. Gaudet and Mr. Younker and Ms. Griffin.

**John Gaudet:** Good morning and on behalf of Maritime Electric, I'd like to thank the Special Committee on Climate Change for inviting us here today. Our presentation is approximately 15 minutes. We're going to make use of a power point presentation and then once the presentation is up, we're certainly available and as the committee desires, to answer any questions.

With that, I think you've done the introductions. Then we'll perhaps proceed with our presentation. The presentation is a high level view on Maritime Electric's perspective on climate change and it is very high level. We tried to keep the technical detail down to a minimum but Mr. Younker and I are both engineers and we sometimes drift into it but it is a technical subject and there is a need for an understanding on some of the technicalities to get an appreciation and I'm sure others have said the same thing so with that, I'd like to begin.

I'd like to give a brief overview of the electricity setup which we are most familiar with. And again, some of the dates which we reference jump around, 2001, 2002, 2003. Again these are met to be indicative percentages and number and not necessarily absolute numbers. But to give a picture - the committee perhaps already understands that the electricity sector accounted for approximately 19 per cent of greenhouse gases on emission. Of that 50 per cent of the 19 per cent are from Alberta, Saskatchewan. That's primarily driven by coal and heavy fuel oil, Ontario 29, and Atlantic Canada, close to home, 15 per cent. Provinces are absent there - Quebec, obviously with their hydro, Manitoba and others.

There's been a lot of activity in the last ten years with utilities and through national organization, the Canadian Electricity Association, to look at low emission technology for burning coal, energy efficiency, both inside our own facilities and with the customer and emerging renewable power and

emission off sets. Currently the electricity industry is working with the federal/provincial and territorial governments to try to come up with initiatives and a program that (a), is not punitive, but actually is empowering and will grow with the economy.

Our presentation today I said is a very high level and some of these deliverables we'd like to leave you with is that Maritime Electric is supportive of using renewable energies and meeting the needs of Islanders today and into the future. We are also prepared and have and will continue to work with the province and others to expand and exploit the wind resources on Prince Edward Island for the benefit of Islanders. Also we have committed to working with the province and others to explore other renewable opportunities that may exist so that we may jointly reach the provincial goals and also the regional goals.

The Maritime provinces being a small geographic area but a lot in common and as such we work closely together. Currently under the heading of the Atlantic Energy Ministers there's an initiative called The Atlantic Electricity Working Group where we're trying to work together to develop plans, positions, to explore opportunities, new generation - everybody's head about capacity crunch - new generation opportunities. The bottom five bullets there indicate what some of those opportunities include. Obviously we need to include Newfoundland and Labrador.

The overall objective is a joint CO<sub>2</sub> or greenhouse gas covenant with Canada. We need a made in the Maritimes approach. As with most things a one size fits all approach just doesn't work for Canada which is a very broad in scope. We've got regional difference. So what's good for Alberta may not be good for PEI. But we think there's enough similarities in the Maritimes that we can come up with a Maritime's approach, offer that through the provinces to the federal government and we're proactive. We develop our plan and that's the goal of this group. There are several other technical issues that we're working with. We work closely with the Energy Corp and their staff in this initiative so the communications are good.

That is my piece on the opening, Mr. Younker then will take you through some of the technical details and then we'll combine again and discuss the closing.

**Robert Younker:** Just to point out that we've made copies of the presentation that we can leave with you so you don't necessarily feel - there's a bunch of numbers in some of these slides to come - so you don't really have to try to copy them all down.

**Richard Brown (L):** Yes, getting kind of tired of numbers (Indistinct) .

**Robert Younker:** The bulk of our presentation is looking at greenhouse gas emissions associated with electricity sector on PEI, with electricity uses on PEI and then looking at - I got five bullets up there - five key drivers that we think are the one that have potential to produce changes in the CO<sub>2</sub> emissions associated with electricity usage on PEI.

Nuclear generation - which the person, the Maritime's contact is Point Lepreau - and in particular for PEI Maritime Electric has a life of the plant participation in the Point Lepreau nuclear plant. In 2003, Point Lepreau proved 17 per cent of PEI electricity. Significant contribution. Wind generation, other renewables such as bio diesel or perhaps the participation in the lower Churchill Hydro development which Newfoundland has made another start at trying to make that project happen. Displacement of coal and heavy fuel oil which are used currently to generate quite a bit of the electricity in the Maritimes and hence quite a bit of PEI's electricity and then the demand site management and conservation which are the energy efficiency side of things.

To put it in . . . CO<sub>2</sub> emissions associated with electricity usage into prospective in terms of PEI CO<sub>2</sub> emissions I have this slide. The electricity accounts for one third of the PEI CO<sub>2</sub> emissions. Now when I say that, it's important to highlight that and in doing that calculation, we've taken into account the CO<sub>2</sub> emissions associated with generation on the mainland. That is where most of PEI's electricity is actually generated. We buy it from mostly from NB Power. So we've taken into account the CO<sub>2</sub> emission associated with those purchases in preparing this table and coming up with a factor of one third of CO<sub>2</sub> emission on PEI being associated with electricity usage.

The starting point for the list of the petroleum products and their various quantities was from the statistical - annual statistical summary for PEI which lists the petroleum products sold on PEI. I don't think it includes the heavy fuel usage at a

large processing plant. So the numbers are perhaps a little low in terms of the CO<sub>2</sub> number, might be 10 per cent low. It puts it into perspective and that's the point, roughly one third.

**Richard Brown (L):** So will we be debited for those under Kyoto?

**Robert Younker:** Well the rules are still being sorted out. In discussions we have had with NB Power, they certainly are aware that we should be responsible for CO<sub>2</sub> emission associated with electricity that was sold to PEI.

**John Gaudet:** The other way to look at is that the wind energy that is produced today and tomorrow and in the future displaces those purchases and those tonnes of carbon. Another way to look at it and explain it.

**Robert Younker:** Yes, perhaps just to amplify what John is saying. When we look at CO<sub>2</sub> emission avoid or displaced by wind generation on PEI we're primarily talking about CO<sub>2</sub> emission displaced on the mainland.

To look a little more closely at where the CO<sub>2</sub> associated with electricity comes from - 713,000 tonne number comes from the previous table and you can see that it all comes from one line, which I have identified as thermal. Thermal generation is electricity that's generated by burning a fossil fuel such as coal or heavy fuel oil in a boiler to make steam which then drives the steam turbine which in turn drives a generator which the generator is where the mechanical power - the shaft is converted into electricity.

So when you look at that table you can see for 2003 over 80% of the 914 million kilowatt hours out of the 1,148 came from thermal generating plants. Most of the remainder came from Point Lepreau, the 17 per cent I mentioned previously. Nuclear power is somewhat controversial. On the plus side there are no CO<sub>2</sub> emission associated with nuclear power, you see a zero contribution from it and then, of course we had some wind generation on PEI, about roughly 2 per cent in 2003 and again there's zero CO<sub>2</sub> emissions from wind.

**Richard Brown (L):** So if Lepreau shut down . . .

**Wayne Collins (PC) (Chair):** I wonder if the honourable - excuse me. I wonder if the

honourable member would refrain from questions until the presentation is completed. It's only 15 minutes I believe. Then we can have lots of time for questions.

**Richard Brown (L):** These are important numbers you know.

**Wayne Collins (PC) (Chair):** Indeed they are, indeed they are and I'm taking note of them as well as are other members.

**Robert Younker:** Final point in this slide, I've shown the estimate of CO<sub>2</sub> emissions for 1990 associated with electricity usage on PEI, 1990 being the base year or the reference year for the Kyoto Protocol and as you can see 529,000 tonnes is quite a bit lower than the 713,000 tonnes for 2003. That's largely as a result of load growth. Between 1990 and 2003 the electricity on PEI has increased by about 50 per cent.

Just to finish off on the previous slide - to go back to the five key drivers impacting CO<sub>2</sub> emission associated with electricity usage - one was nuclear and the thing about nuclear - and I planned on making this comment anyway - is that New Brunswick is in the throws whether to refurbish the Point Lepreau nuclear plant or not. If they don't refurbish it then there's 17 per cent of PEI's electricity that we have to find from another sources that may well have CO<sub>2</sub> emissions associated with it. So that's potentially makes the problem worse. If it's refurbished that's more of maintaining status quo.

Turning to wind as the next key driver. I want to spend a few minutes talking about wind and it's potential to supply PEI electricity and also lower CO<sub>2</sub> emissions. The first point is wind is an intermittent generating source. The slide I've shown there shows the hourly output from the North Cape Wind Farm for each of the 744 hours for the month of March 2003. We picked that particular month because it's indicative of the output for the year on average. So you can see that the graph speaks for its self.

For analyses purposes in trying to get a handle on how we incorporate wind into supplying the PEI electricity load it's more convenient to show it in this form and what I've done in this graph, what I do is I take the hours when the output from the wind farm is highest and start putting those on the

left hand side of the chart and then take the remaining hours in descending order, moving to the right hand side of the chart until you get down to zero output. The chart actually ends at 8,760 hours, that's the number of hours in a year and there's a little vertical dash line there to indicate that. So that's the convenient way of showing the nature of the output from wind over the run of a year.

I talked about 40 per cent capacity factor. If the wind farm produced at 100 per cent for every hour of the year, the line would just go across like that and down and that would be 100 per cent capacity factor. The curves what actually happened and the 40 per cent capacity factor means that the area under the curve is 40 per cent of the area that you would of had it produced at 100 per cent for every hour of the year. A couple of quick conclusions that can be drawn from looking at that is (1) for about 1,000 hours of the year, the wind farm produces that full output. For about 2,000 hours of the year there's little or zero output. The balance of the hours are in between. So from that you can see that wind - we can't supply all of our electricity from wind - wind is part of the solution.

Again, one more slide to show some background. This shows, put this up to show the nature of the load and I've got two daily load curves which show the load for each of the 24 hours of the day. One is for a typical day in spring. Spring is when the PEI electricity is lowest. The other one is mid December and I think I've actually got there the peak day for 2003. The point that I wanted to draw out of this graph is the period on the area on the left when the load is lowest in the wee hours of the morning. Minimum load is about 100 megawatts.

So if you have - we have two long term contracts with NB Power, one with Point Lepreau and one with another plant at Dalhousie. They provide about 50 megawatts of our electricity. So when you look at the graph - the first 50 megawatts comes from those two - if you add wind to the system you start to add more than 50 megawatts of wind, there'll be hours in the middle of the night when if the windmills are producing a full output, some of the production will become surplus. So there's a limitation on just by the nature of the load on how much wind can supply as well.

What I've done is - this the probably the last of the technical slides, bear with me for just a little

longer. This is an estimate of as you go - what we expect to happen if we increase the amount of wind installed on PEI about 50 megawatts - how decreasing amounts of it will actually supply the PEI load. So the first 50 megawatts would produce about 171 million kilowatt hours, 100 per cent of that would supply the PEI load. If we add 25 more megawatts of wind on top of that, we get another 86 million kilowatt hours and 99 per cent of it would supply the PEI load. Going from 75 megawatts to 100 about 94 per cent of that incremental amount would supply PEI load. And you can see as you go, if you keep increasing the portion that would supply PEI load with each incremental step becomes smaller and smaller.

The conclusion that I leave with you on this graph - in order to maximize the use of wind in supplying PEI load, we're going to need to be able to sell some of it off Island. That'll be an important part of wind development on PEI and I'll leave it at that on that one, move pass some of these technical ones.

Now so what we've looked at so far, we've looked at nuclear and wind. And I just wanted to sort of pause and say we think back to a previous slide when we looked at where the CO<sub>2</sub> emissions associated with electricity came from and project ahead to the year 2010 and we assume that (1) Lepreau does get refurbished,(2) we have 15 per cent of the electricity on PEI being supplied by wind, and develop an estimate of what the CO<sub>2</sub> emissions will be associated with electricity in that scenario. You can see I've got two columns, one for the 2003 and one 2010. The end result is because of load growth the amount of thermal generations I've assumed increases slightly and hence the amount of CO<sub>2</sub> emissions associated with electricity usage on PEI would also increase slightly.

So the conclusion is we have an sufficient impact on the CO<sub>2</sub> emissions associated with electricity. We need to do more than 15 per cent from wind and have Lepreau refurbished. Options are we can look . . . work towards increasing the amount of generation for wind pass the 15 per cent. We can look to other renewables, such as bio-diesel. If the Lower Churchill project were to go ahead we could try and be a participate in that. Natural gas as a fuel for generating electricity produces sufficiently less greenhouse gases for each kilowatt hour produced than does coal or heavy fuel oil. Natural gas may become available in increased amounts

for generating electricity in the Maritimes in the future. There's still a lot of uncertainty about that as we speak today. And there is also the conservation energy efficiency approach. For every kilowatt hour you use then that's that much less CO<sub>2</sub> associated with that.

It's hard to put any numbers these to present to you today because there is just a lot of uncertainty associated with how much of these can be developed and used economically. There are still a lot of questions, still a lot of uncertainty.

**John Gaudet:** Then perhaps to wrap up we just want to reiterate a couple of points. One is that Maritime Electric supports the use of renewable energy sources on PEI in meeting PEI's energy requirements into the future. It's the right thing to do. We also, we'll continue to work with province and others to ensure the wind resources are developed to maximize benefits for Islanders. As Mr. Younker alluded to, we're going to need cooperation from entities off Island to sell surplus electricity in those off peak times. We need to work together as a region to maximize benefits to Islanders and we want to do that with the province.

Finally, we'll work with the province to explore other renewable sources of energy. Wind is but a part of the portfolio approach. We'll take that as far as we can, but we must continue to look at other alternatives, other options and I think we've said before Maritime Electric's role here, its' primarily role is to prove a safe reliable dependable service to Islanders at a reasonable cost. We will continue to explore all options and opportunities, evaluate them and discuss those opportunist with the key stake holders, the province being one of them, to determine the best course of action.

So with that I'd like to conclude our presentation and thank, once again thank the committee the opportunity to give this presentation.

**Wayne Collins (PC) (Chair):** Well Mr. Gaudet and Mr. Younker we certainly want to thank you for a very fine presentation here this morning. I'm sure there are member questions. I'll start the list here shortly, but I do want to welcome the Leader of the Opposition to our table, however, the Leader is here as a ordinary member of the Legislature, not as a member of the committee, so I will go around the table and when there's an opportunity at the end I'll certainly questions from the Leader I will

take as well.

So I'm taking a list for questioners here. Anyone . . . Mr. Bagnall?

**Jim Bagnall (PC):** Could you go back to your, the second one, yeah, right there. You've said there's a lot of uncertainty dealing with energy and how you're going to deal with these issues. Natural gas, you're saying that there's a possibility, but maybe not, maybe there will be. So what other initiatives are you taking because you really can't apply - you can't look to natural gas because it's not here so what other issues, what's your agenda to put your program together on natural gas because these are just uncertainties. So you must have a plan in place to deal with CO<sub>2</sub> emissions, so how are you going to handle this?

**John Gaudet:** There are two layers to the CO<sub>2</sub> emissions. One is associated with electricity purchases and the generation of electricity. The other is what we're doing on Prince Edward Island as a significantly large business to do our share in reducing our generation of CO<sub>2</sub>.

I'll talk about on the generation side. As I've mentioned earlier in the presentation, we're working with the Atlantic electricity utility group, which is trying to put together a made-in-the-Maritimes approach and that approach has several problems to it. One is - I have to delve into the technical now - but it's associated with determining what the carbon intensity of the generation's resources are and there's a commitment that any new sources of generation have to meet certain criteria with respect to significant reductions in the status quo on a per-unit generation output. So those commitments are there.

In addition, what we haven't touched upon - and it's not certain yet - is emissions trading. Some areas of the world, some areas in Canada, have a surplus of carbon credits, or I think the name here is environmental attributes. Those can be purchased to net against the generation.

We don't have a concrete plan (Indistinct). In 2010, we're going to participate in this facility. In 2006, we're going to reach this percentage. The rules of the road are not clearly defined yet. We have two benchmarks: One is the Kyoto Protocol and the other is an agreement on New England governors and Eastern Canadian premiers, which has another

target, so there are no easy answers.

I think we're going to have to take a multi-pronged approach. The expansion of exploiting renewable sources, like we're here doing on PEI, that's a significant piece. Energy efficiency, I think the key piece here, perhaps, that we have to look at and look to the 10,000-foot level is on cultural change.

I think perhaps a lot of people have presented to you that Canadians are an energy-intensive lot. How many TVs, VCRs, computers? That's just on the electricity side. Phantom load is there. Significant. If you have teenagers, you know all about that, so we need to educate, make people aware, change their habits. That's the focus that we're going to be taking this year in developing some of our public relations initiatives.

It's value for money. We're not going to tell consumers: You can't do this. You can't do that. We want to advise them and let them know what the ramifications of their actions are, draw the links, and affect a change. I think we have to embark upon a cultural shift here, and that will take some time.

**Jim Bagnall (PC):** You said buy credits. Well, buying credits is really not going to help you take your CO emissions down. All you're going to do is continue to operate the way you are and buy in credits. That's not, that as far as energy-wise, that's not good, is it, because if you do that, you're defeating the purpose of climate change. You're banking on somebody else's goodwill to help you out rather than do a program yourself to deal with this issue.

**John Gaudet:** The issue of credits is a bit of a false economy, and we don't rely on that, but in order to meet absolute numbers, they may be needed. I think what we're looking at here in Atlantic Canada, and this has been covered in the press and by interactions with respect to our new generator down in the Charlottetown plant, Atlantic Canada is heading for a situation where there's a shortage of electricity generation, and as such, there will be new units added.

We're not sure where they're going to be added, but we know we've got a sense of confidence in speaking with our utility partners that there will be new plants added in Atlantic Canada. They're having conversations with the province here about

new plants. There's been conversations with Nova Scotia and New Brunswick, as has there been conversations with Newfoundland and Labrador with respect to the Lower Churchill development, which is a renewable source.

So we are a price-taker. We are a consumer and retailer of electricity. We are participating in a Maritime region and we have to stay on top of things. We are not necessarily in control. Again, to repeat, we believe in a portfolioed approach to climate change.

Wind is an excellent opportunity. Hydro is an excellent opportunity. Energy efficiency and conservation is an excellent opportunity. There are all kinds of other things that we just don't quite know what they are, or quite understand it. Biodiesel, the minister was in the press yesterday talking about biodiesel.

Our new generator at the Charlottetown plant is capable of burning biodiesel. How this all fits together is not clear, but what we have to do is remain engaged, talking with our Atlantic Canada and Maritime Canada counterparts to ensure that every action taken is towards a vision and a goal, and that is to reduce greenhouse gases.

**Jim Bagnall (PC):** Okay, I think you may have answered my next question that I was going to ask in that question, but the new plants that you've ordered, I don't think they've come in yet?

**John Gaudet:** No.

**Jim Bagnall (PC):** Are they going to be CO efficient?

**John Gaudet:** The new plants, if you look at some of the - they're energy-efficient, but they do burn diesel fuel, which will produce greenhouse gases. The prediction of the amount they operate, and hence burn fuel, is something like about 5,000 tonnes per year, which is about five in over 731, so that's the order of (Indistinct).

We're going to generate very little energy from that plant. That plant there is to back stop our other purchases, including wind. As Mr. Younker has shown, wind is an intermittent supply. We're very blessed here that it is less intermittent here on PEI, than it is in most other places. Where are we going to buy the energy when it doesn't blow? That's

capable. Other generators on the mainland are capable of doing that.

**Jim Bagnall (PC):** So the new plant will be the last of the last?

**John Gaudet:** Yes.

**Jim Bagnall (PC):** So Point Lepreau will come in first and the other plant where you buy the energy from is where?

**John Gaudet:** Dalhousie.

**Jim Bagnall (PC):** Dalhousie, but is it my understanding - maybe I'm wrong, correct me if I'm wrong on this, but doesn't Dalhousie supply nearly all of our energy right now and Point Lepreau only kicks in very seldom?

**John Gaudet:** No, Dalhousie and Point Lepreau, as Mr. Younker stated, are long-term contracts we have. Dalhousie and Lepreau both produce variable amounts of electricity per year, depending upon their availability.

I think we've seen in the press, Lepreau has had some extended outages in the late 1990s. Things have improved substantially. Both of those plants combine to supply 50 megawatts. Fifty megawatts on Mr. Younker's slide is about half of the nighttime load.

**Jim Bagnall (PC):** Thank you.

**Wayne Collins (PC)(Chair):** Any other committee members with questions? Ms. MacDonald?

**Helen MacDonald (PC):** We notice there and I don't know if I've got it right or not. On December 18 was approximately the day that we've used the most energy. Is there a reason for that or is it because it's closest to, maybe, the day that the - shortest day? Could that be it?

**Robert Younker:** Yes, it is. It's driven by lighting load. We have - mid-December, the sun sets at about 4:30, so by 5:00, you have all the street lights on. A lot of businesses are still open or in the process of shutting down, and there's a lot of lighting on in people's homes, so it's the lighting load that causes that bump up in the mid-December daily load curb as compared to the one for spring.

**Helen MacDonald (PC):** I noticed there was quite a difference within two or three days there. It peaked and it was quite a little peak there at the top, and just within two or three days, it could go down and then - it just seems so interesting where it went right up to that top on that particular day and then just kind of leveled off a bit.

**Robert Younker:** It was actually - actually, the load for each hour of a day, the one in mid-December. So what you see, the one at the peak there is the hour from 5:00 in the afternoon to 6:00 in the afternoon.

**Helen MacDonald (PC):** Oh, okay.

**Robert Younker:** And that's when the peak occurs, but you're quite right. There's quite a bump up as compared to the lower line, which is a typical spring day when the sun sets a lot later, so it's driven by lighting load there, that bump up in December.

**Wilfred Arsenault (PC):** I suppose the Christmas lights are likely snapped on at 5:00, anyway.

**Robert Younker:** They're a part of that lighting load.

**Wayne Collins (PC)(Chair):** I'm taking my list here, Mr. Arsenault, and Mr. MacAleer is next. Would you like to go following? No? Mr. Brown? No?

**Richard Brown (L):** Yes.

**Wayne Collins (PC)(Chair):** Okay. Go ahead, Richard.

**Richard Brown (L):** Under the *Renewable Energy Act*, there's a conservation effort there. You'll probably be submitting a plan. When is that plan coming forward?

**Robert Younker:** I think it's due beginning of September of this year, and it's to decrease the peak intensity, I think was the phrase by five percent by 2010, if I remember correctly.

**Richard Brown (L):** So we still don't know on Kyoto, if we're going to be charged debits from New Brunswick power or from our suppliers, but they're of the opinion they will be charged in the

debts to us on Kyoto. That's their general consensus.

**Robert Younker:** Well, I think they're - the way I characterize it, they see us as being responsible for those CO<sub>2</sub> emissions associated with electricity that's going to be used on PEI. How it's going to play out is still to be determined.

**John Gaudet:** And to derive benefit from wind, we need to offset some carbon, and that's exactly what it's doing today is the wind farm produces electricity. Generators in New Brunswick are producing less for Maritime Electric and that generation is on, as Mr. Younker calls it, thermal or oil and so we're causing less carbon to go into the atmosphere because of wind.

**Richard Brown (L):** You also talked about Lepreau, Point Lepreau. If Lepreau goes offline and we go to Dalhousie, we're about, what, another 170,000 tonnes of CO<sub>2</sub> we'll be contributing?

**Robert Younker:** Well, it depends what will replace Lepreau with. That's the question.

**Richard Brown (L):** But what could you replace it with? If Lepreau went offline today, where do we pick up our power?

**Robert Younker:** Oh, okay. You're not talking about the refurbishment of Lepreau as a long-term issue?

**Richard Brown (L):** No.

**Robert Younker:** You're talking about just what happens today?

**Richard Brown (L):** There seems to be no political will in the Maritimes to look at Lepreau. Everybody's running away from it, so I'm assuming that it may not happen, and if it doesn't happen, how much CO<sub>2</sub> will PEI be charged with? I mean, it's about 170,000 tonnes.

**Robert Younker:** It depends what source we contract for to replace that 30 megawatts from Lepreau.

**Richard Brown (L):** So what sources do we have now to replace with? Dalhousie, increase Dalhousie or do you increase - what's oil emulsion?

Now that deal went through, but oil emulsion. . .

**John Gaudet:** It's not specific. If Dalhousie, or pardon me, if Point Lepreau were to have a problem this morning, it would trip off and we'd hear about it in the media, the replacement electricity would come from the New Brunswick system surplus and presumably, that would come from a facility that's burning bunker sea, not unlike the Charlottetown plant, and in the past, when the prices of an electricity replacement, electricity from New Brunswick got too pricy, either because they didn't have any and they would have to source it elsewhere, we would generate the Charlottetown plant.

That's why there's a small percentage associated with on-Island generation. When we have to use our own facilities and generate a small amount of electricity, that's one of the scenarios, but it primarily comes from oil or thermal, not necessarily oil emulsion. In actual fact, probably not.

**Richard Brown (L):** Oh, okay.

**Robert Younker:** Perhaps if I could just follow along, just your question, Richard, about the longer term if Lepreau is not refurbished. If it was replaced by, say, a mix of coal and heavy fuel oil, the emission rate associated with those is about 0.78 kilograms per kilowatt hour, as shown on the slide for thermal there.

But if it's replaced by natural gas, if new supplies of natural gas become available in the Maritimes, either through more discoveries off the shore of Nova Scotia or through imports of liquefied natural gas if one of the proposals goes ahead -

**Richard Brown (L):** How much generation is being done? How much generation?

**Robert Younker:** Sorry, just wait until I just finish. A large combined cycle of natural gas of our plant would have about 0.42 kilograms per kilowatt hour of CO<sub>2</sub> emissions. There's a significantly lower CO<sub>2</sub> emission rate. So to answer your question, it depends. There's a wide range of CO<sub>2</sub> emission rates associated with different replacement options. We just don't know today which one of those it's going to be.

**Richard Brown (L):** How much natural gas is being generated now, electric power from natural

gas? What percentage in the Maritimes? I know Coulson Cove can go natural gas, but how many times a year is that burning natural gas?

**Robert Younker:** Not Coulson Cove.

**John Gaudet:** Tufts Cove.

**Richard Brown (L):** Tufts Cove, yes.

**Robert Younker:** Tufts Cove, the one in Halifax Harbour.

**Richard Brown (L):** Coulson Cove is the oil emulsion.

**Robert Younker:** There are three plants that can burn natural gas to generate electricity in the Maritimes now. Tufts Cove, which burns either natural gas or heavy fuel oil, but then there's the Bayside project in Saint John, which burns just natural gas and in the Irving oil refinery in Saint John, they've brought on two combustion turbines which burn natural gas to produce electricity and supply the load of the refinery plus, I think, some extra. What that is as a percentage today, I'm sorry I don't know offhand.

**Richard Brown (L):** Because the (Indistinct) it's more beneficial or more cost-effective, I guess. Nova Scotia Power makes money on selling its natural gas to the US that was geared for the Dartmouth plant.

**John Gaudet:** Well, that's another important driver that we can't lose sight of.

**Richard Brown (L):** So we're talking natural gas, yes?

**John Gaudet:** The costs associated with this and against all opportunities, there has to be an evaluation of what the costs are and those decisions, much of it is government policy. It has to be determined, what should we be doing? There are costs associated with every decision that we make. We have to be able to calculate and determine, with some degree of certainty, what those costs are going to be with each option, and then make a definite decision about what we're going to do.

**Wayne Collins (PC)(Chair):** Mr. MacAleer, did you

have a question, sir?

**Wes MacAleer (PC):** Yes, just go to the slide which you were using to describe the utilization of wind powers. The utilization decreases. What the problem here is the matching principles, is it not? We're on the demand side, demand doesn't suit the availability of power produced by the wind, and I noticed just on your slide with respect to the demand slide, does that include the industrial users? That's all users.

**Robert Younker:** The daily load shape?

**Wes MacAleer (PC):** Yeah, (Indistinct).

**Robert Younker:** Yes, that's total PEI load.

**Wes MacAleer (PC):** So the difference between the high and the low would be about 190? Between the wind and the highest end -

**Robert Younker:** Yes, the minimum nighttime load is about 100 megawatts. The annual peak is about 200.

**Wes MacAleer (PC):** John's probably already answered this, so I'm trying to get to this point, but the utilization factor here decreases because of the lack of the matching between the supply side and the demand side. What can we do to change the habits of demand to make this match-up more efficient?

**John Gaudet:** That's a good question, and that represents an opportunity. We're not sure how big of an opportunity it is, but that's to shift people's consumption patterns, move them around. The graph shows a decided peak in December, around the supertime area, supertime time and so we've got to look at what we can do to alter people's habits in a way that they're aware of why they're doing it and there has to be something in it for them.

Small incentives, on-peak, off-peak, changes in rates, are generally minuscule. Are you prepared to save ten cents to do your laundry at 10:00 o'clock at night? What we have to do is sell them on the concept. Are you doing something good for the environment, and by the way, there is a small financial setup, but the financial incentives aren't that great, but I think we've got to change culture - not only on PEI, but across Canada and the world -

to understand what it is you're doing and how it affects the environment.

**Kim Griffin:** And John, may I answer that if you don't mind? One of the things that I would like to certainly say on behalf of Maritime Electric is we can't stress enough how much it's important to have a PEI, solution, and in doing that, we certainly have to, very aggressively, work with our customers and find this PEI solution and part of that is going to be this cultural shift towards conservation and because I think a lot of it has to do with educating consumers on the amount of televisions potentially in their home that could be turned off, that when you look at the electronics throughout your home and other just usage patterns that we have to help work with our customers and make sure that we're able to influence that behavior, and that's going to take the part of not only our company, but also of Islanders, and we want to do that in partnership with government and our customers.

**Wayne Collins (PC)(Chair):** Are there any other committee members with questions or comments? Ms. MacDonald?

**Helen MacDonald (PC):** I just have a comment. How many times a year would you have to start up your own generators? I suppose it could change from year to year, but -

**Robert Younker:** Perhaps maybe a way to answer your question is they, the plant here in Charlottetown and the one in Borden produce, typically, five percent or less of the total PEI electricity usage, so that doesn't answer your question directly, but it gives the answer that it's not that often, not many hours of the year do they have to run.

**John Gaudet:** Yeah, but the plant in Borden is also used for reliability purposes. It can improve voltages. Sometimes we're constrained in our purchases or there are lines that come out of service due to weather conditions or pre-arranged outages.

There was a significant amount of work completed in New Brunswick last summer essentially increasing the transfer capability and the reliability of our feed to New Brunswick. During a portion of that construction, we were down to one submarine cable and one line to PEI, so we ran some

generation for backup and voltage support, so there are technical reasons and there are financial reasons to run generation.

**Wayne Collins (PC)(Chair):** I have a few questions, if I may. Of the 713,000 tonnes that is debited or credited to Maritime Electric, even though most of that, you say, is off-Island generation right, but Maritime Electric is made responsible for it. How much of that -

**Robert Younker:** Well, we're not. New Brunswick would say that as you move forward in to some form of implementation of Kyoto, there has to be an acknowledgment that that electricity was used for use on PEI. I don't think you can say, you can apply a word debited or credited at the moment.

**John Gaudet:** We have accepted no responsibility, nor denied it at this particular point. Everything's there.

**Wayne Collins (PC)(Chair):** So that 713,000 tonnes of CO<sub>2</sub> emissions, how would you characterize that? How would you describe that earlier? What did you say about that? You said that was the CO<sub>2</sub> that's generated off-Island and on-Island to help supply our needs, right? Correct?

**John Gaudet:** Yes.

**Wayne Collins (PC)(Chair):** And most of that, your contention is from off-Island?

**John Gaudet:** Yes. If we have 713,000, 5,000 is on-Island, 708,000 is off-Island.

**Wayne Collins (PC)(Chair):** Just the 5,000?

**John Gaudet:** Give or take.

**Robert Younker:** Well, five percent.

**Wayne Collins (PC)(Chair):** But still, does that - is it the 5,000 or the total 713,000 that has Maritime Electric and I understand are identified as a large final emitter? Is that correct? Maritime Electric has been identified as a large final emitter?

**John Gaudet:** Yes, electricity sector, electricity generating sector has been designated as a large final emitter.

**Wayne Collins (PC)(Chair):** Is that based on the 713,000 or just the 5,000?

**Mr. Younker:** I don't know if we've - from looking from Ottawa down to the Maritimes, I don't know whether they distinguish between New Brunswick and PEI. They probably said the electricity sector in the Maritimes. I don't know if they've made that distinction.

**Wayne Collins (PC)(Chair):** Okay, if there are no other committee members with questions, Mr. Brown and then we'll go to Mr. Bagnall.

**Richard Brown (L):** Okay, Maritime Electric's view on Lepreau, and if it is cost-beneficial, is it your opinion that Lepreau should be refurbished?

**John Gaudet:** Well, what we have to do is look at what the alternatives are. We've got a life of the facility agreement with NB Power for Point Lepreau. That agreement anticipates a life extension refurbishment somewhere in the 2014 range, so our participation is somewhat already spoken for, contracted for, to the extent that the plant is very expensive or for other reasons we deem not to be acceptable, then we will look at what our options are, but the broad sense, if you look at the benefits associated with nuclear in terms of no greenhouse gas emissions, Point Lepreau operated, and if you look at the longer term, even factoring in some bad years in terms of outages and increased costs, it still produced electricity at a reasonable price.

It is a source. It is an option. We don't have the data to analyze whether our communal participation is worthwhile or not, so we're holding our powder dry on that and we'd like to see the numbers. We'd like to see everything that goes with that refurbishment plan before we make the comment, but in general, it is a source of electricity - a significant source - 20 to 25 per cent of Maritime Electric's supply with no greenhouse gases associated with it. Those are the facts.

**Richard Brown (L):** Just one other question here: Churchill Falls, Lower Churchill is how far away? It isn't even in the environmental impact stages.

**Robert Younker:** No, they've had a number of false starts on trying to develop that project. They've just started a new initiative with the release of a request for expression of interest. The best-

case scenario, if this initiative is the one that's successful, it's eight to 10 years away before there's electricity from Lower Churchill.

**Richard Brown (L):** Because I just want to caution the committee, in 1982, the then-Premier came back with a letter from Quebec saying: We've got power. And right after the election, that letter was not worth the paper it was written on, so we should just caution ourselves on these Lower Churchill (Indistinct).

**Robert Younker:** Lower Churchill is Newfoundland and Labrador. That's their resource, not Quebec's.

**Richard Brown (L):** But it will have to be wheeled through Quebec.

**Robert Younker:** But it's not going to be generated in Quebec.

**Richard Brown (L):** Yes, but it will have to be wheeled through Quebec.

**Robert Younker:** Most likely, yes.

**Richard Brown (L):** Is there wheeling rights through Quebec?

**Robert Younker:** Well, that would be all part of seeing whether they could make the project happen.

**Wayne Collins (PC)(Chair):** All right, Mr. Bagnall.

**Jim Bagnall (PC):** I'm just going back to that one-third CO<sub>2</sub> from electricity across Atlantic Canada. I take it that was Atlantic Canada (Indistinct).

**Robert Younker:** No, that's PEI.

**Jim Bagnall (PC):** Oh, that's PEI (Indistinct).

**John Gaudet:** Atlantic Canada is (Indistinct) per cent of the . . .

**Jim Bagnall (PC):** But you were talking Atlantic Canada with that figure and I just wasn't sure whether it was PEI or Atlantic Canada.

**Robert Younker:** No, the slide I have up there now - is that the one you were thinking of?

**Jim Bagnall (PC):** Well, in your statement, you mentioned that electricity produces one-third of CO<sub>2</sub> emissions.

**John Gaudet:** Yeah, maybe if I could start at the top and drill down, and these numbers are not exact, whether it's three percent or four percent, but it's indicative of the magnitude. Canada represents somewhere in between three to four percent of global greenhouse gas emissions received, of which PEI represents 0.3 percent of Canada, and electricity on PEI is 35 per cent of the PEI total, so that's the drill-down.

Those imply very small, minuscule numbers compared to the world, but I don't think we should let that direct our actions into complacency. I think Prince Edward Island is of the desire and it's also of the size that we could produce made-in-PEI and to a lesser extent, made-in-Maritime-Canada solutions that we can export to other areas.

Whether I have to reduce my consumption by one tonne or somebody in Ontario has to reduce their consumption of one tonne, the challenge is still the same. These are small numbers in the grand scheme of things, but they're important, and I get back to the cultural shift that's required.

**Jim Bagnall (PC):** But it's still a percentage of PEI, and it's not - when you talk about PEI, numbers, it's not as small. It's one-third of all PEI, emissions, so regardless of if you're talking nationally, but we're talking Atlantic. One-third is a lot of emissions, and regardless - and I guess Maritime Electric is our producer of electricity, so of all of what we could say, your company is going to have to come up with one-third of the savings.

**John Gaudet:** That's correct.

**Jim Bagnall (PC):** And really, I know we have a lot of maybes in here on how you're going to do it, but we have no substantial ways yet, and apparently no plan yet to how you're going to do it.

**John Gaudet:** Which is, I think, indicative across the country.

**Jim Bagnall (PC):** I'm not disagreeing.

**John Gaudet:** Which is indicative of the situation across the country, and that's why we need to work together. Let's develop some solutions and plans

and put them forth and say: This is what we're going to do.

**Wayne Collins (PC)(Chair):** All right. Thank you, Mr. Gaudet. Thank you, Mr. Bagnall. If there are no further questions from committee members, I would like to turn things over to Mr. Ghiz.

**Honourable Robert Ghiz (L):** Thank you. Just a couple of quick questions. How's the new generator coming?

**John Gaudet:** It's on schedule. We expect it to be commercially available fall of this year.

**Honourable Robert Ghiz (L):** Fall of this year, and who bought it?

**John Gaudet:** Maritime Electric.

**Honourable Robert Ghiz (L):** So the Tory government's idea of them buying it and leasing it back to you, that never (Indistinct)? Nothing happened there?

**John Gaudet:** That issue hasn't been resolved yet. What we're doing is we're doing the internal financing. We're writing cheques as invoices come in and we've only expended a portion of the overall cost yet but we've arranged financing to push the cheques we write as far out in time as possible. So that situation hasn't been resolved.

**Honourable Robert Ghiz (L):** Okay, how are negotiations going?

**John Gaudet:** I'm not into that area so I can't really comment.

**Honourable Robert Ghiz (L):** When the interest of the generator came before IRAC, if you remember I attended the meeting, so did the member from Charlottetown-Kings Square with me, our Energy critic, and the government, the Tory government was quite outgoing in their saying that you shouldn't be buying this new generator, if you remember correctly and I think that they had - and I understand within the legislation in the Province of Prince Edward Island you have to make sure that you are able to supply energy 365 days of the year even for peak periods and that's the reason for buying this generator and I believe at the time the province said that they had other ways or they had

some other deals for us to buy other energy. I'm just wondering did the province come to you with these other ideas?

**John Gaudet:** What the province is here and you can ask them their perspective in a few moments I guess, but from our perspective, there are a lot of maybes out there. There are a lot of potential things out there.

**Honourable Robert Ghiz (L):** So there was nothing concrete. You, as Maritime Electric, have to be concrete in making sure that Islanders are able to turn on their light switch.

**John Gaudet:** That's part of the bottom line. We have to make sure that next year, the year after, we have a source of electricity. There's a lot of discussion, there's a lot of conjecture -

**Richard Brown (L):** You (Indistinct) election.

**John Gaudet:** - about new generation sources. The LNG terminals, there are coal plants, there's refurbishing existing nuclear facilities.

**Honourable Robert Ghiz (L):** There was natural gas before the last election?

**John Gaudet:** Yes, and there very well could be natural gas in the near future. Who knows. We have to deal in the realities. We look at the options that are available to us, we've concluded that the course of action and we still conclude and maintain that looking at what is available, we have selected the least cost alternative for Islanders.

**Wayne Collins (PC) (Chair):** Mr. Ghiz, thank you very much. Thank you Mr. Gaudet, Mr. Younker and Ms. Griffin, it's been a pleasure to have you here presenting to the Special Committee on Climate Change. We appreciate very much your presentation today. Thank you very much.

**John Gaudet:** Thank you.

**Robert Younker:** Your welcome.

**Kim Griffin:** Thank you.

**Honourable Robert Ghiz (L):** Thank you very much.

**Wayne Collins (PC) (Chair):** While everyone is departing the table and new guests are arriving. I do want to inform our upcoming guests who were not here when a motion was passed earlier this morning at the start of our meeting that this committee meeting is now being broadcast on the World Wide Web. So I do want you to keep that - take notice of that as well. I believe in our next presentation, we'll follow the same format if that's okay.

Presentation from our presenters followed by question period and I'll be keeping a list of questioners following that.

Thank you.

Alright, it seems the committee has taken an impromptu five-minute break, so we'll allow - the audio is still underway, so please be mindful.

## **Part II - Honourable Jamie Ballem, Minister of Environment, Energy and Forestry; and Wayne MacQuarrie, PEI Energy Corporation**

**Wayne Collins (PC) (Chair):** Do we have a quorum, please?

**Unidentified:** Do I make a quorum?

**Wayne Collins (PC) (Chair):** You make the quorum, sir. Please come right here.

We welcome to the table now the Minister of Environment, Energy and Forestry and also, that would be Mr. Ballem and with him is the CEO of the PEI Energy Corporation, Mr. Wayne MacQuarrie and gentlemen, do you have a presentation to make first to this committee before we open up for questions?

**Honourable Jamie Ballem (PC):** Yes we do Mr. Chair. We were going to do a PowerPoint presentation and decided in the interest of time that we'd just go through the points that we were going to make and than open it up for questions.

**Wayne Collins (PC) (Chair):** Very well, go right ahead ,Mr. Minister.

**Honourable Jamie Ballem (PC):** Okay. First of all Mr. Chair, I want to thank you and the committee for - two things, one the invitation and the second for allowing us to defer our presentation as I was

delayed and I guess, I should thank Maritime Electric for stepping up and being able to fill in sooner than they had anticipated.

What our plan is today Mr. Chair, is just briefly go through some of the issues that we are dealing with in climate change within the department and then take questions that you might have.

I'm sure everyone is aware that in November 7<sup>th</sup>, 2003, this province signed a Memorandum of Understanding with the federal government on climate change. We were the first province to sign that MOU. Second only in the region to Nunavut, they were the first territory.

The areas of cooperation in our MOU included increasing the usage of renewable energy sources, developing and demonstrating and deploying hydrogen energy technologies, sharing, promoting and implementing energy efficiency practices, promoting individual action to reduce greenhouse gas emissions, assessing the impacts of climate change and the development of adaptation strategies and reducing greenhouse gas emissions in the agriculture sector.

I think Mr. Chair, we're all very familiar with the impacts of climate change in this province. When we look at the storm surge of 2000, the damage that Hurricane Juan did to the province, the White Juan, the damage in the December 26<sup>th</sup> storm surge that we had. When you look at areas like Basin Head and the impacts that it does have on the province that climate change has probably more impact on our province than almost any other in certainly in Canada and probably in North America.

The challenges that we have in a short term is that it's very difficult to deal with these issues. Short of putting a wall around the province and some of the areas that suffered the most damage in the recent storm surge did have protection. But the protection was not able to withstand the forces of nature.

So while we are dealing with an immediate problems right now in climate change and the impacts that it has on the province, what we have to do in developing strategies is to say we didn't get here in a year and we can't fix it in a year, so we're going to try and take a lot more longer term approach.

When we look at the sea levels, the rise and the flooding, that if we had one meter rise alone in the tides, some of the facilities just in Charlottetown would be impacted, the Delta Hotel, the courthouse, the two sewer stations and 15 houses would be impacted. That's just with a one meter rise. So what we have to do Mr. Chair, we have to continue not only look at how we reduce greenhouse gases but we have to work with other levels of government both municipal and federal and the public to say future construction, where should we be building? Should we be putting cottages right on the waterfront? Should we be having buildings on the waterfront in Charlottetown that aren't you know reinforced? So I think we have to take a more holistic view of it.

Some of the energy, I guess the energy challenges that we have in this province and to give you a little bit of an indication of what our energy mix is, 80 per cent of the energy that we use in this province is generated through the use of petroleum or using petroleum, 13 per cent from electricity, 5 per cent from biomass and .5 per cent from wind.

Now I'm talking about all energy now and not just electricity. Because the transportation sector in this province makes up about 40 per cent of the energy that we use in the province. The thermal heating, the heating of our buildings, homes, business, is 47 per cent and electricity is only 13 so while the intentions seems to be lately is that everything is on electricity and that is an energy source. It's only 13 per cent of the total energy that we use in the province.

So what we're looking at in three areas of focus is energy efficiency, transportation and more emphasis on renewable energy.

Terms of the opportunities that we have and I think that's the way we want to view things is that we have challenges here, but we have challenges and opportunities. In the energy efficiency side in transportation, looking at individuals and I was listening with interest to Maritime Electric and some of their comments about the direction that we have to take and how we should move and things in a cultural shift. And we have to change peoples' attitudes. Well in the transportation sector we have to do exactly that.

When that makes up 40 per cent of the energy that we use in the province, you look at it and say what

can I do? If Islanders drive 10 per cent less and you say, well where do I do that 10 per cent? That's up to each individual but we need to be looking at. Another item that they tell us this is I guess my former role as Attorney General coming out, if people drive at the posted speed limit it will have a significant impact on greenhouse gas emissions. Use a block heater on a timer, that a number of people, oh I'll plug it in before I go to bed and it's there running all night and we don't have to do it if you use a block heater. Tire pressure, just a significant or small change in tire pressure will make a significant improvement in your fuel efficiency and buying the most fuel efficient vehicle that meets your needs. What do you need to drive and what suits as oppose to what do I want.

But again that goes back to an attitude adjustment and energy efficiencies at home. A automatic setback thermostat has proven to save 10 per cent. That little device will save 10 per cent. Keep your furnace maintained. Again we've got numbers that will show in the neighbour of 10 to 15 per cent improvement. Caulking and weatherstripping, depending on your home, can make a significant difference. If you replace five incandescent lamps with compact fluorescent lamps could save \$40 a year.

But the challenge that we have here and Maritime Electric alluded to it as well, is that we have to try to get an attitude change, but what we're finding and others have found not only in this province but across the world basically because Europe is included as well, that education and advertizing is not as effective as you would think it would be. And part of the problem that we have and quite frankly in this province and in this country is that our prices aren't that high. We think our electricity prices, our gas prices are so high it's just so high we've got to be cutting back and government what are you going to do for this? When you compare our electricity prices to New England or many parts in the US, our electricity price is lower. If you compare our fuel prices and electricity prices to Europe, we are significantly lower.

So the items that we're talking about people doing aren't really price sensitive. So even though we say let's tack an increase here and than people will cut back, history has shown in other jurisdictions they'll cut back until they get use to paying the bill and than it will all go back to my old habits. What has been more effective and I'll use an example of BC

Hydro, they literally gave out the energy efficient lightbulbs, they gave out tens of thousands of them so that people get use to buying them. And that's one of the things that when we talk about at national energy ministers meetings, should we be looking at a national plan and how do we make things more efficient?

I know a few years ago or a year ago, the price of the energy efficient lightbulb was you know you got a package I think of three for about \$13 and you know a lot of people were scratching their heads. I'm pretty sure my numbers are right, in an ad in the flyer this week there was six in a package for \$9. The price is coming down but one of the items that maybe we should be looking at as a province and as a jurisdiction is what can we do to get those times of energy efficiencies into people's hands.

Maritime Electric again I think in a response to a question from Helen MacDonald about the peak in December and they said most of it's lighting. Well okay what can we do to have a more efficient lightbulb if that's what's causing the big demand for electricity.

The other opportunity we have in terms of renewable energy and transportation initiatives, biodiesel which we announced another step forward yesterday - ethanol and having ethanol in a blend of an E-10 for example in our gasoline mix will replace 20 million litres a year of gasoline. Vehicle efficiency standards and we as a province have taken a lead in this. Effective April 1<sup>st</sup> any new replacement vehicles in government will have to meet energy efficiency numbers. If someone comes in and needs a vehicle for their job that exceeds the standard set than they have to prove why they need that vehicle. Otherwise there's a setting - set rate to. So we would go for lower efficiencies. And the other one is an ongoing discussion certainly in the capital city area is public transit and a riding share system.

The province has been discussing with the city and what potential benefits there would be in climate change if there was a transit system. But any time in the past and I think the member from Charlottetown-Kings Square when he was on municipal government went through some of the attempts to start a transit system and there were some transit systems started in the past but again going back to the attitude change and the cultural shift that people have to make in this province is

that they weren't using it. Like if we don't use the transit system, then unless taxpayers are prepared to shell out for long periods of time. It goes back to - it's there but if they build it they will come, well I think the city tried it a number of times or private investors have tried it a number of times and it hasn't really worked.

So when we looked at the transportation efficiencies and the biodiesel for example in one the idea of combining a renewable resource that we can grow in this province or certainly a significant portion of it. Higher return for farmers, jobs that are going to be created in the province with refinery plus the environmental benefits. I think that is one step forward. The others in terms of - in the transportation side like I said ethanol, there's increasingly interest in the region to do ethanol but it's - there's some issues with ethanol in some parts of the country. If you don't use a renewable resource for example, to provide the heat then some will argue that you use almost as much energy, fossil fuel energy to generate renewable energy. But those are some of the issues Mr. Chair, that we are working on.

The other opportunities in renewable energy is the electrical generation initiatives. In this area we're looking at three specifically - obviously, wind is the big one. How we maximize our wind opportunities in this province. Again referring to one of the slides in the Maritime Electric presentation where I think they showed different levels of electricity generation by wind and the percentage that we would use. The title of that slide said "We require - something along these lines is that we require off Island markets, no question. For us to maximize our wind energy, we have to be part of a maritime system that that electricity is part of the maritime grid as opposed to just specifically on PEI.

The second area in electricity generation that we're spending a fair amount of time on and have interest from outside parties is in the area of biogas. And this biogas will take a number of forms, one is producing biogas using animal parts, and as gross as that may sound and it is, we have a real problem in this province and in this region with dead stock and with the waste from either the meat packing plant that's Garden Province Meats, and the new beef plant in Borden-Carlton that what do we do with the waste? Since BSE, the things that used to be done, we can't use anymore. So we've done - already completed a study, Department of

Agriculture Fisheries and Aquaculture has completed a preliminary assessment of building a plant to literally generator biogas using composting this material. It's environmentally good for us. We're able to generate electricity and it helps alleviate a serious problem that we have when it comes to animal parts.

Another part of biogas that we're looking at and we've seen examples of it in other countries is generating - using the biogas and the methane that's produce from compost facilities. We had a company in from Germany looking at our compost facility here for example and their estimate is it could generator one megawatt of power from the biogas, from the methane that could be produced there. Now in the system at Brookvale - Brookfield where it goes through a series of filters and it's aerobic system. There's oxygen pumped in. We're looking at - is that a possibility for us to use that facility and again generate gas.

The third area of biogas for us is obviously on the farm. We've seen a number of examples in other jurisdictions where farmers have enclosed their manure storage, generated electricity and not only for their own needs but to go back into the grid. We want to keep in mind that those kinds of solutions, there's no 200 megawatt solution that we are looking at here. And I was pleased to hear Maritime Electric in some of their comments that 'made on PEI' solution is what we're looking at and that's what we're trying to do as well. What can we do on a small scale that takes advantage of what we have? And if we've got you know a couple hundred manure storage tanks out there and that methane is going into the atmosphere, that's potential fuel to generate electricity that we could be using. Combine that with the fact that methane is 21 times more harmful to the ozone layer than CO<sub>2</sub>, than it's going to be even that much more of a benefit for us in terms of environmental credits.

So those are the kinds of projects that we're looking at and Mr. Chair, in the biogas and it was interesting Mr. MacQuarrie and I had the opportunity to visit a number of facilities in Germany and we went to one farmer's place in the middle of the day and he had a couple of generators running and in order to talk to us and show us around his facilities, he shut them off. So we were going around and he opened up the door to where he was - his bladder that was gathering the methane and you could see it expanding, so we

asked the question. Do you have to run this 24 hours a day? Do you have to generate electricity 24 hours a day? And the answer is no, a generator when we need to have more power and we shut it down and collect the methane. Well when I looked at Maritime Electric's chart of our peak of 200 megawatts at 4 pm to 5 pm and at 2 in the morning we're down to 100 to 110. Than maybe we don't have to run these small generators and can we run a bigger one shorter hours during the day. These are the kinds of examples that we want to explore.

The third area in electricity generation is in biomass. And our first thought in biomass is wood so that's what we're going to burn. But we also have the opportunity of straw, of energy crops, the canola that we hope will be grown for biodiesel plant will produce many tonnes of straw - straw from canola. We can grow energy grass crops like Reed Canary grass or Switch Grass that will generator or produce a couple of tonnes of dry matter to the acre.

I've seen pellets that have been made from straw and from grass. They have the same consistency, the same heat, BTU value as wood pellets and that's a very much a renewable resource. And I'm going to try to make sure that I get this right so Aaron doesn't come around and correct me. But it's CO<sub>2</sub> neutral. When you take - using biomasses as a fuel because the CO<sub>2</sub> that plant has sequestered during its growth, is the CO<sub>2</sub> it's going to release.

So it's neutral for CO<sub>2</sub>, but because it's replaced so much fossil fuel, that's where we get the credit. And I think, Mr. Chair, the opportunity for farmers to grow, not just canola, but if they can grow Reed Canary grass, for example, which I've grown at times on my farm and in a wet area okay I'll just put something in there so it's not weeds. Once it gets established it's a good crop.

Anyway what we're looking at I guess the last comment I'd like to make Mr. Chair, is the benefits that from some of these initiatives that we're looking at and I'll give you some examples. Our wind farm that we have in North Cape, the two phases has a reduction of 27,000 tonnes annually of CO<sub>2</sub>. Our biodiesel plant if it produces 60 million litres a year and we use that 60 million in the province is what we expect to do, that will be a emission reduction of 134,000 tonnes of CO<sub>2</sub> a year. Ethanol at 20 million litres a year will reduce 440,000 tonnes. Getting it down to numbers that

are you know a little bit for us that is closure to an individual, if we had ten hybrid vehicles that would reduce 18 tonnes of CO<sub>2</sub>. So every hybrid vehicle that we have in this province is 1.8 tonnes a year.

And it's interesting, I'm going to put a plug in for the province and for our credit union here. I noticed the other day there was an ad in the paper from Metro Credit Union that they are offering financing at prime for anyone who wants to purchase a hybrid vehicle and what seems to be a well kept secret is the province announced a year ago that we would offer up to a \$3,000 PST rebate on hybrid vehicle. I understand the federal government is now looking at a \$2,000 rebate so I think we need to start looking as a province as what can we do to promote some of these vehicles and unfortunately foer government, we looked at hybrid trucks in our department for our conservation officers.

We're in a bit of a catch 22, they only build them twice a year so we were very close we didn't quite make the build, we're going to be going to budget cabinet looking for the funding for it, but we have a bit of an image challenge here, Mr. Chair, and I don't mind saying publicly. The hybrid trucks that we looked at are fully loaded. And even though we'd be setting an example I think that there'd be some people would be complaining to us if we had our conservation officers in a fully loaded, four wheel drive, extended cab truck. So that's part of the challenge that we have when we get to the cultural thing that we want to show some leadership but it's a bit of a challenge.

So Mr. Chair with that I will end my comments and be prepared to take any questions you may have.

**Wayne Collins (PC) (Chair):** Thank you very much Mr. Minister and I am taking a list of questions here from members of the committee and while - if anyone just wants to signal their desire to pose a question go right ahead. In the mean - yes, Ms. MacDonald go right ahead.

**Helen MacDonald (PC):** Yes, I enjoyed your presentation, Mr. Minister, and as you were talking, of course, we're always trying to eliminate our emissions, and I happened to be outside the other morning and I have a wood stove and I have the oil furnace and decided that I would start up the wood stove this morning.

So I just happened to be outside and looked in, and

of course, I thought that I would have all kinds of smoke or whatever coming out of my chimney from my wood stove, and to my amazement, the furnace must have kicked in, but because there was more - I don't know if it was smoke or whatever - coming out of the flue part of the oil furnace, and there was very little, if anything, coming out of the wood side.

And of course, years ago, I think we always felt, well, that's why we went to oil because we'd have less emissions and I wonder do we know the comparison between oil furnaces and a wood stove?

**Honourable Jamie Ballem (PC):** We do know that, like I say, in terms of CO<sub>2</sub>, wood is neutral because it took CO<sub>2</sub> out of the air when it was growing, so it's what they call sequestered. The CO<sub>2</sub>, that CO<sub>2</sub> is still being released, but it's neutral, so if you're replacing fossil fuels, then it's a net benefit to the environment.

Where wood has a challenge for us is in the particulates, the small other emissions that are released that, in some areas, cause problems that people have, breathing problems or asthma. There's some municipalities in Nova Scotia, I think, that ban outdoor wood furnaces inside their municipal boundaries.

Newfoundland and Quebec have passed - they haven't come into effect yet, but have passed regulations that any wood-burning appliance has to be CSA-approved, which means there's almost like a catalytic converter in the burner to reduce the amount of emissions.

**Wayne Collins (PC)(Chair):** Mr. Minister, I wanted to ask a question here, if I may. I wanted to ask what is economically achievable in wind-generated electricity, but I'm sure to answer that, you'd have to answer this question, too. We talk about a regional power grade, and the need for there to be this kind of co-operation among Maritime-oriented Atlantic provinces.

**Honourable Jamie Ballem (PC):** Yes.

**Wayne Collins (PC) (Chair):** Right now, I mean there is a grid that is out there. We're buying from New Brunswick and we're reliant on them at times, most of the time, but I mean, what more do you think needs to be done if we're going to develop the kind of regional power grid and the framework

of co-operation that's necessary so that we can, I guess, economically achieve a maximum of wind generation in this province?

**Honourable Jamie Ballem (PC):** Yeah. There's a couple of things that have to be done, and for the last couple of years, the Forum of Atlantic Energy Ministers has been meeting. My predecessor was the chair and I'm still the chair of that organization, and what we're trying to do is take what you just said. We have to have a regional approach, and in terms of electrical generation in the future, and Maritime Electric referred to it a number of times, of what we're going to need in the future - the next two or three years, the next 10 years in electrical generation - is what do we do best?

So Nova Scotia currently has access to natural gas. They will have - they're exploring off-shore more and more. There's an announcement of a liquid natural gas terminal in Bear Head, Nova Scotia, in the Canso Causeway area, and there's also one being announced - or has been announced - a terminal in Saint John, New Brunswick. So Nova Scotia has natural gas. Newfoundland may or may not. It will happen sometime. The question is when in terms of hydro power out of Newfoundland and Labrador at Churchill Falls, Churchill River.

New Brunswick has oil. They have Dalhousie. They have Point Lepreau. What does PEI have as an electrical generation? Its wind. That's our best source of electricity in large quantities, so in order for us to work as a region, we're looking at future generations and saying: Okay, how can we be part of each other?

We've had discussions with private sector companies in natural gas. We've talked to the Newfoundland government about hydro, where this province can have an equity position, so we're not just a buyer of power. We actually become a generator. It doesn't matter if the energy is produced in Nova Scotia with natural gas. If we have an equity position, then does that allow us preferred rates, as opposed to the market rate?

The second part of it when it comes to maximizing our wind that we have to look at is to become one system in the region instead of three. Now Newfoundland and Labrador are not connected to us, so in this conversation, they don't take part, but right now, there's a gentleman in New Brunswick,

or an operation in New Brunswick, system operator where he, in the morning, to simplify it at the start of the day, they look and say: Okay, here's how much power we require because of our various customers. Maritime Electric is one. What are our various sources of electricity?

So what they do is they direct the power from the different sources. We get, on paper, 30 megawatts of power from Point Lepreau. Does the power from Point Lepreau literally get to PEI? In most cases, no, it doesn't, but that's what we've purchased on paper, so if we could get to a regional system operator, so that that person is responsible for all power when they're looking at the power required in a given day and their sources and they say: Well, today we have 200 megawatts of wind power from PEI. That system operator disperses it. We then become part of a 6,000 megawatt system instead of a 200. Maritime Electric is absolutely right. If we just look contained within our province, we're limited to what we can go to: 50 megawatts.

If we can become part of the bigger system, where we can maximize our wind and sell it off-Island and then operators sending the power where it can be used, then that allows us to maximize it.

**Wayne Collins (PC)(Chair):** And I would like to ask you a question again that was posed by the Leader of the Opposition to the representatives of Maritime Electric. How are things going there with the new generating plant downtown?

**Honourable Jamie Ballem (PC):** Well, I liked Mr. Gaudet's comments that the province is here and you can ask them what their position is and he did also say that the issue hasn't been resolved yet. It hasn't.

We've made the offer. We've had discussions with Maritime Electric. We're now meeting with them to try and see whose numbers are right. We feel there's a significant saving for the province to do what we did with the cable where we buy it and lease it to the utility.

Maritime Electric doesn't think there's that big a saving and that's the area that we're at right now in terms of, as John said earlier in this comments, that they're paying the bills now. My understanding is it's out of operating, that they haven't gone out and done long-term financing for it, so I think the opportunity still exists for Islanders to save

significant dollars if we buy and own the plant and lease it to them, the same as we did with the underwater cable.

**Wayne Collins (PC)(Chair):** Alright, I'm going to take questions from other members. Mr. Brown?

**Richard Brown (L):** First of all, Minister, I agree with the province purchasing the generation plant at Maritime Electric. I think our numbers - the numbers are there that could save Islanders a lot of money.

First, I want to start off by saying you're the first minister of energy that really has gone out on a limb in this stuff, and I congratulate you on it. I think it's about time that we had somebody that took a far-reaching approach here, and I know I may get shot in my own caucus for this.

**Honourable Jamie Ballem (PC):** This is on the World Wide Web now.

**Richard Brown (L):** Yeah, I know. I know.

**Wayne Collins (PC)(Chair):** The world is listening.

**Richard Brown (L):** I don't care. At least you're the first minister that's willing to listen. The rest are just, you know, they do everything and they knew they were going to - they were the end of all and they were going to bring natural gas and all of this stuff. At least you're willing to listen. The rest were just - thought they were gods at the end of the day, and I commend you for at least looking at this stuff and I commend you for at least bringing it forward and allowing a debate to occur on it, and I have my energy issues with PEI, and first and foremost, I look at energy as a cost driver to business on PEI, and as a cost driver to business on PEI, it's an employment generator, and we also have to look at that.

We can have all the grandiose schemes we want, but at the end of the day, if it's going to cost jobs and if it's going to cost our economy to be less of a better economy, then I have questions about it.

The Americans are not signing on to Kyoto. That concerns me, and it concerns me in terms of jobs. If their cost of production goes down and their efficiencies go up, what if the standard of living on PEI goes down? Although we may have a higher standard in terms of Kyoto protocol and everything,

we have a lower standard of living, and at the end of the day, what does that do to Islanders?

I have a question on your biodiesel thing there yesterday you announced. Is the province putting any money into it? You indicated yesterday that you had a person that's ready to come to PEI, ready to build a 60 million litre plant. Why don't we just let that person build it, if it's a private sector development and he doesn't want any government money and they're ready to go?

**Honourable Jamie Ballem (PC):** Well, I'm just going to make a comment on some of your preamble first and I'm going to thank you for your comments. When you talked about the US not signing on to Kyoto, as a government, they haven't yet, and I'm not saying that they're ever going to and I'm a little concerned about what the federal government is looking at in terms of what our targets are going to be and do we have to water them down?

But what we're finding is that a lot of the large players in the US aren't doing it themselves, and I'll give one example. In the forestry side of my responsibility, there are a number of companies and I think one that's been announced publically is Home Depot has said that they will only buy product that comes from sustainable certified forests, so they're looking at - the companies are looking at it themselves.

The businesses are doing it, so I think it's going to happen and from our perspective and the last meeting the Canadian Council of Ministers of the Environment had, Minister Dion is pushing very much the economic benefit of climate change and environmental issues, and I think there's an opportunity for us as a leader to step up and not lose jobs, but actually gain jobs from it.

To answer your question on the biodiesel, we have a couple of areas - and this was started, the discussion didn't come from the energy sector, but came from the agricultural sector: What can we do, as a province, to diversify our agricultural community? Can we grow other crops?

Yes, we can grow canola and we can grow soybeans, but if the marketplace is in Ontario, then you get your freight there and we aren't any better off, so that started the discussion on biodiesel. What we want to make sure is that (a) the farmers

have the opportunity to sell the canola oil that they do produce here; and (b) that if farmers want to, that they have an ownership role, and that's one of the components that we're looking at.

The discussions we've had with companies to date are from people who say: We'll come in and build, own, operate and finance. We'll supply the equipment to everything in between. We want to find out who's there. We want to find out what the best technology is. That's why we're saying to companies: If you come to us, we'll take a look at what the various opportunities and options are. Here's some of our criteria that we're asking for.

But I don't want to be criticized by someone that says: Why did you pick this company when ABC Company from Western Canada has a better technology and cheaper, but they didn't have an opportunity? So we're saying everybody in the world wants to come in and give us an expression of interest, then we can evaluate.

**Richard Brown (L):** But what's stopping a plant from coming in right now.

**Honourable Jamie Ballem (PC):** Nothing.

**Richard Brown (L):** But you said there's one ready to come. Why - somebody told him to hold off?

**Honourable Jamie Ballem (PC):** No, there's one that would be prepared to come to the region, and we've had discussions with them, but there's nothing stopping any private sector from going out and building one. We're saying that the province wants to get involved in a plant from 60 to 100 million litres. We're calling for expressions of interest. Will the province be responsible for some of the financing? Depends on the makeup of the facility and the ownership, but that's possibly.

**Richard Brown (L):** So for 60 million litres of biodiesel, is that 60 million litres of end product biodiesel or is that 60 million litres of 20 per cent?

**Honourable Jamie Ballem (PC):** No, that's 60 million litres of the actual biodiesel.

**Richard Brown (L):** So you're looking at basically a 20 million-litre plant?

**Honourable Jamie Ballem (PC):** No, a 60 million-litre plant. That's the finished product coming out at

the end.

**Richard Brown (L):** Yeah, but I mean, the plant converts canola. How much canola?

**Honourable Jamie Ballem (PC):** That requires the 60 million litres -

**Richard Brown (L):** Twenty per cent of 60 million?

**Honourable Jamie Ballem (PC):** If we took the diesel - where the 20 per cent comes from is we use 100 million litres a year of diesel fuel in our agriculture and road tractors and cars, and about 200 million litres a year of home heating oil. If we replaced 20 per cent of that with biodiesel, that would be 60 million litres. That's where it comes from, so a B20 blend would require 60 million litres of the biodiesel.

**Richard Brown (L):** And then 20 - okay 20 per cent of that is canola oil?

**Honourable Jamie Ballem (PC):** No, it could be all canola oil.

**Richard Brown (L):** Oh, so you're not going with B20?

**Honourable Jamie Ballem (PC):** Okay, look. I'll try this again. Canola oil is almost, it's basically one-for-one. For every litre of canola oil that you put in at the front, you get a litre of biodiesel out the other end. Although there's some refining to it, although there's some places in Europe that burn pure canola oil, pure plant oil in their tractors on the farm, but when it's refined into biodiesel, we're looking to produce 60 million litres that we will mix in with 240 million litres of regular diesel to come up with a B20 blend.

**Richard Brown (L):** Good.

**Wayne MacQuarrie:** And some of that - a portion of that 60 million will be supplied by canola because the agricultural community can't support, or can't provide enough canola to reach the 60 million target.

**Richard Brown (L):** So if it's pure canola that we're putting in, how much canola do we have to produce in order to get it (Indistinct)?

**Honourable Jamie Ballem (PC):** We're starting off with the premise that all of the oil from the day one that this plant opens, all the oil is going to have to be imported because we don't produce any canola right now.

We anticipate that we should be able to produce about 10 million litres of canola oil in this province a year. The other 50 million litres of raw product will have to be imported, whether it's canola seeds from Western Canada, canola oil, palm oil from other places, used vegetable oil. All of these are able to be used to produce biodiesel. What we want to do is make sure that farmers have the opportunity to produce as much canola as they want, and it will be used in this plant.

**Wayne Collins (PC)(Chair):** Okay, I'm going to move the questioning over to Mr. Arsenault.

**Wilfred Arsenault (PC):** I have two questions. Mr. Chair, thank you. Mr. Minister, what's your view on diesel cars versus gas-powered vehicles? Should we, if you look at efficiency versus emissions, should we be promoting the sale of vehicles powered by diesel motors or what's the situation on that?

**Honourable Jamie Ballem (PC):** All I can do is give a personal opinion. The attitude - the original diesel cars that came out, in my opinion, had an image problem because everybody pictured the three-quarter tonne, four-wheel drive truck that you could hear it coming a mile away, and there were problems in the winter.

Well, those things have improved. We've got much better fuel efficiency from diesel, but it's still producing - you know, there's still emissions. Right now, am I saying we should be going to more diesel vehicles? I'm saying yes, we should, simply because we want to build a biodiesel plant here and we're going to be producing, hopefully, 20 per cent of that fuel source, so it's an opportunity for us.

**Wilfred Arsenault (PC):** I guess what I wanted to say was, you've got a vehicle that's being promoted that you can drive for 1,000 kilometres on that gas tank of diesel fuel. When I look at the type of vehicle I have, which is a four-cylinder motor, and I get 310 kilometres for a tankful of gas, now if you do the math, I'm lost here.

**Honourable Jamie Ballem (PC):** So I'll put it back to you. Why don't you buy a diesel vehicle?

**Wilfred Arsenault (PC):** Well, first of all, they're too expensive, so I guess it's - you get what you pay for.

**Honourable Jamie Ballem (PC):** it is an issue in the wintertime.

**Wilfred Arsenault (PC):** But from an environmental perspective, is that where we should be going?

**Honourable Jamie Ballem (PC):** Actually, there was an article, a column in today's *Guardian*. I think the journalist was from the *Ottawa Citizen*. In fact, our climate change co-ordinator was quoted in it. She was talking about the hybrid vehicle, and the fact that the federal government is looking to give a \$2,000 rebate on hybrid vehicles, but people aren't buying into it, that maybe we need to legislate nationally, force people to either go to hybrids, force the industry to bring them down.

One of the issues with hybrids right now; they're not building that many. The fuel efficiencies and the diesels, there's the same issue. How many are being built? Is there something we could be building them cheaper, not quite so many bells and whistles? We talked about the hybrid truck that we looked at. It has - it's fully loaded. It makes it difficult for someone to say: What do you need? And that's one of the things that we're pushing: Buy what you need, not what you want.

But if all that's available in a fuel-efficient car has all the bells and whistles, we need to look at it nationally when it comes to that kind of legislation or regulation instead of provincially because the manufacturers would take one look at PEI and just laugh at us and say: Fine, we won't go there.

**Wilfred Arsenault (PC):** Okay, just my final question. This morning, on one of the graphs, we see that on Prince Edward Island, we need between 100 and 200 megawatts of power.

**Honourable Jamie Ballem (PC):** Yes.

**Wilfred Arsenault (PC):** Depending on the season, the time of day, and so forth. Now we don't hear a lot - I'm surprised that we don't hear a lot about conservation. You mentioned earlier in your

presentation that maybe energy doesn't cost us enough to become conscious or to make the population aware that we have to be - to conserve energy and we have to get with it.

I don't think we're doing very much as a government as far as promotion of energy conservation, and I guess if we did do a decent job in promoting this issue, if society as a whole did a better job in promoting it, how many megawatts of power would we need to meet our needs in your view?

**Honourable Jamie Ballem (PC):** Well, that's one of the ongoing questions that we have is what's the number that we should be targeting in demand side management in our legislation about the conservation measures to shave the peak?

You didn't get into it this morning, I don't think, with Maritime Electric, but in discussions that we've had with them, the most expensive power they have is that blast megawatts at the top. They've got their fixed contracts because they have a base of 100 or 120 megawatts, but it's the incremental stuff that costs more on the short-term basis.

The problem that we run into, quite frankly - and it is a problem - the average household would be \$100, \$110, \$120 a month is their light bill, as Mr. Gaudet said in his comments. Am I prepared to do my wash at 8:00 p.m. instead of 6 p.m. to save 10 cents? You know, work it back. It's only \$3 a day is what people pay for electricity. It's two cups of coffee. It's too much of a convenience to do it when I want.

Studies have shown in other provinces, in other jurisdictions, that the advertising doesn't work. Well, what has worked is that we literally put the light bulbs in people's hands, show them the savings that they can have, and then when you start to combine that with education, then you can have some results.

What we're doing to try to show some leadership is energy audits in our own buildings, getting the exact numbers of what it costs to keep that computer on overnight instead of turning it off. We think - and I'm not just going to stick with electricity - well, it's cheaper for me to leave the car running for two or three or four or 10 minutes rather than turn it off because it costs more and, you know, impact on the battery. Well, that's not right. If you're

going to be any time at all, shut your car off instead of leaving it idling, but these are habits that we have to try to change, and it takes a while to get there.

**Wayne Collins (PC)(Chair):** Mr. MacAleer?

**Wes MacAleer (PC):** I have a question. In the announcement yesterday, you said that in order to get 60 million litres of canola, you needed 12,000 hectares, is that correct?

**Honourable Jamie Ballem (PC):** No, 12,000 hectares will produce 10 million litres.

**Wes MacAleer (PC):** Ten million litres?

**Honourable Jamie Ballem (PC):** Yeah, of canola oil.

**Wes MacAleer (PC):** And using the conversion factor of 2.4, that's about 30,000 acres.

**Honourable Jamie Ballem (PC):** Yeah.

**Wes MacAleer (PC):** And so in order to get the 60, we're going to need three times that?

**Honourable Jamie Ballem (PC):** We will - I shouldn't say never, but we don't ever expect to grow enough canola or produce enough oil in this province to supply a 60 million litre-a-year plant.

What we want to do is provide the opportunity for the agricultural community to grow as much as they want, what makes sense for each individual operation, but provide them with a market for it, an in-PEI market. Rule of thumb: If you get about a ton to the acre of canola, a ton of canola will produce about 400 litres of canola oil.

**Wes MacAleer (PC):** Well, a second question is can we pay the farmer enough to make it worth their while?

**Honourable Jamie Ballem (PC):** Well, based on today's price, if you get a yield of a ton to the acre, which is very average - it's not nothing exceptional - the price, excuse me, last week of canola seed in Moncton was \$225 a ton. The price of barley, I think, is \$110, \$120 - sometimes it's \$130, depending on the dry matter and where you're buying it from, so you'd get a higher yield from

canola per acre, return per acre from canola than you would get from (Indistinct).

**Wayne Collins (PC)(Chair):** Okay, go ahead, Mr. MacAleer.

**Wes MacAleer (PC):** A second question - how does the canola oil meet the diesel? How do we get - where's the mix here? Is it in the tank as you drive up to the filler station or is there going to be a mix? Are you going to buy canola-enriched diesel (Indistinct)?

**Honourable Jamie Ballem (PC):** Yeah, the easiest way to do it, if we had a provincial mandate of a B20.

**Wes MacAleer (PC):** Yes.

**Honourable Jamie Ballem (PC):** And we're fortunate in this province because, I mean, for this example, we're fortunate because we have one depot, so you'd put a mixing facility there and when the fuel truck comes in that's going to go to the service stations or go to deliver your home heating oil, they would put 80 per cent diesel on and then it would be blended at the terminal as opposed to at the individual home or at the service station.

**Wayne Collins (PC)(Chair):** Mr. Minister - just for a second, Mr. Brown - but Mr. Minister, has government ever considered doing a one-month reprieve from PST on the compact florescent light bulbs, and doing so maybe in the fall of the year, 30 days, for people to purchase these bulbs, ten per cent less?

**Honourable Jamie Ballem (PC):** We're looking at a number of options of how we can get these light bulbs into people's hands because that's an area that can have the biggest impact, and I think of anybody who has used these bulbs, they've evolved. They're a brighter light, they come on quicker. They used to be the style that would never fit in a fixture because they were too long and they're getting better.

There's a number of options we can look at: One is a PST exemption, not a one-month, but an exemption to PST. There's others working with the retail sector, with the utilities, both Summerside and Maritime Electric having giveaways.

After yesterday's experience at West Royalty

School - we talked about it this morning - that if we ever get into anything with light bulbs, either giving them away, we want to do it in the schools. We want to give it to the kids and let them take it home, then they'll be put in the sockets.

**Wayne Collins (PC)(Chair):** All right, Mr. Brown.

**Richard Brown (L):** A question. You're working with the Maritime energy ministers.

**Honourable Jamie Ballem (PC):** Yes.

**Richard Brown (L):** I'm a firm believer that we're three small utilities when we compare ourselves to the other utilities across Canada and the US. I personally believe we need a Maritime energy generation corporation where the Maritime provinces take an equity position in it, and look at generating power for the Maritimes instead of our three provinces going off on our own.

I like your idea about if we'll produce the wind into the grid, but we have to make a firm commitment here. We just can't say: Well, we, as PEI, will produce 200 megawatts of wind and we expect you to buy it without being in equity position or without taking much more risk than that.

I think we can't sit on the sidelines and just assume that our sister provinces are going to assume all the risk here unless we are going to get in on it, like equity positions. I think one of the things we definitely have to look at, NB Power or New Brunswick has broken up its corporation and generation, so there's an opportunity to say: Well, maybe we should join that NB Power generation corporation and see what we come up with.

The B20 diesel fuel - and I'm reading here on CBC's website, and they do good research there. They got a quote from Wilson Fuels over there. He's having a rough time marketing the biodiesel. If we were to purchase biodiesel right now, I, as an owner of a trucking company can go in and buy in diesel to fill up my trucks, what is the price difference right now? If you were to go B20, you have pure diesel right now at the pump is 70 cents a litre, what would you look at B20 being?

**Honourable Jamie Ballem (PC):** One of - the production of bio-diesel today, before tax, is more expensive than producing regular diesel. What has to be done - and is done in every other jurisdiction -

is there has to be a tax adjustment so that the price at the pumps is the same.

Why would someone go in - I mean, some people will do it. They'll go and they'll buy a bio-diesel product at a higher price because that's the right thing to do, but we anticipate that at least in the initial stages that there's going to have to be a tax adjustment to allow for the price to remain the same, and I'm not going to speak for Wilson Fuels and in your comments, but the number of times that I've met with them, some of the challenges that they have is the volume and how much can they distribute and there's no tax incentive from the Province of Nova Scotia, so they've been taking a bit of a loss in some areas.

They told me at one point it's cheaper for them to sell the stuff in Ontario, truck it to Ontario and sell it there, because they're able to get their price, it's the tax differential. They're producing it from fish oil, but they do power or sell to the Halifax transit system is run on biodiesel. A number of municipal buildings in Halifax is using the biodiesel blend and home heating, so that's going to be our source when we do our pilots here with the schools and the buses.

**Richard Brown (L):** But will we be knowing the cost differential? When we know what it's going to cost Islanders for this plant.

**Honourable Jamie Ballem (PC):** We will when -

**Richard Brown (L):** But before you go and sign this contract to get into biodiesel, are you going to tell Islanders that here's the tax reductions we have to make, here's the tax incentives we have to do, and here's what it's going to cost Islanders at the end of the day for B20 diesel?

**Honourable Jamie Ballem (PC):** That's - we don't have the specific numbers right now, but when you get into the discussions with the various companies that we expect will reply to our expression of interest, we will know those numbers.

This is not rocket science. People - in fact, I heard on the radio at noon yesterday, they did an interview with someone who's making biodiesel in their kitchen, so we know what the costs, relatively speaking, are going to be. It's not huge differences. The process isn't expensive. It's where they're getting efficiencies is getting the oil from the seed,

cold press versus using heat. As I said, in Holland, some people are burning pure plant oil, but to answer your question, yes, we will know what the costs are going to be and there will be an analysis, but we don't anticipate them to be very large costs.

**Richard Brown (L):** And one of your things is to legislate B20?

**Honourable Jamie Ballem (PC):** That's one of the options that we would be looking at. Logistically, it would be a whole lot easier for everybody concerned if we have enough volume to do a B20 blend and say that we're going to mandate B20 and everybody does it, as opposed to one distributor.

Co-op, for example, decides that they would like to have a B20 blend. They set up their own mixing operation. That just adds to the costs. Wouldn't we be better off on the environmental side, it's an Island product? Jobs are here that are created here that we mandate, so that's one of the options that we would have.

**Richard Brown (L):** Yeah, but I just want to caution that it sounds great, but our trucking industry, our potato industry, is having problems right now and our shipping costs for potatoes - we are exporting Islanders, and if you're going to say to the truckers of PEI, you're going to legislate B20 and B20 is going to cost this much more money, so our trucking industry is going to say: Well, there's just another cost disadvantage we have to Island producers. Will there be a full cost benefit analysis?

**Honourable Jamie Ballem (PC):** What we anticipate is that the cost of a B20 blend will be the same as full 100 per cent diesel.

**Richard Brown (L):** But how will you do that?

**Honourable Jamie Ballem (PC):** Taxes.

**Richard Brown (L):** Taxes, but will Islanders know how much we're paying for the B20?

**Honourable Jamie Ballem (PC):** It'll be all public. It'll be all public of what we reduce the tax.

**Richard Brown (L):** Because if you say taxes, then at the end of the day, the trucking industry will have to make up for it, or the farmer will have to make up for it, because if you reduce taxes on

diesel fuel to make B20, you'd have to get your taxes somewhere else.

**Honourable Jamie Ballem (PC):** If we have farmers growing 12,000 hectares of canola that's giving them a higher return than their current crop that they're growing, if we have the jobs that are involved with the refining facility, we have the environmental credits that are going to be created by us using, I think it's 134,000 tonnes of CO<sub>2</sub> reduction, then I'm confident that at the end of the day, this will be a real benefit for PEI.

**Wayne Collins (PC)(Chair):** All right, gentlemen and committee members, I think we're going to hold it right there and the chair will entertain a motion of adjournment and our thanks to Minister Ballem and Mr. MacQuarrie for joining us this morning and to the representatives of Maritime Electric. All those in favour say, aye.

**Committee Members:** Aye.

**Wayne Collins (PC)(Chair):** Contrary, nay. Meeting adjourned. Thank you.