



STANDING COMMITTEE ON CROWN AND CENTRAL AGENCIES

Hansard Verbatim Report

No. 31 – October 19, 2009



Legislative Assembly of Saskatchewan

Twenty-sixth Legislature

STANDING COMMITTEE ON CROWN AND CENTRAL AGENCIES

Mr. Tim McMillan, Chair
Lloydminster

Mr. Buckley Belanger, Deputy Chair
Athabasca

Mr. Denis Allchurch
Rosthern-Shellbrook

Mr. Fred Bradshaw
Carrot River Valley

Mr. Dan D'Autremont
Cannington

Mr. Randy Weekes
Biggar

Mr. Trent Wotherspoon
Regina Rosemont

[The committee met at 10:00.]

Presenter: Malcolm Wilson

Inquiry into the Province's Energy Needs

The Chair: — Good morning. I'd like to welcome everybody to the meeting by the Standing Committee on Crown and Central Agencies. Today is day nine of the committee's inquiry into Saskatchewan's energy needs.

I'm Tim McMillan, Chair of the committee. I would like to also introduce the other members of the committee: Mr. Weekes, Mr. D'Autremont, Mr. Allchurch, Mr. Hickie, Mr. Wotherspoon, and joining us today is the member from Battlefords, Mr. Taylor.

All of the committee's public documents and other information pertaining to the inquiry are posted daily on the committee's website. The committee website can be accessed by going to the Legislative Assembly of Saskatchewan website at legassembly.sk.ca. Click on committees and click on the link to the Standing Committee on Crown and Central Agencies.

The hearings will be televised across the province on the legislative television network, with audio streaming available for meetings outside of Regina. Check the website for information regarding locations, cable companies, and channels. The meetings will be available live on the website with past proceedings archived on the website as well.

Before we hear from our first witness, I would like to advise witnesses of the process for presentations. I'll be asking all witnesses to introduce themselves and anyone else that may be presenting with them. Please state your name and, if applicable, your position with the organization you represent.

If you have any written submissions, please advise that you would like to table your submissions. Once this occurs, your submission will be available to the public. Electronic copies of tabled submissions will be available on the committee's website.

The committee is asking all submissions and presentations to focus on the following question: how should Saskatchewan best meet the growing energy needs of the province in a manner that is safe, reliable, and environmentally sustainable, while meeting any current and expected federal environmental standards and regulations and maintaining a focus on affordability for Saskatchewan residents today and into the future?

Each presentation should be limited to 15 minutes. Once your presentation is complete, the committee members may have questions for you. I will direct the questioning and recognize each member that is to speak. Members are not permitted to engage witnesses in debate, and witnesses are not permitted to ask questions of the committee members.

I would also like to remind witnesses that any written submissions presented to the committee will become public documents and will be posted to the committee's website.

And with that spiel out of the way, I would like to ask our first presenter to please go ahead with his presentation this morning.

Mr. Wilson: — Thank you, Mr. Chairman, committee members. It's a pleasure to be here. I'm Malcolm Wilson. I am the director of the Office of Energy and Environment at the University of Regina, but for the purposes of this presentation, I just would like to say that this is my own presentation as opposed to necessarily something that's approved by the university.

I've also tabled a written document that is in the package that was handed out to you this morning.

My background is as a geologist, and I have spent time with the provincial government and more recently at the university, as noted. So I have a fairly general, broad overview of the energy sector in the province. My specific areas of interest at the moment are primarily in the area of carbon dioxide capture and storage, and leading a lot of work there at the university. So in the package is my presentation — in the interests of time, a fairly short one.

So I would like to take a look at basically the broad spectrum of energy opportunities in the province and to make a few comments on the issues that surround those. Importantly I think, I'd like to just sort of keep referring back to the fact that this is a resource-rich province. We have a wide variety of resources and I believe we need to spend a lot of time looking at optimizing that to the benefit of the province. So we need to understand our resources and use those in the best way we can for the province. This, I think, will lead to more economic development and indeed community benefits coming out of that.

It's not my intention to talk about conservation and energy efficiency as we move forward. I believe these are very important and the only proviso I'd make on that is that when we're looking at energy efficiency, we do need to be very careful about the economics. It's not necessarily the first thing that we attempt as we look at the cheapest ways to provide energy into the future, but conservation and energy efficiency are extremely important.

Our fossil resource base is very large. It tends to be at the low end, or the unconventional type of resources, the poor quality type of resources. This means we have a lot of environmental impacts that we need to be very cautious about. It also means that we need to be very cognizant of the need for technology in order to recover these resources and to use these resources.

Nuclear, always a very controversial topic — one I think that we should not be ignoring, and looking at the longer term. Certainly nuclear is going to take some time before we can introduce it into the energy mix in the province. So we are, and need to continue, looking at the new technology development here.

I also think we've learned a lot from the work we've been doing in the area of carbon dioxide capture and storage, particularly the storage component. That tells us something about waste storage and how we can effectively use geological mechanisms for safe storage. That's not to say that we necessarily need to

store the waste in Saskatchewan, but we certainly can provide some leadership globally in that area and some guidance.

Renewables. Of course, intermittency is always an issue with things like wind and solar, and something we need to bear in mind. But again in my presentation, I'd like to focus more on biomass to energy systems, and look at adapting technologies from other places as well as improving those technologies here in Saskatchewan for use in the province.

And one of the other issues that is going to come up here is, as we move to small-scale, distributed systems of energy, we will literally be putting energy systems in somebody's backyard. So siting is going to be an issue. I think it's something we can deal with, with proper public outreach, but nevertheless it is going to be an issue and we've certainly seen some of that occurring in other countries.

So in terms of the opportunities, as I say, I think we have a large fossil resource. We're certainly starting to look at some of the areas like oil sands, and hopefully in the future we'll be able to take advantage of our oil shale resources. That's going to require technology development, and I think it also is going to require us taking a broader look at technology.

One of the things I've found in the years I've spent looking at the energy sector is we tend to be fairly conservative in our looking forward — small “c” conservative — but we need to take a much broader look, and in fact I believe we have some opportunities in the biomass area to use some of those technologies in conjunction with fossil fuel energy to see future benefits.

And I think there's also an opportunity here for downscaling of technologies. We tend to focus a lot on the very large installations, whether those are large-scale upgraders and indeed large-scale fossil fuel power plants. I think we have the opportunity to downscale and to make some of those opportunities then available at the regional level. So certainly in terms of fossil fuel development, heavy oil, oil sands, oil shales, I think there are opportunities to downscale and make those benefits regional. And of course in terms of biomass energy systems, I think there's a huge opportunity for communities to benefit from the distributed generation of electricity.

As I say, nuclear I think is a much longer term initiative but as we move forward we need to pay careful attention to the technologies that are developing, whether that's for electricity production or whether that's small-scale nuclear development that could be used for providing steam for heavy oil recovery or hydrogen for upgrading of fossil fuels.

So renewable. As I'd mentioned, the biomass certainly has a huge potential in the province. I think that part of the whole concept of sustainable communities can be based on sustainable energy systems in communities, giving communities the chance to create jobs, to create environmentally friendly energy within the community system. The fuel sources can be everything from agricultural surplus materials, forestry wastes, and indeed municipal solid waste which has the benefit then of decreasing the amount of material going to landfills and the downside of landfills such as methane production and the like.

Geothermal. You've had a presentation by one of my colleagues earlier in the session on geothermal so I'll limit my comments on that. I think this is an exciting area. And one thing I do point out to people is that we have a huge number of geothermal wells in Saskatchewan. They're actually called oil wells. Most of them are producing more water than they are oil, and that water is warm so that can be ranging from 40 degrees Celsius upwards to 80 or so. Unfortunately these tend to be in remote locations, but nevertheless there is a supply of hot water out there and the existing infrastructure that could be used to develop systems.

The final point and one that I missed looking at, fossil resources, is that of course we have to be very much aware of what's happening at the national and the continent and the international level, in particular the US [United States] movement towards cap-and-trade systems for emissions reductions, particularly CO₂ emissions reductions. And given the nature of our coal resource I can see no option . . . In fact I encourage the ongoing use of coal for electricity production, but in that context it's very important that we continue our development of clean coal technology and continue to reduce the cost of the capture of CO₂.

So in general terms then, as in conclusion, I think we need to integrate our resource management with energy development. We need to make sure we're making the most effective use of our resources. Hence, coal for electrical power generation — we can't export it. Natural gas, which is a high-value, easily transportable use, should be used for high-value purposes whether that's peaking power, heating homes, process electricity, or export. Natural gas serves in that environment.

We need to undertake a much broader review of technology in line with the resources that we have and look at options, and I hate to use clichés, but thinking outside the box instead of the more conventional thinking. And this leads us to downscaling of technology, whether that's downscaling of recovery and upgrading-type processes for heavy oil or whether that's downscaling of electrical generation technologies and putting those in the community rather than centralizing them in the system.

One of the other things I think we need to be thinking about is to look at procurement, and whether that's provincial or whether that's municipal or so on, but looking at our procurement policies — in other words creating the first customer for new technology or adapted technology that is created in the province. So as we commercialize technology, having that first customer is absolutely critical to the success of any technology or any new business starting up.

As I mentioned, recognizing continental energy policy and being prepared for what's likely to happen both at the national level and certainly at the continental level. And of course being from a university, I have to say that I do think that public-private academic partnerships are the way forward, and that these should be strongly encouraged. With that, Mr. Chairman, thank you.

[10:15]

The Chair: — Thank you very much. Mr. Hickie.

Mr. Hickie: — Thank you, Mr. Chair. And, Dr. Wilson, thank you. A very informative and a very succinct, brief summary of your opinions which are, at this point in the committee work, some days are much appreciated more than others, I think.

I want to talk to you a little bit about some of the things you hit on, but also some of your background as well. When you were the director of Energy and Mines — I'm kind of curious — did you have these kind of discussions with any SaskPower officials as to the future of our province and how we would look at expanding upon academic involvement and how we could look at projecting the needs of the province and how we could utilize those research and development facilities?

Mr. Wilson: — Yes, I did. I used to meet on a fairly regular basis with one of the vice-presidents at SaskPower, discuss the future, look at what needed to happen in terms of policy and regulatory development in the province, what needed to happen in terms of technology development. And by and large we were pretty much in alignment in our opinions.

Mr. Hickie: — Okay. Great. Thank you. I guess the next thing will have to be talking about research and development and how it can be utilized in our province, and maybe how it can become a better driver, let's say, to move the economy forward — especially when we look at the carbon-based economy that we seem to be seeing coming from the States, how it's going to be driven. Is there enough that has been done in the past and are we on the right track moving forward?

Mr. Wilson: — Speaking as a researcher, there's never enough done. And that's not entirely a facetious comment. I think we are going in the right direction, but I do think there's a need to be able to focus our research more — particularly, of course, in the applied research area — and to be able to spend more time working with our Crown and industrial partners to fully understand their needs.

But as I said, there is a tendency towards looking at more conventional routes forward, in my opinion. And so we need to be willing as a province to be thinking about opportunities that may fall outside what corporations are currently thinking and looking at, as I say, particularly the smaller scale opportunities that will lead us into the future.

So it's a qualified yes to your answer. To some extent, we're heading in the right direction. But I do believe that there are a lot of opportunities that we're currently ignoring because we're too heavily focused on, perhaps, short-term needs and need to be thinking more into the medium and longer term at the same time as we're dealing with the short-term issues.

Mr. Hickie: — Thank you. A couple of more points. You're a proponent of the carbon capture and storage. I saw in your CV [curriculum vitae], in your biography, how you were involved in that for the province, and it's good to have that expertise there of course.

Moving forward, we look at R & D, research and development, to a broader extent. And if we do that, can you outline for the committee how that has economic benefits for the province, but also how that links to maybe driving the direction of an entity like a Crown, like a SaskPower, to expand upon their vision and

how they can be utilized as a partnership?

You talked about public-private partnerships. If you could kind of go along those lines, we'd like to know what your opinion is of that.

Mr. Wilson: — As I say, I think there are several issues here. I mean, one is of course research and, particularly as we move into the area of applied research and get into the area of demonstration, tends to be fairly expensive. And so there's very much a need to move into public-private, public-private-academic partnerships. We have to be able to fund these things as they move forward.

I think there's a great opportunity working with the Crowns to use the university's research and the Crowns as part of the economic development portfolio. So I think these are potentially very good first customers that allow us to take these routes forward.

I also think that the Crowns have the option of looking much further into the future, and certainly agencies like SaskPower have to look a long way into the future. That's also one of the strengths of the university, so I think those partnerships are very good ones for developing the longer term technology development direction. And of course by having technologies developed here, built here, we can get the economic benefits that go along with that.

Mr. Hickie: — And one more point, just one more question. Carbon capture and storage, of course it's utilized in the University of Regina. Has SaskPower utilized the U of R [University of Regina] or U of S [University of Saskatchewan] in your experience for any other kinds of research into our energy needs?

Mr. Wilson: — Certainly from my own experience anyway, in this area, areas like impacts and adaptation, certainly SaskPower uses the research available at the University of Regina, the Saskatchewan Research Council, to look at what the impacts might be — particularly of course on availability of water and either for hydro development or of course water for cooling off the fossil fuel power plants. So yes, they have been looking at other opportunities.

Mr. Hickie: — Good to know. Thank you.

The Chair: — Mr. Wotherspoon.

Mr. Wotherspoon: — Thank you, Dr. Wilson. It's a pleasure to have probably the only Nobel laureate we'll have before us here in the committee here today, and certainly the work that you've been a part of in our province is something we're all very proud of. And you certainly take us to the world stage, and in many ways we're leading some of that here in this province. So thank you for that.

You mentioned specifically some concerns around siting of projects for power generation. I believe that was sort of a broad statement around many different sources. And I'd like you to expand on that a little bit to see what, maybe what jurisdictions or what lessons we should be learning if we're looking at, in the process of siting our new power sources, particularly when you

talk about I guess some decentralization of some of those sources maybe as it relates to biomass.

Mr. Wilson: — We've seen globally resistance to things like wind power and new wind farm developments, particularly in European countries. And part of that is of course related to population density and the aesthetic and other concerns around wind development.

But as you pointed out, I am more concerned about, as we move into the community level, then we not only have the siting of the distributed generation facility inside the community or potentially just on the outskirts of a community, so we're putting energy into more populated areas rather than siting it centrally in southeastern Saskatchewan. But we also have to bear in mind the transportation issues that go along with moving the fuel into the power plants and the storage of that fuel at the power plant site. So if we're using things like municipal solid waste, then we have to deal with the storage of that material and of course deal with things like odours and stuff that come from it.

But as I say, my biggest concern is around increased transportation and more movement of trucks and so on, to move materials into the site so that we can keep it running on a 365-day-a-year basis.

Mr. Wotherspoon: — Thank you. A question specifically to the biomass discussion that we've been having here: and you focused in on it here, and you talk about some of the supply being agricultural surplus, forestry waste, and municipal solid waste. Have you done a little bit of evaluation as to the adequacy of supply when you're looking at those three sources right there to provide power to the province? And how adequate would our supply be, and how many megawatts could we potentially be looking at based on that supply?

Mr. Wilson: — Yes, we've done a little work and the Research Council — and I'm afraid I don't have the numbers on the top of my head — but there is a significant amount of material in the province that would. It's certainly not going to allow us to offset major fossil fuel power systems, but certainly enough that many communities could benefit from this.

We're looking at systems that can operate at 20 to 50 tonnes of material a day and so many moderate-sized communities are going to be in the order of 20 tonnes a day just on municipal solid waste alone. So when that's improved with agricultural surplus, or particularly as we move into the North where we have a lot of forestry materials available and those could be harvested as well, then I think we have a pretty broad-ranging opportunity available to us.

Mr. Wotherspoon: — Thank you. Specifically on that topic again with biomass and the different sources of supply, I guess for the different fuels that we've identified, is there any changes to greenhouse gas emissions based on whether you're using agricultural surplus or forestry waste or municipal solid waste? Are they all similar kind of emissions?

Mr. Wilson: — They're all similar kinds of emissions in the sense that they're all renewable energy systems so that we look at those as having zero net output of CO₂. We have to, of

course, add to that transportation. And if we can move to biofuels, there too of course it has some benefits. But we do have to take that into account as we calculate the CO₂ emissions.

Mr. Wotherspoon: — Some preliminary work that's gone on within this province as it relates to clean coal, what do you see as far as time lines that might be realized on this front and being able to provide us the kind of data and information that we might be able to have to understand, I guess, this whole process of reducing carbon emissions through coal-fired generation?

Mr. Wilson: — My feeling here is that the sooner we get demonstration or at least a demonstration project up and running, the better. The constant concern out there is around the cost of undertaking this kind of action, what are the impacts on the power plant, what are the impacts on the reliability of electricity supplies, etc.

My own belief is that it's not as expensive as a lot of the numbers that are out there. For example, the recent report in Alberta, I think, exaggerates the numbers quite a bit. But we need to be able to demonstrate that with moving forward commercially or near commercially as quickly as possible. So we need to dispel any myths that are out there and come up with some concrete numbers so that we can actually do the comparisons between different avenues, whether that's renewable energy systems, whether that's energy efficiency, or whether that's clean coal systems.

Mr. Wotherspoon: — Specifically the Alberta project, you've stated that you have concerns that there may be some cost exaggerations within that. What pieces of that proposal, if you could offer us that, would be seen as too high or where could we build in some efficiencies?

Mr. Wilson: — Yes. The committee that prepared the report about a year ago, or maybe less than a year ago, in Alberta, led by Jim Carter, the former president of Syncrude, I think the biggest problem that came with that report is that they did most of their economic analysis based on highly inflated numbers for capital and operating. So those numbers were created during the overheated Alberta economy. We were seeing construction costs go up 30, 50 per cent or more over what we might consider to be a norm, and that all got rolled into that report. So the numbers that they were using of \$70 up to \$200 were, I think, an exaggeration of where we indeed are today if we moved ahead with this kind of technology development.

[10:30]

Mr. Wotherspoon: — Thank you very much. My last question is, you referenced the new regulations that might be a result of cap-and-trade discussions that are going on particularly here in North America at this point in time. Certainly these have great impact upon Saskatchewan and upon basically what we're looking at here today. Should Saskatchewan be involved in those discussions?

Mr. Wilson: — I believe that Saskatchewan should be involved and certainly making sure that the province is protected to the extent possible by understanding everything that's happening, trying to influence what's happening. And while I'm

completely in agreement that we do have to reduce our carbon dioxide emissions, we also need to do this in as cost effective a way as possible.

Mr. Wotherspoon: — Do you have any solutions that you'd like to put forward from your perspective that should be part of Saskatchewan's case?

Mr. Wilson: — Not really.

Mr. Wotherspoon: — No. Thank you very much for the questions.

The Chair: — Mr. D'Autremont.

Mr. D'Autremont: — Thank you very much. I'd like to welcome Dr. Wilson here and, like my colleague, to recognize the fact that you were the 2007 Nobel Peace Prize winner along with Al Gore. I think that stands you in good stead before this committee.

One of the issues that Mr. Wotherspoon raised was the differences in CO₂ or the potential differences in biomass. Is that CO₂ that would be created by incinerating biomass chemically any different than CO₂ from a fossil fuel plant?

Mr. Wilson: — No, it isn't. And indeed things like co-firing a biomass with coal or capture of the CO₂ from biomass systems produces the same end product.

Mr. D'Autremont: — If you had a biomass incinerator, would there be need to capture the CO₂ from it?

Mr. Wilson: — That could happen. And I say that with caution because generally speaking there are a lot of economies of scale with CO₂ capture, and so capturing from small-scale systems does have its problems, particularly in terms of getting very high costs. There are some areas. The CO₂ off the fermenters in ethanol systems is very pure, relatively small quantities but nevertheless high purity. So if it's near somewhere where it could be blended into another stream of CO₂, it could be quite viable.

Mr. D'Autremont: — Because we haven't yet come into a carbon market per se, cap and trade is certainly being talked about. Emissions for a biomass incinerator, would they be subject to cap and trade as well?

Mr. Wilson: — Almost certainly not because being renewable energy systems, they would be considered as carbon neutral or near carbon neutral and so probably would not be within the cap and trade. In fact they would probably be evened out in any inventory system.

Mr. D'Autremont: — So what's the difference then between CO₂ from a fossil fuel versus a biomass? Is it only the matter of how much time they were stored?

Mr. Wilson: — That could be one argument that's made, certainly. But the reality here is that if the CO₂ coming off a biomass plant is then recaptured by biomass that's growing, to continue to use that plant, then there's no net increase in carbon dioxide concentrations in the atmosphere. With fossil fuel

systems, what we're doing is we're taking carbon dioxide that was captured by plants, by algae, whatever, millions or hundreds of millions of years ago and rapidly releasing that into the atmosphere. And so that's where we're having the impact on CO₂ concentrations in the atmosphere, and that's why that's the area we need to focus on to reduce those emissions.

Mr. D'Autremont: — Well thank you, Dr. Wilson. A number of the presenters have suggested to us that carbon capture and sequestration is not economical and is not viable for the storage of carbon, particularly in the case of the Midale field where their argument is that the additional production of oil simply means that that oil is burned and you've released an equal amount of carbon anyways. So the arguments that we're hearing from some of the presenters is that we should not be proceeding with clean coal and carbon capture as it's not economical. What's your response to that?

Mr. Wilson: — I think we have no option but to move forward with carbon dioxide capture and storage. It's certainly not the cheapest process out there, but I'll also argue it's a long way from being the most expensive out there. And there are undoubtedly a large number even of energy efficiency systems that are more expensive. Certainly solar systems are considerably more expensive than capturing the CO₂.

When we look at CO₂ utilized for oil recovery, then we need to consider that in context. And yes, in a Weyburn or a Midale situation, we're producing considerably more oil from that reservoir, and that in turn will be used in vehicles to produce CO₂.

The numbers that we have, though, would suggest that if you compared Weyburn oil to oil from any other conventional source — whether that's Steelman field in Saskatchewan or Saudi Arabian crude — that the CO₂ emissions from the tailpipe of a car, if you could be convinced that you were using Weyburn oil, would be 70 per cent as high as the emissions from a car that produced conventional crude. And of course with oil sands and so on — and I see Alberta continuing to take substantial abuse on that — then we're looking at about 130 per cent. So basically Weyburn oil would be about half the CO₂ emissions from the tailpipe of tar-sand-type oil particularly produced with steam systems.

Mr. D'Autremont: — Okay. Thank you very much. Seeing as you were a Nobel prize winner, Nobel Peace Prize, along with Al Gore, I was surprised with your comments about nuclear, that and — if I've got this right — that you consider that Saskatchewan may need to look at nuclear at some point in time in the future. Is my interpretation of your words accurate? Do you feel that the use of nuclear to generate electrical power in Saskatchewan is appropriate for Saskatchewan?

Mr. Wilson: — That's my opinion. I'm a firm believer that we have such a big problem dealing with climate change that we need to use — and again, if you'll excuse the cliché — we need every weapon in the arsenal to be able to reduce those emissions. So I see nuclear energy as being one of the options that's available to us. At the end of the day, it will be a public decision that's made, but I don't believe we should be ignoring it at this point. We do need to be considering it in the longer term.

Mr. D'Autremont: — So you would see nuclear energy as being climate change friendly?

Mr. Wilson: — Yes.

Mr. D'Autremont: — Okay. Thank you.

The Chair: — Mr. Taylor.

Mr. Taylor: — Thank you very much, and I add my welcome, Dr. Wilson. It's always a pleasure to see and talk to you, and it certainly is today in this context.

Just a couple of things. I'm not quite sure how long it would take to work through my questions. But just thinking about short term, medium, and long term as you've referenced a couple of times in your remarks today, SaskPower has told us a couple of things. Number one, they feel confident in meeting the needs in the short term, i.e., till 2014. Secondly they tell us there are so many uncertainties around federal or global environmental regulatory issues that — including clean coal, carbon capture, and sequestration — sort of in their immediate planning is difficult to do. In other words, the uncertainties are stressing the planning process. So beyond 2014 these uncertainties have created some stress in the planning process.

With your work on carbon capture and sequestration and that sort of thing, do you think that the uncertainties about the future are impeding any of the funding of research or the immediacy of the need to get involved in the demonstration projects or any of those sorts of things?

Mr. Wilson: — Yes I do. I think as SaskPower or any other utility gets into its planning process, decisions made today have an impact 30, 40 years into the future. So having regulatory policy certainty is certainly one of the things that the utilities need to make their long-term decisions.

You know, having said that, I think to some extent, by moving out to more distributed systems and systems that are inherently non-emitting if you like, from a carbon dioxide perspective, does offer up some opportunities for potentially offsetting some of those uncertainties. It's certainly a long way from being the answer, but it could be part of the answer that's needed for regulatory uncertainty into the future.

Mr. Taylor: — Okay. Along those lines, I note that recently, a couple of weeks ago, we had an international workshop on carbon capture and sequestration here in the city of Regina. I understand about 150 scientists from around 18 countries were in attendance. Were you in attendance at that workshop, or are you aware of what transpired there?

Mr. Wilson: — Yes. I was one of the organizers and brought it to the city.

Mr. Taylor: — One of the media reports from that workshop indicates that the scientists in attendance were, perhaps the word isn't universal, but appeared to be universal in their response that, without significant government support, it will be difficult to fully develop carbon capture and storage technology. Do you therefore share that media interpretation of the results of that workshop?

Mr. Wilson: — To a point. I think that getting the early demonstrations up and running are going to require government assistance. It's like any other time we start introducing a new technology; the first time we demonstrate those technologies, the first 10 times we demonstrate those technologies, they're going to be more expensive. As we get more and more of these in place, so the costs are going to come down.

And as an example, the sulphur emissions reductions of a couple of decades ago, we saw the early costs being quite high, but very rapidly, as we go through the learning curve, those costs come down very substantially. That's going to happen with CO₂ capture.

So it's either a case of providing the financial support to allow these fairly expensive operations to be put on power plants or putting the regulations in place. But we need fairly broadly harmonized regulations so that we in Saskatchewan are not disadvantaged compared to, say, our neighbours immediately south of the border. So I think there's a degree of caution that's needed there, and that's why I say we need to be looking at the continent-wide activities. We need to be understanding what's happening internationally, but certainly government support in the early stages is going to be essential to allow us to move ahead quickly and to be able to effectively demonstrate just what the costs are going to be, what research still needs to be done to bring those costs down, and what the impacts are going to be on things like reliability and power supplies.

[10:45]

Mr. Taylor: — Okay. John Topper is also reported at that workshop. John Topper from the International Energy Agency is also quoted by the media as saying that it doesn't matter a great deal whether Canada continues to use fossil fuels on a global basis. China will. India will, and a number of other countries will use their coal and indigenous fuel resources. Therefore that's why leaders of the developed world, i.e., in North America, have a moral obligation to do as much work as we can to help reduce the CO₂ emissions from that work elsewhere. Would you agree with John Topper in that regard?

Mr. Wilson: — Very much so. I think we have the science base, the intellectual capacity if you like, to be able to demonstrate, to develop and demonstrate these technologies. Then the more widely they're applied, the more we're going to be able to reduce emissions. He's absolutely right that it only takes a couple of months before China's built the power and the CO₂ output capacity for Saskatchewan, and they're constantly doing that every few months. That's the equivalent of Saskatchewan in China alone. So yes there's a need to develop the technology. There's a need to help them implement that technology and to get it widely deployed.

Mr. Taylor: — And of course back to the first question I asked, there's a significant financial role for provincial and federal governments in funding the research and development of such technologies.

Mr. Wilson: — Very much so. It's certainly an area where we need to continue to put the effort in and that includes the financial resources.

Mr. Taylor: — Okay. Two other perhaps smaller issues, maybe not. You had mentioned geothermal. You had referenced your colleague or a colleague who represented here. That representation here was primarily deep geothermal which is recognized as being primarily in the southern part of the province. You talked about oil wells producing water at a temperature of — I forget what you said — 40 or 60 degrees. Not quite the same argument about deep geothermal at much higher temperatures. Is it your contention that therefore that we can utilize the heat potential of geothermal further north than the southern part of Saskatchewan for either heat or electrical production?

Mr. Wilson: — For heat production, not for electrical production. So we do need a higher quality of geothermal — whatever the number is, 80 degrees C [Celsius] or thereabouts — to produce electricity from these. As we get into the lower temperature systems, we're looking at heat recovery not electrical generation.

And I know Mr. Brunskill was primarily talking about it from electrical generation. But for example, the new transportation hub outside Regina, I know he's been doing a lot of work looking at geothermal heating for large industrial facilities such as that one.

Mr. Taylor: — Okay. And now for something completely different. We're talking about the long term. For 25, 30 years there's been a lot of talk about a hydrogen-based economy. What is your sense of where we are after 25 or 30 years of discussing hydrogen and the long-term implications, your thoughts for the province of Saskatchewan or North America?

Mr. Wilson: — I guess historically I've been fairly critical of the hydrogen industry and hydrogen in transportation, shall we say, primarily because 20 years ago we were 10 years away from the hydrogen economy. Twenty years later, we're still 10, 15, 20 years away. So we've seen a lot of delays in that. There's also an awful lot of work that needs to be done, money to be spent to change infrastructure and the like.

But in terms of hydrogen production, I think we'd be far further ahead to look at things like renewable energy for hydrogen production to upgrade heavy oil for example, so we decrease the carbon intensity of the system. So I think we have a lot of opportunities out there. There's certainly work going on to allow us to generate hydrogen at smaller scales and using less severe conditions, in other words, lower energy penalties for the production of hydrogen.

And this is what I say; I think we need to be looking further and trying to integrate the technologies that are out there and look at the best opportunities for them. That might not be directly in transportation. That may be in reducing the carbon intensity of the transportation fuels that we use. So same end point, but a different route for getting there.

So I think there is an opportunity. I'm just not sure we're necessarily looking in the right direction.

The Chair: — Thank you very much, Dr. Wilson. Mr. Allchurch.

Mr. Allchurch: — Thank you very much, Mr. Chair. Good morning, Mr. Wilson, and thank you for coming and also congratulations on your award.

Mr. Wilson: — Thank you.

Mr. Allchurch: — I think for you to take the time to come to this presentation, make it this morning, is very valuable to this committee. We're always talking about we need a list of experts to come and give us their views on our energy resources, and I consider you an expert.

My question follows in line of nuclear, a follow-up of what Mr. D'Autremont said. In regards to nuclear, as going forward in the years to come with nuclear, are we better off looking at a plant — a huge plant — to generate our energy sources, or are we better off looking at three or four smaller plants spaced out over the province simply because of the cost of transmission lines to access that power out?

Mr. Wilson: — I think there's an awful lot to be said for going to the smaller systems and placing them where we have the demand, as opposed to necessarily building the wire network to move that power out. That's just a personal opinion. I see technologies going both ways — the large scale and improving the overall efficiency on the large scale. The small scale system seem to be gaining some ground as well. And certainly some of the small ones are quite passive systems so should be fairly safe.

But the more I think we can distribute our electrical generation, the less we're going to lose in things like line losses. And the less wire we're going to need just overall, the stronger our grid's going to be.

Mr. Allchurch: — Okay. Well thank you for that. Well as you know there is a small nuclear plant in the University of Saskatchewan as we speak today, and it probably needs some upgrading. But just to have that one there for, I think, it's some 30 years now and working extremely well, I think the thought of nuclear in the province is kind of a myth because when we have one right in one of our major cities doing fine. And that's what draws me to the question about having smaller nuclear plants around the province versus a big huge one.

My second question is on the comments regarding wind and solar, and correct me if I'm wrong. You said there is or could be some issues with the solar and the wind generation of electricity to our province. What were you pertaining to as far as issues with that?

Mr. Wilson: — The primary issue is intermittency of both forms of energy and the fact that we really don't have any effective means of storing electricity other than perhaps pumping water uphill and back into a dam. But when we have intermittent supplies, that means we have to have some backup system in place. If that's hydro, that's great because that's non-emitting as well. But more often than not, it's fossil energy systems that are providing the backup. So I think we have to be very careful to maintain the stability of the grid, the reliability of the electrical supply that we're getting, and going a long way with intermittent supplies can create some problems there. And as I say, we have to recognize that even with wind blowing 40

per cent of the time, which is a good wind regime, that still means we have to have something there for the other 60 per cent.

Mr. Allchurch: — Well thank you. And my third and final question is along the line like you said about hydro. We have a lot of rivers in Saskatchewan, and we've been accused of not being able to harness the rivers or the resources that we have from those rivers. In your comments regarding hydro, what do you see as the future for hydro in the province?

Mr. Wilson: — I'll be honest. I've not spent an awful lot of time looking at hydro. I know there are issues with heritage rivers and potential use of heritage rivers. Certainly when we have to create impoundments, then there's a lot of area flooded, and so there are issues around that.

My major concern is looking into the future — and as we build dams, we're building something that's going to be there for 70, 80, 100 years — is do we have enough confidence in the supply of water as we move into a period of climate change, and is that going to create issues? Are we going to have expectations on those dams, or are we going to face a — I forget what it was — a 2001 or so season when Diefenbaker was down quite a few metres and then we had some quite restricted water supplies? I think also we need to bear in mind what's happening upstream and, particularly of course in the South and North Saskatchewan river system, how much gets taken out by Alberta for irrigation needs now and into the future.

Mr. Allchurch: — Thank you.

The Chair: — Mr. Belanger.

Mr. Belanger: — Quick question, two questions wrapped in one. One, because of your work there's many people that still say there is no such thing as global warming. What do you have to say to those people that deny that fact? And secondly, the whole notion of carbon capture and storage, how much do we get in terms of the carbon being stored before the soil is so saturated with carbon that it becomes a problem?

Mr. Wilson: — On the first part of the question, most of the indicators globally of change — and that's 90 per cent-plus of the indicators that are being monitored by scientists around the world — indicate that we are indeed going through a period of climate change. We are going through a period of warming, whether that's ice melt or whether that's micro-organism changes in Arctic lakes. I would also make the point that one of the issues we are not dealing with at the moment is the whole issue of acidification of the oceans. And if that indeed progresses as predicted, I don't think it matters whether climate change is an issue or not. We have to deal with acidification.

So in terms of carbon capture and — let's use the broad term — of sequestration, we are going to reach a point in soils, in forests, and so on where we have the soil carbon back up to pre-industrial levels, pre-settlement levels, and there's not going to be much room for any additional carbon going in. It's going to be in balance again. In terms of putting carbon deep into the subsurface, then, I don't believe that we have a problem, particularly in Western Canada, for meeting our needs with carbon dioxide capture and storage. Globally, I don't think we

have a problem. We can capture and store the CO₂ that the International Energy Agency calls for.

[11:00]

Having said that, I'm also going to say that it's not necessary that the storage capacity is in the same place that the CO₂'s produced. And so there are going to be issues with transportation in many parts of the world. And it's a lot more expensive to go offshore than it is to go onshore. So there are going to be a number of issues. Do we have the space? Yes. But that doesn't necessarily mean that it's an easy space to get at.

The Chair: — Well thank you very much for your presentation and taking the time to answer our questions this morning. It's been very valuable to the committee, so thank you.

Mr. Wilson: — Thank you.

The Chair: — The committee will now recess until 12 o'clock.

[The committee recessed for a period of time.]

The Chair: — Welcome back. Before we hear from our next witness, I would like to advise witnesses of the process of presentations. I'll be asking all witnesses to introduce themselves and please state your name and, if applicable, your position within the organization you represent.

If you have a written submission, please advise that you would like it to be tabled. If you have an electronic copy, please make that available. And once this occurs, it will be available on the committee's website.

The committee has asked all submissions to be in answer to the following question: how should the government best meet the growing energy needs of the province in a manner that is safe, reliable, and environmentally sustainable, while meeting any current and expected federal environmental standards and regulations and maintaining a focus on affordability for Saskatchewan residents today and into the future?

Each presentation should be limited to 15 minutes. Once your presentation is complete, the committee members may have questions for you. I will direct questions and recognize each member that is to speak. Members are not permitted to engage witnesses in any debate, and witnesses are not permitted to ask questions of committee members.

I would also like to remind witnesses that any written presentations to the committee will become public documents and will be posted to the committee's website for public viewing. And with that, I would ask our presenter to please go ahead with this presentation.

Presenter: Kairos Regina

Mr. Beveridge: — Thank you. My name is Dan Beveridge. I'm a retired professor of education and also a retired adult educator. And I'm a member of the Kairos Regina group. And I'm happy to make this presentation on behalf of the Kairos Regina group.

First of all, thank you for the opportunity to present the views of Kairos Regina on this very important question that your committee has been established to address. Kairos is an ecumenical social justice coalition of 11 Canadian churches and church agencies. It currently has a campaign of education and action called Re-energize, to reduce our dependency on fossil fuels and to advocate for a just and sustainable energy policy. This is particularly in response to the global climate change crisis. Kairos Regina is a local group which includes representatives from various Regina church congregations.

In this brief our group is focusing mainly on electrical energy rather than the other main sources of greenhouse gases from other uses of energy, namely heating with natural gas, transportation, and agriculture, but not because they're not important — partly because of the lack of time to really prepare a good presentation.

Although our group has found the timeline of the inquiry rather short to give this important matter the attention it deserves, we commend the government for providing this opportunity for the public to engage in discussion of Saskatchewan's energy future. We trust that there shall be continuing opportunities for these explorations, for hearing from experts, for learning, for informed discussion, and for influencing the decisions which we, our children, and our grandchildren shall have to live with.

Our position may be summarized briefly, although perhaps oversimplified as, quote, red light to nuclear power, yellow light to carbon — meaning coal, oil, and natural gas — and green light to an integrated combination of energy conservation, energy efficiency, and renewable energy.

So in this presentation, we will first review the background relating to climate change. Secondly, we propose some policies and practices for meeting our energy needs. And thirdly, we discuss some possible implications for education and training.

So regarding climate change, greenhouse gases, and the urgency. Kairos Regina holds the view that climate change is an urgent problem, already a global crisis. It already is having a negative impact on many human communities and natural ecosystems ranging from submerging Pacific island nations — for example, Tuvalu in the Pacific and Maldives in the Indian Ocean; worsening droughts in sub-Saharan Africa; and more frequent and intense hurricanes and floods to declining population of polar bears in Canada's Hudson Bay. It urgently requires a serious response, particularly from the industrialized nations including Canada, which have contributed most to the current level of greenhouse gases and benefited most from the fossil-fuel-related economic development of the industrial revolution.

It is a social justice problem in that the negative impacts or burdens of climate change are being borne disproportionately more by those who have benefited least. As Kofi Annan, a former United Nations secretary-general, has said, "Those developed economies most responsible for past and present emissions must take the lead."

It is also an intergenerational justice problem in that the physical and financial burdens shall be borne disproportionately more by future generations of people yet unborn. We would

emphasize the need for urgent action to combat climate change with measures which would reduce greenhouse gas emissions quickly. Delayed action now almost certainly shall lead to greatly increased expenditures and hardship later.

In preparation for the upcoming United Nations climate conference in Copenhagen, Denmark in December of this year, Kairos Canada is participating in the Kyotoplus climate action campaign which calls on Canadian politicians to support three central goals. The first of these goals is to "Set a national target to cut greenhouse gas emissions at least 25 per cent from 1990 levels by [the year] 2020."

Also quoting, "Canada is now actually 26 per cent above 1990 levels and 33.8 per cent above its Kyoto target with no viable plan to meet its Kyoto commitment."

As Jim Harding from the Kairos Fort Qu'Appelle group points out in his recent brief to this standing committee:

We are already on track towards a 1.7 degrees C global mean temperature rise, and climate scientists say a 2 degrees rise is the critical threshold for irreversible, catastrophic climate changes . . .

Although 2 degrees doesn't sound like much, I would remind you that the temperature right here about 10,000 years ago, during the ice age when there was ice 2 kilometres deep, was only 5 degrees colder than our present climate right now.

Options for a sustainable energy future, first looking at nuclear energy. But nuclear energy is not the best solution to the problem, we maintain. Kairos Regina does not believe that nuclear power should be included as part of the province's long-range energy mix for the following reasons.

First, as a solution to the problem of mitigating climate change by reducing greenhouse gas emissions, nuclear power plants would be very late coming into operation. It would be well over 10 years before nuclear power plants would allow the shutting down of the current coal-fired power plants which provide over 45 per cent of our electricity. Actually, I think it's 60 per cent of our generating capacity is fossil fuel based — coal and natural gas, and mostly coal.

Saskatchewan now has total greenhouse gas emissions of 72 tonnes per capita, highest in Canada, compared to 20 tonnes for Canada and 4 tonnes worldwide per person. Also, nuclear power would be of doubtful net impact if used to export to Alberta for tar sands oil production. In the 2020 scenario provided in the Uranium Development Partnership report, 60 per cent of the proposed nuclear power capacity would be for export, not for meeting Saskatchewan's power needs, and coal would still provide 60 per cent of the power that it does now.

Second, the economics of nuclear power are not attractive, with a large risk of costs going over budget and having to be covered by present and future taxpayers.

Third, nuclear power leaves a dangerous and long-lived radioactive waste fuel legacy.

Fourth, to meet the electrical power needs of Saskatchewan

people and industry, there are much better options available. Very likely these would be impossible to implement if nuclear power absorbed the financial resources of the province. I have one or two examples of that in the UK [United Kingdom]. With a population of only 1 million, a commitment to one or two nuclear power plants would impose much greater financial risks than those faced in Ontario with its greater population.

Carbon-based power. Carbon capture and sequestration has been proposed with clean coal as a major means of reducing Saskatchewan's carbon dioxide emissions from coal-burning power plants. Although Kairos Regina does not object to this technology being developed beyond the research stage and used — and it would appear that it indeed could have great potential worldwide in the long run — we have concerns about Saskatchewan footing the major part of the bill to develop this very expensive technology. To date the federal government has not committed to a major portion of the research and development costs. Secondly, it very likely would not be ready to have a significant impact on emission levels in the near future.

We certainly do see the need for continued use of natural gas for energy-efficient combined cycle gas turbines as an essential part of an integrated energy system.

Energy conservation, energy efficiency, and renewable energy. We are told by SaskPower that Saskatchewan needs about 1500 megawatts of new capacity in electrical generation by 2020 due to growth in electrical demand and to planned decommissioning of coal-fired generators.

Kairos Regina agrees with the proposal put forward by Jim Harding of the Fort Qu'Appelle Kairos group in their brief of October 7 to this standing committee, for an integrated combination of renewable energy, energy efficiency, and energy conservation measures. Although these do require significant upfront investment, they have almost immediate impact in mitigating climate change by reducing greenhouse gas emissions.

More precisely we suggest the following, and some of these figures are borrowed from the presentation of Peter Prebble who presented the Saskatchewan Environmental Society brief to the Uranium Development Partnership.

First, a variety of energy efficiency and energy conservation measures or demand-side management to reduce baseload by 500 megawatts. A major increase in wind power production to produce an additional 1000 megawatts through a highly decentralized network of wind turbines widely distributed geographically and backed up by purchase of hydro power from Manitoba Hydro. A strong intertie connection between the two provincial grids, Manitoba and Saskatchewan. I believe that Manitoba does sell surplus power to the United States, not to Saskatchewan, and although there is some intertie connection at the moment, I believe that net import from Manitoba to be zero. There could be other stronger east-west interties across Western Canada that might merit consideration.

[12:15]

Continuing upgrading the efficiency of the power and

transmission and distribution grid itself through smart grid measures using computers, including smart meters, small-scale, low-impact, or run-of-the-river hydro in northern Saskatchewan to develop in partnership with First Nations communities to produce at least 150 megawatts. At least 100 megawatts of wood-based biomass energy in forest fringe communities, and new cogeneration, that is producing heat and electricity while burning a single fuel, at industrial facilities of several hundred megawatts. And I'd also recommend SaskPower should go beyond the current net metering policy to implementing feed-in tariffs is sort of a next step along this process.

A couple of other points I would add verbally. Building code standards, the sort of thing that Peter Prebble has put forward in his brief from the Saskatchewan Environmental Society. And I would mention solar. I don't have any recommendations on it. I would think it probably has some potential.

I was lucky enough to go Yellowknife and look at the Greenstone federal government building up there which has one whole wall, solid photovoltaic cells which reduces the electric demand of that building in the Northwest Territories by 19 per cent and also cuts the heating bill quite a lot. Don't know much what the cost would be.

Let's continue. Making a transition to a sustainable energy society. First, jobs and economic activity. Economic justice is another consideration in meeting the energy needs of the province, particularly related to employment. Shutting down coal-burning power plants would end a number of jobs. It's important to aid such workers in making a transition to new employment.

One reason cited by the UDP [Uranium Development Partnership] report for a new nuclear power plant is the claimed positive impact on the economy, including jobs related to its construction and operation. Kairos Regina maintains that the number of jobs and economic activity associated with renewable energy development and the other measures listed above would be three to five times greater than for the same dollar investment in nuclear power. And the Rocky Mountain Institute in Colorado has material on that point.

The jobs and economic activity also would be distributed more evenly across the province so that many more communities would benefit. These jobs would include many trades and professions: welders, plumbers, sheet metal workers, electricians, engineers, or even lawyers, and others.

A few notes about education and training. Responding positively to the challenge of climate change which this committee's energy inquiry is focusing on involves leading the province in moving towards a sustainable society particularly if it involves short-term pain for long-term gain. This requires public support and understanding. And I'm sure we're all aware of the electoral implications of things that have short-term pain.

Approaches to facilitating change in public behaviour may be grouped into three broad categories, all of which this committee may wish to consider in terms of provincial government policy. First, laws, regulations, command, and control measures — and as an example here would be building codes. Right now, we don't have too much in that area, so Peter Prebble did mention

some of those.

Secondly, the whole area of prices, taxes, markets, and other financial incentives — these could be applied to energy conservation equipment, upgrades, furnaces, and so forth. It also needs to be focused on utility rates. For those who aren't in a position to pay higher rates, what should the answer be there? And I'm not going to make any recommendations on that.

Thirdly, information, education, training, and social marketing — so I'd like to focus here for a few minutes on education. In his recent report on the public consultations following release of the Uranium Development Partnership, Dan Perrins called on universities to take a leading role in organizing educational forums on energy options. I'd encourage this standing committee to give careful consideration to his findings and recommendations, particularly number 1 on power generation and number 8 on the need for more and better information.

Rather than propose specific educational programs, what I'd like to do is review a few ideas that I've had experience with from the 1970s and 1980s. Since what was called the Arab oil boycott of 1973, the world became particularly aware of the need to conserve energy. In the 1970s, since one of my areas of work in the University of Regina extension was environmental and energy education, I organized a variety of non-credit educational programs. Although most programs were in Regina, they reached many hundreds of participants. I often used advisory committees and co-sponsors, speakers, and funders.

Here are a few examples of programs relating to energy use. Energy: Saskatchewan Perspectives was a Wednesday evening series of free public information meetings. We talked about oil, coal, nuclear, fuel cell, solar, wind energy, biomass, and so forth. The Churchill River Basin: Which Way Development? was a series of three Wednesday evening information sessions which featured experts from government, Crowns, and university, as well as presentations from the public. We even had a carload of people coming in from Sandy Bay.

Energy conservation and agriculture was another seminar. National Rail Passenger Conference, another two-day conference for all of Canada. Energy efficient housing was a Saturday workshop offered several times. It featured speakers from the National Research Council in Saskatoon and others who were at the forefront of developing energy efficient house construction technology, particularly three measures: airtightness, insulation, and shuttered south-facing windows which together could reduce energy use in prairie homes by 90 per cent compared to pre-1975 levels.

These workshops attracted contractors and homeowners from all around southern Saskatchewan interested both in building new homes and retrofitting older homes. And I believe that while some of the least of these techniques sort of rippled and spread through the building trades in less than two decades . . . Mind you, they still haven't maybe completely permeated, but still it's amazing how those things can change.

Solar energy use in home energy conservation, another class. Building your own solar water heater was a Saturday hands-on workshop. And then another of my colleagues in the university extension organized programs for engineers and other

professionals. One was a solar energy seminar. Another was a wind energy seminar.

Well in the 1980s interest on these did drop off, possibly due to lower oil prices, a different economic climate, and changes in federal and provincial governments.

I just want to show what did work at that time. There also were energy conservation information centres and energy demonstration projects that were other methods to raise public awareness. In terms of training, I think Peter Prebble probably mentioned too the Red River Community College in Winnipeg has programs for electricians which do feature solar technology.

For effective education for sustainability and sustainable development to occur, all sectors need to be involved — formal, informal, and non-formal. And I do mention in my notes Campbell Collegiate took the lead — the students, that is — in their environmental club took the lead in fundraising for solar panels for heating their hot water. Now all their hot water in that collegiate is provided by that system. It's in place and it's working, and the cost savings are being passed on to use for school programs. Now that could be used — I talked to the principal — and it could be used for energy demonstration projects.

Okay. I'll just skip on to the next section, miscellaneous questions. When I was in the Congo, I noticed that they had a demand system on their meters which meant that if everybody plugged their appliances in at once, it would kick up to a higher level of cost per kilowatt hour, and I quickly learned not to do that. And I often wondered if those people in a primitive country of Congo did that in 1972, why don't we maybe do something like that here in Saskatchewan?

Energy conservation experts, is it true that Manitoba Hydro has 20 or 30 energy conservation experts on staff? And we only have a few. What about methane capture? Isn't there more potential for that? If the farmers in Asia can do it, why can't we? Civil servant intercity travel, I think I mentioned about how could the civil service support a better bus or rail-liner system between here and Saskatoon.

And just one final question, the mandates of SaskEnergy and SaskPower. Most corporations reward CEOs [chief executive officer] for increasing sales. How do you build motivation into those two Crowns where they get motivation for decreasing sales? I think that's a bit of a challenge, but I think you can probably come up with some other way where they get rewarded not just for selling natural gas or electric kilowatt hours but maybe a broader, a broader notion of energy alternatives. I'll leave that with you to mull over. But I'm sure that if you were a CEO, you'd have a bit of a problem there in how to reward performance to decrease . . .

Okay. Just to sum up a few recommendations before our moderator puts his foot down. Okay. We would recommend then that in your January portion you bring in a few more expert witnesses, such as Amory Lovins from the Colorado-based Rocky Mountain Institute, who was brought in during the Cluff Lake or the Bayda inquiry in the 1970s. There could be other people from Vermont and other places who have experience with the demand-side management.

That the standing committee become knowledgeable on how selected other countries are attempting to make the transition to sustainable societies, and I don't mean just the technical and engineering side. I mean also the social and political side. How do you get the public support in making something like this happen? In Canada we had a problem with federal financial deficits. Well the public somehow supported the move to overcome those deficits.

That budget be made available to the university and NGOs [non-governmental organization] to conduct educational programs on energy options. And of course number four. That the government and Crown agencies invest in an integrated system of energy conservation, energy efficiency, and wind power based on the recommendations in this brief and those of Jim Harding. I'll just leave the rest, I think, for you, and thank you very much for your time. And if there is time for questions now or after the session, I'd be happy to look after them.

The Chair: — Well thank you very much for your presentation. I think that some of the members have indicated they do have questions, so we will start off with Mr. D'Autremont.

Mr. D'Autremont: — Thank you very much. I'd like to welcome you today to our committee hearings and thank you for your initial kind words that we're having these hearings. We've asked the question previously as to whether or not people have had the opportunity to make a presentation to a government body, and the indication is that it's been almost 20 years since someone had that opportunity. So we're pleased to be able to do that.

Your first recommendation is that we call on expert witnesses. We had one this morning, Dr. Malcolm Wilson who was a Nobel Peace Prize winner in 2007, and your comment was that your organization has a red light on nuclear. I asked him the question this morning if nuclear power would be climate change friendly, and he gave a very emphatic yes, that it would be. So is your opposition to nuclear based on the time frame to develop and put it into generation, or is there some other reason?

[12:30]

Mr. Beveridge: — A combination of several reasons. Certainly the time is a major factor because 10 or 15 years to get it actually into effect is a major one.

I think my second or our second concern is the opportunity cost, the probability that we in one way or another — Saskatchewan citizens — would be paying for this in the tune of how many billions of dollars and that that money would not be available for this other range of renewable energy alternatives. That's my major concern. I know that for decades the opposition has been on environmental and health reasons, but in my case or our case I think the cost, the economic cost for this current and future generations is a very major factor. And just as an example, in the UK [United Kingdom] where they have not AREVA but another French utility providing energy, that utility said, you'll have to cut back on the renewable energy initiatives that you're using in the UK because it interferes with how we can go ahead with the nuclear option in the UK.

So this is not just a vague thought. The concern is that we can't

just talk about an energy mix including nuclear, which sounds good on the surface, because if we have nuclear as part of the mix, there's simply not enough dollars left in the Saskatchewan population to support all the other good things that have to be done eventually.

SaskPower in its write-up agree that these other things are important. I just say, we can't have both and it's one or the other.

Mr. D'Autremont: — Thank you very much. Your concerns with nuclear is the time frame, and you state in your presentation here that over 10 years before nuclear power plants would be available before we could shut down the coal-fired plants. What time frame do you see that we need to shut down the coal-fired plants in if it's less than 10 years?

Mr. Beveridge: — A number of those measures that I mention can be implemented fairly rapidly. I think probably a matter of a few years, like let's say three, four years, something like that. And I really am not an expert on that, but I would think the time frame would be considerably shorter than the nuclear option. Some of them could be in effect very quickly. And I suppose we would have to depend on coal burning for still quite some time, but eventually we'd have to be phasing out the coal burning.

Mr. D'Autremont: — I was concerned about that, if you were advising us that we should be shutting down the coal-fired plants totally which represents 80 per cent or so of our generation in the next three or four years. We would have to take the Green Party's advice then, and their policy is either to stagnate or perhaps even reduce the population and reduce our economy to meet those demands.

Mr. Beveridge: — It's a conflict in my mind, the speed question. I did want to emphasize the urgency of the problem. Kairos has many international ties. The World Council of Churches for example we're connected with. All of our member churches are parts of that. And there are many members of the World Council of Churches who are already seeing their islands flooded, and they're speaking in church meetings about this, and like it's very . . . I know that it's not part of your mandate in a direct sense. Climate change and the impact on other countries around the world is not considered to be part of your concern, but for Kairos that's part of the situation.

Mr. D'Autremont: — Okay, thank you. You also indicate in your presentation a need for upgrading the efficiency of the power transmission system, including smart grids. I've been asking this of a number of the presenters. Who pays for that? Should that be spread across the board for all power users or should that be particularly directed towards any new generation?

Mr. Beveridge: — Towards any . . .

Mr. D'Autremont: — New generation.

Mr. Beveridge: — I guess I'm not in a position to really pass judgment on that. I would think that many of these things should be spread over all consumers, but that does bring up the question of if the — this isn't exactly the question you posed —

but if the main reason or one of the two main reasons why we have to be concerned about the energy question is 35 new consumers who are large industries, it does raise the question of whether the cost of the whole upgrade should be spread evenly over the total base of SaskPower utility users, or whether those particular industries might have to maybe bear a larger share.

But no, I'm sorry, I'll have to pass on that particular question of who should pay for smart meters. I would think that the consumers would do that in one way or another.

Mr. D'Autremont: — Okay, thank you. You're also suggesting that we move beyond the current net metering policy to implementing feed-in tariffs, so does that mean you're advocating for further private generation to be allowed into the SaskPower grid?

Mr. Beveridge: — Yes, I think so. I think we need to go beyond the idea that our electrical energy should all come from a small number of highly centralized generating plants. I know that's been the model in the past, and we have big corporations to handle it, big unions with very good jobs and so on, but I think we have to look at a decentralized model now. And that does mean still a good degree of control and regulation, but not necessarily the same as in the past.

Mr. D'Autremont: — Okay. Thank you. You did ask the question in passing — I don't think it's in your presentation — about bureaucrats travelling intercity. There is a solution that's almost carbon free. It's called video conferencing, and we need to certainly be doing more of that.

I had to chuckle at this comment in here though, in here about the 2 degrees doesn't sound like much, but 10,000 years ago we were 2 kilometres deep in ice and it's 5 degrees cooler. At that point in time, climate change was a good thing.

The Chair: — Mr. Taylor.

Mr. Taylor: — Thank you very much. And welcome, Dr. Beveridge, it's a pleasure to see you. Three subject areas may be dealt with in three questions or a couple of others, but the first one just comes . . . I want to be a little bit more specific on Mr. D'Autremont's question about transmission lines and who should pay.

I have been paying fairly close attention to the proceedings of this committee and I have heard Mr. D'Autremont ask this question of a number of presenters. To be completely fair, I spent a little bit of time this weekend reviewing some materials that have been available to us for some time, one of which is the Bruce Power feasibility study. And I think this may be one of the background documents that Mr. D'Autremont has been thinking about when he asks his question. So in the context of this, I want to re-pose Mr. D'Autremont's question to you.

Bruce Power's feasibility study indicates that nuclear power is feasible in Saskatchewan. At least this company can build a plant and produce power subject to, number one, reaching an agreement with SaskPower to buy that power and, number two, somebody else providing the transmission. In other words, Bruce Power has no interest in connecting their plant to the grid.

Given that Bruce Power's proposal says they would provide 1000 megawatts to Saskatchewan and 1000 megawatts for export, would it be your conclusion that the people of Saskatchewan, in that circumstance, should be paying for the grid to connect this generating plant to Saskatchewan users and whatever user is found in the export market?

Mr. Beveridge: — I guess, frankly, our position on that would be no. I don't see us being able to support that idea. That's sort of one more of the costs that would have to be built into that whole nuclear power plant proposal, the need for major upgrades to the transmission grid and the connections with Alberta. I think that with the present grid without much upgrading, there's quite a lot of potential for decentralized sources of power. But of course, if you located a whole lot of wind turbines all in one place, I would think that would mean a major upgrade or system.

I should just mention — and this is maybe on the side — when Dr. Florizone was on the radio talking about his UDP report, I or somebody else did ask him about the possibility of ties with Manitoba. And he said, we did not consider that. And I guess, I must admit I was pretty surprised, if not shocked, to hear that. I did assume that they would do quite a lot of homework in their inquiry. So it sounds as though they focused pretty well on the Alberta side rather than on the Manitoba side.

So anyway, I think that's probably what I . . . The question of paying for transmission grids, yes.

However, you know, as time went by, I guess it would have to be up . . . If we had a distribution system that was widely distributed with wind power, I'm not sure what the implications of that would be. I would think that we'd have to have more lines than we do now. Just what the implications would be there, I'm not quite sure.

Now there is the other idea of east-west transmission in Canada rather than north-south, even hooking Ontario into Manitoba. I really don't know where that discussion is. I would have expected that the federal government would have been taking some leadership in exploring some kind of national energy policy.

Here we are exporting electricity to the States. We export oil, natural gas to the States, meanwhile the people in the Maritimes are buying fuel from Africa, etc. — oil. I know this is not in my point here, in our recommendations, but a national policy of energy does sort of come to the surface. Isn't that something that maybe we should be looking at? Sorry, that's sort of a side thought.

Mr. Taylor: — Thank you very much, Dr. Beveridge, and feel free to expand your presentation as you think of these things because this is the only chance we get to talk to you or we think it's the only chance we get, so feel free.

Secondly, my second point was, I noted your comments in the presentation in which you regret the flow of Canadians with expertise in wind power, solar power to other countries where governments have policy more favourable to renewable energy development. And in support of that comment, you call for the creation of a centre of excellence with regards to research,

development, training aimed at developing renewable energy industry, energy-efficient technologies, energy conservation technologies, as well as policy for sustainable development. Given your history at the university or in the academic world, what do you think the cost of a centre of excellence might be, and how easy or difficult or challenging is it for the University of Regina, say, to work to develop that centre of excellence in conjunction with a supportive provincial government?

Mr. Beveridge: — I think the quick answer is, I have no idea about that. That recommendation came . . . There's really two sources. One is, I lifted it out of the UDP report which recommended a centre of excellence be set up at the U of S for nuclear development, training, technology, and so forth. And they said that the finances, they weren't very specific about where the finances should come from for that, but I guess I'm assuming that whatever finances were available for a nuclear centre of excellence, probably we could find something similar in this other area.

Now in terms of a specific university, I really don't have any helpful suggestions on that. And maybe it reflects my own impatience at the university where I did work for 30 or more years, and I did see some very qualified colleagues in the Faculty of Engineering leave. They were organizing worldwide conferences on solar energy and getting recognition all over the world, and yet to do something right here didn't happen. So you know, we could have energy demonstration projects like wind turbines and so forth on the campus, but they're not there yet.

[12:45]

I know there were efforts some time ago for a geothermal, and there is that structure over by the bypass which has a history there. I'm not sure how much more can be done with that. I think there's probably some potential there that is unfinished.

Certainly there's lots of interest in energy on the campus, so I would hope that there are people there who would pick up the ball. I just couldn't tell you at the moment.

Now I have served on a committee with Dr. Malcolm Wilson, and I know he's well placed in this area at the university as well. I know he's quite occupied with the carbon capture and sequestration projects at the moment, which are certainly very commendable, but there may be other areas of expertise that we could encourage.

Mr. Taylor: — And my third and last point has to do with the comment about a rail liner. I just want to ask you to expand your thoughts on that a little bit because I personally am most intrigued by the idea of a passenger rail system. I have been for quite some time.

The easiest system to put in place would simply be a connector between Saskatoon and Regina. There's arguments that some people have made for other systems throughout the province, but it just strikes me that there are a multitude of reasons to support the establishment of passenger rail in Saskatchewan. You've given the one comment about employees travelling, government employees travelling between the two cities, but there are lots of seniors who have to travel for medical appointments. There are young people who travel to go to

school. There are families who like to stay connected and visit, and they're not always all supportive of just getting in the car and burning all of that fuel, watching all of those emissions escape. Can you explain at all on your feelings about a passenger rail for Saskatchewan and what that means in terms of greenhouse gas emissions?

Mr. Beveridge: — Oh I'd be happy to but our moderator may have to cut in on this one. I do have some property at Craik and often visit there, and I must say the last time I came back from Craik to Regina and I saw that locomotive somewhere around Chamberlain pulling those boxcars, boy I really got excited. After seeing the weeds growing on that line for years now, to actually see a sign of life on that was just so terrific, so I really do commend the . . . I know that the Department of Highways and Infrastructure had something to do with getting that short line railroad established; the Last Mountain railroad, I think it's called. And the Mobil Grain company is the one with its name on the boxcars, so that's got a lot of potential.

Okay now the passenger part of it. Sure there's people all up and down the line, the corridor between Saskatoon and Regina, who commute. And it's a little bit, when you get out as far as where we are, it's a little bit far to commute, but I would think that a bus probably would be the way to start. Some of us remember the buses that I think you used to get breakfast on them. They ran for a few years. I forget which regime was in power at the time, but I think you started at 7 o'clock in the morning and you got to Saskatoon two and a half hours later. I think that was a pretty good system. I think that could be resurrected as long as it . . . And it could be civil servants who would be carrying most of the freight. But if there was enough demand, it could support others like you say — seniors or even commuters — going back and forth at least twice a day.

But I was talking to some of my colleagues in Sask Education and they were quite interested in the idea. They have meetings in Saskatoon all the time. They could either prepare for their meetings in the bus or in the rail liner. They could use the computer. They could have meetings for people, for example, or they could sleep. Particularly they might, rather than driving their own vehicle or a CVA [central vehicle agency] vehicle. I could see a bus being very easy to start at the first. Now the rail liner, obviously I would like to see that too, but I just think that probably realistically it would take a little longer to get that really into place and to have a sort of a comparable speed or time to get to Saskatoon.

But I was thinking that at least in your government if you had an office that kept track of how many people are needing that transportation, that would be a start. And my impression is that there's no office that actually keeps track of this at the moment. Now to get to other places like North Battleford, Swift Current, etc., I don't know what the potential is there but I think there could be some.

But I think ideally you should have a collecting point at each end, and either the civil servant could jump in a car or a small vehicle, maybe a credit card swipe or something. There could be some simple system so that he or she wouldn't lose time getting to that government building where the meeting was. But just to get from that point to the . . . not the VIA Rail station way out on the west side of town — that wouldn't be very

attractive — but some other collecting point, and some large parking lot in Regina for example. So I'm glad to hear that you're interested in that, and I would think that maybe bus first and then rail liner would be the way to go.

Mr. Taylor: — Thank you.

The Chair: — Well thank you very much for your presentation today and answering the questions here for the members. With that, the committee will recess until the top of the hour.

[The committee recessed for a period of time.]

The Chair: — I'd like to welcome everyone back. Before we hear from our next witness, I'd like to advise the witness of the process for presentations. I'm asking all witnesses to introduce themselves and anyone else that may be presenting with them. Please state your name and, if applicable, the position you hold within the organization you represent.

If you have a written submission, please advise us that you would like to table it. Once this occurs, if you make electronic copies available, electronic copies will be available on the committee's website. Committee members are asking all presentations to be in answer to the following question: how should the government best meet the growing energy needs of the province, in a manner that is safe, reliable, and environmentally-sustainable while meeting any current and expected federal environmental standards and regulations and maintaining a focus on affordability for Saskatchewan residents today and into the future?

Each presentation should be limited to 15 minutes. Once your presentation is complete, the committee members may have questions for you. I will direct the questioning and recognize each member that is to speak. Members are not permitted to engage witnesses in debate, and witnesses are not permitted to ask questions of committee members.

I would again like to remind witnesses that any written submissions presented to the committee will become public documents and will be posted to the committee's website.

Before I turn it over to our next presenters, I would just like to state for the record we have many written submissions that I will now table, and those will also be up on the website shortly. So with that, I would ask our presenters to please go ahead with their presentation.

Presenter: Saskatchewan Chamber of Commerce

Mr. McLellan: — Thank you, Mr. Chair, ladies and gentlemen, a pleasure to be here today. My name is Steve McLellan. I'm the CEO of the Saskatchewan Chamber of Commerce. With me is Curtis Hemming our research coordinator. And we look forward to the discussion and again thank you for allowing us to present to you this afternoon.

In 2007 the Saskatchewan Chamber of Commerce created a growth strategy. It was in September of that month that we decided that a longer-term vision for the future of this province was required. With all due respect to municipal or federal or provincial governments, they had a tendency to think in shorter

term periods. We said let's think longer term. Businesses think long term. We all have short-term action plans, but indeed in the long term is how we try and strategize our enhancements to business, our staffing changes, and of course our capital investment. We said let's take that same premise and put it to the province.

We created a vision for Saskatchewan out to the year 2030. It included a variety of things including 20 targets. The lead on those targets was the population. We believe that the population of this province will grow and indeed needs to grow to 1.5 million people.

When we launched this effort a couple of years ago, people said to us, you're crazy. It's never going to happen. People have always predicted that the population in this province will continue to grow or remain at essentially the million point. Well we said at that point in time, we're (a) prepared to be wrong, but (b) we're unprepared to be unprepared. We will not move into the next era of prosperity in this province or the next era of challenges in this province unprepared to deal with the opportunities or the challenges. So we said even if we're wrong, give us grief for at least trying.

Well I'm pleased to say, as we sit here today in the middle of October, that in early December of this year our province, and through the Government of Saskatchewan and the people of Saskatchewan, will be recognizing that our province has a population higher than we've ever had in the history. Our population is growing. Will we hit our targets? I'm not sure. We have projected a 1.75 per cent population growth. In Saskatoon it's above that. In Regina it's about that, and through the rest of the province it's just a little bit below. But the fact remains that our province is growing, and it's continuing to grow.

The premise in our growth strategy was pretty simple. Either you start to project and direct the results of growth, or you spend all your time complaining about the downsides of growth. We as a business community said we're not going to complain about the things that happened that we could have stood ahead of and made some decisions. And we said we're prepared to jump forward.

We took the growth strategy out to about 30 different communities, and we were amazingly well accepted in terms of the concept. Ironically it wasn't businesspeople or chamber leaders who said this growth strategy has no merit in terms of its population. It was the people who were not in business and had perhaps more joy in fearmongering than they did in working towards the future.

But our chamber representatives said fantastic to the extent, I would argue, in I would say to you that in Battlefords one of the councillors stood up and said to us, I get it and I want 7,000. And we said we don't understand what you mean. He said of that half a million new people that are coming to the province, I on behalf of our community are going to say we will take of that pie, we want 7,000. That's what we want our community size to be. We said perfect.

Since that time we've had discussions with communities the size of Grand Coulee just outside of Regina. They don't want that many. As a matter of fact there was an initial plan that

came forward in their community that said we want to be 5,000, up from 400. Their community came together and said that's not the community we want to live in; therefore, let's create a different plan that will give us 5 or 550 or 600 new people, no more because we don't want that in our community, no less because we know we need that viability.

So communities across this province are taking up the concept of our growth strategy. They are saying we accept the fact that we're going to grow. We've explained to them, and they've accepted and embraced and added value to the considerations that we said why we need to grow. And then we've gone to the next step now or in the process of finalizing a growth strategy tool kit which will take, in the hands of the local chamber leaders and community leaders, the concepts that we've talked about and help them develop the plan for growing their community strategically and sustainably.

I mentioned at the beginning of my presentation that we did 20 different targets on the growth strategy. Population is only one of them. We also said we want more than just Saskatoon and Regina to receive these people, so smaller communities needed to be ready to do it. We've talked to communities who've said we want to grow. I said okay my first question to you as a community that wants to grow is, how many houses do you have for sale right now? The answer is no. I said okay that's not a big challenge, but how many lots do you have we could build houses on if I wanted to move to your town? The answer is no. We said then we need this tool kit in your hand because you need to plan for growth.

This province hasn't grown to the extent that it could have or should have over the last 50 or 100 years, and one of the reasons quite frankly is that we didn't believe that we could or that we wanted to or that the opportunity was there. Well I can tell you — and you know as elected officials — the opportunity is here. It's happening today as we speak. And so the bottom line is that, as we continue to look at our growth strategy and from that basis do a lot of our policy work. We said we needed to identify some of the challenges. How do we move forward so that those communities, while they're planning their municipal boundaries and so on, would also have some of the infrastructure elements that are necessary?

In that light, we met with the SaskPower folks a couple of years ago and what we said to them, we know that in order for this province to continue to grow, we need power. And as you saw in the very informative, very well-presented October 6 presentation by SaskPower, there's an incredible challenge that faces us as a people in this province if we don't have the right plan to have the power necessary. We are huge fans of SaskPower's people. The men and women of that corporation have done a stellar job — of often times it would appear duct tape — to keep the turbines going. When you buy a product that has a 35-year shelf life and 50 years later you're still using it, somebody is really doing a good job. So to them we give credit.

The challenge though — and there's enough blame to go around — we as citizens have said for too long we want our taxes to be low and our power rates to be lower, and we said, I suppose, as a chamber of commerce, that we don't want power rates to go up. And that's put us in the situation today where over the next decade we're going to have to spend, as a people

in this province, \$15 billion to engage the facilities to the extent where our power will go on when we turn a light switch on. We are thankful that that happens now. We are cognisant that that will happen almost every time we do it, but we're also very cognisant as a business organization that that isn't a luxury we can expect to have in the future, unless we make serious and rational decisions.

In our process researching the growth of this province as it related specifically to power, our organization did a lot of things. We began by talking to our members about their perspectives. And we heard some horror stories about 18-month delays in getting power to facilities in Yorkton. We heard about brownouts at northern mines. And we heard about from many members, going: it's not a problem, we turn the switch, it goes on.

We also heard though that, as our members were adding capacity and equipment and otherwise to their businesses, they needed greater assurances that indeed they wouldn't be turning a switch and the machine wouldn't go.

We met with SaskPower as I indicated. We researched all aspects of energy production because, like any good business, we believe Saskatchewan shouldn't have all our energy eggs in one basket. We toured a nuclear power plant in Kincardine, Ontario and, from that tour, were amazed at the high level of security, of the health risk that had been mitigated and essentially removed from the community. And while there, we met with the local chambers and they told us the benefits and some of the down sides of having a nuclear power plant.

Ironically the nuclear power plant, the down sides, had nothing to do with health or security. It was that they were well-paying jobs in those facilities, and indeed it was a little hard to get a plumber sometimes. We said we know about that; that's the situation we have in Saskatchewan.

We had a representative on the UDP panel. We participated in several of the public consultations and made presentations to Mr. Perrins and his crew. And we also created an FAQ, frequently asked questions, document on nuclear power to make sure that our members had the information that we believe to be the right ones. We didn't write the FAQ. We wrote the questions. The answers came from respected sources from around the country.

We are in the process right now of writing a FAQ for the benefit of our members on renewable energies because, as I said a minute ago, we are of the opinion that more than one energy source is exactly right for our province. In our written document, we talk about a variety of things. We talk about traditional coal, natural gas, and hydro power certainly will fill part of the growing need for power. Renewable sources — such as solar, wind, and geothermal — may also help to alleviate the province's appetite for electricity.

Nuclear power could also potentially play a significant role in Saskatchewan's future growth, and we encourage the government and the parties of this legislature to explore the business feasibility of that option as well.

We believe that if a solid business case can be made for any

method of power generation and the process of doing so has long-term viability in terms of power generation and is environmentally sustainable, then we should fully explore the merits of that option.

It's very important for me to state as clearly as I possibly can that the Saskatchewan Chamber of Commerce is pro-growth. We are pro-ensuring that we have enough energy. If you read that to be pro-nuclear, we believe that the nuclear option deserves consideration for this province either as a large-scale or as a modular, smaller generation reactors. We believe that the merits are there. We believe that the science is in place and the safety issues are mitigated and the opportunity economically is significant.

[13:15]

We also believe that there's great opportunities economically and socially and as important for the power mix in areas of wind and solar. You would have had a presentation a week or so ago from one of our members, SHEC industries out of Saskatoon who is doing great work in terms of their research on solar energy. And we believe that if we use a mix of energy sources, we're indeed moving in the right direction. The challenge will be what's the mix and what's the cost that you would, as provincial governments, provide in terms of rates to buy that power.

I'm conscious that although I said I wouldn't go past the 15 minutes that I'm closing in, but I wanted to say a couple of other things. One of the things that we want to emphasize is that it makes good sense in many, many areas as we expand and lay the groundwork, if you will, for our provincial power scene that other players be brought onto the scene.

Historically with very few exceptions — mostly just recently — SaskPower has borne the cost of the infrastructure and the transmission and distribution of our power. What we're suggesting now is let's revisit that. There's examples now where there's partnerships in wind and partnerships in natural gas facilities. Let's expand that.

We would hear during the UDP panel sessions people say, why would we allow a private company to come in and charge us for power? And they didn't finish the statement to say, instead of the old system where we would have our own dollars go in to build it, and then we'd still get charged for power. Essentially we paid 100 per cent of the capital cost of power generation and transmission in this province. If there's an opportunity under the right business case to allow private sector businesses to come in as partners or as lead forces in this, absolutely let's do it. The right business case is what the business wants. The right business case is what you need.

Another way for Saskatchewan people and businesses to help SaskPower carry out our province's energy burden is to allow individuals and businesses who generate electricity through renewable energy sources such as wind turbines and so on to sell their excess power back into the province's grid or to their neighbours. To let the potential sources of excess electricity generation go to waste is simply something we can't afford. And although there is capacity for them to get credits back, there isn't the capacity to the extent that it needs to be where

they can sell it to their neighbours or indeed back into the grid. I know that there's a technical issue to that, but I'm also cognizant of the fact that if we think about it hard enough we'll find a solution.

Regardless of how we choose to finance and implement our energy infrastructure growth, the tax burden on individuals and businesses should be minimized whenever possible. That's where strategic investment is necessary. We're going to pay more in the future for power. It's as simple as that. But we need to make sure that we think about it and that we minimize it as much as possible for the consumer as well as for the businesspeople.

The Saskatchewan Chamber encourages the government to create a public policy framework that encourages entrepreneurs to make capital investments into power generation in our province. By allowing greater private enterprise and individuals to participate in the process of creating our energy infrastructure, we will be helping to minimize the massive rate increases that would be required if SaskPower was to undertake this entire process alone.

It's also a reality that, by allowing other entities to participate in the process, SaskPower would also have greater freedom to focus on the kinds of electricity generation that they have gained expertise in over the years — primarily coal, natural gas, and hydro. The financial risk of expanding into less traditional areas of electricity generation would also be shifted from the taxpayer to private business, which would make all taxpayers in our province more comfortable with any attempts to expand the portion of our electricity that is derived from wind, solar, geothermal, and other sources.

The insufficient capital investment by SaskPower into our energy infrastructure over the past decade can be partly attributed to the strong ties between SaskPower and the decision-making authority of the provincial government. And I'll stop there to say that although I've only been with the chamber two years, I would suspect there had been some comment over the years from our chamber about SaskPower rate increases and arguing against them. We've changed our tactic on that somewhat to say we need to think about strategic investment, and that's important for us all.

In order to minimize political involvement in these complex issues, the creation of a new regulatory body that can make unbiased decisions in regard to SaskPower's ongoing investment agenda should also be considered. These efforts to build Saskatchewan's energy capacity clearly need to be undertaken as a partnership between all levels of government and all business enterprises in the province. The role of government will be to establish the right environment to ensure that business growth can happen. This may mean a combination of ensuring that any unnecessary roadblocks are removed, the proper infrastructure is in place, and that private research is encouraged in key growth areas. The role of business enterprises should be to find the right opportunities for themselves in helping to create Saskatchewan's energy future generation capacities and actively pursue those opportunities.

So in closing let me say the opportunities ahead of us are significant. It is our perspective that more than one energy

source is indeed the answer, that has behind it the business case that makes sense and the sustainability factors that are important for us as a province. There is a quote I'll finish with out of a US evaluation. This is a large US company that talks about their role and their support of particular legislation, and I would argue it fits as well. It said they're "looking simply to mitigate cost impacts on the customers, support the development of technologies to reduce greenhouse gases while assuring affordable power supplies and recognize significant regional needs."

That was on a US basis and I think it fits very well here. No customer-consumer business wants to pay unnecessary costs for power. Nobody wants to increase the damage to the environment, and nobody wants to turn on a light switch and be surprised that it came on. Indeed we want the other. And certainly, within our province, we have significant regional needs that need to be met.

So I'll close with that. I think I'm at my 15. So I appreciate again the opportunity. Our organization's very concerned about the next steps in this issue, and we look forward to any questions you have and our continued dialogue over the next year.

The Chair: — Thank you for your presentation. Several of the members do have questions. We'll start with Mr. Weekes.

Mr. Weekes: — Thank you, Mr. Chair. Thank you very much, Mr. McLellan for your presentation. It's refreshing to see growth is considered an important part of Saskatchewan's future.

It's an interesting theme. I'll start with the Leader of the Green Party who made a presentation and her comments were that how to solve the electrical power production concerns of the future is not to grow the economy and not to have an increasing population. So it was an interesting comment. And when we look at the 16 years of NDP [New Democratic Party] government, it seemed that they had a low-growth policy. I mean, there's no doubt about it.

And one minister of the NDP government actually said that it was statistically impossible to grow the population by 1 per cent per year. And that was a position that the then opposition Sask Party had for the future of the province. And also the former minister Lautermilch also said when people were leaving the province, that it was more for the rest of us as more people left. And it's just surprising that theme still rides through the province in certain quarters.

If you would like to make a comment, obviously you're pro-growth and you want the economy and the population to grow. But there's still a part of the . . . I suppose in politics then and the population think that that's not a good thing for the province. If you want to make a comment on that.

The question that I have for you is about your position on nuclear power generation. I see that you feel that nuclear power could play, has a potential role in the economy, I guess, if you want to comment on nuclear power. But there's also another theme coming out that one or two huge nuclear power generation plants may not be a practical solution given the cost

of upgrading transmission lines. Possibly more regional nuclear power plants may be something that's more practical and efficient. Could you just make a comment on those issues please.

Mr. McLellan: — I will. First I thank you for your considerations towards our focus on growth, and absolutely it's critical. I would argue that over the last 25 years there's been a whole lot of people in this province that, for whatever reason, decided that growth was good or wasn't good, and there's still people in small town cafés and large city boardrooms that say growth shouldn't happen. I would argue also that the business community has not been, until most recently, very focused on growth.

And so I would suggest that on behalf of the business community — I'll leave the political parties to you gentlemen and ladies — but the reality of it is there's enough blame to go around. What happened yesterday in boardrooms or small town cafés, that's yesterday's news. What we all need to focus on now . . . And I don't in any way position this to be a lecture in terms of politicians. But this is one of the reasons where we needed to say as a business community we need to get smarter and we need to work towards the future.

It's all about the future now. What happened in the past . . . I could argue that SaskPower made strategic errors in small investments over the years and shame on that cabinet. But I also . . . and I acknowledged it earlier that our organization would have been one of them that said don't get our power rates up. But because you didn't raise our power rates, the gentlemen on this side, we are in a situation where we now have to spend \$15 billion. So I would encourage all of us — not all of you, but all of us in this province, and business has a lot of the responsibility to bear on this — to think about how we move forward. And that takes me into the next question.

But before I leave the growth, you know, there are people in this province who still today, individuals who say I don't want it to grow any larger. I'm tired at the lineups in intersections, and I'm tired of the lineups in Tim Hortons and so on. But we remind them that without growth, the economy of this province is not sustainable. The social costs that we expect and willingly pay as people in this province, we're not going to be able to afford if we do not have growth to justify and increase our tax base.

If we don't have more taxpayers, we're not going to have the post-secondary education facilities or the hospitals. So this patient-first review that just came along now is a great review in many ways, but it's kind of redundant if we only have a half a hospital that's open.

So we need to think about we need growth. And quite frankly because we don't have rules — and thankfully we don't — that stop people from coming in across the borders, we're going to grow. So the issue isn't whether we're going to or not. It's, we're going to. How do we want to best absorb that growth?

To your next question about nuclear, we are absolutely believers that the science and the health and the economic arguments of nuclear power are clear. They're not necessarily, from an economic perspective, clear yet in Saskatchewan. And

so one of the things that we've said all the way along quite frankly is, show me the business case and I'll give you my opinion on it.

Whether it's a small nuclear modular plant that's located in Meadow Lake to allow that community and the mines and the mills close to it be serviced by it, or if it's a larger one that has a capacity to have two reactors on the North Saskatchewan River and sell the excess up into the oil sands, show me the business case. And that's the same with wind.

We have tons of documents that say the horror stories of the economics of wind generation. I don't believe all of them, but show me the case for Saskatchewan. Show me what it would do economically and socially for the area. Show me what the power rates are that my members would have to pay and guarantee me that this is part of our sustainable power solution, and then we'll have a reaction.

But indeed from a science and a health perspective, nuclear power is an interesting thing. It is misunderstood and it is because of that, I think, thought of in nowhere near the perspective that it should. But Mr. Weekes, I would say clearly, it goes back to the business case.

Nuclear is a future. We're probably utilizing nuclear power now through the interties that we have. Half of Ontario people, they get their power from nuclear power capacity. I haven't seen any significant issues with them, but show me the math. Show me the business case. We'll give you our perspective. That's where it ends. But to be fearful of it is . . . you might as well be fearful of a ghost in your closet because there's no more basis of fact.

Mr. Weekes: — Thank you.

The Chair: — Mr. Belanger.

Mr. Belanger: — Thank you very much. I just want to point out that we really respect your presentation here. I think that's one of the things that I want to say at the outset. We're asking for advice. We're asking for information and much like your point of raising, let's see the business case.

We're also saying that from the sense of not only just the renewable energies that are out there, which people are gathering as we speak, but also the nuclear option and it's part of the array of opportunities we have as a province. And I think it's important — the whole notion of focusing on growth. We sincerely agree with you. That's one of the important factors.

And I would also point out that we won't belittle your presentation when I say that we respect the information that you presented to some political rhetoric. I think the important thing is focusing on what is necessary to grow Saskatchewan. That's the important fact that I want to raise. And when we ask questions, don't perceive those questions as us having a tendency towards one belief or another. People sometimes tend to say, well you NDP guys are anti-nuclear. Well hold it. Who built the mines and who's doing the enrichment? Who's doing all these other things? It was the NDP government introduced uranium development as a whole. So we are just in the same kind of predicament as anybody else that talks about nuclear reactors. We have to make sure that we're able to defend our

position, whether we go (a) for it or (b) against it. So we're trying to look at all the options, and that's the smart case, I think, from our perspective as politicians.

[13:30]

The second point I'd make is we have a base of people that we call customers, as the business people do, and it's the people of Saskatchewan. And I wouldn't mind your perspective on this. If they say to us, look if you guys bring Bruce Power in, they do the nuclear plant — from your perspective — and the customers are the people of Saskatchewan and they say, well no, we don't really want our SaskPower privatized. We'd like to do it. Or (a) we don't like to do it. Do you believe that in the long-run that the customer is correct in bringing forward that position? And I think as a business person you'd say yes; the customers are always right. And how would we educate the public on the array of options for energy development from the perspective of the Sask Chamber of Commerce?

Mr. McLellan: — A couple of questions there. Let me first talk about the customer. The harsh reality is that the customer isn't always right. No customer is going to walk into a retail store and say, I want tomorrow my prices to go up. But they do say, I want better service and I want fancier stores and I want a broader product offering. That means they go up.

So while the customer is going to say to you, for example, I don't want to have this type of power or that type of power, if it's based upon an educated perspective, then you . . . And it's a little different for you as political leaders. It's important for you to listen to what they have to say. And I would argue if you listen to what the people of Saskatchewan have to say now, in surveys of the entire province, it is very clearly the majority of our people in this province who support nuclear power based on the right deal — not at any cost but in terms of the right deal. So your customers, we as the taxpayers of this province, I believe have spoken in surveys regularly and recently that say the majority want that.

The question, if put to them under this specific condition, that SaskPower, they would be a partner in terms of your Bruce Power example, if Bruce or any another nuclear production company came into the province and there would be no question in my mind that SaskPower would be a partner with them to some extent, at the very least strategic partnerships in the sense of where the power goes once it leaves the power plants and so on. I don't think in the long run though, that it's going to affect in a big way SaskPower. It will enhance their company. It will make them stronger and give them a partner with expertise in a new area of power production and allowing, as we indicated in our report, their ability to focus on those things they do well.

And the amount of effort that SaskPower is putting into clean coal, let's allow them to do that. Let's allow them to focus on the new hydro opportunities because they know that. But I don't think in any way, we're not talking any sort of a privatization of SaskPower. It's not on from our perspective. It doesn't make sense right now. What we need though is SaskPower to have more strategic partners to ensure that they can, as our primary supplier of power, have that capacity.

You talked also . . . and I'll reference the issue of education. One of the downsides to this whole debate so far is that there's limited public information out there. We said it to Mr. Perrins. I repeated it somewhat to you and I'll emphasize it again now. Our people don't have a clue, and we have a population of intelligent, interested people. But they don't have a clue about both the risk factors that we have about turning the light switch on or off, and they don't have a clue about the truth of solar, wind, and others.

I have over the last month . . . and I don't portray myself to be an expert. I don't say that. I'm one of the unwashed masses really, but I've taken an awful lot of time and effort over the last six or eight months to learn, but I still am clearly not informed. And that's why we need our provincial experts on this — SaskPower — to give you and to give us that information. There should be a public campaign that says, here's the realities of technologies today on wind and here's the realities . . .

I've got reports here on Spain that the bubble burst over and all of a sudden . . . the Spanish government buying solar power from more than any other power source. All of a sudden they changed their policy. They said we're not going to do that, and the bubble burst, and those businesses and that source became a problem. Let's not make those same mistakes.

But let's empower SaskPower and, I would suggest from our perspective, empower them. And I would ask from your committee's perspective to not only empower but insist, insist that SaskPower inform the general public on these options through a variety of means and then we can, your customers can make a decision of which way we should go.

But at the end of the day, it's going to be you around this committee who is going to make serious recommendations based upon moving ahead with a SaskPower recommendation or giving them the latitude that they need to make serious decisions. If we don't do that and don't do it soon — educate our public, give SaskPower the mandate and the guidelines, and insist they come forward with recommendations — our province is going to be in trouble.

Mr. Belanger: — See, that's exactly our assertion as a result of the extra committee hearings that we're asking the people of Saskatchewan for their advice on the alternative energies and the energies that are available to us — the options. We're seeking that advice. And so I reiterate a respect for the presentation you're making today.

We countered at one time — and this is where the fundamental flaw, when you're talking about public education — we countered at one time, as an opposition party, that the UDP process was flawed, primarily for political purposes. When you have documents that are blacked out, and when you have a panel of experts afforded to them, when you have \$3 million spent on that process and everything else is kind of shelved off to the side, you're actually doing an injustice to that particular option. And that's what we were countering back.

So as a result of some of that process of trying to discover our energy options, let's not politicize the process or ram this thing through the people of Saskatchewan because you're going to piss off the people of Saskatchewan. You're going to do a

disservice to that particular industry. And furthermore you're not giving all the other options available in terms of a side-by-side, true comparison and the business case for each sector. That was not afforded, and that's our argument today.

So when you look at this whole notion of how we get this right, absolutely every party and every person in this Assembly wants to see the province grow. There are very, very few in this quarter that don't want to see it grow. For the record, we support the growth of Saskatchewan. We support every energy option that's out there to have a look at it. I can't be any clearer than that.

But we need to find, we need to find the side-by-side comparison. We need to do justice to each of the arguments, and we need to see the business case. How does it impact? And that's what the people of Saskatchewan are saying, and we're trying for the life of this whole process is to get that information, and we're simply not getting it.

So again I would ask the question in terms of your particular position, and I'm not trying to put you in a corner here, but I just really want to know your perspective. If at the end of the day . . . and it's a concern we're hearing from people. And again this is advice; this is no biases here. If at the end of the day the people tell us or Bruce Power says to us, if we come in, these are our conditions, bang. And based on those conditions, we don't want any other sources of power being developed, and we're going to basically dominate SaskPower. So that spells the end of SaskPower as a Crown corporation that we know of it.

Would the chamber support such a notion that, in order for us to have a private partner in power development via nuclear power plant, that you would agree or accept that SaskPower would be a thing of the past?

Mr. McLellan: — There would be absolutely no hesitation in our quick response to that and say, under no conditions would we encourage the Government of Saskatchewan nor would we support a proposal from a business or any other agency that said they are the exclusive in this realm.

And that's not because we support — and we do — not because we support SaskPower but because you don't put all your eggs in one basket, one of our basic principles as we support the open market system.

So if any company came to this province and said, we will do this and under these conditions and only under these conditions we would give you all this power, we would say absolutely not. That is inappropriate for us to rely so heavily on any one agency, and it would be the reverse I would suggest. And we're saying this now too, is that we're not prepared any longer to solely be responsible or have SaskPower as our single source supplier. Those days are gone.

It doesn't make economic sense. It doesn't make energy sustainability sense. Nor would we think it makes good business sense. So an open market system where the business who can come to you and say, here is the opportunity for us to supply this amount of power to you is the right one, and if you're convinced it's the right one, that's the one you move forward in. But in no situation would we endorse a deal where

we were reliant and our growth was reliant on a single source of power, period.

Mr. Belanger: — My final question is — given the opportunity for nuclear development which you're clear saying, let's see the business case — would the chamber support the notion that in order to attract company A to come and do their strategic alliance and their partnership, whatever you want to call it, and company A says to the people of Saskatchewan, well we'll build this but, guess what? We want you guys to upgrade your distribution system at your cost. We want you guys to do this at your cost, and we want you to do this at your cost. Do you think the people of Saskatchewan ought to subsidize that particular option? I'm talking about nuclear option by them basically telling us these are the options that we want you guys to fund if we want to come to Saskatchewan.

And I'm not saying this from the political perspective of where I'm sitting. I'm asking it from the many, many people out there that ask us the questions. So in order for us to have an informed public, we need to ask the tough questions.

Mr. McLellan: — A good question and it's not a political question at all I would suggest. It's a business case question.

Here's the reality as I've seen it now. We have come to the conclusion or come through an era where SaskPower has created the power, has sent it to a distribution network, and has transmitted it to our homes and our businesses. We didn't know that there was three elements to it until just recently. So now if somebody came to you and said, listen we will give you a power, whether it's a nuclear power or a gas plant. We will supply this power to our front door, and then it's your responsibility to take it from there and put it into your circuit. Why would we not say, we don't have to pay for the creation. We just have to buy the product at a fixed cost, and then we have to do as we've always done and take it to our homes and our businesses. It's not a bad deal.

The way you phrase the argument — and I don't give you any grief for how you phrased it — but that's how it's been phrased across the province, is oh this company's going to tell us what to do. No, no they're not. They're going to tell us what they can do, and then if we choose to buy it at their front door, we will. If we choose not to . . . Because the whole deal, the business deal is not just on that little piece of power. It's on what's it going to cost us to get it. When you buy a vehicle, you don't say, what's it going to cost me to buy it? You say, what's it going to cost me to maintain it and run it, and where am I going to store it? You think about that whole value. Same thing with power. So absolutely I think that we have to look at the entire deal.

The other consideration is if they came to you and said, we will supply this amount of power from this area — again whether it's nuclear, biomass, or solar — and you said, yes, the rest of it makes sense, then you also have to look at the other side. What does that mean to our current investments in other areas like clean coal and so on? It's a complex picture right now, and I don't think the challenge ahead of you is an easy one. It's certainly not. But you need to look at the whole economic picture and do it fast, which is the easy part.

Mr. Belanger: — Thanks. And I would apologize to the committee for my language. Thank you very much.

The Chair: — Thank you. We have more questions. But just while I'm thinking of it, you had a document there of an experience in Spain, I believe.

Mr. McLellan: — Right.

The Chair: — I know it's not something you've produced but would you be willing to table it for the . . .

Mr. McLellan: — By all means.

The Chair: — Excellent. Mr. D'Autremont has some questions.

Mr. D'Autremont: — Thank you very much. I'd like to welcome Mr. McLellan here today. Listening to Mr. Belanger's questions, I'm amazed by his conversion on the road to Damascus when it comes to both hearings and private generation. For 16 years in this province, there was no discussion in the public venue on electrical generation, or there was no discussion on the lack of decision making either.

Mr. McLellan, prior to your arrival here today, we had Dr. Beveridge here, with Kairos. And he was suggesting, as you have, that further private generation of electricity, allowing that onto the grid would be a positive situation, and I believe you've termed it the right business case. However Dr. Beveridge and a number of other of the presenters have contended that nuclear in particular, but any large generation, would be too costly in terms of debt to the province of Saskatchewan. So are you aware of the comparisons between the costs of large generation, nuclear or coal-fired or large gas, in comparison to other types of generation and how the economics of all of those would play out in comparison?

[13:45]

Mr. McLellan: — You know, with all due respect to earlier presenters who have, I'm sure, a committed perspective on which they presented, I would suggest nobody, nobody knows those numbers yet. And that's one of the arguments that we've had. People said well nuclear is too expensive, and I said well what's the cost of nuclear? Well I don't know, but everywhere else it's gone over budget and so on. I said no it hasn't. There's many, many, many examples of nuclear greenfield development that have not gone over budget. And well Ontario dropped it. Well they dropped it for a variety of reasons, I would argue, mostly political: to try and get more federal money to the table and to wait until AECL [Atomic Energy of Canada Ltd.] is done with what they . . .

I obviously, by my comments just now, have a perspective on it that adds to the confusion perhaps in terms of the public debate. But my point is, tell me if we're going to invite nuclear in, and I would argue that we need to. We invite them in to say, give us a proposal on supplying varying amounts of power for our matrix. And it's the same with natural gas.

What I do know is that no situation . . . I don't like the phrase made-in-Saskatchewan solution, but that's really what we're

looking at here because we have some pieces of that pie now. We're the only ones in the country that have a significant clean coal. What's that going to mean to our power capacity in the future, therefore affecting what our needs will be?

So let's go to all of those and get best case scenarios on costing them now, and then we can make a decision as to which of the ones to go forward. But anybody who says outright that nuclear is too expensive is lying to you because they don't know the cost of nuclear as it would apply to this province. Anybody who says solar's the way to go because it's cheaper is lying to you because they don't know what our needs are in this. Until you get the matrix right, you can't start to cost the elements of the recipe. Until you get that determination of what your mix is or what your options are, everything is hypothetical.

Mr. D'Autremont: — Thank you very much. You talked about the need for strategic investments, both in business and in our utilities. How does the chamber look at the strategic investments in environmental costs and in power generation in both replacement and the decommissioning of power plants, be they nuclear, coal, wind, or whatever they might be?

Mr. McLellan: — There's again part of the misinformation is that the horrendous costs of decommissioning a nuclear power plant are different than every other type of power generation. Indeed they're not. The amount of money that SaskPower has paid over the years to replace — and in your part of the province, you're very familiar with this — the topsoil and so on, that's all costs of doing business. That's a reality. Whether it's a natural gas plant and the closing of a rig or a nuclear power plant, it has to be built into the case.

I've been quite active in the last two years with Saskatchewan sessions held by the Nuclear Waste Management Organization, and found those sessions and the process that they have to be first-rate. And we will have in this country a site somewhere selected in a willing community that will have the right plan in place. And it's important to note the one fact about this decommissioning concept is that it's inherent in the operating rights of nuclear power plants now that they cover the cost of decommissioning as well. That's part of their licensing. And they'll do that, and they're covering the cost of this review now as well.

There isn't an easy answer. The costs are different for wind. If you shut down a windmill, you could probably just take a couple of hammers to the base and knock it over and haul it away. Whereas a natural gas plant, it's different, and obviously so would be nuclear.

The bottom line is again, put the facts on the table, and people will be able to respond articulately and intelligently to it. And we don't have that beyond the industry-specific stuff. We need to know that. Back to my argument about information, let's have all that shown to the people of Saskatchewan. Those of us that choose to read it will be informed and make informed decisions.

Mr. D'Autremont: — Okay, thank you. One of the issues that's an elephant in the room both for the chamber and for us in this committee is the cost of carbon. Certainly business has to be thinking about that and tracking it. We haven't heard any

firm numbers on what it may cost for cap and trade. Does the chamber have a policy or any information that might be of value to us because most types of generation have some kind of CO₂ emissions, so it's going to be the economics of carbon that make or break the viability of the various types of generation.

Mr. McLellan: — We have an expert committee on environment, and they are still in deliberations as to a formal position on it beyond the fact that we need clarity and industry standards across the country. We have come to a couple of conclusions that if it's a cap-and-trade piece, for example, that we need to be able to make sure that any fees that are paid remain in the jurisdiction in which they were generated or, at the very least, regionally.

So no, we don't have a hard position on that one. One of the challenges to it, as you indicated, is the variance in terms of suggested prices of carbon penalties. What does that mean? Until that's determined, it's very difficult to get a hard position on it. We will. We're just not there yet.

Mr. D'Autremont: — And final question then. There has been suggestions that government and therefore taxpayers and consumers at some point should be subsidizing various forms of energy generation. Does the chamber have a policy on subsidization?

Mr. McLellan: — We believe in the premise of free markets, and that would mean that a business should be able to operate on its own premise. I think there are exceptions, and this is an area, energy, where there should be some exceptions . . . not on perhaps that you pay more for a particular type of power as Ontario does. They pay four times as much for solar power that's delivered to them than they do for nuclear power, for example, but there's other elements to that deal. If there is a strategic advantage for the province to invest in the front-end costs of research and development for nuclear or in solar or in biomass — whatever it would be — do it as a strategic investment at the front end and try and keep the market value of the product that you buy to be similar.

Mr. D'Autremont: — Thank you.

The Chair: — Mr. Wotherspoon.

Mr. Wotherspoon: — Thank you very much. Thank you, Steve and Curtis, for attending here today. I really appreciate what the chamber's added to this discussion around power, not just now but throughout this time. I think that the focus on the economics of whatever power source is a very important part that the chamber has led, and I would expect nothing else from the business leaders of this province, so thank you and to your members for that. And of course the supply of power and the security of power or energy is incredibly important, so thank you for raising those issues.

You speak a little bit about some of the private power provider options that exist, and certainly when we were in government we advanced on a couple of these fronts and various partnerships of the like. But I guess I just want to get your perspective here as to private power agreements, long-term contracts for power. From the chamber's perspective, are these viewed by financial analysts and investment banks and analysts

as the same thing as long-term debt in looking at a corporation?

Mr. McLellan: — It's not a question I could answer, but I could certainly get the information for you should you choose, or I could comment how we as the chamber would view those. If there's a decent deal, a deal that's offered by a private power producer, a polygen, a cogen, or a biomass producer that is in a very clear perspective a good deal for SaskPower in terms of buying the power now, we would embrace that. And we would not see that as an increase to the debt. I think we would treat that as an investment much as you've done with rental of office buildings or other things that you operate to do the business that you do.

And we would probably applaud it, and I'm sure we would. And quite frankly, depending on the deal of course, but in consideration it would be a positive deal for the province, we would applaud it, and particularly on the basis that you've thought longer term, that you've said, we have a long-term solution from this company who's going to produce this many kilowatts for this many years. That's the kind of strategic planning we like and we would endorse.

Mr. Wotherspoon: — I appreciate your response. And as well, I think part of the concern when we're looking at some of the power options that are from independent providers, that we do have to be cautious. It's my understanding that we are viewed from the, I guess, worldwide investment banks and analysts that those kind of contracts are treated very similar to long-term debt.

So they're strategic investments and you certainly say, let's look at those from an economic lens and make sure they make sense. But on that front, we do have to be cautious that they do also fit into debt/equity. And no debate, that if SaskPower's looking at doing something on their own, certainly they're going to be increasing their debt/equity on that side. But just the same, when we're signing long-term — 25, 30 year — agreements they're, I think, viewed very similarly.

Just the same, I believe that we expect whoever we sign those agreements with, whatever provider for so many megawatts, to be able to deliver that power and to do so reliably through that entire period of time. And so on that side, the only reason that I make these two points is that, although we think we should be looking at all of, you know, these options and doing so, you know, with thoughtful analysis, we do have to be cautious I think in just automatically believing that we mitigate risks for the Power Corporation by automatically going to a private power producer because (a) that agreement's going to be viewed, at least in the international banking community, as long-term debt.

Just the same, whatever we contract to have them bring online, we're going to need to be fully dependent on that within our mix. And certainly through our past, we've proven within Saskatchewan that that can occur. It's just a question of what the right mix is going forward.

One last question. I mean of course we're a vast province. You speak of growth and the related benefits that can result from that, which I think I commend you on always connecting growth back to the value and progress that it means for

Saskatchewan. I think that's where it's truly embraced. As it relates to decentralized power projects for biomass or for wind or for solar, not so much on analyzing the actual sources here right now, making sure that they fit in, in a responsible way for dependability within the grid, what's the chamber's position, or could you articulate a little bit more around the job growth that might occur from a certain portion of our power needs coming from all these many sources around the province.

Mr. McLellan: — Thank you, good question. And that's one of the interesting business plan elements that's very difficult to say yet. And there are those in this debate that say that renewable energy creates so many more jobs than for example nuclear and so on. I've not seen the science on that yet, and again I don't know that that would be the case in the province.

I think there's two questions, and perhaps as I referenced, the idea of the business plan has to be looked at as well too. The first question is sustainable power. And that's as simple as what would it cost us to get that power — buy it from somebody's front door, SaskPower or somebody else's — into our transmission services and out to the consumer? What would be the cost of that?

Then the second consideration is, and I would suggest in terms of priority, would be the other benefits. It would be much easier maybe to have one big power plant in Coronach and be done with it because that's where all the coal is. But we've already made the decision — SaskPower has, we as a people have — that no, that doesn't make sense. Let's use hydro because we have a resource up there. Well I would think each of those individually have to be looked at. But clearly is there an opportunity and a benefit to have employment in the Nipawin country as well as biomass employment in Meadow Lake and coal development in the South? Absolutely there is. Absolutely there is. And so from that perspective I would say, yes, look at it, but look at it as the second one.

First question, and this is a critical question time-wise, is making sure we have enough power — and not at any cost — but get that done and then look at the other strategic things.

And then of course the third thing is things like renewal of transmission lines, what's the benefits or the realities of some of those.

Mr. Wotherspoon: — Thank you very much.

The Chair: — Thank you very much for your presentation and answering the questions that you did today. I think it was helpful for the committee so thank you very much.

Mr. McLellan: — I appreciate you for having me in and I look forward to your decisions.

The Chair: — The committee will now recess momentarily, and we will be back with questions for SaskPower.

[The committee recessed for a period of time.]

Presenter: SaskPower

The Chair: — I'd like to welcome everyone back. SaskPower

has returned. They gave us a presentation on the first day, and were gracious enough to offer to come back to answer some follow-up questions to what we've been hearing over the last eight days.

With that, I think we'll go directly to questions, and Mr. Weekes has indicated he has some questions.

Mr. Weekes: — Thank you, Mr. Chair. Welcome . . .

The Chair: — Mr. Weekes, I apologize. If Ms. Youzwa could possibly introduce herself and the people that will be presenting with her, and then we'll go to questions.

Ms. Youzwa: — Thank you, Mr. Chair. Good afternoon, members of the committee. I'm very pleased to be back here this afternoon to answer questions. I have a number of fellow executives from SaskPower here with me, and senior managers that I would like to introduce at this time.

To the left of me is Gary Wilkinson, our vice-president of planning, environment, and regulatory affairs. To the right is Judy May, our vice-president of customer services. Seated behind me is Mike Marsh, our vice-president of transmission, distribution; Garner Mitchell, vice-president of power production; Sandeep Kalra, our vice-president of finance and enterprise risk management, and CFO [chief financial officer]; Mike Monea who is our vice-president of integrated carbon capture and storage projects; Kevin Doherty who is our vice-president of corporate relations. And I'll just look and see if I've missed anyone. No, that's everyone.

Before we start questions, if I may, Mr. Chair, we had received a number of questions when we appeared first before the committee. One of the questions that we were asked was to provide a list of experts that we have consulted in our evaluation of supply options. I have that report for you which I'd like to table with the committee.

The Chair: — Thank you.

Ms. Youzwa: — We received a number of other questions as well. We are well into preparing our responses and will table those with the Clerk as soon as they are ready.

The Chair: — With that, I would like to have Mr. Weekes go ahead with his questions.

Mr. Weekes: — Thank you, Mr. Chair. Welcome, Ms. Youzwa, and to your colleagues. Well our committee has travelled many miles and spoke to many people since we've met last so it's been an interesting exercise.

I'd like to refer to a position statement report dated October 31, 1991. It was called *Saskatchewan Electrical Energy Options*. And it was a report that was submitted to the then president of SaskPower, George Hill, and it was submitted to him on November 15, 1991.

The Saskatchewan electrical energy options review panel was made up of Dr. Roy Billinton, chairman — he was with the College of Engineering at the University of Saskatchewan; Ann Coxworth, the Saskatchewan Environmental Society; Chief

Roland Crowe who was with the Federation of Saskatchewan Indians; Ms. Vicki Dutton; and Russ Pratt with Energy and Chemical Workers Union.

As it was stated, this report was completed in 1991 and left with the incoming NDP government and with SaskPower. The terms of reference was given to the panel by the corporation outlining the scope and the review process, and it was summarized into the two following objectives: number one, obtain through open public meetings the views of people throughout Saskatchewan on how future demand for electricity could be altered or met; and number two, report to SaskPower on what they heard from the Saskatchewan people and to document, using findings from public meetings, tours, and research, the possible viable energy options that could be used to meet SaskPower's future energy requirements.

And I'd just like to refer to the executive summary and this eight items in the executive summary. I may not be able to get through them all in my allotted time, but I like to ask you some questions concerning this panel's recommendation.

The no. 1 recommendation was, and my questions are: following the, well the 16 years of NDP government because this panel was left with the incoming government, so it speaks to what the NDP government did in 16 years. And my question is, did SaskPower "undertake a complete study of the current levels of efficiency in the use of electricity in all sectors of the Saskatchewan economy"? And it goes on to say, "This study should include a comparison of these levels with what is possible using [current] . . . available technology."

Ms. Youzwa: — Just for my own clarification, are you asking whether or not we undertook those studies?

Mr. Weekes: — Yes.

Ms. Youzwa: — Now I can only speak to the time that I have been with SaskPower, and I can talk about recent studies that we have done to understand what the potential is for energy efficiency and conservation. We've undertaken those studies in the last couple of years to help inform the design of our demand-side management programs and the setting of the targets that we've talked to you about when we met with the committee originally a couple of weeks ago.

Mr. Weekes: — Thank you. I believe you had the similar answer to a question in our earlier meetings. I would like to go back. If you need to speak to your officials or go back into archives and table any documents or information concerning this report and what undertakings did SaskPower take concerning the recommendations of this report.

Ms. Youzwa: — We can do that.

Mr. Weekes: — I would like to go to point 4. And also I should have made this clear on the outset. I will table this document with the committee as well. Also if you have the information today or if you could table this information as well. No. 4 stated:

Saskatchewan has a wide range of possible electrical energy supply options. These include biomass, coal,

hydro, natural gas, nuclear and wind facilities. Each of these options has limitations and conditions which constrain its use.

It's interesting, this summary is very similar to the information that we're getting as a committee this many years in the future.

No. 5: my question will go to all those items but also no. 5:

The Government of Saskatchewan should conduct a broad and thorough public review of nuclear power generation in Saskatchewan including short- and long-term nuclear waste disposal.

Again, did SaskPower do any of these reviews and make good on the recommendations by this panel, and also . . . I'll let you answer that first and I'll have a follow-up question.

Ms. Youzwa: — The recommendations spoke to “a broad and thorough public review of nuclear power generation in Saskatchewan.” Now SaskPower has I think been monitoring nuclear power as a supply option, has been following, you know, developments in nuclear reactor technology, assessing its suitability as a supply option for Saskatchewan on an ongoing basis. I'm not aware of any sort of public review of nuclear power generation that has been led by SaskPower, but again this certainly predates my time in the corporation. And we could go back and provide you with information if we are able to secure that information within the company.

[14:15]

The one thing I can refer to is that I believe in 1992 the government did appoint a new organization called the Saskatchewan Energy Conservation and Development Authority, and that organization was in place until 1996 when it was wound down. The mandate of SECDA [Saskatchewan Energy Conservation and Development Authority] as it was called — the Energy Conservation and Development Authority — among other things was to evaluate future electrical generation options for Saskatchewan and make recommendations with respect to the period from 2003 to 2020, including assessment of socio-economic and environmental consequences, and there were two or three other items to its mandate as well. But that was an organization outside of SaskPower.

Mr. Weekes: — Thank you. One more follow-up question. Would SaskPower table any documents concerning these studies or internal consideration to any of the renewables as listed in this summary. They include biomass, coal, hydro, natural gas, nuclear, and wind facilities, but any other potential energy source as well. And I know after the 2007 election our new Saskatchewan Party government requested that SaskPower table any of their studies or work done on nuclear power. So would you table any documents or information concerning all those items, including nuclear, right from 1991 right to the present as well, please.

Ms. Youzwa: — We can certainly look, as we did with the nuclear studies, to see what has been done in the past with SaskPower. And the studies that we are able to identify, we will table with the committee.

Mr. Weekes: — Thank you.

The Chair: — Mr. Belanger.

Mr. Belanger: — Thank you so much for coming back and bringing some more information back to the committee. We said we'd have more questions. We obviously do and thanks for coming through the process.

I'd asked earlier about a side-by-side comparison in terms of the power generation possibilities for SaskPower. Have we made any progress on that?

Mr. Wilkinson: — One of the things that we provided in the presentation on our first day here was — and you could call it side by side — was sort of the pros and cons and a very loose approximation of the cost ranges associated for each of the technologies. There had to be, I don't know, five or ten different types of technologies. Is there something beyond that side-by-side comparison that you are interested in?

Mr. Belanger: — No, I understood that there'd be further relevant documentation to give us more meat on that presentation, so to speak.

Ms. Youzwa: — The material that we've provided in the paper and in the presentation really provides for you a summary of our best and most current information on the relative costs of all the various options we described in our presentation.

Mr. Belanger: — I want to focus a bit on the biomass issue for a second. You had mentioned one time the cost of, say, hydro is minimal for SaskPower, so therefore they're able to keep their rate at a set rate of I think it's 10 cents per kilowatt hour or whatever the rate is. And so the cost of, say, a biomass plant coming in at 12 to 14 cent price to you would make it unrealistic in terms of reselling that to the customer — and correct me if I'm wrong as I go down this path. And as a result of that, you also indicated that, over the next number of years, the possibility of increased rates certainly is distinct for the people of Saskatchewan. You know, it's something that's probably going to happen.

Where is the cut-off rate for, say, wood biomass, as an example, in terms of the price that SaskPower would be prepared to pay in order for you to continue making biomass a feasible option?

Mr. Wilkinson: — Maybe I'll try that one. On the first part of your question with respect to hydro, when we talked about hydro and particularly the costs around getting hydroelectricity generation built, what we mentioned was it can be sort of highly site dependent. In other words, there isn't one cost for it. It's not an off-the-shelf item. It has to be developed for a particular site on a river system, say, and that can be really quite variable.

So I don't think there is one number in terms of cents per kilowatt hour that describes hydro. Small ones and big ones and where they are on the river, they could all price out differently. So I'd just be cautious of that one.

In terms of the biomass, your figures, we've also heard those figures, that they're in the 12 to 14 cents for biomass which, again, I'm not comparing it to hydro, but in general that's more

than we currently have on the system in terms of what we pay for sort of baseload power.

One of the things that we talked about on our first day in front of the committee was that biomass has a potential charm or a potential ability to be immune to, I'm going to call it the greenhouse gas charges, dollars per tonne. And I think we had this discussion with the committee is that waste wood in particular, if it's left as waste wood, turns into a very harmful greenhouse gas, methane. Just for example, I think it has 26 times the greenhouse potential that CO₂ does.

So under the regulations, it's our belief that biomass will get — and I don't mean this in a facetious way — a bit of a free ride. It emits CO₂ but that's better than letting the waste wood rot. Biomass at \$120 to \$140 a megawatt hour, 12 cents to 14 cents a kilowatt hour, it's more than our current generation costs. But depending on how, I'm going to say, the price of carbon turns out to be in the North American marketplace, that's part of the reason why it's in the mix and being considered. It may get a bit of an edge. Is that helpful?

Mr. Belanger: — Yes. That's very helpful because again, obviously from my region, biomass options of different organizations getting involved with it is attractive if the price could be set with SaskPower in the sense of saying, look, this is what we need to make it work.

Now given the fact that they have this greenhouse gas emission problem, which I am assuming you're going to incorporate in your overall price versus coal when you're talking about biomass in general, and also the line loss in terms of transporting power . . . I'm suggesting maybe it's as high as 15 per cent. Now given those factors . . . And correct me if I'm wrong because I'm just doing this from memory. As I said before, I'm just a hockey player dabbling in politics here. If you incorporate the cost of the potential carbon capture or the carbon cost as well as the line loss and the impending increase in cost, do you foresee biomass, whether it be wood, waste wood, particularly waste wood, is that — and if you give me a time frame — is that a distinct possibility that SaskPower would say, yes absolutely at 10, 12 cents per kilowatt hour cost to us? Within the next six years, it will become a viable option for us given all these factors?

Mr. Wilkinson: — Yes, so I think you've kind of hit it right on the nose. Non-emitting technologies, or if you get a free ride even though you emit, non-emitting technologies, depending on the price of carbon as soon as we see kind of how that shakes out on the North American context, you now have a paradigm to say that biomass, nuclear, hydro, wind can . . . You understand the economic pecking order — if that's not a poor way of wording it — much more clearly. So you're quite right.

What I can't tell you right now is what the price per tonne of carbon in North America will be. Canada is still working on it and they're trying to, I'm going to use the word harmonize, a little bit with the United States to make sure that possibly there's an international market where the price is harmonized across the two countries. I think that's still a work in progress, but we're told that that's coming.

Mr. Belanger: — There's an ancient Chinese proverb that says,

a man without spies is a man without eyes. So do we have any spies within our American counterparts that can give us some idea as to what they anticipate the carbon costs would be per tonne if that's how they're measuring the costs?

Mr. Wilkinson: — We probably get word from the front, as it were, in the United States, also in Canada. And the Canadian government, for example, is not ready to pin down or even try to control what they think the cost of carbon will be. But the latest proxy that we've seen varies everywhere from 5 to about \$25 a tonne, is what we've seen quite routinely in the last little while. Open market for carbon credits, for example, in portions of the United States, where they now trade in carbon on the prospect that it will be a commodity you're going to need in future. We've seen that from anywhere from 5 to about \$17 a tonne.

Mr. Belanger: — Okay. So again going back to the . . . And you know why my bias is towards one particular power generation opportunity here.

Now I want to understand this clearly now. So we have a bunch of waste wood lying around the northern forest. We collect and burn it to a biomass plant, generate power. And given your \$25 per tonne cost for the carbon — if you're doing this trade system, whatever, the open market system — when does this become viable for SaskPower to say, okay we now can buy it based on what you industry people need for wood biomass production of power?

Mr. Wilkinson: — At \$25 a tonne and beyond, you'd be getting very, very close to mainstream options, other mainstream options that we might have. And one of the things that SaskPower has a history of doing is sometimes inviting a competitive process amongst a number of biomass manufacturers, trying to get the lowest cost opportunity for our customers that we can. That's another approach we've taken in the past, where you may be able to get a biomass at less than sort of a middling rate. You might get a very competitive rate out of it.

Mr. Belanger: — Okay. My final question, because we have other committee members here, a number of years ago there was a — on the whole notion of building a power system throughout the North, as I mentioned in the initial discussion we had — that there was hydro development opportunity that the Black Lake Indian Band was looking at. But when the system was built, the power distribution system from the hydro in the North, I understood at one time that the mining companies may have paid for that distribution system because they needed power at their northern mines. And they said, if we pay for it as a corporate citizen of northern Saskatchewan, we want to have, eventually after all this is paid off, a different rate in the North for our northern people — indicating that if the private company, being good corporate citizens, pay for a distribution system, it'd mean lesser electricity costs for the northern customers.

Is there any merit to that story? Because a number of chiefs have told me that and some of the elders have also explained it to me. And if there is some merit to it, is that forming some of the basis of the negotiations on hydro development that some of the northern Indian bands are proposing, whether it's Peter

Ballantyne or whether it's the Black Lake Indian Band?

Ms. Youzwa: — Yes. My understanding of what happened when the transmission line was built that connected the hydro facilities up around Uranium City, then connected down to Wollaston Lake and allowed a number of the uranium mines to be connected to that transmission line and receive service from us, that there was an arrangement made where some of the capital costs of that line were borne by the mining companies themselves. Now I don't have details of those arrangements but there were certainly contributions to the overall capital cost.

With regard to rates that are paid by northerners, northern customers that are served by SaskPower pay the same rates as rates any customer pays elsewhere in Saskatchewan. And so although in some communities it may be somewhat more expensive to provide service to the North, we have equalized those rates across the province and so the rates that a household would pay in La Ronge would be the same as the rates that a household would pay in Estevan. So there isn't a differential in the rates depending on where you live in the province — north, south, east, or west. It is the same and that's our current policy for rate making.

Mr. Belanger: — Thank you.

The Chair: — Mr. Weekes.

Mr. Weekes: — Thank you, Mr. Chair. I would like to go back to the *Saskatchewan Electrical Energy Options* position paper, October 31, 1991. The second point on the executive summary stated that “SaskPower should undertake a complete economic analysis of the potential for demand side management initiatives . . .”

My question to you: did SaskPower ever look into the demand-side position management initiatives after this report was brought down in the 16 years of NDP government?

[14:30]

Ms. May: — What I can answer is, I cannot speak directly to whether, you know, in that documentation, whether or not we actually undertook or what kind of studies we may have undertaken at that time. But what I can speak to is the studies that we've been undertaking over the last several years to actually establish our demand-side management goals and our demand-side management programming as it currently exists.

And we do what is called potential studies, which is really studies that look at every customer classification or category, the kinds of programming that we would likely want to introduce, and we take a look first at the technical requirements of that kind of program, what kind of equipment, appliance, etc., you would need to have in place. We then take a look at what we call the economics of those kinds of activities. In other words, are there financial barriers to customers? We take a look at things such as, are there product quality barriers? Is there availability barriers? So we make a considerable assessment of the barriers to the marketplace for that kind of technology.

And then we layer on top of that some of our own market research, or market research that we commission, to then

determine what are customers currently using for this kind of appliance or this kind of equipment? How energy efficient is it likely to be? What is their pattern of usage? And what is their overall customer understanding of this kind of energy efficiency programming, and what they can do about it in terms of changing their own behaviour?

So all of the programming that we are undertaking today and into the future certainly is based on potential studies that I believe were referenced, those kinds of studies referenced in the past. I can't commit to or really state with any certainty what may have been done in the past, but what I can say is how we do demand-side management programming today. And our future plans are most definitely based on what we call industry standard potential studies, market research type studies.

Mr. Weekes: — Thank you. One more follow-up question. The question concerns the Saskatchewan Electrical Energy Options again, a position paper dated October 31, 1991. Did the previous NDP government ever direct SaskPower to look at the report or implement any of its recommendations which are in the executive summary? There are eight of them.

Ms. Youzwa: — This report was delivered in 1991 and I didn't join the corporation until 1999, and so I don't have any first-hand knowledge of what happened after 1991. We would need to go back into the files and see what kind of, you know, work or response was done formally to the set of recommendations. And we can certainly undertake to do that and provide you with a report.

Mr. Weekes: — I would appreciate that. I want to get a sense of where SaskPower was and what direction SaskPower was given in those days. I guess the question is, did the then NDP government give any direction or did they also say not to follow these recommendations? So if you would supply that information, I'd appreciate it.

Ms. Youzwa: — In my recollection, and again we'll supplement this with a sort of more thorough search of our files back at SaskPower, is that shortly after this report was delivered there was the appointment and the creation of the Saskatchewan Energy Conservation and Development Authority whose mandate was to look at some, if not many, of these areas.

Mr. Weekes: — Thank you, but I guess my question speaks to results and what was done with the recommendations. Were any of them actually implemented? It appears not, but I'd like your answer on that. Thank you.

The Chair: — Mr. Taylor.

Mr. Taylor: — Thank you very much, Mr. Chairman, and welcome again to SaskPower officials.

First let me preface my soon-to-be-delivered questions with a comment. The member opposite, Mr. Weekes, continues to ask questions about 1991 and I think that for those who are watching and for those whose memories can't go back that far, I think it is important for the record that the context be delivered as well. 1991 was a year in which Canada saw a province with the worst debt-to-population ratio in the country. Saskatchewan had more per capita debt than any other province as a result of a

few years of Conservative government here and, secondly, Saskatchewan was just coming off of perhaps the worst single year of population loss in the history of this province.

The circumstances that the member wants to discuss have certainly changed substantially, and I want to stress that I take to heart the comments that were made by the presenter just prior to SaskPower's arrival here. The Saskatchewan Chamber of Commerce gave very clear support to a discussion of Saskatchewan's future energy needs as opposed to a discussion or an inquiry as to what has happened in the past.

If Mr. Weekes wishes to discuss what has happened to SaskPower in the past, I think members on this side of the House would be more than delighted to engage in that debate or discussion and in fact I think we can look at the record. This legislature has sat numerous times since 1991. Every year, members of the legislature have had an opportunity to question the Minister Responsible for SaskPower, and it would be interesting to see if this report was questioned by any Conservative or Sask Party member in committee during that period of 16 years. How interested were the members opposite in the future of SaskPower during that period of time?

My questions, however, are related to the energy needs of Saskatchewan for the future. They range on a number of issues. They're short questions. I think the answers might be a little more involved than the question might suggest. But I want to start with the issue of demand-side management. And I just want a confirmation that indeed I heard correctly and that *Hansard* has reported it correctly, just a confirmation that when we are talking about demand-side management, that SaskPower is looking at 300 megawatts of energy savings or about 10 per cent of load growth into the future. Am I correct? Did I hear that correctly?

Ms. May: — That is correct, yes.

Mr. Taylor: — I'm just wondering if your microphone was on when you said yes. Could you repeat that when the microphone is on.

Ms. May: — I will certainly do so and I will elaborate a bit. Our short-term plans for demand-side management is to deliver 100 megawatts of energy saving by about 2017, and about 120 megawatts of capacity saving in about that same time frame. Over the longer term, what we are anticipating is a total of 300 megawatts of energy saving, and that's in the long term. So somewhere around the neighbourhood of 2023 is when we are projecting that long-term 300 megawatts of energy saving.

We are also at the moment, while we are talking of the 120 megawatts of capacity saving through programs such as demand response, we are looking at what we can do to add to that capacity saving as well. And we think that we can certainly do better at that in the longer term, maybe in the order of a grand total of 200 megawatts of capacity saving in the long term. But again those numbers in long term for capacity saving need a little more work, but we're fairly confident of the 120 megawatts of capacity saving short term.

Mr. Taylor: — Okay. Thank you very much for that. Second area of questions just has to do with the need, and I want to try

and identify or clarify perhaps where some confusion may exist. We've had a number of different numbers provided to us. In terms of long-term needs, SaskPower on the first day of hearings indicated little more than 4000 megawatts of new or replacement generation is required. Prior to that, I think the Uranium Development Partnership indicated that the need for power in Saskatchewan was 3000 megawatts. And prior to that, I believe the Bruce Power feasibility study indicated to the public that they were under the impression Saskatchewan needed 1000 megawatts of power, and that they could produce two, but 1000 would need to be exported.

Is any of what I've just said confusing to you as it is to some members of the public? How do we pull together these numbers so that we can respect SaskPower's 4000-plus megawatt number that was provided to us the other day?

Ms. Youzwa: — We can reconcile those numbers for you because those numbers were actually . . . Certainly the numbers we shared with you and the numbers that were discussed in the UDP report were numbers that were generated by SaskPower. The numbers that were discussed by Bruce Power, we would need to see the source of those and the reference for that. But they are . . . Let me talk first about the UDP and our supply, the paper that we gave you.

We spoke about 4100 megawatts. In what was discussed, as I understand it, in the UDP report was in the order of 3000 megawatts and that's a difference in the timing. If you don't count the short-term requirements, where we have already looked after just over 1000 megawatts, in fact 1091 to 2014, if you subtract that from the 4100, you'll reconcile it to the UDP number which is at 3000. So it did not take into account the commitments and the plans that we already have under way to secure just over 1000 megawatts over the next five years. Okay?

Mr. Taylor: — I appreciate that. Thank you very much. The Bruce Power number came out of their feasibility study and so I just direct you to that point. This takes me to my second set of questions on nuclear, was Bruce Power has indicated . . . And I think if we look at your list of experts that you have circulated here just a few minutes ago, Bruce Power is on your list of experts. Bruce Power has indicated that they've had discussions with SaskPower, that they've prepared their feasibility study in concert with SaskPower.

Of the go-forward positions, Bruce Power has indicated two things. They're prepared to move forward if they have a power purchase agreement from SaskPower, and that there is other investment, other than Bruce Power, in the grid — in other words tying them into the distribution of power that they would create.

Have your discussions — your, being SaskPower — have your discussions with Bruce Power got to the point of a discussion of a power purchase agreement or a provision of transmission and distribution?

Ms. Youzwa: — Let me begin, and I may ask my colleague, Mr. Wilkinson, to add in to my response. Our discussions with Bruce Power to assist them with their feasibility evaluation consisted of discussions of a technical nature where we

described what our energy requirements were for the future, and we provided them with information that came from our load forecast at that time and our capacity requirements. And they then were able to use that information to do their work.

We have not had any discussions with Bruce Power with regard to a power purchase agreement, and we've not received any proposals from Bruce Power that would allow us to move in that direction at this time.

[14:45]

Mr. Wilkinson: — Probably the only other pieces of information that we were asked to provide by Bruce Power was some indication of the scope and extent of what the grid in Saskatchewan looked like, the higher voltage lines.

Mr. Taylor: — Okay. Thank you very much. The next question has to do with wind power, and specifically work that SaskPower did in the past through the wind development unit, WPIDU [wind power integration and development unit], as you described it before — I'm trying to remember the exact initials there — but your wind development unit, and resulted in the development of some installed capacity for wind power. Part of that was, I'm assuming, a contract with Hitachi. I believe that Hitachi has credited SaskPower with their investment in Saskatchewan to create turbines and other matters here.

Can you tell us if there was a contract with Hitachi? To the extent that you can, what might have been a part of that contract with Hitachi? And can you also outline then whether you were at all surprised when Hitachi shut down, perhaps temporarily, their wind generation development capacity and did layoffs in Saskatchewan because of no future . . . no existing contract with SaskPower.

Mr. Wilkinson: — It starts . . .

Ms. Youzwa: — I'll start. If I miss anything maybe Garner might be able to add something here as well. When we did our first wind farm, it was a small project called Cypress. It was constructed out by Gull Lake. And at that time we were talking to various vendors to provide equipment and supplies for that project. We needed someone to manufacture the wind towers for us and we approached Hitachi and asked them if they would be interested in looking at doing that for this project, which they did.

Then the next project we did after we had some experience with Cypress was the centennial wind project, which is a substantially larger project, and that project was done by SaskPower International. And when we went out for that project, Hitachi bid to supply the wind towers for that project and were successful. So they supplied the wind towers for that project. There was about 83 towers, I think, required from that.

They subsequently were able to build and expand their wind tower business in Saskatoon, and they have expanded their operations there and have gone well beyond supplying SaskPower with wind towers. They have recently, I think, temporarily seen a slowdown in orders. This is very much reflective of what's happening with many wind projects as a consequence of the downturn in the economy and some of the

difficulties these projects have had in getting financing. So I think the expectation is that this is a temporary downturn and likely to return, is what my understanding is.

Mr. Taylor: — A follow-up question and then I'll yield the floor to other members, although if I can have a second round of questions before we leave I'd appreciate it.

A follow-up to that, I'm assuming that the contract, the work that was done with Hitachi, would put them in good stead for acting in a supplier capacity with the proposal that you have on the table for perhaps doubling the wind output in Saskatchewan in the near future.

Ms. Youzwa: — Hitachi has been quite successful in bidding to supply wind towers in a number of projects across Canada and I think perhaps even into the US as well. Given the success that they have, I would expect them to be competitive suppliers for any future wind developments in Saskatchewan.

Mr. Taylor: — Thank you very much.

The Chair: — Mr. Hickie.

Mr. Hickie: — Thank you, Mr. Chair. Thank you, Ms. Youzwa, and to your officials as well for coming back today for us. Just a question, I'd like to start with the cogeneration I guess. You have two projects in Saskatchewan right now. We heard from some presenters here that SaskPower hasn't always been the most willing partner in adopting or looking at cogeneration on their sites, save these two we talked about, you guys mentioned on the first day of presentations. What criteria do you use when a corporate entity comes to you and requests cogeneration on site as part of their long-term business sustainability plans?

Mr. Wilkinson: — Would you repeat the question please.

Mr. Hickie: — Yes, sure thing. What process, what policy does SaskPower employ when a corporate entity comes to you in asking for the availability or possibility of cogenerating on their site to provide power needs that would be utilized during peak time demand and/or when there's outages? And what kind of process is followed by SaskPower in liaison with these corporate entities to see whether or not you will in fact allow that?

Mr. Wilkinson: — Maybe I'll start. In the case of Lloydminster at the, call it the Meridian cogeneration site, we actually had a competitive process to see who would . . . I mentioned before that sometimes competitive processes bring the sharpest pencils to SaskPower's attention. And so you asked what process. At that time, there was a competitive process, and then a group was selected, and then a project taken all the way through to completion. We call it a power purchase negotiations where you sit down and sort of hash out all the operational terms, the commercial terms, how it's maintained, how it's started, how it's stopped, how it's taken out for maintenance so that there's safety on both sides of the fence — very complex agreements. They take six to nine months, so it's an exhaustive process. But that one was a competitive process.

In the case of Cory, I think we had a competitive process to find

a partner, and that's a potash mine situation in the Saskatoon area. And once again, power purchase agreement is negotiated with the parties.

Currently, although you spoke specifically about cogeneration, in our first set of presentations to the committee, one of the things we mentioned was we're in the process, if you will, of having another competitive process, an RFP or request for proposal if you want to think of it that way, for a baseload. Cogeneration could fit underneath that definition. Cogeneration is one where there's electricity generated, and the waste heat is used to raise steam for an industrial process. More often than not, those are seen as . . . They have to run fairly steady so we call them sort of baseload or intermediate to baseload. They run quite a bit, not so much the peaking style at all.

So we have a competitive process. The process that we used most recently in talking about this baseload style of generation, we went for a request for capabilities to see who could actually have the wherewithal to bring us a project. If they passed that, then we went for the RFP, and they participated in that. And so the one that we're now currently working on, we talk about Meridian and we talked about Cory. The next one that we're kind of working on of the baseload ilk, that evaluation is being conducted now.

But that's kind of the process: a request to see who's got the capability to do this, request for proposal, then evaluate the proposal.

In this particular manifestation, the most recent one, the power purchase agreement was essentially crafted in advance of having selected the winner. So it should take less time overall because that complex power purchase agreement is largely done now. So the process in the recent one is a little different than the processes we've used in the past. Does that help?

Mr. Hickie: — Yes, it does. Thank you. That sheds some light. And where I want to go next then is, in the past then . . . I'll talk about Weyerhaeuser in my community, Prince Albert, that for a number of years, they were looking at a cogeneration facility. They finally put extra boilers in place. But the media always said that it was SaskPower that denied that, to allow them to put cogeneration back on the grid.

We've also heard from Saskatchewan Mining Association representatives. They are the largest consumers of power — we know that — in the province. Some of their facilities actually have to stop production, slow down or shut down until they get power back on the line again because of an outage. And that's not just up north either. We're talking about some large potash corporate entities in the southern part of the province as well. So if that's the case and . . . Weyerhaeuser first. I mean, this is a two-part question. Was it true what the media was saying, that SaskPower was the one denying that?

And the second part of this is going to be, if a current mining industry or corporate entity wants to come to have a cogeneration facility on site and has excess power, will you entertain every option without going to an RFP? If they came to you, would you entertain that?

Mr. Wilkinson: — Maybe I'll start, and we'll come back to the

Weyerhaeuser situation. When we talk about on site generation . . . and I'll come back to some of the words that you used. Most industrial customers have the right to generate power on their site for their own needs, and we call that self-generation. In other words, they're not trying to sell extra to us. It's more like they're going to use it for their own needs.

Quite often in those circumstances, the industrial customer, he builds his generator as did Weyerhaeuser. It looks after most of the electrical needs of the Weyerhaeuser situation. But from time to time, their generation might not be available to them, and they would essentially want to buy shortfall from us, standby, backup power. You have to factor that into your forecast a little bit because there is a chance that their generator will be down, and they'll ask you for power at times when you are having your own load situation. So that kind of is the self-generation aspect. That is, I would say, available to all industrial customers. They can self-generate for their own needs if they choose.

Coming back to . . . I think the second part of your question is if they want to generate substantially more than their own needs, say. And even with Weyerhaeuser, from time to time, if they felt that they were going to have some kind of partial load situation — maybe they were not needed to have so much output — they would say, look we have extra; are you interested in buying that? And we'd work up a short-term deal to take it off their hands if it was reasonably priced, if it was a good deal for the customers of Saskatchewan.

For your second case where they want to generate kind of way more than the load that they currently have on their site, I mentioned that sometimes if you go through a competitive process, that's actually a good thing because, at the end, you get some of the best of breed to come forth and you can sometimes keep overall costs down.

We do get, we call them unsolicited proposals from a great number of folks and we often go back and forth to see roughly where they're at in their feasibility checks. This is not a trivial process at all on their part. And at the end, if we can . . . For example, if we go through an RFP process as we are right now, they would have the ability to throw a bid in if their own sort of homework on what they do on their side of the fence is developed enough.

From time to time I guess, if it's an unusual circumstance where there's not a whole bunch of folks who are looking at sort of the same technologies . . . Maybe biomass falls into that category a little bit although biomass was also one of the technologies that this baseload RFP would entertain; it was on the list. But for things . . . and I'll just mention one like polygen where there's likely only one site and maybe only one proponent, an RFP process is not useful.

Mr. Hickie: — Thank you. Just another one or two questions on the same line here. Would SaskPower be prepared to table with this committee the self-directed, I guess, proposals that have come from industry? How many have you had in the last 10 years, and how many have you denied? How many have you accepted? Not in RFP.

Mr. Wilkinson: — Often the proposals that we get are not

written. In other words, you get visits from folks who have an idea and they say, look we're talking about this, where they often want to know roughly where our pricing is. And so we'll have some discussions in very generic ways around that. We won't share sort of trade secrets with other IPPs and that kind of stuff. The proposal, sometimes it's just as simple as a visit between some executives from their company and some executives from our company. Other times they will give us a fact sheet about their stuff. It's not always in the form of a proposal, a written proposal.

Mr. Hickie: — So then right now then as you sit here today, are you able to tell us how many of those proposals were presented by a corporate entity and you denied them? They were reasonable offers; they liked your price; and you said no, we're not interested.

Ms. Youzwa: — I'm not aware of any that we would have received a proposal from that would have met our sort of requirements, including pricing, that we have denied. Gary.

Mr. Wilkinson: — At the end, people who come in and want to talk to us, if we're in the middle of a competitive process as we are right now, I am required to say I'm not entertaining any proposals while we have open bids.

So I'd like the committee to think of it this way. If I go and solicit competitive bids from 1, 2, 3, 4, 7 entities and while that process is going on someone shows up and says, I have a deal I'd like you to consider, we by necessity say, sorry I won't consider it while I have an open bid out there. Otherwise why would anyone go through our competitive bidding process if they can do it on the outside of that process? So at the end if people want in and want to talk to us while we have an open process, we will say no, it'll have to be another time.

Would we reject it? I don't know. At the end we won't even hear it if it's not coming through that process. There's people who spend a lot of money to come through a competitive process to give us a bid to generate electric power for us. That's not a trivial . . . that's not something you want to undo. Does that make sense?

Mr. Hickie: — It does. Thank you. Just one more follow-up, then. We have heard that the potash industry is looking at new greenfield expansions in our province. Now on that note, with the RFP I guess we'll have to make sure that they're part of that process to generate the power if they're interested, like you have already with the two cogens.

But in the future — the committee may address this in the report even — that any and all new corporate entities in the province will be entertained by SaskPower, I think it's an option that . . . We talk about our growing demand needs and we're talking about the \$15 billion cost. I think if we could partner with private industry, I think we have to look at that, and I hope that SaskPower is not averse to that.

Mr. Wilkinson: — Maybe just to comment on that, I would suggest probably in the larger installations — and I'll just mention Meridian and Cory — where we have kind of partnered up to have very long-term power purchase agreements, I think in our first presentation to the committee we

had hinted that those have been successful in our estimation. Does that bear repeating? Yes, we have enjoyed success with that so far.

[15:00]

The Chair: — Mr. Wotherspoon.

Mr. Wotherspoon: — Thank you very much again, Ms. Youzwa, and officials. Specifically could you let this committee know at this point in time what you have available at this point in time or open for RFPs that are open to the public at this point?

Mr. Wilkinson: — Well maybe I'll start. Open to the public is . . .

Mr. Wotherspoon: — Wrong term?

Mr. Wilkinson: — Yes. It was open to those who essentially passed the request for qualifications phase, the RFQ phase before you get to the RFP phase, so I guess the RFQ phase was really wide open, but you had to come through a bit of a filter to be eligible for the RFP process.

The one that's open now is a baseload RFP which means it's for generation that runs fairly steady; it's not to be cycled so much. And it is to be in place by, I think, it's December 2012. My understanding is the bids have been received and are in a bit of an evaluation process currently.

Mr. Wotherspoon: — How many megawatts is that RFP for?

Mr. Wilkinson: — I believe when we went through the RFP stage we said 200 to 400 megawatts.

Mr. Wotherspoon: — Have any others recently closed?

Mr. Wilkinson: — Yes, we had an RFP for a peaking facility. This is one that is cycled and goes up and down with the load. It has a more flexible operating style to it as distinct from the baseload, and that would have closed probably in, I'm going to say, September of this year.

Mr. Wotherspoon: — The Northland . . .

Mr. Wilkinson: — Yes.

Mr. Wotherspoon: — The Northland contract. That takes me to that question. I'll come back to some other . . . But now that that's a closed process, what is it fair to say, out of that contract, that SaskPower is paying for peaking power based on that contract?

Mr. Wilkinson: — What is it fair to say?

Mr. Wotherspoon: — Well yes. What's the fair per cent, I guess, or cost-per-kilowatt hour for peaking power. I looked in the other . . . You supplied lots of information for all power sources, and this one wasn't there as it relates to estimates around peaking power.

Mr. Wilkinson: — There's maybe two points on that and I

would urge the committee to . . . And I go on at length about baseload versus peaking. So the cents-per-kilowatt hour for peaking is really highly variable. So if you're having a really cold day in the winter you run it quite a bit. And the fixed costs that you spread over those kilowatt hours is one number. If you don't run it because it was a warm winter, the cents per kilowatt hours is almost infinite because I didn't run any power out of it. So the cents per kilowatt hour on peaking facilities is not a good measure. Okay.

The second piece to the question is, as is the case with, and I'll just say some of the IPPs [independent power producers] — the Meridians and the Cory cogens — when some of those folks go through a competitive process, they don't actually want the commercial terms released to the general public. And so we often say, okay that's fine with us. At the end, we went through a competitive process, we think we got a good deal at the end. So we don't actually publish those.

Mr. Wotherspoon: — Thank you for the points on peaking. How is it evaluated then, I guess from a . . . Because I understand that you have these fixed costs and they might not be utilized, and so it's very difficult to break down for the volume that's being utilized. What are some of the basic principles in a peaking agreement that you'd be looking at?

Mr. Wilkinson: — Well often it's the cost to get the equipment installed. For example on the peaking units, if they're natural gas-fired, you often run it through a bit of an evaluation process; what's its heat rate? When it is running, how much gas does it use to make the power? And the heat rates vary a little bit for that kind of equipment. And that's one measure we use in a production modelling tool we call PROMOD.

The other one is, what does it cost to get the thing built? In other words, it's the capital cost that you essentially pay, through the amount of monthly charges, to the successful proponent.

And then there's a few other facets that tend to be influential. And I think in our first session with the group, we talked about having to match the generational load and the difference shows up on systems of others. That's a key concept.

When you're looking at peaking generation, to answer your question, the faster it can start and the faster it can load follow, it becomes more appropriate for . . . And gas turbines of the simple cycle nature, there's a variety of that. And you can factor that into your assessments as well, sort of short-term economics.

Mr. Wotherspoon: — Thank you. I believe it was shared here today that 1000 megawatts has been committed to and planned for in the next five years. I would assume that these RFPs right now, or the RFP that's open right now for the two to four is encompassed within that. Can you speak to the other 1000, obviously I guess by source, and whether or not you're looking for stable baseload and what might be some of the intermittent sources and what mix of that 1000 megawatts you're looking at?

Mr. Wilkinson: — So in the very, very near term, the very, very quick peaking style of generation.

If you've got your pen handy, we'll go through it. I think there's — and it was in our slides at the start and I'll try to recall the slide without looking it up — but 104 megawatts at the Ermine switching station and 141 at a station called Yellowhead. Oh that's what it is: 105 at Queen Elizabeth and 94 for Ermine. That's why I'm checking in behind me here because they've kind of got it. That totals to 340.

We have the RFP that just closed. That's the one that closed in September that we were discussing and that came in at 92 — 92 megawatts for that one. And then we talked about — I think we mentioned this last time — that there's a small wind power project that's 25 megawatts. And then the baseload RFP, this is the one for 2012 that we discussed earlier, 200 to 400, so I think we probably used 400 in that. How are we doing?

Mr. Wotherspoon: — You're getting there.

Mr. Wilkinson: — Are we getting close?

Mr. Wotherspoon: — Yes, about 850 — somewhere around there, yes.

Mr. Wilkinson: — And so also in that, and this is probably still in development, is the Boundary dam no. 3 retrofit to be a clean coal unit. And right now the capacity, the number of megawatts that's listed on that is about 115. Maybe that'll help close the gap a little if we're getting close there.

Mr. Wotherspoon: — Thank you. The Boundary dam clean coal project that's being looked at, I believe there's a . . . I guess if I can just get a quick recap. And I know it was mentioned last meeting, but how much capital's been committed at this point? How much of that was the federal government dollars at this point in time? How much is left of their portion, and what's the projected cost for new dollars, Saskatchewan dollars?

Mr. Monea: — My name is Mike Monea. On the Boundary dam project as of the end of August we've spent \$18,886,940 and we hope by the end of December of next year we'll be at \$97 million.

Mr. Wotherspoon: — These are the federal dollars, was it around two forty, I believe. What's your schedule on the out-years then or the timeline in the need for new capital for the rest of the project?

Mr. Monea: — At that point, in December 2010, we have a go or no-go decision, so it'll depend if the project moves forward or not.

Mr. Wotherspoon: — What's happening as far as cost information? Has there been any changes? Or at this point in time, what's the total cost of the value of the project?

Mr. Monea: — The project is at \$1 billion. You may have heard some numbers a few months back of 1.4 billion, but the 400 million was the cost of injecting the CO₂, and that's not our cost. That'll be the industry cost so we took that out. And the project total cost is \$1 billion.

Mr. Wotherspoon: — Do you have industry partners

committed to the 400 million?

Mr. Monea: — I'm trying very hard to find industry partners.

Mr. Wotherspoon: — A question, I guess, back to — I don't know if it's maligned by its name, the WPIDU project here. There was, I believe, a report that had been set to be released in May 2009 as far as sort of the go-forward strategy for that unit. Has that occurred?

Mr. Wilkinson: — Maybe I'll start with that. There was two pieces that the wind power integration development unit, one was to come forth with a strategy and just say, is there room for more wind? The other part was to work with the wind community and kind of compare wind measurements across the province.

So anecdotally, people who want to understand wind power in Saskatchewan, many of them for many years will put up wind towers and measure the wind at a certain location for a period of time. Well not everybody was doing this in the same location, so an independent contractor was hired to kind of, on an anonymous basis . . . is take everyone's rather proprietary data and try and assemble a wind perspective for Saskatchewan from that data. And that's another piece that was to be completed again by spring of May 2009.

So I would suggest the two pieces that did complete . . . That wind diversity assessment with various parties on an anonymous basis compared the wind data, and then they shared that with the various proponents who submitted the data. That did complete. And the strategy, the WPIDU strategy — I hate to perpetuate that — but that strategy also did complete. And that's the group that came forth that says you can probably add about the same again and stay short of the operating difficulties that we've discussed at length in the first meeting.

Mr. Wotherspoon: — Will both those reports be tabled to this committee?

Mr. Wilkinson: — They may not be reports. At the end they may be assessments that were done by engineering groups.

Mr. Wotherspoon: — That information or some summary of it then . . .

Mr. Wilkinson: — I think the diversity study, I think we've released to the people who submitted the data. I'm not aware that I can't . . . I don't think there's anything proprietary in there that I can't release, but there might be some sensitivities around there that could be checked. And the WPIDU work probably came to us in a number of different silos of work. I don't know what the status of that report is, whether it's suitable for public or not.

Mr. Wotherspoon: — Okay so if you endeavour to . . . [inaudible interjection] . . . Sure. And if you're able, that'd be great. And these are good resources in the end, and I am pleased to hear they've been undertaken. We heard about, I guess, the coal Bible that was referred to by individuals as it related to coal and some of the work that had been done by the province at one point in time. And it was kind of a vast inventory of resources in this province and a very important tool I think to

that industry. Just the same when we're looking at renewable, and certainly some of that work's been undertaken by SaskPower, that seems to be an important source of information. So thank you.

Mr. Wilkinson: — If the committee is interested, for every wind developer that comes to see us, we actually provide generic wind maps of the province showing kind of where it's windy and kind of where it's not, based on maybe not the individual proponent's information but more generic kinds of information — at the various heights above ground, close to the ground, maybe not so windy, but higher up . . . If you're interested in seeing an example of that material, we could table that as well. It is interesting if you're at all interested in the topic of renewables.

[15:15]

Mr. Wotherspoon: — And my last little bit of line of questions here — and I'll kind of get it out here and then — is that we've received some information that is contrary to some of the estimates that were put forward as far as the cost of power, that were put forward by SaskPower. And I just simply look for your response on that and if you've referenced some of this material. And it was a particular source that was being utilized. It was presented to us last week, and it was by a group from the Energy Information Administration, or these were the numbers that were being cited. And there's quite a discrepancy as far as the capital costs for wind and for hydro and for even coal-fired plants comparative to SaskPower's information.

I kind of cited some of the examples last week and of course have no judgment or no ability to judge, other than the fact I now have two pieces of information with very different information. So it would seem that their numbers to develop are much less in their cost per kilowatt hour. Just looking for your response.

Mr. Wilkinson: — Welcome to our world. The costs that we get . . . And I'll just start more generically. Big ones and little ones have vastly different cost rates. So when you say wind, you conjure up an image of one technology, but it really comes across a wide array of sizes. And for example, some of the information — I think we mentioned this in our first session with the committee — is somewhere between 80 and 100 megawatts you start to turn the corner on economies of scale, and you can watch the price come down quite a bit if you're going to be above that threshold. Below that threshold, watch out. The costs can be almost anywhere.

In terms of coal generation — and I'll be one of the first ones to say clean coal technology — whether you're going to gasify the coal and make electricity from that or use some post-combustion capture or try some oxy-fuel, I don't think it's unfair to say that you could have 100 per cent difference in the cost estimate in terms of sort of cents per kilowatt hour given sort of where the various folks are with the various technologies.

I hinted in our first meeting with the committee, between 2005 and 2007 we went through a period where it didn't matter what you were building, the cost of steel, the cost of labour, the cost of getting engineering . . . I think I probably quipped that a

great, a great relationship with the supplier meant he might actually return your call. That's how tough it was getting between '05 and '07. And we actually watched costs for projects, and in Alberta they were building a coal unit and it was this . . . It was priced A in 2005; in 2007, it was 2A.

And so welcome to our world. Updating your prices in this post-2007 era is a bit tricky because the cost of capital has changed. The cost of steel has changed. Engineering is getting a little more reasonable. But at the end, having to redo all that . . . And so if you're looking at someone who's got estimates that are even a year or two old, watch out. We've noticed the same thing, and that information that we gave you, we gave you fairly wide ranges possibly for that reason. And we also said that this is pretty generic information pulled from a variety of sources — some old, some new.

Mr. Wotherspoon: — Thank you.

The Chair: — Mr. D'Autremont.

Mr. D'Autremont: — Thank you. I'd like to welcome you here today. I know Mr. Taylor commented about going back to the 1990s. When you talk about a \$15 billion need to upgrade the system, both for renewal or new generation, for transmission systems, I think it's important to understand why we have arrived at that number and how we have arrived at that number. So I think that's part of the reason why there was questions related to the past and how that pertains to today and to the future to understand how we ended up needing \$15 billion — and I'm assuming that's in today's dollars, not how that may grow into the future with inflation or deflation.

I was going to ask some questions as well along the line that Mr. Wotherspoon just did as to the costs, because we certainly did see a huge variance in the cost indications, although in fact the costs for nuclear were comparable to the numbers you had provided us.

The large differences were on hydro, which the individual using the US energy information was at \$1,500 per kilowatt; coal-fired plant with scrubber was 1,290; wind was 1,280; and conventional open cycle gas turbine, 420. And yet your numbers were coming in three to five times that. Now we have no idea what time frame his numbers were indicative of. I think they were probably about 2007 or maybe 2006, so that certainly will have an impact. So we do need from SaskPower, as we make our deliberations, the best numbers that you can provide us with when it comes to make our recommendations so that we are actually comparing apples to apples as we compare the various different possibilities.

The numbers you had provided us with solar were very high — 43 to 180, let's say, cents per kilowatt. I think that was the number. I want to talk in megawatts, but I have to break that down. Yet we received information from a number of the presenters that the costs are considerably less than that now. But they're talking very small units. And so for a 6300-watt unit — and I don't know how big that is — they're talking 13 cents a kilowatt hour. I'm not sure what a kilowatt hour is compared to kilowatts that we're talking. I'm assuming they're both the same thing. But they're not. Okay. Then you can explain the difference to us then, if you would, please.

Mr. Wilkinson: — Okay. Maybe I'll start. Again, solar is one of those words where you actually want to have an understanding of the technology. Solar is used to capture heat, so solar radiation warms up black pipes with water in it. It's actually quite effective for that, works really good. You actually see quite a bit of that around the world. You're starting to see quite a bit even in Saskatchewan.

Photovoltaics, where they actually take the light from the sun and convert it into electricity, the 43 cents that we're talking about there is more that style where you're trying to convert it to electricity. The 43 cents is kind of an interesting number. I think in Ontario they're trying to incent people to put up rooftop photovoltaics, okay? So that's the same kind of technology. And they've started their subsidy at 43 cents trying to bring that technology forward.

So you get a lot of people who will sell you this. It's not installed and all that kind of stuff, but in Ontario they've got the bar raised at least that far, trying to incent people to put some photovoltaic solar installations on their rooftop. I'm not sure how much activity they've got at that price yet, but we believe they came up with that price trying to incent people to do it. So we think that's maybe not a bad figure, because at least one government has said that's probably how high we've got to raise the bar to get some action on the solar front. So maybe that's where the 43 cents came from. That's sort of a better kind, a bigger kind of arrangement. As you go smaller and smaller, our understanding is the prices actually get higher.

In the SaskPower context we've run a few experiments with solar to try and understand the costs. I think we have a 2.8-kilowatt solar set of panels out at the Powerhouse of Discovery here. Also in the SaskPower experience with solar — this is a little different kind of arrangement, and I'll just take a minute of the committee's time — is we have a remote feeding station for cattle. And maybe you require some power to keep the trough relatively full, but not overfull. We have had a program for a number of years now, livestock watering. And what it really means for us is that we don't have to build a line out to the middle of a field with almost no load on the end of it. And so it's really good for us.

I think the grant is \$500, \$500 again trying to incent folks to do that. It's more than just an energy saving for us. It's really not having to take the line out there. So it's kind of a good deal.

I think since 2001 — I think I've seen the tally and I think this is pretty close — about \$850,000 of grant has been paid out to achieve those kind of things. That would be approximately 1,700 installations. So we've not gone as far obviously as SaskPower, as perhaps the Ontario government, but we have had some solar and other kinds of installations away from the grid to save line cost. It is win-win. The farmer or the rancher is happy with the result and we're happy with not having to take a line out there with no load on the end.

Mr. D'Autremont: — Thank you. One of the issues that has been raised with us is the costs of decommissioning and environmental cleanup of plant sites, a huge concern for anyone in the nuclear industry. It's raised quite often by those in opposition to nuclear power that somebody is going to bear these huge costs to clean them up. We did receive information

today — the committee did — from AECL in regards to New Brunswick Power that they contribute \$4 million annually to a trust fund for long-term management of the used nuclear fuel, plus they estimate they will accumulate between 6 and \$700 million in a separate fund called the decommissioning segregated fund which they are putting in \$15 million a year on average, it says.

Do other plants have these kind of funds that they are generating? Or what kind of cleanup decommissioning costs are there to various plants such as if you're decommissioning the one out at Success here possibly this year or next year? There's a possibility of . . . One gentleman today suggested we shut down all the coal-fired plants within four years, although he then said that we may have to extend it longer if we didn't have power. So if to decommission these plants and to do an environmental cleanup . . . you look at the coalfields around Estevan and Coronach. Is money being set aside for that, and what kind of costs are there associated with that?

Mr. Wilkinson: — In the coalfields they kind of restore it as they go along, and so that they're kind of incurring some of that expense to return the land with plants on it and that kind of stuff as they go along. And they try to keep up with the mining operation as it proceeds. For other plants . . . And maybe Success is maybe not such a good one because the expenses to site restore it or bring it back to its natural state are actually fairly minimal. But on the books — and maybe Sandeep will help me here if I get in too deep — we carry on our books site and restoration. It's a statement of what kind of obligations are in front of us for the sites that we own as SaskPower, and so it's actually . . . There's a category in our annual report that talks about that.

With respect to the nuclear group, the annual reports of folks in New Brunswick, Ontario, and Quebec, in their management discussion and analysis there's often a description in there of what they believe their future obligations are with respect to sites that they're currently operating. And so for public information you could just go into their annual reports and get a sense of what they have to do, sort of by rule and by regulation.

Mr. D'Autremont: — From the information from AECL, it looks like there's actual cash going into funds. Is there actual cash going in to fund the obligations of SaskPower's plants or of Meridian or Cory or the other cogens in Saskatchewan?

Mr. Wilkinson: — I can't speak for the Meridians and cogens in that the site restorations would not be our problem. That would be factored into the power purchase agreement. So we pay cents per kilowatt hour to cover their costs, but those are IPPs, independent power producers. Those costs would largely be that entity's responsibility.

In the case of nuclear, the nuclear regulations suggest you will actually put cash aside for this. It's not a provision on the books. You have to have a cash account. We don't have those regulations for site restoration. It is recognized as a forward obligation.

And I'm just going to look behind me and see if there's anything else I need to add from. So the forward liability as listed on our books, \$54 million, but there's no cash set aside

for that.

[15:30]

Mr. D'Autremont: — Okay. So SaskPower has estimated the cleanup costs of \$54 million for Shand, for Boundary, for Queen Elizabeth, for all the sites across Saskatchewan.

Mr. Wilkinson: — Yes.

Mr. D'Autremont: — Is that a realistic number? I don't know.

Mr. Wilkinson: — We have historically . . . One of the really old plants at A.L. Cole was taken out of service some years ago, so we have some experience taking plants out of service. And so at the end that is our estimate. But we have some experience doing it, so I think that's useful to know.

Mr. D'Autremont: — Well I'm just thinking of the costs that have been associated with the environmentally sensitive site in P.A. [Prince Albert] where the old creosote . . . and I'm not sure. That's been significant and it's an ongoing concern, and that's one small site.

So I don't know how environmentally impacted the sites you have are, but certainly that one small site has been a significant cost for many years, and an ongoing cost. And I just wonder whether \$54 million is sufficient. When you gave us the numbers for your costs for generation, has that cleanup obligation been included in those costs?

Mr. Wilkinson: — I would suspect that if it was significant, in the case of the nuclear one, we'd have to bring it in. I think there's notes at the bottom, says whether it's got the rear end costs included in the cents per kilowatt hour. I think there should be some notes to that effect. If it's not there, it's in the larger document that has kind of notes at the bottom — says what costs are in, what costs are not in.

One of the things we sometimes do, and I'm thinking . . . The example I'll give you is from like way, way back where we actually took over diesel stations from around the province. Like way, way back, every community kind of had its own diesel generation. This is before they kind of all got hooked up together. SaskPower took over those sites.

Often what we do is we actually go and you just poke some holes, bring up the core samples, and test for hydrocarbons, heavy metals, and those kinds of things. And so we actually have not a bad inventory of maybe where the sites are not too bad and where the sites are a little trickier. For stuff that's going to be in service for a very long time, maybe it's a little soon to be punching holes to see what's in the dirt there just yet.

But 54 million at this point seems reasonable, but maybe there's more.

Ms. Youzwa: — I'm just going to ask Sandeep to elaborate a little bit further on that \$54 million and give you a fuller picture of what we have provisions for.

Mr. Kalra: — Sure. This information is listed out in our notes to accounts, note number 18. There are two obligations that are

listed. One is asset retirement obligation which is for decommissioning of our plants. That's gas, coal, natural gas, cogeneration, and generation facilities. Does not include liabilities related to any future hydro generation assets or transmission or distribution of assets. So that's roughly \$53 million.

In addition, there is a liability of \$54 million which have been set up for environmental remediation liability. So there are two of them.

Mr. D'Autremont: — Okay, thank you. I think it would be helpful to the committee if you could include the future obligations for any decommissioning and cleanup, both current and projected generation, so that the numbers that we're looking at reflect the same kind of structures.

The Chair: — I'm going to ask you a couple of questions here — try and use up about 10 minutes of time like the other members have been getting.

Wind. You told us when you were here on the first day that about 30 below is when most of our wind operations . . . [inaudible interjection] . . . My colleagues are joking. I'm saying use up, but take advantage of your time for about 10 minutes.

Thirty below was kind of the cut-off for SaskPower's wind operations. We heard from a couple of presenters that actually in the Arctic they're using wind generation to power certain things. I guess my presumption is that you're using large utility-sized machines. In the Arctic, they may not be using such large machines, and it may be easier to winterize them. Maybe give you a background of what we have heard and then I'll throw my question at you. Then we've heard that of those large utility-sized ones, you can get winterized packages and that possibly Northwest Territories is utilizing that. I'm presuming it adds cost to it. Could you possibly talk to us on increased costs to make our fleet acceptable at 45, 50 below, and if there is a hard number that we can't get past?

Mr. Wilkinson: — Yes, so maybe I'll start on this. We probably were interested in seeing the big wind farm. I think it came on in 2005, which means we were probably making the decision sort of 2002, 2003 because it always takes a couple of years to get that stuff built and online.

At the time that we were chasing the wind, the 30 below cut-out was there. The coldest it had ever been in that area was, within a number of degrees, was 45 or 46 below. And even to get the equipment that we were getting which cuts out at 30 below, we had to go through a special engineering review to make sure it would survive at 46 below. Just in case it went the coldest it had ever been. You don't want . . . It has to be fail-safe, is really what it is. It may not be running, but it must not be damaged by the cold.

And I was talking about the blades in a discussion with some of the engineers. A lot of the steels that we use . . . That's a pretty tall tower, and so at 46 below you just had to do that extra due diligence to make sure it would actually survive those temperatures.

In more recent history we're saying that you can get new packages that can go colder, but I think you hit it right on the nose. It's a dry cold. It's apparently not a windy cold either. Apparently when it goes desperately, desperately cold the amount of energy that you would get during those time frames is . . . It can be modest, because sometimes it goes deathly still when it goes, you know, desperately cold like that. Not always, but . . . So in terms of the economic trade-off, I just asked our folks, if you had it to do all over again and you could get to 47 below, would you chase that extra energy and pay the extra cost? He said no.

So at the end, they're kind of happy with their cut-off as it was. But yes, 30 below is where we . . . You can pay more, but you don't get a whole bunch of energy out of it, which is kind of key for recovering the extra expense. That would be my guess.

The Chair: — Okay. Sticking with wind, you said that going to 8 per cent, we're still kind of in the margins of the fluctuations of our system if we can take our wind capacity up to about 8 per cent of . . . If we want to push up to 20 per cent, you know, we're no longer playing in the margins. We're offsetting it with probably peaking gas generation, potentially peaking hydro. So you know, at 8 per cent, you're playing in the margins. Once you get above that, you're offsetting.

That question was asked on the first day and, given time to mull it over in my head, I guess I want to kind of ask the same question again. What is the cost to have a gas turbine sitting there to make up the difference? If wind is good 70 per cent of the time, it's only running 30 per cent of the time. Is there a palpable number that you can give me for how much extra capital you have to have sitting there doing nothing so that you have a constant baseload?

Mr. Wilkinson: — So at the end we're adding some very flexible styles of generation right now, and we call those the simple cycle gas turbines. Those are the ones that can move up and down quite quickly, so they're actually decently suited for the kind of activity you're mentioning. Probably 150 to \$250 million would get you 90 to 110 megawatts of that stuff — approximate, very approximate numbers, but give you a sense of the order of magnitude.

The wind power integration and development unit, they did their work, and they felt that you could go up to around the 8 per cent before you started driving the need for the extra cost. They also said you could go up to 4 to 8 per cent before you incur factors that become harder to manage. And so you can always spend more and put more wind in.

When we talked to the committee the first time — and I'll go back just a little bit on that — we said that whenever you don't match up real good, it can kind of show up on your tie lines. And none of our generators moves as fast as some of the things on our . . . The load can change quicker. Generation can go on a heartbeat. So you have to be very, very cautious that what the . . . As you go higher and higher in what we call wind penetration levels, is that you don't create what in our industry is called transmission congestion. In other words, you've left so much space on your tie lines to take the swinginess that you will get from time to time, and that's primarily where NERC [North American Electrical Reliability Council] comes in.

The Chair: — If I could jump in there. I understand the mechanism that your tie lines pick it up. What I'm driving at is, if we're going to 20 per cent wind, you're no longer in the margins. You're building peak capacity and you're paying a premium for it. And I think that, you know, that premium is probably on the back of the wind. That, you know, we may see wind as 12 cents a kilowatt hour or 8 or 15. I guess I want to know if . . . As we go higher, I think we heard as a committee that people are willing, potentially, or some people are willing to pay more to have more renewable, you know. But how much are you willing to pay and how much will it cost?

Jumping up to where you're either pulling it in on your tie lines or having your own infrastructure . . . Because I guess you're telling me as an operator you don't want to be weighing down your tie lines. You almost have to have that infrastructure just sitting there waiting. If we start getting up in that 20 per cent range of wind, how many cents a kilowatt hour of capital costs do you have sitting there that have to be allocated to wind?

Mr. Wilkinson: — Yes, to get your head around that question — and some of it is in production modelling tools in the short term — but anecdotally we tend to watch folks who have gone well beyond the 8 per cent and see what's happening to them. And I think the hero of the world right now pretty much is Denmark. Now they have more interconnections to the outside world than we have, so it's a slightly different kettle of fish. They can maybe cut into their transmission margins a little more than we can just because they've got more of it. Denmark, for example, has — I think I got this right — about one-tenth of the service area that we have, and I think they've got 6 million people in there. So they've got more ratepayers to kind of take up some of the extra costs than we do.

I don't know how they're actually incorporating that amount of wind into their footprint without sort of creating an issue, and it always comes down to two things. You get driven to some very uneconomical ways to operate. You either spill the power at very low or even negative prices, or you're looking at technologies that are very, very expensive to try and flatten it out.

So I think in the first day with this committee, we gave you a sense that kind of the all-in cost of SaskPower's service, even though we have a big service area and a small customer count, was sort of in that 10, 11 cents neck of the woods. In Denmark, who've gone way beyond — they're the hero of the wind community right now with how far they've gone — it's orders of magnitude higher than that for what the bill would be presented to an electricity customer in Denmark.

President Youzwa talked about . . . You as a committee can be picked off when you just want to talk about reliability. And you can be picked off when you just want to talk about cost. And you can be picked off when you just want to talk about affordability and adequacy and a few other things.

But the real trick is in the balancing of those things. And so we're kind of watching those who are, you know, getting away from the . . . Like SaskPower's pretty close to the top end in Canada. I think there's a few states in the United States might be ahead of us. But we're up there in the top group in terms of wind penetration as a per cent of capacity. We're seeing what

happens to those guys who go further. And like I say, the Denmark crowd have gone way beyond sort of where we think, but so have their rates.

The Chair: — And if we were to push 20 per cent, we would have to accept that our rates are going to have to jump to have that.

Mr. Wilkinson: — I think you're on the right track. But all this time when we talked about, the answer in 2003 was this . . . The answer in 2005 was 4 per cent. The answer now when we're doing more analysis and our load's coming up and the minimum load's not so low for us and a few other things, maybe the answer's going to be 8 per cent.

In the upcoming years, and again watching those people who are trying this stuff, if storage comes out to be reasonably priced, or if we can find relationships with customers where they can kind of go down when the wind goes down and come up when the wind . . . Those are kind of smart grid concepts which are kind of working. The answer five years from now I hope is different than the answer five years ago.

I do believe technology will be our friend. And the same with solar, maybe it's 43 cents now. But as the whole world picks that up, hopefully that comes down.

[15:45]

The Chair: — Mr. Taylor.

Mr. Taylor: — Thank you very much. I want to pursue the one other question I think that causes SaskPower's planning some stress, and I think will cause the committee some stress, and that is that realm of uncertainty. Your original report used the word uncertainty and, as a result, it meant in some of your planning — you've got the word "may" several times in the report — specifically has to do with carbon, greenhouse gas, and future, particularly federal, regulations, the federal regulatory process. We don't know what's going to happen there. I think your original presentation indicated it might be a year and a half away from understanding what these federal regulations are going to be.

In the meantime, we've also got some uncertainty around carbon capture demonstration project and funding that comes from Ottawa and, as a result, the direction that might come from the province and from your own board as to what spending needs to be done in terms of a further demonstration project in carbon capture.

So in terms of planning, we don't know if coal is in our future. We don't know to what extent carbon capture can do what we need to do. There's still work and investment that needs to be done there. We don't know what the price of carbon is going to be, and we don't know . . . The other question is perhaps coal is grandfathered, another circumstance that may come forward.

I just want to ask you for your advice. You're obviously having to deal with these uncertainties in your planning process. In terms of this committee's question — future energy needs for the province of Saskatchewan — how should we deal with the uncertainties that exist out there?

Mr. Wilkinson: — Can I start?

Ms. Youzwa: — You can start.

Mr. Wilkinson: — On point. When we did the . . . You saw the bump in the load forecast — key accounts, industrial customers were wanting to pull more potash out of the ground, get more oil out of the ground, make more steel, all that stuff, whatever they wanted to do. We reacted in a very short time frame with something called simple cycle gas turbines. And there's some baseload in there too, but pretty much you'll see in the simple cycle stuff it's going to be natural gas fired. It's quick. The capital is relatively low and it has that operating flexibility that I talked about. It can go up and down; it can start; it can stop, do that stuff very well. It is actually kind of an enabling technology for wind. It'll help us take more wind on the system because it helps smooth out the changes a little bit.

We put them at places on the grid that reduce the losses. We put them at places on the grid . . . And I think I mentioned this to the committee, is that we can actually disconnect the part that burns the gas and the part that hooks up to the system, the generator, and we still have voltage control. As you put more and more variable generation on your system you need more and more voltage control. When the wind's up and down, the voltage can move on you.

The wind itself has to ride through disturbances on our system. I think I gave you a hint of how often lightning hits our province, and our lines — at least in the South — are decently high up, so we get a lot of activity where we have to ride through. Our generation has to ride through faults on the power system. Wind is included in that because if we have a fault on the system that causes a generator to go away, that's a bad thing for us. We don't like double contingencies.

So advice for the committee, you're right. We're good up to 2014. The lump is dealt with. It's going to help reduce losses on our system. We put it in places that are good for us, give the transmission system a little more robustness. All that stuff. We're good now till 2014.

Beyond that you mentioned carbon capture and storage. The question is, do you want to decide on that today or after 2010 when the go/no-go work has been done and the price for carbon's a little more known, and maybe the sales of CO₂ into the oil fields is a bit more certain?

In other words, I would urge you . . . The advice that I would have for you is, don't guess. Don't guess at what the dollars per tonne are going to be. Don't blink if you can help it because you have big geographical area, small customer count. I can't say that often enough, and I'm apparently not saying it often enough. But I keep harping on that. You don't have a natural price advantage here. Your affordability hinges on making good decisions in good time frames on the best information that you got.

You have some folks who would like that to be \$100 a tonne and other people like to see it \$5 a tonne. Until you actually see what's going to hit you, the economics of the generation is . . . You're good till 2014. You don't have to pick wind, nuclear, solar at this point in time.

You've got a few key things that you really, really want to watch. Number one was that . . . how the CO₂ is going to work out. The other one is CO₂ sales into the enhanced oil recovery operation. See how that can be made to work.

Billion dollars sounds like . . . 1.4 billion sounds like a lot of money and, whoa now, that 400 really was for the oil fields, so that's only a billion. Well you got 240 million from the feds, that's really only 750 million. Oh, you might be able to sell some of that CO₂. It'll come down. It'll come down. And it's the first of the kind in the world. The second one won't cost what the first one cost. So you almost want to kind of see how this turns out.

In terms of, I'm going to say great big wind — not the kind of wind we're talking about, 5 per cent and 8 per cent — we're talking about big wind. And we're watching folks in the United States. There are about . . . I think, of the states, I think 40 have less wind as a per cent of capacity than we do. So you're up towards the front of the pack. You're not on the bleeding edge yet, but you're up there. And if you do this next doubling, you're going to stay pretty close to the front of the pack.

One of the things that NERC noticed is that, irrespective of where people are with the wind, they all have, I'm going to say fairly aggressive plans for variable generation. I'm saying wind, but variable generation. Generation that's intermittent — it comes and it goes. Enough alarm bells went off for NERC that they said, we better do some homework to see if people are really going to do this . . . is that we can preserve the reliability of the North American electric grid. And they have something called homework assignments.

The group that is sitting on this NERC thing, it's obviously electric utilities. I think Alberta and Manitoba . . . I think Alberta was actually the Chair of this for a while. I don't know who it is now. So the Canadians were represented.

But wind developers and wind manufacturers are also represented on this task force. The reason for that is the homework assignments aren't just for utilities. The homework assignments are also for the people who are making this equipment. I'll just give you an example. NERC says, you guys do these homework assignments and . . . [inaudible] . . . we should be able to protect the reliability of the grid on a go-forward basis. But you'd better solve these little gnarly things before you go ahead. And they made a nice long list.

But when we buy a wind farm and have a developer, one of the things we insist on is that they give us a model of how that thing behaves when the grid moves. And the grid moves a lot. We get lightning hitting it. We've got all kinds of things. You have to be able to predict how wind is going to behave. If wind is in small slices in your footprint, and maybe you could take some . . . [inaudible] . . . But as it gets bigger and bigger and bigger, it has to be able to ride through disturbances.

And so one of the things NERC has said is, enough of this proprietary modelling. You are going to have to give us information that we can share across the whole region, because the wind in Iowa is going to influence the wind in Nebraska and it's going to influence the other generators in Kansas. And they said no more of this proprietary stuff.

Wind developers were a little nervous about that because there's some trade secrets in that maybe. But at the end we have to get by that, be able to predict what it's going to do to the North American grid. There's homework assignments for us as operators. They really want us to get better at forecasting. We've had those tools working here for about two years, and I'm the first one to admit we could have them work a little better. We need to spend a little more time with them and maybe invest a bit more money.

The other thing that I'll mention to you — and you'll never hear this from a wind developer, but you will hear it from SaskPower — you put wind on your system; the presence of wind or the absence of wind changes the voltage level on the system. So if wind is generating, the voltage is at point A. If the wind is not generating, it's at point B. If we have a disturbance on the system, what is the status of the wind and the voltage after you've had that disturbance?

That influences all the other customers who are hooked up to us. You must get that right. One of the things we have to do as SaskPower is we spend millions of dollars putting voltage control devices on in areas where the voltage gets a little too swingy. You won't hear that from a wind developer, but you'll hear that from people like NERC.

So I guess at the end you're covered to 2014. I think we've got a nice flexible solution. We think that that actually allows you a little bit of space to push the wind thing a little bit. We talked about that. You heard from Judy we're probably pushing the DSM [demand-side management] button pretty hard. That almost doesn't matter where the CO₂ rules land. We're pushing probably hard on that one.

We hinted that the hydro development unit . . . And I think from at least one committee member we heard that perhaps hydro in the North and other places is of interest to us, so we are kind of, on the nominating things, we're kind of investing the time and the effort to get that better understood. But on wind we're kind of pushing it a little, DSM, kind of pushing it a little. So the advice is on those ones, you can kind of . . . You know, the uncertainty around the CO₂ rules we think is less pronounced. How fast you decide to deal with the existing coal infrastructure, very, very quickly or over a period of time, I think, could be very key to how affordable the power is in this province. You can change up to international levels quite quickly.

One of the things I think you will hear, if you've talked to industrial customers as part of this effort, is they like the power to be there when they try to lift it up out of the ground or whatever they do with in their processes, and they also want it to be affordable. And that comes back to President Youzwa's . . . there's a balance to this. How fast you react to some of this stuff will definitely influence your costs. So strategy — go like a son of a gun, DSM, wind, hydro. I don't think you can be hurt at all by trying to talk regional solutions, more tie lines with our neighbours and that kind of stuff. On the other really big baseload stuff that goes out to twenty thirty, twenty forty, twenty fifty — I might almost want to see how those CO₂ rules turned out first.

Mr. Taylor: — And a follow-up, but I must say your comments

about lightning interested me to a certain extent. I like watching science fiction movies, and every science fiction movie has got lightning striking somebody and a mad scientist harnessing the electricity from lightning. Facetiously perhaps, but has SaskPower got any mad scientists thinking about utilizing and harnessing lightning?

No, my real question is . . .

An Hon. Member: — I want him to answer that one.

Mr. Taylor: — You can answer that one if you want. If there's mad scientists sitting there and we're looking way into the future of harnessing lightning, I'd like to hear about that.

But your comments about regional, those members of the legislature that have attended meetings of the Pacific Northwest Economic Region have heard discussions about regionalizing energy. Not regionalizing within the province, but regionalizing within the region. So those areas that can produce power in a certain manner can produce a greater amount of power where they're most able, and that is then shared. Your tie lines increase amongst the regions. Is SaskPower open and prepared to work outside our political boundary, regional capacity, in terms of generation and utilization of power created elsewhere?

Mr. Wilkinson: — Maybe I'll start with that one and, Pat, you can jump in. Probably in the '80s we looked at concepts; it was called the western electric power grid back then which was again trying to get sort of hydros and thermals working together — so BC [British Columbia] Hydro, Alberta Thermal, Saskatchewan thermal, Manitoba Hydro. There's always been kind of an opportunity to make the hydros and the thermals work pretty good. More recently we've also looked at that concept. TransCanada has been working with a number of entities. We've helped fund some of that work to again see if this idea has some merit. There are some hurdles to it. Some of the price tags on the transmission come with Bs and not Ms — in other words billions, not millions. So there's that to be thought about.

We're connected to Alberta and the northern United States and obviously all the way down to Florida, but the interconnections across the province go into North Dakota and then as well decently into Manitoba. So between ourselves and Alberta, Alberta, as they think about increasing their wind footprint and in general dealing with their system, they're talking about . . . They had an Act enabled in I think it was December of last year that said getting transmission built is kind of problematic. It has been an issue. It's hard. They're thinking primarily Calgary, Edmonton, but in general they've had not much success with getting transmission lines built. They've asked the AESO, the Alberta Electric System Operator to put their shoulder behind that.

[16:00]

And so we happened to get at them within moments of that Act being proclaimed, and started talking about ways and means that we could help one another by having lines cross our border. You may recall from our first presentation that we're not synchronous with Alberta and there's a special box required, but nonetheless there are some things we can do, and those

discussions are ongoing.

One of the things between ourselves and Manitoba Hydro . . . In 2007 we asked them, say we wanted a long-term power purchase agreement for some non-emitting hydro that they may have under planned construction in Manitoba. We asked them, you know, would you be interested in that? And they actually gave us a quote. Not a whole bunch available until 2020 or 2023 or something like that, but we've had subsequent discussions with them and we put studies in the queue — which is kind of an industry term to see what it would take to get our ties, I'm going to say boosted between ourselves and Manitoba.

One of the things we always also kind of do, and this is, it's a group called Midwest Independent System Operator, and that's primarily a US situation, is we're also looking at what are the kinds of transmission enhances we could do to get more hooked up to the outside world. The reason we want to get more hooked up to the outside world is, I think, coming back to your point — and that was the long way around and I apologize for that — but without the lines, regional co-operation doesn't get you very far. You actually have to have the interconnections.

And I keep going back to this NERC, this task force. It's called the integration of variable generation task force. The number one problem they've got in trying to get wind from windy areas to places where the load is, it's all transmission and we have to remove those barriers. And they have homework for policy-makers as well.

The Chair: — Mr. Allchurch.

Mr. Allchurch: — Thank you, Mr. Chair. Welcome, Ms. Youzwa, and your officials here today. My line of questioning today is regarding hydro and a lot of it to do with the North.

I notice on your paper that you presented with us two weeks ago on Tuesday, on page 5, it showed a map of SaskPower facilities. And questions that I have regarding from the North is, number one, is the Athabasca hydroelectric system. And then number two is the Island Falls hydroelectric system. Now that is a power generation, but it goes into Manitoba. And I notice on the Manitoba side there's arrows going both ways. So that means that power can come from Manitoba up that line, or is power from that line in Uranium to Island Falls going into Manitoba at the same time?

Mr. Wilkinson: — So maybe I'll try that one. Island Falls is a hydro generation site and the Athabasca hydro system at the far end of that line is also a hydro generation site. Both of those installations, they're hydro, but they run very steady. There's enough water that they can run very steady. They're not like a peaking thing at all. They run very steady.

So when we first kind of got hooked up, and you see those lines going into Manitoba, there was more generation. I'll give you an example. Island Falls is a 105, 110?

A Member: — 102.

Mr. Wilkinson: — 102? It's 102 megawatts, and the Athabasca's 23? Twenty-three. So that's about 125 megawatts of stuff. When we first got started, the load up there was not

125 and so the surplus generation — because the lines would serve the uranium mines in the northern communities — anything that was surplus, because that generation runs fairly steady, is pushed into Manitoba.

Rather than build transmission lines in 1981 when we took over that plant, rather than build transmission lines into the Saskatchewan grid, we had an arrangement with Manitoba where we actually paid to use their lines. And so that power gets pushed into their North, where they're perhaps a little weak, and drawn out in the South. So we actually bring it in over the southern ties. And so Island Falls generation and Athabasca generation, that part which is not being used in the North is actually being used to service load in the South. Does that help?

Mr. Allchurch: — Yes, thank you. The next one, on page 51 it shows that the Island Falls hydroelectric station has a unit refurbishment. Is that the potential to do now or is that already done?

Mr. Mitchell: — Back in the '90s we actually did rebuild units 1 and units 2 and units 3 at Island Falls. We had the opportunity to actually increase the output a small amount and make them reliable machines. We now have a program in place, and we will start in 2011, and over the next five years from that we will rebuild, refurbish, upgrade units number 4, units no. 5, units no. 6. Again there's newer technology. There's better designs that are available now. So we will be able to take like a 14 megawatt size machine, and for the same amount of water we will be able to generate like 17 megawatts from each machine for the same amount of water.

So we're quite excited about that because again that increased energy helps offset the costs, but again these are very old machines. I mean, you're talking a plant that goes back almost 80 years. And we can upgrade those machines and have them run for another 50 or 60 years, so we're doing this out of necessity simply because of the age of the machines. But it does provide some economic opportunity and benefit to us for making that investment.

Mr. Allchurch: — Well thank you for that answer. You said with the new technology, you can increase the megawatt power from 14 to 17. Is that the maximum you can create out of those systems or can you go higher?

Mr. Mitchell: — Again you're limited by your fuel, the fuel being how much water that you get. And so there are limits. So you size the equipment. You size the machines for the, you know, the predicted water that's available year after year after year.

Like this year, it's quite a high water system. We're actually spilling water at Island Falls as we speak, type of thing. And you say well gee, why don't you put in a bigger machine? But if you put in a bigger machine or a new machine, added machine, maybe you don't spill for the next nine years. Then you'd have all that investment and you couldn't use it. So you really try to size the equipment to the water that's proven and available to you. So we do an awful lot of statistical reporting and analysis to determine how much water we have and try to match that up based on economics.

Mr. Allchurch: — Okay, thank you. So basically the system is running at peak power and has been for a number of years. The reason for my questioning is when we were up at La Ronge, we heard from the Peter Ballantyne First Nations that they are interested in pursuing a hydro development partnership agreement with SaskPower in that area.

I was also surprised to find out that the transmission line that does go from Island Falls north to Uranium City doesn't go that far north of La Ronge. So I was wondering why, when we were driving up, the transmission lines comes from Prince Albert north up to La Ronge, why wouldn't they just build a transmission line coming off that main line going from Island Falls north to La Ronge to supply the power there?

Mr. Wilkinson: — Maybe I can speak to that one. So when we acquired the Island Falls plant . . . And we're talking about two different things. Garner's talking about doing some changes to the existing plant and the existing generators to try and make them a little bit more capable. But the holes that carry the water and the bulk of that plant is really the way it was throughout time here.

I think what Peter Ballantyne is talking about is . . . And the hydro installation, if it's the one I'm thinking of, used to have the name Wintego on it. Anyway that's a potential project name from a long ways back in the '70s. But if it's that one, that size of hydro installation is farther upstream. It's not at the Island Falls location. It's farther up in the river system, and the amount of water available for that project back at that time was in the hundreds of megawatts. It was arguably from just under 300 to . . . I saw some designs that said you might even be able to get up to 4 or 500 megawatts there.

For that situation, if you added that amount of power in that neck of the woods, that arrangement we had with Manitoba Hydro to take that little bit of Island Falls' power and move it, the transmission would not handle that and you'd have to build something down into the system.

What you would have to build down into our system is sizeable, and it would exceed the size of the power lines that head up to La Ronge. They're kind of sized to handle the La Ronge load. They're not sized to handle the hundreds and hundreds of megawatts that would come from a brand new hydro installation upstream from Island Falls. You'd require a new transmission for that. No question.

Mr. Allchurch: — Okay. Maybe I shouldn't have used the Peter Ballantyne First Nation in my questioning. But it was their presentation that led me to believe that because of the close proximity of that transmission line already to La Ronge, why couldn't they utilize a transmission line into La Ronge.

The Peter Ballantyne First Nation project is a different one. I understand that. And it has the ability to create a lot more power, as you said. And 100 megawatts, I think, is what the quote that you said?

Mr. Wilkinson: — There's actually two up there. One is that ageing Wintego which is a really big one. There's another one at, I think it . . . What do we call it, Whitesand? Whitesand Dam that's a smaller one. There's a number of hydro possibilities in

that neck of the woods. I just don't know which one you might be referring to, the big or the small. If it's small, the transmission line requirements are obviously much less.

Mr. Allchurch: — Okay. So I'll just go back to the first line of questioning regarding Island Falls and that line there. It was running at peak power before, and that's why SaskPower didn't look at a transmission line coming down to La Ronge from the North. Is that correct?

Mr. Wilkinson: — So when we first got Island Falls, you had the choice of, as I say, running it through the Manitoba system on existing lines, which can be done fairly simply and fairly quickly because the lines already exist, or building a brand new transmission line. The economic analysis says it was cheaper to rent some space on Manitoba's, so was economic decision.

Now as we've hooked up more and more uranium mines to that feeder that runs across the North, more and more of the Island Falls' power is being consumed and does not have to come through the Manitoba system.

Mr. Allchurch: — In regards to the Peter Ballantyne First Nations, in their proposal . . . Have you had recent discussions with the Peter Ballantyne First Nations regarding their proposal, whether it be the small one or the big hydro project?

Mr. Wilkinson: — In my experience — and I've been in this position a couple of years now — we have not had substantial discussions with Peter Ballantyne. One of the curious things about having . . . There's some legal issues around this . . . is that if there's a lawsuit pending between you and another party — and I think there is one between SaskPower and the groups there — you often don't have discussions. I think the one we're talking about is one that probably is a result of the plant having been built in the '30s. And so I think the federal government is named. I think there's others, the people who actually owned the plant and operated the plant at one time. And so that remains a barrier for a whole bunch of discussion because that remains unresolved, as I would understand it.

Ms. Youzwa: — Yes. There was a claim filed in December 2004 by the Peter Ballantyne Cree Nation against SaskPower, the Government of Saskatchewan, and the Government of Canada in respect to the operation of the Island Falls dam and Whitesand dam. And that matter's still outstanding.

Mr. Allchurch: — This lawsuit, has it got to do with the traditional lands? It does? Okay.

Mr. Mitchell: — Well the impact on them is actually the impact on their traditional way of life, you know, like the impact on hunting and fishing and that type of stuff. Again you can remember this facility went into service in about 1929, so they're talking about the 80 years. Fifty years of that it was actually owned by Hudson's Bay Mining and Smelting, and SaskPower took over ownership in 1981. Hudson's Bay Mining and Smelting actually operated it until about 1984. Then SaskPower took over operations.

[16:15]

SaskPower's I think quite proud of what has been achieved in

the North and working with the First Nations people because since 1984, SaskPower has worked with our trade unions, worked with the northern communities, the First Nations peoples, and we've actually sourced employees from those communities. And the good news is, out of the 23 employees to run that Island Falls area there, 22 are First Nations. All the way up to the head manager are First Nations people, so we're quite pleased with that.

Plus an awful lot of work was done to develop contracts with . . . There's an outfit called KDC [Kitsaki Development Corporation] which is a development corporation from the First Nations people. And we did an awful lot of concrete work and concrete repairs on the dam. Again we were dealing with a very old facility so the concrete deteriorates. Did an awful lot of work from about 1986 to about 1997, and trained people how to become concrete workers and finishers.

In conjunction with that, you needed some support — like camp support — and so people were encouraged, and they became cooks and food people. And so we achieved that. Plus even since then KDC does have a contract to run our staff outside there because we have to . . . It's like a hotel in a sense where we have to bring in some of the larger crews from time to time to do mechanical work or whatever, and they provide that service plus other contracts for bus driving services and trucking and cleaning different facilities.

So it's been a real success story and we're well regarded, I think, in those communities. And I think it's very encouraging that the Peter Ballantyne Cree Nation are interested because we have been encouraging them for years and years and saying look it, let's work together. And so I think it's just great news that they're expressing current interest because that really can go someplace.

Mr. Allchurch: — But it's fair to say that SaskPower can't, won't, or whatever word you want to use, proceed until this lawsuit is dealt with before you can proceed with the Peter Ballantyne claim then.

Mr. Mitchell: — Yes, you really need to get the lawsuits out of the way and then move on, but again there's always hope that that will happen.

Mr. Allchurch: — And my final question regarding hydro is, is there other places in the province that you were looking at that may be a potential site for hydro? And one that comes to mind — and the member from North Battleford may be interested — and that is the Highgate project which is just west of North Battleford. Where is that specific project in the scheme of things as far as hydro?

Mr. Wilkinson: — Maybe I'll start with the more generic question. I think in our first meeting with committee we talked about something called the hydro development unit, and one of the things we had was sort of an overarching map done at a very high level many years ago of the hydro potential of this province. And some sites have been developed of course — the Nipawins and that kind of thing. We hinted that the hydro development unit would update that list in a more modern context, recognizing the needs of Fisheries and Oceans, traditional lands, etc., etc., and they will do that.

You asked how much hydro potential is there? It's a little misleading to just give you a number because some sites are mutually exclusive. If I built one site, I couldn't build the other one, and yet both would be viable sites because once I've built one I've raised the water too high for the one upstream to have worked. But there's probably 1000 megawatts of probably good hydro potential, subject to that update and the engineering studies required to do that, and subject to sort of considerations of Fisheries and Oceans and traditional lands.

With respect to Highgate, it's on that list. We've not done a whole bunch of . . . We have some high level assessments of the potential for hydro there. It's one of the ones that is of size. In other words it's not a tiny installation. Its expenses, at least up to this point in time, have not drawn it to the front, nor have any particular proponents come and said we'd like to build one there. The ones where we have proponents coming and knocking on our door in more recent history is probably at the forks which is closer to the confluence of the North and South Saskatchewan River and then obviously the one in the North.

Actually there's two in the North that have come just recently. One has been here for a while in the Black Lake group. That one is about 42 megawatts. There's another one called . . . Proponents have come to see us and they were wanting to talk about a site on the Grease River. Yes, and unfortunately they used the name that we didn't recognize. It's called Hunt Falls, but it's on the Grease River which is farther to the east. We've just had very preliminary discussions with that group.

Mr. Allchurch: — So basically what you're saying as far as North Battleford or Highgate proposal then, that's not really a sustainable use of hydro power at this time.

Mr. Wilkinson: — What I would suggest is we've not had a proponent come and talk saying he'd like to build there, or he or she would like to build there. That's different than the case where proponents, including Aboriginal groups, have come forth saying we'd like to talk to you about hydro installations at that site. We've not had the same kind of interest at Highgate. Would that be fair, Garner?

Mr. Mitchell: — Yes. You know, I think you're spot on, Gary. Like if you think of North Battleford, it's a low head area. If you put in a dam there, you can't pond the water up. You're looking for not only the volume of water but how much head you can build up, about how high can you make the bathtub type of thing. Because you need both. The higher the head and the more water you have, then the more energy you can generate with. So while North Battleford's of interest, it tends to be more of a lower head area. You can't pond the water up to a great height.

The other thing about North Battleford is it's on the North Saskatchewan River, so that's a much smaller river than if you took the North Saskatchewan plus the South Saskatchewan, and where those rivers join together just east of Prince Albert, now you've got a lot more water at your disposal. And the other thing, like at the forks where the North and the South Saskatchewan join together and you've got the Saskatchewan River, again the South Saskatchewan is backed up by the Gardiner dam and Lake Diefenbaker, which is a very large storage of water area. So when you use the water in the Coteau

Creek hydro station, then that water runs down, would go to the forks, you'd use it there. Then it goes down to Nipawin, you use it there, down to E.B. Campbell, you use it there, and then it moves on to Manitoba, and they use it two or three times before it goes to the ocean.

Mr. Allchurch: — In regards to the forks — this is my final question — in regards to the forks just outside of Prince Albert, what is the potential for hydroelectricity there?

Mr. Mitchell: — Well it's actually quite good. There's a reasonable head and stuff like that. Gary'll speak to it, but it's like 250 megawatts is what I'm remembering.

Mr. Wilkinson: — Yes, the site as it's currently discussed, the image that you might want to have in your head, it would be awfully close to what our Nipawin plant is currently like — three units, 250 megawatts, probably, I'm going to say a weekly reservoir. It's not like Diefenbaker at all where you can store for a season. It's more like you'll be full by Monday, run pretty hard, and let her pond up over the weekend. So it's kind of like a weekly cycle. It's not perfectly flexible because I can't save it until next month. It pretty much has to be used when it shows up.

Mr. Allchurch: — Thank you.

The Chair: — Mr. D'Autremont.

Mr. D'Autremont: — Thank you. I want to talk a bit about the transmission system because I'd like to get into dispersed generation. On the transmission system, you're listing the current asset values of the transmission system as almost 400 million, the distribution system at \$1.2 billion — almost 157 000 kilometres, 158 000 kilometres of total line there. We understand that there is a need to upgrade the system. But you haven't included any costs that I've seen on this. If we simply upgraded the system for today's usage, what kind of cost would we be looking at? And what kind of cost do we need to do to upgrade the system to handle the generation by 2014? Third part of that is, what do we need, what kind of costs would we be looking at for a smart grid system?

Mr. Wilkinson: — Well maybe while we wait for Mike, I'll start with the smart grid one first. What kind of costs are you looking for in terms of the smart grid? Early days on the smart grid concept. We've probably talked about smart grid as the use of modern digital computers and technology to, number one, make the place run a little more efficiently. Number two, start to involve the customer more in that supply-demand balance. And that means kind of maybe even to the point of load control where you might, say, knock their air conditioners off for an hour or two during peak times on the grid, that kind of concept.

Early days for that. When we talked about the USA [United States of America], we said that the USA was throwing tons and tons of money at this to develop standards, protocols. That work is in progress. So I don't have a good figure for you on smart grid other than pretty much the sky is the limit in terms of trying to communicate with everybody's house and set up a deal to mess with their air conditioner.

Or the other part, the other flavour that comes under smart grid

is to try and get more technologies put out in the lower levels of the power system — the distribution system, not the transmission system — and try to handle that. And smart grid has that flavour to it as well.

In our first meeting with the committee, I think we said that it's early days on smart grid. You almost want to wait and see how standards and protocols work out before you start doing that kind of thing. You have arguably a fairly big geographical area, small customer count — there it is again — but at the end, smart grid for you is going to be a little more challenging than downtown New York or Chicago or whatever site you decide to choose.

Pick a non-proprietary standard — and they're still working on that — and it'll be your friend. Choose a proprietary one, you'll be doing that same one forever. So be careful with that. I guess the other piece . . . And NERC is — North American Electric Reliability Council, and I've used that acronym a number of times — one of the things at the transmission level that we do right now is we use a lot of that computer technology to open and close breakers from remote sites. We monitor the power system. We're sending signals every four seconds to try to balance. We use a lot of that at the transmission level already.

What they're really talking about is trying to take that down into the lower levels now and having something that really knows the status of everybody's load and pricing and all that, and it's a sharing of information. But in more recent history, one of the things at the transmission level we've been working on is something called cyber security, where you guard the assets — those communication assets and those control assets — mightily, because you don't want anyone who can hack in and create problems for you on the transmission system, etc.

When you get to the smart grid concept, where things in someone's home for example could be controlled, the same thing applies. And so cyber standards that are being developed for the North American electric grid, you almost want to see how that turns out before you start adopting any particular technology, because this has to be protected mightily. You're now taking control right into a person's home.

So I don't have a number on the smart grid for you, but it will be a sizeable one depending on what you decide to try and make that thing do. People are just now trying to define smart grid. Some people want it for renewable. Some people want it for DSM. Some people want it for a load-controlled home. There are some people who want to tap electric car batteries when the power system's in trouble. Until that settles out, it's early days on smart grid. We might have a few dollars in our budget to kind of get our head around that, and maybe run some experiments called distribution automation, but much beyond that it'd be fairly slight. In terms of the infrastructure renewal of the transmission system for . . . I'll turn that over to Mike.

Mr. Marsh: — Yes, just to answer that question. We had included, in the slide deck that we provided two weeks ago, a slide on transmission infrastructure and one on distribution infrastructure, and we attempted to separate the cost for aging infrastructure. So to answer the committee member's question, to renew the existing infrastructure on the transmission side, about \$500 million over the next decade. That's about \$50

million a year. On the distribution side, we'd indicated about \$400 million over the next decade, so again about \$40 million per year. On the power production side just in round figures, 100 to \$120 million a year going forward. So again, a billion dollars if you look at it over the next decade. So about 200, 200-plus million a year just to deal with aging infrastructure over the next decade.

Mr. D'Autremont: — Thank you. So those costs have nothing to do with new generation specifically. It's replacement generation.

Mr. Marsh: — Replacement generation that's replacing the major components in the power stations. It's replacing the major components in the transmission system and in the distribution system.

[16:30]

Mr. D'Autremont: — Thank you. How much additional transmission or distribution or connections, ties, do we need to be able to enter into a regional alliance with our neighbours that's been talked about here today? Others have talked about it in our various meetings. So if we wanted to tie in with Manitoba more forcefully, with North Dakota, Montana, Alberta, how much more do we need to have for ties?

Mr. Wilkinson: — Maybe I'll speak to that one. So again it depends on sort of how many megawatts or how much capability you want to transfer between the regions. And that seems avoidant, but to move, I'm going to say, about 1000 to 1500 megawatts across the region — I'm talking Manitoba, Saskatchewan, Alberta — the price tag for that . . . It's a single line. It reaches from Manitoba to someplace in the Regina area — at least this is the concept — and then it reaches into the Calgary area. The price tag for that is, an HVDC [high voltage direct current] line, is around \$2.6 billion.

And that's the latest estimate, pretty high level. It's early days on that. I'd say some of the design work is not completed, but that's the estimate we saw. That would be a fairly robust amount of power to move back and forth between the regions.

Between ourselves and Manitoba, if we added just a single 230 kilovolt line, not the HVDC, just 50 to 100 million is sort of, per line is not entirely unreasonable for that size. And that wouldn't get you anywhere close to 1,500 megawatts. That'd get you maybe 50 to 100 megawatts of transfer capability, and that'll give you kind of the high and the low of it.

Probably just one trick is every time you take a line between point A and point B, sometimes it drives some costs in the other guys' system, just beyond where that line terminates and sometimes there's additional costs. I can get to, say get to Brandon, but then I have a problem between Brandon and Winnipeg, for example.

And so sometimes the costs, it's a very detailed kind of analysis to say if you spend this amount of money, this is how much transfer capability you'd get.

Mr. D'Autremont: — So in looking at regional alliances, SaskPower hasn't then been looking at North Dakota or

Montana? I know that North Dakota, I believe, generates about 2,500 to 3,200 megawatts of export power. So that would seem like a place that we could tap into as well as, since Manitoba doesn't have until 2020 the capability to supply us with any or significant amount of electrical additional energy . . . And I don't know what North Dakota would have for additional, but they are a large exporter as well. What kind of costs or demands, what will we need to make a connection there?

Mr. Wilkinson: — Okay. I'll try that one as well. So in our past, we actually spent a bit of time with some of the power utilities actually in North Dakota. And again, because they have, as you mentioned, a surplus coal generation as it turns out, we looked at a number of options to try to get power between us. The discussion at that time was actually a power line between Coronach and Montana, because the North Dakota utility that we were talking about has a presence in both those places and we had got to a certain point.

At that time, we hinted to this committee that SaskPower has a frugal transmission grid and that's actually one of the things that has allowed us to keep the service affordable, etc., etc. When we built the Poplar River Power Station, which is just sitting north of the Montana border, when we did the studies, one of the things that we found is that we could get power out of Saskatchewan into Montana fairly easily. But bringing up any significant amounts of power from Montana into the Coronach area, we would have to have some generation off at the Poplar River area in order for the lines to bring it up. And at the end, it proved to be not a great economical thing given the costs involved at that time. We've talked with Basin Electric on other . . . Basin Electric is the entity in North Dakota that we were dealing with on other kind of tie lines opportunities each time. The 50 to 100 million is a bit chunky for the margins that you'd make by buying power off them.

One of the things I will suggest to the committee is that probably since the early- to mid-'90s, getting transmission built, particularly between regions, has been an issue and a problem. I will chalk this up primarily to the attempted deregulation of the electric industry. So you had natural gas, you had airlines, you had telecom, and then came electricity.

In all the things we talked to you about on your first day, that balancing and that real-time nature to electricity, that has made deregulation of the electric industry a significant difficulty. And hardly anybody was investing for almost a decade there. Very much money in transmission because of deregulation. They weren't sure they were going to have the job, or how would they get their money out of those investments. And so at the regional level, between the regions, not much has been built in almost a decade.

Mr. D'Autremont: — Mr. Taylor mentioned PNWER [Pacific NorthWest Economic Region]. The first PNWER conference I attended was four or five years ago, and that was the basic question of . . . And it wasn't just electrical. It was all transmission, but the ability to transmit. And they said at that point in time — this was Oregon, Washington, BC, Alberta basically — that it was going to take seven to nine years from start to finish, from concept to turning the switch on, to get any kind of transmission through.

And I know in our discussions with MLC, Midwest Legislative Conference, in the US, moving anything east is also a huge problem through Minnesota, Wisconsin, that area. It's a real problem. But in moving things around Saskatchewan, if we had a dispersed generation system, what is SaskPower's current policies on that?

Mr. Wilkinson: — When we talk about dispersed generation, often what we're talking about is smaller types of generation often connected into the distribution system, not in the transmission system, which you find with the larger generators. And I'm not sure about the time frame, but it has to be a decade or so. In addition to those things that we did with independent power producers at the higher level, at the larger size, we've also been kind of running some programs. I think the first one was called a small power producer's policy. I think it was less than 100 kilowatts. Again that's the smaller style of generation, so a small power producer's policy. And we had some people take us up on that, again trying to bring it forth.

Sometime later we did, I'm going to just call it environmentally preferred power. I think the threshold for megawatts was a little higher in that case, and we got some folks to come forth and hook up smaller generators to our system. I would suggest that in the case of the environmentally preferred power, we used a competitive process. And we actually got some decent pricing out of the exercise. Even though the generators were small, the pricing was decent because the competitive process was used. And you kind of got maybe, I'd say, best of breed to come forth.

In more recent history, SaskPower announced, we call it a net metering kind of program. And again this is focused primarily on environmentally preferred or greener kinds of technologies, not just all comers. We wanted to be on the green side. And at that point we would pay the full retail rate. So what that means is the full retail rate is based on paying for generation, transmission, distribution, customer services. We would pay that, that full rate, to someone who just provided generation and still wanted the service from us for transmission and distribution. So it was kind of an incentive thing, again aimed at greener technologies. But it's the smaller ones that would be, as you used the phrase, would be distributed throughout the lower voltage parts of the grid.

We have done a little bit of work looking at something called standard offer programs ... [inaudible interjection] ... Standing offer? Sorry, Pat, every time you tell me and every time I'm wrong. I'm amazed; I'm batting 100 per cent. And again, to look at how you might bring distributed generation to the mix.

I think in our first session with the committee, we also talked about doing some, I'm going to call it technological assessments. And it was actually called distributed generation. These were, again, smaller-type things — flare gas type installations. We had a proponent try and do that to see if there was technical and other kinds of issues before you turn such things loose on a wider scale. Obviously some small-scale combined heat and power. I think we talked about the Regina hospital a little bit.

We talked about wood gasification. So we actually ran, I guess

we'd call it demonstration projects would be the correct term, again to try and prove out in the Saskatchewan context — harsh climate, blah, blah, blah — some technology. So SaskPower is kind involved in that way as well.

So small power producers' policy, net metering, some EPP [environmentally preferred power] programs, a little bit of demonstration projects, and maybe some more recent considerations about standing offer program — I at least got it right the once. And we've given some consideration to that, too, although that's a work in progress.

Ms. Youzwa: — If I can just elaborate. The standing offer program, as Gary has just described, we've had a number of initiatives over the years looking to better understand small-scale generation and also provide opportunities for people who are interested in developing these kinds of projects.

Where we've been giving some consideration internally is to try to make a simpler process for people who are interested in developing these projects to actually bring them forward, and be able to understand what the terms and conditions of selling that power to SaskPower would be. So that's the standing offer program that Gary's been referring to, and that is a work in progress.

Again, looking to try to make it sort of simpler for the developer but also simpler for SaskPower, because these are smaller projects, and we get varying degrees of interest and varying degrees of sophistication from people who have an interest in doing this. And so we're looking to try to make it easier to bring these things forward for both the proponents and also for the company as well.

But we see a role for it in the future. It also provides encouragement for people to look for new technologies on a smaller scale, which may be of interest to them, but for us it's just difficult for us to spend the time and attention on those smaller scale projects.

Mr. D'Autremont: — Thank you. That was one of the areas that we had quite a bit of presentation from, from various presenters across the hearings, was the desire to be able to, say, put up a wind generator in their own location — be it on a farm or some place in town or at a cottage, whatever — and to be able to not only just do net metering, but also to put generation into the grid and be compensated for that. Or perhaps to supply electricity to a neighbour across the road, because I believe there are some rules in there about crossing boundaries as well.

So they were looking at those, wondering about those kind of systems. What kind of impediment does that create for SaskPower if you're paying for the small generators — extremely small. I'm talking 10 kilowatt generators that would put some limited, you know, two or three kilowatts into the system at a time ... What kind of an impediment does that cause for SaskPower? What kind of safety concerns are there associated to that? And for those people who were doing that metering or may be interested in doing net metering, is there any other cost associated with the net metering to them? Or can they completely wipe out their entire electrical bill if they produce the proper amount of electricity?

Ms. Youzwa: — Let me start with just someone who wants to do a smaller project. The integration of net metering with the larger projects . . . Maybe I'll get Judy May to talk a little bit about our current requirements with the net metering program.

If you're looking at a small generating project and you're going to connect to our distribution system, we will have certain technical requirements that any proponent will have to meet. And that's for safety and reliability purposes. I mean, it's to protect people who work on our system and to ensure that these projects don't bring risk to our system, and liability and safety is our principal concerns there.

There also will be costs associated with connecting to the distribution system that a developer and a proponent is going to have to be responsible for as well. So our aim here would be to be able to make this very transparent so it's very clear to anybody who wants to look at the feasibility of doing one of these projects what the terms and conditions would be, as well as what kind of price they can expect from SaskPower. So again, to make it transparent and open to anyone for any of these technologies that they might be interested in looking at a project for.

In terms of the interface of one of these projects for net metering, I'm just going to let Judy talk about currently what we do with net metering and how we might see the two fitting together, because Judy actually administers the net metering program for us.

[16:45]

Ms. May: — Well right now, again, net metering is for small generators who — either residential, farm, or commercial businesses — that would generate a portion of their electrical requirements and may have excess, then, to deliver to the grid. And of course they would be credited with the excess at, as Gary said, our retail rates. So it does provide a bit of an incentive for these kinds of customers to actually take up our offer.

We are looking at a generating capacity of up to 100 kilowatts, so it's very small, but nonetheless it's certainly within many people's interest. In fact, I think I said to the committee at our first session with you that we have 62 customers currently connected and 47 customers who are waiting either for their generation to be installed or for a meter to be set so that we can then get them started into billing. And we are always encouraging the environmentally friendly types of electrical generation, be it wind, be it solar, be it heat reclamation, biomass, those sorts of things.

Now Pat has talked about there are technical requirements the customer must adhere to in order to be connected. And they're vetted and reviewed by our technical and engineering staff, so to ensure that this is done safely and that they do not create issues for us in connecting their excess to our generating system.

But the other thing I think that's of note, that may answer some of the question, is that there certainly is a major capital cost for customers who are looking at this source of self-generation and selling back to the grid. And there is a program . . . Or the

program of net metering does enable customers to actually have a rebate or a rebate type of program whereby they can actually qualify for up to, I think it's about \$35,000 in rebate or grant for their actual installation. So it does give them some opportunity to be encouraged to connect. Did I answer the question?

Mr. D'Autremont: — In part, yes.

Ms. May: — Okay. Try the other part then.

Mr. D'Autremont: — The other part is if they want to be compensated above their own usage. So let's say they can generate 10 kilowatts and they're using 8 only, buying back 8. Okay? So they have a surplus of 2 kilowatts. Can they be compensated for that?

Ms. May: — In that case right now, in the situation of net metering, it's simply a banking, a credit as I've described. There is another program called the small power producers program whereby they can receive a . . . They can be compensated, as you put it. Now that one I believe is priced currently at the marginal cost of generation, I believe. And we calculate that number, I think it's every January. I don't have it off the top of my head. But that is another program that, if not net metering, small power producer program would be open to that customer who wants to be compensated for excess in that light.

Mr. Wilkinson: — Maybe just an additional comment then. President Youzwa was talking about a standing offer program — I got it right twice now. That would be the case that you're discussing, is where they go beyond their own needs and that program contemplates that.

Mr. D'Autremont: — Because I know in my own area, there's been some talk of flare gas generation, and the gas would be collected from various sites, come into a central location where it would be economical perhaps to generate electricity with it. If it's simply applied though against that site, then maybe the economics aren't there. But if it could be transferred back to the five or six sites where the gas was generated from, it may be economical. So that's a concern.

But there was also the concern raised to us in the hearings that the ability for some people who are off of the grid may want to put up a either solar or wind generator to service their own needs, but perhaps as well to service someone else across the boundary. Would they be able to do that?

Ms. Youzwa: — At this point in time, we're not looking at allowing customers to wheel power to other customers. And we do that because we maintain sort of the distribution and transmission system for the province. The logic for that is because it provides us to plan and optimize the system in the most efficient way possible, avoiding kind of duplication of facilities. And so that's been the policy for a number of years. And at this point in time, we're not contemplating having the standing offer program or any distributed generation project looking at being able to wheel across our distribution system.

Mr. D'Autremont: — What I'm thinking of though is these people are not on the grid at all, so there'd be no net metering. There would be no standing offer program in place. But you

know, somebody has a hunting shack up in a location, and they've got a neighbour who's on a piece of property, and they would like to provide them with electricity as well.

Ms. Youzwa: — That's certainly a circumstance that we're prepared to look at it from a case-to-case basis. I mean we're not going to insist on building distribution line out to remote facilities like that. It would be extremely expensive for us to do that. And if there are those special circumstances, we're prepared to look at them on a case-by-case basis.

Mr. D'Autremont: — Okay. Thank you. Is SaskPower in favour of a dispersed generation, or is SaskPower more aligned with a centralized generation system?

Mr. Wilkinson: — So in the balancing act called affordable, reliable, and safe, I guess that goes without saying. One of the things you'll find, often you'll find when you go to the smaller scales of generation, it becomes more expensive. It has a loss advantage in many cases because it's down towards the end of the line. But thus far, most of the distributed generation experiments we've seen in the very, very small scale, it has trouble competing with the larger kinds of installations.

We grew up over the last 50 years actually trying to get economies of scale to try to drive the cost down, so the cost that you pay now in real dollars is actually less than you were paying in 1963. Your industrial customers actually kind of like that fact. There's others kind of enjoy it too.

You asked preference. Affordability, I think, is going to be a challenge, so you have to watch that one. When you start putting generation out in the distribution thing, distribution lines, a couple of things happen. Number one, it's a decently complex business, and if you allow anyone to put just any kind of generator up, it's not long before the neighbour who lives beside that person is having voltage trouble, and they often come to SaskPower, but it may not be an issue of our making. It is somewhat simpler to serve it all in one direction, but the trend is clear, and I think that's where smart grid is coming in.

If we can do that in a smart way and keep the costs down — big geographical areas, small customer count, 144, 000 kilometres of distribution line, enough to go around the world four times — you don't want to try and reinvent that real quick, and so you actually want to kind of sneak up on these things. Do the experiments. Do the demonstration projects. Run — I'm going to call it — the standing offer program. Third time's a charm; I've got it now. You actually want to run that, but you want to put a limit on the amount that you take each time, and you want to learn on each turn. You'll do it each year, but you really want to learn one step at a time and see the kind of cost impacts.

You asked, are there any barriers? Start running power the wrong way or in a different way than it has run historically — the conductor size, the safety issues for people who are working on that line and may not expect an energized source there, interesting times for the neighbours on voltage control when the generation is there and not there — and there will be additional expense that SaskPower has to incur to try facilitate that. That's why the experiments sort of step-wise make some sense to me.

Mr. D'Autremont: — Okay, thank you. We've had quite a

number of presenters from certainly diverse backgrounds, and what one would necessarily expect for philosophies as well, have promoted the use of dispersed power, small generation, privately paid for. And we had the chamber of commerce and Dr. Beveridge in today from Kairos, both advocating for private generation which you would think they would be coming at it from a different direction, but they weren't. So there is this seems pent-up demand in Saskatchewan for the ability for private individuals — small businesses perhaps — to get into the generation system. So that would cover part of SaskPower's capital costs because they would be absorbing that cost themselves.

Once you get into a slightly larger generation though, if you're going to go to a private generation where you're going to have long-term purchase agreements, those kind of costs now associated because SaskPower will have made a long-term commitment — 10 years, 20 years, 30 years down the road — how do those show up on SaskPower's books? Do they show up as a debt or as an obligation owed so that it would be counted as part of the debt obligation of SaskPower? Or is this handled in some other manner? Because even though the private sector may have paid for this cost, you now still have to pay for that electricity over a fixed period of time. So how is that dealt with by the accountants?

Ms. Youzwa: — I'm going to start, and then I'm going to turn it over to Sandeep to complete the answer. With regard to the smaller projects that we talked about — the distributed generation projects and we were talking about developers, you know, and the pent-up interest in doing this — it's our expectation that they would require some kind of long-term commitment from SaskPower to take the energy at some reasonably guaranteed price. Otherwise it'd be very difficult for people to go ahead and invest, I think, still sizeable amounts of capital without any reasonable assurance that they'd recover the capital and the costs associated with that. So there's probably long-term commitments for those smaller projects required to make them go.

Certainly the long-term requirements in power purchase agreements are required for the larger-term projects. And there have been some changes in accounting rules which affect how those will actually be showing up on our financial statements. And I'll let Sandeep speak to that.

Mr. Kalra: — When you have long-term obligations, take . . . [inaudible] . . . contracts that are running 20, 30 years, those obligations will be discounted back to the present value, and they will be shown on that balance sheet as long-term obligations. And the rating agencies, the debt rating agencies and the banks, etc., would look at that as debt-like obligations for their calculations.

Mr. D'Autremont: — That was my expectation. I hoped maybe there was some other thing there.

Ms. Youzwa: — No, they're considered capital leases, and they will show up back on SaskPower's books.

Mr. D'Autremont: — Thank you.

The Chair: — Mr. Wotherspoon.

Mr. Wotherspoon: — Just as comment and to follow up because we had this conversation earlier today in one of the discussions and it was with one of the presenters here that was putting forward lots of interest in going with, I guess, with long-term purchase power agreements.

The presentation was basically, I think, in some ways that there's ways to mitigate risk by having some other entity or business take that on and then the responsibility for them to also deliver that power.

I always think we should be cautious in these kind of statements, and it's for this very reason. And we had this discussion with the last presenter which I raised was . . . really whether you're taking on long-term debt for own source or whether you're signing long-term purchase power agreements, investment bankers and bond rating agencies see that in many ways as a long-term commitment and as debt, and so there's not really a mitigating of risk or of debt tolerance or anything like that that goes on in that transaction.

Nor is there, at least I wouldn't believe, any mitigating of responsibility from SaskPower because I would — and my question will be — I would assume that whatever purchase power agreement SaskPower would enter into, they require that; you require that power. You need to know that it's reliable and going to be dependable, so it's your responsibility as well to make sure that it's there. So you're not really transferring risk either financially or from an operational prospective.

Now there's other benefits that can be occurred, and certainly we've talked about the different partnerships and purchase power agreements that have gone on . . . but I guess just SaskPower, just to clear this up, there's certainly risk that still comes with independent power producers.

[17:00]

Mr. Wilkinson: — Maybe I'll try it this way, and I think your question's got a lot in it, so forgive me if I bark up the wrong tree for a moment.

So when we write a power purchase agreement for someone to deliver power over a 20-year period, before anything is built, often there's a little back and forth as to who is responsible for what. And occasionally the price in the contract is fixed. And then for example if you're the developer, the expectation is that you can go away and develop project that'll come in on time and be able to deliver power to me for that price. In that case the developer has taken on the construction risk. In other words if he runs into difficulty building the thing and the price goes higher, he took that risk, not me. The price in the PPA [power purchase agreement] didn't change. So in some cases the developer takes the risk of construction overruns and that kind of stuff which means that SaskPower did not take that risk.

So you can structure a PPA so that the risk is apportioned for whoever is developing it. It's not the same as if SaskPower, but they took the construction risk. For example if SaskPower had built that same facility and it went over, we'd have to eat it. In this case, they would eat it. So there's some risk apportionment when you do power purchase agreements.

Mr. Wotherspoon: — Fair, absolutely. And I would expect a corporation to operate under a kind of contractual relationship. That being said, if you enter into agreement with an entity to deliver power, and for whatever reason they're not able to deliver that, either through cost overruns that make them insolvent or, you know, not able to provide that or at some point through that, it's going to fall back to SaskPower more than likely to respond at that point in time.

Mr. Wilkinson: — Sometimes when you write power purchase agreements . . . No one expects to have difficulties or cost overruns, but sometimes when you write those, if it turns out that there's insolvency and yet there's still a working asset there, in some cases in power purchase agreements, SaskPower's rights under the agreement to take over and run the facility are entrenched in the PPA as well, in some cases. You often write these things so you're not left stranded.

Mr. Wotherspoon: — Fair enough. And I simply make the point as well — and I think it's been reiterated — the kind of caution that needs to be built in to power purchase agreements. But it's sometimes, I believe, perceived that this is a simple way to have, say a private corporation come in and take on financing that takes that burden off of SaskPower. Well not necessarily. It's a long-term contract here or long-term debt. It's kind of on the books either way, and as well that you remove yourself from the responsibility of delivering that power in the end. This is going to be planned in sequence. And certainly when you look at balancing and the needs of the grid as a whole, there's a very delicate balance that occurs in due caution in moving forward. So just simply some statements that I'd like to make.

Mr. Wilkinson: — Just a remark on that. Big geographical area, small customer count. One of the things that has kept it affordable here is you neither ever got too far ahead or too far behind with the load required of you. And if you overbuild it gets expensive, and if you underbuild it gets unreliable — the balance.

Mr. Wotherspoon: — Just one other question, just to build into Mr. Allchurch's comments on hydro. Just wondering specifically, the Wintego project, which is a larger project of course that was of large discussion in the 1970s, what kind of work and resources is going into that project at this point in time?

Mr. Wilkinson: — One of the things we probably discussed a little bit was something called the hydro development unit. That group, it's a smaller scale of course, but it's a number of people who will be dedicated to sort of dusting off the hydro potential — and we promised that list — renewing it in a more modern context. And I mentioned DFO [Department of Fisheries and Oceans] and sort of traditional concepts. And so that is kind of a work in progress. That will probably take a number of years to complete. It'll use consultants. And so I would say kind of that's what's in progress, but not just for the Wintego site, but probably more to update the map of hydro potential for our whole province not just the one site.

Mr. Wotherspoon: — Would it be possible for SaskPower to supply to this committee — I guess it sounds like an older document — but the original document with hydro sites and potential power from each of those?

Mr. Wilkinson: — Yes.

[17:15]

Mr. Wotherspoon: — Thank you. And then any timelines as it relates to the current update of that project or that map or that inventory?

So in 2008 we started . . . Typically when we produce our business plan we would come forward with a plan for the next year and then sort of an outlook for five years. We started in 2008 in running a 10-year outlook, because we then realized that and certainly understood that the challenge ahead of us was significant and that many of the very important decisions that would have to be made would have to have impact well beyond that 1-, 2-, or 5-year period, but over that longer period of time. And so we started running projections over the longer period, and that was in 2008 and 2009 as well. And so the numbers that we've talked about here really reflect that longer-term planning view that we've started to take over for a 10-year period. Does that help?

Mr. Wilkinson: — I don't have a timeline for that yet.

Mr. Wotherspoon: — Would it be concluded, do you believe, before this committee's complete? No.

Mr. Wilkinson: — No. I hinted it'd probably be several years to get that kind of . . . The province is a relatively big place, so that's a bit more intensive effort.

Mr. Hickie: — Yes, very nice. Thank you very much, especially with that 20-year supply plan which . . . Now I want to go back then and ask previous years . . . and I'm not going to get political here. I really don't want to do this. What I want to know is that . . . No I don't. I really want to know, what did you brief the previous ministers about in relation to the projections of the supply needs and things like your needs for infrastructure dollars? Because that's going to tie in to some other questions I have.

Mr. Wotherspoon: — Yes. No. Thank you.

The Chair: — We've held you here with questions for about three hours, and I think we've got probably 20 minutes, I'm guessing, but roughly. Would you like to take five minutes? Why don't we take five minutes, and we'll come back and wrap it up. So thank you. We'll recess for five minutes.

[The committee recessed for a period of time.]

The Chair: — Mr. Hickie has a round of questions.

Ms. Youzwa: — We understood, over that longer period of time, that there would be sort of a growing requirement for investment in the system. And we continued to put out business plan numbers, and those numbers included capital spending over that five-year period. We certainly were aware that we needed to add capacity to our system in that 2005-2006 period. We ran a lot of extensive analysis to look at what those supply options would be available to us, and that was at the time when we started looking at our first set of feasibility work around the clean coal project to see if coal might be an option to meet that capacity requirement.

Mr. Hickie: — Thank you, Mr. Chair. Again this is just to come back on some of the points from the very first day we met. Ms. Youzwa, I'd like you to answer these if you wouldn't mind because it's really a big corporate kind of direction from the present CEO's standpoint.

We didn't proceed with that project. We were running in parallel with that some natural gas options, and what you see now for the natural gas simple cycle options that are being built was really the decision and the choice that was selected there. But we knew that the demand was growing, that we would need to add supply to our system and we needed capacity to our system in that time period.

When did SaskPower actually become aware of the \$15 billion that are required for the shortfall and the infrastructure replacements and new infrastructure?

Ms. Youzwa: — SaskPower, on an ongoing basis, runs a 20-year supply plan and has been doing that for a number of years. So we did understand . . . And in that supply plan, we regularly look at the capacity that we have, what the state of that capacity is, whether it's due for replacement, refurbishment, and we look at capacity requirements we have from the load forecast. So that's an ongoing kind of process that we run and update on an annual basis.

Mr. Hickie: — Thank you. I guess the next thing then goes directly to your role as a president, CEO. And I mean we did hear on the first day that your CFO told us that no other governments plan for and put money away for, in a bank account so to speak, a savings account for infrastructure needs in the future. But the question I would have to ask though is that, if that was the case and it's accepted practice across the nation, then why would SaskPower have given such large dividends back to its shareholders then?

And we also understood, and have for some time, that we've got infrastructure renewal challenges ahead of us. We did know that the transmission distribution system was aging and that we would have to be looking at investments, not only in generation renewal but also looking to renew the transmission distribution system as well.

Then in 2007 we saw quite a dramatic change in our load forecast, which really reflected what everyone saw and experienced in the economy at large. It was a tremendous amount of economic growth, all of that translating into increased demand for electrical service across all of our customer groups. We updated our supply forecast, supply plan, and at that point could see that not only were we going to have to have plans in place to renew infrastructure but we were also going to have to accelerate our plans for expanding the system to meet growth.

Ms. Youzwa: — Well SaskPower didn't set the dividend policy. The dividend policy is set by the shareholder. And so we paid as per the dividend policy that was set by the shareholder.

Mr. Hickie: — CIC [Crown Investments Corporation of Saskatchewan], correct?

Ms. Youzwa: — It was set by the CIC board, yes.

Mr. Hickie: — The board? Okay. That's what I was kind of coming at. I wasn't sure if it was a board that did that or who actually had that final say in that one. But that would have gone to cabinet anyways though before, right?

Ms. Youzwa: — That would be my understanding, yes.

Mr. Hickie: — Okay. I guess the next thing I'd like to know though is that because you did your capital plans in the past as well . . . And of course we saw new generation facilities come online with transmission as part of that business plan, case plan, correct, going forward?

So now with all the talk about nuclear and the idea of . . . and you mentioned the aging infrastructure for transmission and distribution, that has to get done regardless, correct?

Ms. Youzwa: — Yes. We were expecting to have to invest in transmission infrastructure for sure.

Mr. Hickie: — So then the case would have to be, and my question is, what's the cost difference between what we're going to have to do anyways to what it would cost if the nuclear idea agenda did come or go forward?

Ms. Youzwa: — Well a lot of the . . . I mean, there's two kinds of transmission requirements, and they integrate to form the system as a whole. You've got transmission requirements that connect your customers to the system. And we've seen a lot of growth in that requirement, and we're expecting that to grow going forward. You also need transmission to connect your generation to the system. And that can be . . . Your choice of generation both in terms of fuel type and in terms of location can have quite a dramatic impact on what those transmission costs would be.

So for example what we've done with the simple cycle gas turbines where we've sited them along the west side of the province — North Battleford, Saskatoon, and in Ermine by Kerrobert — and on the east side in the Yorkton area, really sort of allows us to add generation around the grid and not spend, you know, significant amounts on transmission to connect that generation. So the transmission for . . . Cost is very much dependent on your generation decisions and choices that you make.

Mr. Hickie: — That ties in the next question then — and we've talked about it from both sides — about this whole decentralized generation of power sources. The same thing will have to happen to that as well, and if we expand our wind power and if we expand on the solar, if we ever went to a small nuclear kind of power plant, and the grid's the same thing then, right?

Ms. Youzwa: — It is the same thing. You have to look at these, in my view, as integrated decisions. You're not just making a generation choice. You have to look at it as an integrated transmission and generation decision. And then there's this cost to the system from that. But you can't look at them in isolation to understand what the overall cost will be to the system.

Mr. Hickie: — Thank you. And I guess one more last point, just to clarify then, what you gave us for projections for cost for each of the variables, every different source, that's all figured in there as well — the transmission lines attached to that actual, developing that power source?

Ms. Youzwa: — No, I don't believe so. The options don't have transmission, do they?

A Member: — No.

Ms. Youzwa: — No they don't. Transmission would be over and above that.

Mr. Hickie: — Then I'd like to know then if I could please, and maybe the committee would like to know, that final figure would be substantially increased then if you figure in transmission for each of those variables based on where you as your experts would tell you would be the best places to actually decentralize this power source, correct?

Ms. Youzwa: — Well the \$15 billion is an estimate. It's an estimate. The actual choices you make for generation and the fuel type and location will affect the transmission. What you've got here in the 15 billion — and Mike Marsh talked about what portion of that is for connecting generation — those are estimates at this point in time. Those will move around depending on the specific choices we make.

Mr. Hickie: — Thank you. Those are also my questions.

The Chair: — I'm going to take the floor again for a few questions. Tying in with the transmission question, so what we have are busbar prices when we're comparing what you have in your document. So conceivably if you put a 100 megawatt gas turbine in each moderately sized city — now I know we're not talking precise numbers — an argument could be made the transmission is a smaller cost on that model as opposed to a 1000 megawatt facility. Is that a fair generalization?

Ms. Youzwa: — There could well be upgrade requirements to the transmission system to support the gas generation, but it would likely be less than the transmission requirements for a large, single 1000 megawatt station located within the grid and interconnected to the grid.

The Chair: — Okay. I just want to kind of wrap up multiple things I've heard, so I'm probably going to be jumping around a lot over the last nine days.

Many people have brought forward the idea that some of the renewables, you use them when the sun is shining during daylight hours or when the wind's blowing, and when it's not you . . . or when it is and you have extra capacity, you use pump storage into our reservoirs. Do we have a large capacity for . . . Is pump storage something that we can do in a large way?

Mr. Wilkinson: — We have in our past looked at the opportunity for pump storage. We're a little on the flat side as it turns out in a good chunk of the province. We looked at one or two sites, one of which was called Anerley Lakes. It's essentially building a hydro station and running it backwards to pump uphill. It's been a while since we looked at that — very

expensive and not much gain, given our sort of geographic situation.

The Chair: — Okay. My presumption was also that if you're relying on a couple thousand megawatts of wind, you can't just flip the switch and automatically . . . you know, if you've only got 300 megawatts of hydro, you can't make it produce 2000 at any one time either. You know, you can take it for all it's worth for a while, and if you pump storage — if that was economical — but you still can't over-max your existing infrastructure.

Going down to some of the other questions earlier about putting out requests for proposals, how many of those have taken place in the last 15, 20 years?

Ms. Youzwa: — The first request for proposal that went out would have been back in the late '80s which led to Meridian . . . [inaudible interjection] . . . No I'm sorry, in the 1990s which . . . The Meridian project, that came on in 1999-2000, we had . . . Environmentally preferred power had two RFP that went out for small environmentally preferred power projects. And now we've run an RFP for the peaking station which has closed and the contract was let this fall, and we have the baseload RFP which is in progress right now.

The Chair: — Okay. Maybe I just missed it. The cogen with the mine, that would have been an RFP as well?

Ms. Youzwa: — That wasn't an RFP. That one was developed as a joint venture between SaskPower and ATCO Power. We went through a process, a partner selection process, where we did . . . which was like a competitive process. And then from there we evaluated various sites and moved forward with the one at the Cory potash mine.

The Chair: — Okay. Also a solution that was put forward by many of the presenters was, and we've talked about it here today as well, is the integration with Manitoba's grid that, you know, if we could almost make it a seamless border and we could send them wind power when its windy and take hydro back. In your presentation on the first day and again today, the talk was not until about 2020 did they even have excess capacity that they'd be willing to sell. My presumption is that they're willing to sell for them now. If we wait till 2020, that would be gone. Is that a reasonable assumption?

Ms. Youzwa: — Yes.

The Chair: — They give us a price figure on that. Is it in the ballpark? Is that public? Can you share that with us?

Mr. Wilkinson: — It's not public and, at the end, there would have been disclosure issues around that because they also sell power to the United States, to Ontario and others, and so there's no disclosure. Typically I would describe it as a market price. In other words, what the market will bear.

The Chair: — Okay. Trying to do a little research with this, I look at Manitoba Hydro's website and they say, you know, we ship out X number of megavolts a year and we collect this much revenue. Doing the simple math it is in the ballpark, I think, today of what your costs of production are for what they're shipping south. I guess only those involved in this

process know what they're putting out there, what they are asking, if that's where we think we're going to be in the future. And until we know carbon prices, that may be a big question for everybody.

Another thing we heard was that efficiency and demand-side management was really an area where maybe the most economical gains can be made, that by not producing another megawatt were far cheaper than producing the next cheapest one.

We also heard from the mining industry that a large portion of their members probably make up the 35 . . . Potentially 20 or 25 of the 35 biggest power producers are from their industry. When we posed this question to them, they said that electricity may make up as much as 25 per cent of their budget and that for a decade or more, or maybe since they built these mines, that finding efficiencies was really top of mind for them. And they've really been driving the efficiency agenda in their industry, and presumably in all the major power consumers, because that's such a large cost for them if that is, in fact, the case.

I know you currently have the 100 megawatts of demand-side management you're trying efficiencies to find. When you're looking at the target, is it mainly on the household and maybe city consumers as opposed to those large . . . If 50 per cent of our consumption is those 35 off the top, is it the other 50 per cent which would be you and me?

[17:30]

Ms. May: — You're quite correct in that our industrial customers are very much aware of energy efficiency because, you know, for the most part, electricity is a major component of their costs. And so for many of them, they have undertaken a great deal of effort over the last period of time to make sure that their operations are efficient.

Now given our own research to date, what we are of the view is that probably in the industrial sector — which would be some of those folks that you heard from in the Saskatchewan Mining Association — that there's probably about 10 to 15 per cent of energy savings that we can likely attract with those customers by working with them on a program that we're expecting to launch in 2010, which is really an energy services program for the industrial customers where we go in and audit, work with them, and look through their facilities, look at their processes, and give them some technical expertise and guidance in terms of what they may be able to do in terms of equipment or process, and work with the customer to make their facility even more effective . . . And of course they'd want to do this in a proper timing, such as when their next scheduled maintenance cycle . . . Or they'd need to plan for several years out, because they'd need to purchase some equipment.

So the energy savings in terms of the industrial base, I think when we first presented on October the 6th, we said it was 10 to 15 per cent for the industrial base. And I'll come back to where we see some of the other gains to be made in a minute. But before I stray away from the industrial customers, I do also want to reiterate though that when it comes to demand response, the ability to introduce some programming that will help

industrial customers or encourage them to make some changes to their peak demand, we see that certainly the industrial sector has a role to play there. And again we're looking at, near term, about 120 megawatts of capacity saving coming from the industrial sector in the short term.

Now again, the Saskatchewan Mining Association has indicated that many of their members would not be able to take advantage of that. And that may be quite true, but there are other industrial customers in other sectors that can, or that could. And so certainly we're going to, you know, describe the program to all industrial customers, and then certainly speak to those that feel that they can perhaps take some advantage of that. So we will have, on offer, demand response programming for those that can adjust peaks. And we will have, on offer by sometime in 2010, an energy services program for those where maybe they can make some additional energy savings over time.

And this is actually very typical of most jurisdictions. And when I described potential studies a while ago earlier this afternoon — which is where you look at technical capabilities, equipment, and appliances — you look at economic barriers or quality of product barriers, and then you look at what your customers are currently doing and what their knowledge level is in terms of things they can do in the future.

We see one of our greatest areas for gain, in energy savings in particular, is our commercial grouping of customers. And there we're seeing somewhere in the neighbourhood of about 50 to 60 per cent of energy savings likely to come from that grouping of customers. And right now we have a commercial lighting program that we just launched very recently in 2009 aimed at commercial lighting, which is about 28 per cent of the average commercial customer's load. So, you know, we are well on our way to trying to start to address some of that.

And then we're estimating about 30 to 35 per cent of energy savings from our residential customers. So again it's lighting, and it's things like encouraging customers to purchase what we call control devices, which is timers.

We're going to also very shortly be introducing a lighting fixture sort of rebate incentive. We will be introducing yet another seasonal light emitting diode or seasonal lighting campaign for our residential customers. And all of those things will go into attracting that 30 to 35 per cent of energy savings likely to be gained from our residential customers, based on our surveys and studies of what the potential is out there for achievable demand-side management targets, and based on our understanding of our customers' current knowledge about demand-side management programming.

I hope that helped to answer your question.

The Chair: — Yes, it certainly does, especially that the commercial grouping is where you think the biggest . . . that's something that I hadn't heard up to this point.

Another one of our presenters again on demand-side management said . . . Now my numbers might be a little off because I'm doing it from memory here, but I believe it was about 10,000 customers of SaskPower are coded as . . .

Ms. May: — Electrical heat.

The Chair: — That is right. Is that number fairly accurate?

Ms. May: — We actually provided that number to that individual presenter. So the number of customers is correct. Now we've taken a look at the estimate that was presented to you in terms of the megawatts of savings, and we think that that is where we would have some disagreement with the presenter. We would suggest that that number of likely savings is considerably lower than what was presented to you. And I think the indication was 250 to 500 megawatts of saving, and it wasn't clear to me whether it was capacity and energy, a combination, or what it was.

Near as I can tell, and again without sort of digging through a whole lot of material right at the time, but near as what we could tell is that it was based on a fairly, I think, ambitious notion of what the potential savings would be for that kind of customer. So we would say that, yes, there is some savings to be had from the electrical heat customer.

But what we would say is we're not so certain that it is in that order of magnitude. In fact we were thinking — and this is very preliminary numbers so I would like to qualify it with that — that it's more likely potentially like 22 to maybe 50 megawatts. But those are very preliminary numbers based on rough estimates that we've done in very short time.

But I will say that electric heat customers certainly can benefit from some of our programs. Obviously any of the residential programs, if they're residential customers, that would help them to reduce their lighting or other kinds of issues that we currently have. There are also maybe some electrical heat customers who might want to consider looking at our geothermal program.

The Chair: — Okay. Moving on past demand-side management, something that stuck out to me in your first presentation is that currently there's one province in Canada that is building a new coal-fired power plant. Who is that?

Ms. Youzwa: — That would be Alberta.

The Chair: — And that's what they call supercritical plant?

Ms. Youzwa: — That's right.

The Chair: — That helps on the carbon per kilowatt?

Ms. Youzwa: — It's a more efficient coal plant and it's sort of state of the art in terms of efficiency. It does not have any equipment attached to it to do anything to capture carbon dioxide.

The Chair: — Okay.

Mr. Wilkinson: — May I offer something at this point?

The Chair: — Certainly.

Mr. Wilkinson: — It's a very efficient approach for coal generation, but it wouldn't get down to the level that natural gas might have, for example. Just a thought there. It doesn't come

down to that level. It's an improvement on the theme, but it doesn't get down to the level that you might find with natural gas which is substantially less.

The Chair: — I presume that your comments about, walk slowly to see where everything's going to shake out until carbon's got a firm price and we know what's happening in the future — that wouldn't be something SaskPower would entertain?

Ms. Youzwa: — Yes.

The Chair: — Another thing that was brought forward, and it was actually a solar presenter that did, was looking at Saskatchewan's daily usage curve. We peak apparently midday, but our largest peak is probably after the sun has already set. Is that accurate?

Mr. Wilkinson: — I'd probably be able to describe it as your load starts to come up around 8 in the morning along with everyone else apparently. You go through a lunch hour peak, sort of 11:30 till 1:30. It drops off very slightly in the afternoon and then comes up again sort of 5 to about 7:30 over the supper hour. And then the peak hours in the way we operate the system go till about 10, 10:30, and then it drops off a lot overnight. So the peak hours are described as out till 10:30 which is later, after the sun has gone down, but the load that we actually experience on our system probably has two significant bumps on it — one around the noon hour and one around the supper hour till about 8:00.

The Chair: — Okay. I think that wraps up my questioning. Mr. D'Autremont had another question.

Mr. D'Autremont: — Okay. Thank you. It's a wind power question and it'll be in two parts. I already asked the first part already, but I didn't get an answer. Net metering customers, do they pay a flat fee or do they still pay a fee even if their generation is equal to their consumption, so that they've zeroed their meter? Do they pay a fee at all for that?

And the second part is, does SaskPower provide any compensation to landowners or to municipalities for wind towers that are placed on their land or in their municipalities? This was raised by SARM [Saskatchewan Association of Rural Municipalities], concerned about property taxes and grants in lieu. Their concern was that SaskPower pays grants in lieu to urban municipalities, but does not pay grants in lieu to rural municipalities.

Ms. May: — So the first question, which was net metering if I understood the question correctly, is if a customer who was on net metering generated exactly what they needed, would they pay a fee? I do not believe that they would pay a fee.

Now the only thing — and I'm going to kind of look to the side — is if there's any requirements for backup generation or ancillary services, as we sometimes call it . . . [inaudible interjection] . . . Well that would be . . .

Mr. D'Autremont: — Will I get a bill if I generate the power that I buy from SaskPower? So I've . . . It worked out to balance. Do I still send a cheque every month to SaskPower?

Ms. May: — If you don't mind, what we'll do is we'll get the answer, or get a precise answer and table it. But I believe that either they don't get a bill . . . They would not be asked to pay. Where the debate would be is whether or not there is a basic monthly charge, which would be typical of any residential/commercial/farm customer who doesn't use any usage. But let me check into that if . . .

Mr. D'Autremont: — That's about \$80 a month.

Ms. May: — For a basic monthly charge?

Mr. D'Autremont: — Yes.

Ms. May: — I'd have to check what rate you're on.

Mr. D'Autremont: — I have a water well that uses very little water and that's what it costs me. Or I should say every three months, probably, because it's a three-month charge.

Ms. May: — So you'd be a farm customer.

Mr. D'Autremont: — Yes.

Ms. May: — But if it is agreeable to the committee, we will make sure we have a precise answer and table it to you.

The second question was with regard to payments that we make to landowners for wind farms. We would enter into negotiations with landowners and enter into long-term lease arrangements to allow us to have access to the land, both for the construction of the wind turbines and then also to have access for maintenance on an ongoing basis. We do not pay taxes to the rural municipalities in the same way as we don't pay for any of our transmission or distribution lines that cross in rural areas.

Anything you want to add?

Mr. Mitchell: — Yes, that's really good. Where the municipalities actually get some gain is that you need fairly good roadways, because these wind towers are like 25 metres long, 75 feet long, type of thing, and so you need some pretty good roads in there. So we end up building the roads or paying for the roads and gravel. Any damage to the roads and stuff we make the municipalities hoe, so they actually end up with a better road system than what they had, at no cost to them.

And as the president said, each landowner does get compensated on an annual basis for the land. We tend to go for like a 5 acre plot, but the footprint is very small. The footprint that's actually used is, you know, like a half an acre or something like that. So it's quite an advantage to the landowner. And it's similar to, you know, if you have oil in the oil country, oil wells and that, these wind towers, the compensation is actually as good as that or actually a little bit better.

Mr. D'Autremont: — Thank you.

The Chair: — Well I'd like to thank you for answering our questions today and your presentation two weeks ago now. I think it's been very helpful in kind of framing our minds for the process we've gone through. And now to come back and answer the follow-up questions, it was very generous of your

time and thank you very much.

[17:45]

Ms. Youzwa: — Mr. Chair, if I may, in the conclusion of our participation in this process in the work that you've been asked to do, the committee, if I could make a few very brief closing remarks.

The Chair: — Certainly.

Ms. Youzwa: — Okay. Thank you very much. Now that we've finished the questions and you've heard the testimony from SaskPower and many others from across the country, and are now part of the public record, I do want to take a few minutes to share some final observations and comments with the members of this committee as you now start to contemplate the task of generating your interim report.

I'd say that this has been a powerful conversation that's taken place across our province over the last few weeks. It's a conversation that's been started by this committee. It's been fuelled by your very ambitious mandate to determine how the province can best meet the growing needs in a manner that is safe, reliable, environmentally sustainable, and affordable.

At SaskPower we're very proud and eager to be part of this discussion. As you've seen, we live and breathe this stuff each and every day. We've welcomed the chance to talk with members of the committee and through you the people of Saskatchewan about the need to undertake a renewal of the province's electrical system infrastructure.

These committee hearings also provided us with an important opportunity to talk candidly about the challenges we face in putting this long-term generation and transmission strategy together.

If there's one thing that the members of this committee have heard loudly and clearly through these hearings, as well as those following your work, is that there is no easy or single solution when it comes to meeting the province's future electrical needs. There's no silver bullet. Instead we need to find a balance among competing factors. We must continue to provide an essential service and do this without making decisions that down the road may inadvertently result in power becoming prohibitively costly, or lead to system reliability being compromised, or see us violating emission regulations that we haven't even written yet.

The challenges in this operating environment, with so many competing and uncertain variables, are many, and solutions are limited. We have a finite basket of options to choose from, each one with its pros and cons — another reality that has emerged through these hearings.

In my opinion, in its 80-plus years of service to the people of Saskatchewan, SaskPower has done a very good job in making good choices, continually striking a careful balance between reliability, environment, and affordability. We're confident in our ability to maintain that balance into the future.

As you heard in our testimony, SaskPower today is among the

leaders in Canada when it comes to wind power generation and we're actively exploring the addition of even more wind, yet our rates for service are in the middle of the pack when you compare us to those who also rely primarily on coal-fired generation. This didn't happen by accident. These are accomplishments that I am proud of and I know that all of SaskPower's employees are proud of, especially considering that we've done this in the face of our province's harsh climate and dispersed population — factors that only add to the magnitude of the challenge.

So I want to express my thanks, for the record, to the more than 2,500 employees at SaskPower for their ongoing contributions in finding that service balance, as well as acknowledge the contributions of generations of employees who came before.

As the committee turns its attention to the preparation of its interim report, the stakes are high. The province's ongoing economic development will be directly influenced by the recommendations and the decisions coming out of your work. Federal greenhouse gas regulations are not yet final, yet we're facing the prospect of making decisions around our power system that will affect ratepayers for years into the future.

While greener generation options hold promise, we are still searching for ways to ensure reliable service is not compromised as we rely on them more and more, a task we're taking on in conjunction with our sister utilities across North America.

Simply put, the matter before us is complex. And this is why, as we've put together our proposals for future generation and transmission plans, we have purposely left our medium- and long-term options open. These are not decisions that can be made lightly, nor should they be made without the knowledge and input of our customers — input this committee has helped to gather.

But let me be clear. Once again, Saskatchewan's short-term supply is secure. The necessary actions are already under way to meet our province's needs up to 2014, but beyond that date we should resist the urge to make decisions about our provincial electrical system until we have all the information we need to inform those decisions. What might look like indecisiveness or even obstructionism to some of your witnesses is actually, in my opinion, an example of prudent patience. What's more, our approach matches with what other utility operators are doing across North America — hedging their bets with proven short-term solutions, buying time until the long-term landscape becomes more clear. Only then can the best decisions be made, decisions that strike the balance I talked about earlier.

I acknowledge that this is something the committee will have to grapple with, that there's an undeniable urge to make long-term decisions today to be seen to be ahead of the pack. But I would suggest to the members here that this approach is not only irresponsible but could also result in unnecessarily higher electrical costs for all of us. We know that whatever generation and transmission options are chosen to meet the province's future electrical needs, there will be cost impacts on everyone in Saskatchewan. It's our job to minimize those as best we can.

At the same time, we also know that in 10 years from now,

thanks to the thoughtful planning, investment, and partnerships that are at the heart of our generation and transmission renewal and growth strategy, SaskPower will be in an even better position to fulfill its mandate to serve. Saskatchewan will have a modern, efficient, reliable, and environmentally sustainable power system — one that will deliver on the growing demand for electricity that comes with a robust economy.

The question in front of this committee merits serious debate and consideration. I thank you again for this opportunity to participate in the discussion, and I commend you for the range of witnesses you have called upon your nine days of hearings.

The committee's work has helped educate many in this province on the challenges we face, and we look forward to continuing that educational effort and continuing this powerful conversation.

In closing, I offer the ongoing assistance of SaskPower and my staff to assist you in your work, and wish you well in your deliberations. Thank you very much.

The Chair: — Thank you for your statement. With that, we have just a little bit of work ahead of the committee tonight, but we thank our presenters. And we'll move on with this.

I would just like to state the next steps for our committee. An interim report will be tabled during this session. Written submissions will be accepted until January 28th, 2010, but only submissions received to this date will be included in the interim report. Submissions to the committee's branch or the committee's researcher, Stacey Ursulescu, will be accepted until January 28. Further hearings will be held in January from the 18th to the 29th, 2010 — in Lloydminster, January 18th; Prince Albert, January 19th; Saskatoon, January 20th and 21st; Yorkton, January 22nd; Estevan, January 25th; and Regina, January 27th and 29th.

Requests to appear will be accepted until January 14th, 2010. The committee will table a final report following these hearings.

With that, I'd like to thank all of the presenters that have presented to us in this portion of it, and to my fellow committee members for sometimes spirited but always constructive debates. So thank you. And it now being past our finishing time of 5 o'clock, this committee now stands adjourned.

[The committee adjourned at 17:54.]