STANDING COMMITTEE ON CROWN AND CENTRAL AGENCIES

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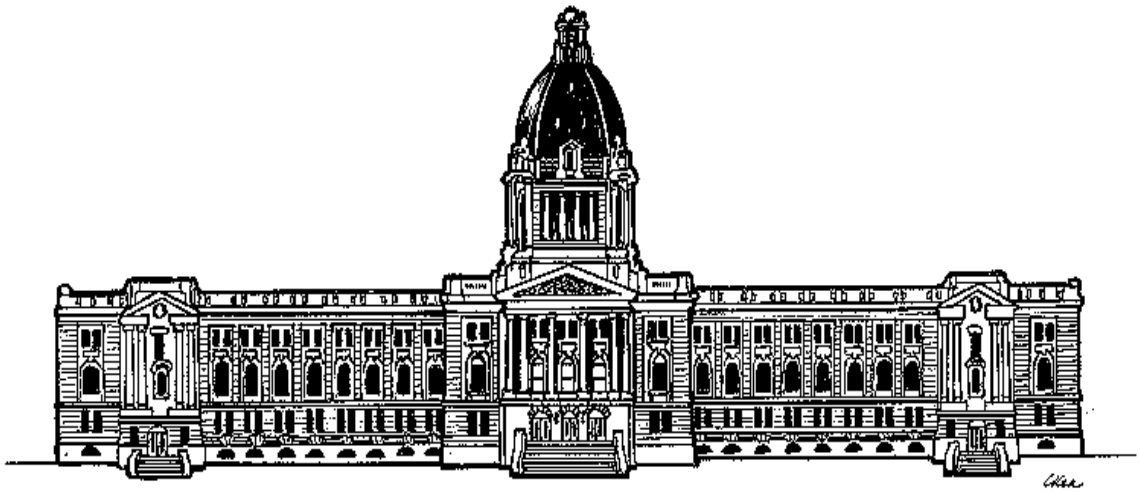

Legislative Assembly of Saskatchewan

Twenty-sixth Legislature

STANDING COMMITTEE ON CROWN AND CENTRAL AGENCIES

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Mr. Buckley Belanger, Deputy Chair
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Mr. Dan D'Autremont
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Mr. Randy Weekes
Biggar

Mr. Trent Wotherspoon
Regina Rosemont

Published under the authority of The Honourable Don Toth, Speaker

[The committee met at 10:05.]

Inquiry into the Province's Energy Needs

The Chair: — I'd like to welcome everyone here this morning to the 13th day of our public hearings of the Standing Committee on Crown and Central Agencies, the inquiry into Saskatchewan's energy needs. I'm Tim McMillan, Chair of the committee. I'd also like to introduce the other members: Mr. Weekes, Mr. D'Autremont, Mr. Allchurch, and Mr. Bradshaw. We have Mr. Belanger, Mr. McCall, and Mr. Taylor.

This morning we are still waiting for our first presenter and we'll endeavour to give her just a little more time, so we will go into recess awaiting her appearance. Thank you.

[The committee recessed for a period of time.]

[10:15]

The Chair: — Well welcome back to our committee. Before we hear from our first witness, I would like to advise witnesses of the process of 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, the position within 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 become a public document. Electronic copies of these documents will be available on the committee's website.

The committee is asking all submissions and presentations to be in answer to the following question. That question is: how should the government best meet the growing energy needs of the province in a manner that is safe, reliable, environmentally sustainable, while meeting all 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. We have set aside time following for question-and-answer. I will direct all questioning 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 submissions presented to the committee will become public documents and will be posted to the committee's website.

With that, I would ask our first presenter to please introduce herself and go ahead with your presentation. Thank you.

Presenter: Stefania Fortugno

Ms. Fortugno: — Thank you, Mr. Chairperson and hon. members of the standing committee. My name is Stefania Fortugno and I'm an environmental lawyer in Saskatoon. I hold a Masters of Laws degree in international environmental law from McGill University as well. My presentation will focus on possible legislative mechanisms for implementing renewable energy policy in Saskatchewan by reviewing such mechanisms in other jurisdictions, including Ontario and California.

My interest in the subject of renewable energy — that is, energy that is truly clean, green, and sustainable and not reliant on finite resources such as coal, petroleum, uranium, etc. — stems back to my days as a young student at the University of Saskatchewan when I vowed that I would not purchase a new motor vehicle unless it was solar powered. As a young person, I was environmentally conscious and concerned about the rising costs of energy. I was concerned about the prediction that in the coming years we would hit peak oil and the geopolitical instability and human casualties resulting from military actions being undertaken in the Gulf region and elsewhere on the globe to ensure a cheap oil or energy supply for North America.

Today in the year 2010, my dream of a solar-powered vehicle is becoming a reality, although in a slightly varied form. Today it is possible to purchase a fully electric vehicle with a 2- to 300-kilometre driving range that can be charged with solar photovoltaic cells. In the near future it is envisioned by renewable energy analysts that electric vehicles will become an important means of storing electrical energy produced by solar, wind, biomass, or other forms of renewable energy. Thus, for example, I can charge my electric car during off-peak hours on the electricity grid or I can use my own home solar photovoltaic panel to charge my vehicle. And I can then sell my stored electricity from my vehicle to the larger electricity grid when I do not need to drive my vehicle, and I can also obtain a premium price when electricity demand is high.

I have reviewed in brief other presentations made before this honourable standing committee. It is my understanding that Mr. Tim Weis of the Pembina Institute introduced the Ontario green energy and economy Act, 2009 to this energy inquiry. My brief will attempt to review the Ontario *Green Energy Act* in greater detail.

The green energy and economy Act was originally tabled as Bill 150 at the Legislative Assembly of Ontario on February 23rd, 2009 and passed into law on May 14, 2009. Under the Act, renewable energy is defined under section 1 as "an energy source that is renewed by natural processes and includes wind, water, biomass, biogas, biofuel, solar energy, geothermal energy, tidal forces and such other energy sources as may be prescribed by the regulations, but only if the energy source satisfies such criteria as may be prescribed by the regulations for that energy source." So for example, large-scale hydro would not fit under the definition of renewable energy under this legislation.

The *Green Energy Act* is considered one of the most progressive renewable energy legislative initiatives in North America. The Act was designed to boost investment in renewable energy projects and increase conservation with the goal of creating green jobs and spurring economic growth in Ontario.

Ontario desires to become a leading green economy in North America. The *Green Energy Act* therefore seeks to: spark growth in clean and renewal sources of energy such as wind, solar, hydro, biomass, and biogas in Ontario; implement

important conservation and energy efficiency measures for public agencies, individual businesses, and households, and this is via mechanisms found in sections 3 to 10 and 14 to 16; promote the use of renewable energy sources to provide energy for government facilities, set out in section 10; establish a renewable energy facilitation office in the Ministry of Energy and Infrastructure, under section 11; and it is planned that this will create 50,000 jobs in Ontario in the first three years of implementation.

The legislation is a result of extensive public consultations, including the work of the Green Energy Act Alliance, which involved the collaboration of numerous citizen and environmental groups, First Nations, trade associations, renewable energy developers, manufacturers, farmers, and landowners, all seeking to develop North America's first green energy Act. Thus input was drawn from civil society, the private and public sectors.

Under the Act, the Ontario utilities are required to grant priority access to the grid to green energy projects and to connect green energy projects to the grid within a reasonable limit.

Utilities are empowered to recover all related costs spread equally across the entire rate base. Furthermore the provincial utilities are required to adopt smart grid technologies such as storage systems in order to move the Ontario energy system from a highly centralized system to a more distributed system similar to systems found in Denmark and Germany.

A key feature under the new Ontario legislative scheme is the feed-in tariff program implemented by the Ontario Power Authority. The Ontario Power Authority is Ontario's equivalent to SaskPower. The program was announced — the feed-in tariff program or FIT for short — was announced in September 2009. The feed-in tariff program is a mechanism used to provide guaranteed prices for renewable electricity production in the province. The program is also designed to enable municipalities, co-ops, First Nations and Métis communities to build, own, and operate their own renewable energy projects.

The new tariff system established under the Act and its regulations provides for a long-term, for example 20-year, guaranteed contract with set prices for any renewable energy that individuals, companies, or communities wish to place on the grid. Thus a renewable energy producer is guaranteed both access to and a set price on the Ontario grid.

Qualifying renewable fuel sources include wind, water power, solar photovoltaic, and bioenergy — including biogas, whether on or off the farm — biomass, and landfill gas. For example, Ontario Power Authority has established the following guaranteed prices for various types of renewable energy sources: 13.5 cents per kilowatt hour for onshore wind; 19 cents per kilowatt hour for offshore wind; 80 cents per kilowatt hour for roof-mounted solar photovoltaic power; and specialized rates for biomass, biogas, and small hydro.

The prices in the feed-in tariff program are designed to cover project costs and allow for a reasonable return on investment over the contract term. In other words, the prices are to cover costs plus a reasonable profit. The contract and price schedules are subject to review at regular two-year intervals. However program changes will not affect executed contracts.

This feed-in tariff program is divided into two streams — the microFIT and the FIT program. The microFIT are for smaller scale projects, and the microFIT projects include very small renewable power projects such as a home or small-business installation. These projects generate 10 kilowatts or less of electricity.

The regular feed-in tariff program project includes small, medium, or large renewable energy projects which generate more than 10 kilowatts of electricity. Under this FIT program, there is no cap on the project size or voltage. The microFIT program by contrast provides a simplified application and contract issuance process for small-scale producers.

Depending on the size, type, and location, renewable energy projects may be subject to regulatory approvals through the departments of Environment or Natural Resources. The renewable energy facilitation office is charged with assisting renewable energy producers to understand and address such regulatory approvals or requirements.

Another important feature of the FIT program or the feed-in tariff program is the domestic content requirement. Thus a minimum amount of goods and services must come from Ontario for any wind or solar project greater than 10 kilowatts. Over time the minimum Ontario-based content requirement is scheduled to increase from 25 per cent to 50 per cent for wind projects and from 50 to 60 per cent for solar projects depending on the year the project reaches commercial operation. The goal is to support local industry and job development.

Aboriginal and community-based projects are given special status under the Ontario *Green Energy Act*. Under the Ontario feed-in program, Aboriginal and community-based projects receive this special treatment in order to promote their development. The incentives include reduced security payments and an additional price incentive or "adder," for example, an extra 1.5 cents per kilowatt hour for wind power from an Aboriginal wind project.

The incentives have been created in order to ensure the projects are economically viable and to level the playing field for groups that may otherwise be excluded from developing such renewable energy projects. The program recognizes that Aboriginal and community-based projects face barriers and higher project costs not encountered by commercial developers.

The Community Power Fund is also being established in order to help Aboriginal and community groups to pay for upfront costs including such items as equipment purchase and feasibility studies. A similar feature in Saskatchewan would ensure important assistance and incentive to the First Nation and Métis communities as well as farmers, rural communities, and other community-based groups to take advantage of opportunities in the renewable energy sector and promote the rapid, absolute reduction of greenhouse gas emissions.

By encouraging the development of renewable energy in Ontario, the feed-in tariff program seeks to help Ontario phase out coal-fired electricity generation by 2014, which is the largest climate change initiative in Canada according to

Ontario. Their coal-fired stations are the largest contributor to smog in the province, as well as greenhouse gas emissions.

[10:30]

Another goal of the FIT program is to boost economic activity and the development of renewable energy technologies and to create new green jobs and industries. These are all laudable goals which Saskatchewan can similarly pursue and achieve with a new feed-in tariff system.

The *Green Energy Act* for Ontario is also aiming to meet Ontario's climate change strategy targets while creating a world-leading, clean-tech industry and enabling Ontario to meet their goals of 10 000 megawatts of new, installed, renewable energy by 2015 over and above their 2003 levels; 25 000 megawatts of new, installed, renewable energy by 2025 over and above 2003 levels; 1500 megawatts of new, installed, combined heat and power by 2015; 3000 megawatts of new, installed, combined heat and power by 2025; 6300 megawatts of conservation by 2015 beyond 2007 levels with an additional 2.5 per cent annual compounding reduction in energy resource needs from conservation and demand management between 2011 and 2027; and finally a 30 per cent reduction in end use natural gas consumption by 2017.

Turning from the Ontario situation to California, I have a very brief overview of California legislation. California is — that's actually just a highlight of one element of their legislation — California is implementing a new law that will require state utilities to pay customers with money rather than electricity credits. The new regulation for 2010 is called consumer net metering. It tackles the counterproductive legislation in California that only allowed utility companies to sell electricity. This restriction, which is evident today in Saskatchewan, placed undue impediments to small and alternative solar or other renewable energy projects. In conjunction with the new net metering approach in California, a new financing scheme resulted in solar power permit applications doubling in the state between 2008 and 2009. And that is the development of the residential solar lease.

The residential solar lease has been pioneered by SolarCity, a Silicon Valley company. Avoiding the high initial cost of installing a solar system, a solar lease allows the homeowner to install solar panels for a small monthly fee. Similar to a car lease, customers sign a contract that binds them for a specified time period with an option to renew or purchase the panels at the end of the contract. Thus, rather than paying 20,000 to 50,000 for a typical solar panel system, a lease customer pays an amount in the range of $100 per month. SolarCity has signed homeowners to 15-year leases for $110 per month with 3.5 per cent annual increases included. Customers in turn experience immediate savings of approximately 15 per cent in their electricity bills while obtaining all the electricity that their home requires through the solar panel system.

With the new net metering regulation in California, solar lease customers can make money when they sell back any excess renewable energy to the utilities. Investors and residential solar lease projects are enjoying healthy profits as a result of the popularity of the solar lease projects and renewable energy subsidies.

SaskPower could implement a similar program of residential solar leases in Saskatchewan and benefit from the profitability of such finance vehicles and the carbon credits that would result from the rapid deployment of renewable solar energy initiatives. Affordable rooftop solar energy can now power both residences and electric vehicles. Over time it is predicted that energy costs for such vehicles will be reduced to zero.

Tesla Motors from California has produced a $100,000 electric sports car called the Tesla Roadster that can reach 60 miles per hour in 3.7 seconds. Tesla was the first company to produce an electric car that can travel more than 200 miles per charge. A mass-market, all-electric sedan is planned for 2012.

SolarCity offers optional charging stations for residential solar power systems. It also installed five experimental Tesla charging stations along Highway 101 from San Francisco to LA [Los Angeles]. The goal is to provide the foundation for readily accessible, low-cost solar energy. Thus my solar powered car dream is a reality in California and could become a reality in Saskatchewan in the near future, if SaskPower adopts the soft energy path outlined in my presentation. Thank you.

The Chair: — Well thank you very much for your presentation. Some of our members do have questions.

If I could just start off looking at Ontario's model a little deeper, and other presenters have brought it to our attention. Our first round of hearings was shortly after they made it public and yes, Mr. Weis was one who was very knowledgeable on it. In your comments that the feed-in tariff for different forms of electricity range from 12, 13, 20, up to 80 cents a kilowatt hour, you know, in the mix we're not going to have everybody feeding in at 80 cents a kilowatt hour, nor at 12 or at the existing. Any idea, or have you read anywhere where they expect it to shake, where the balance will be found as far as the consumer price 10 years from now once a lot of people are selling at the higher rates?

Ms. Fortugno: — I understand from materials that I read that they were expecting a 1 per cent increase in electricity price each year over the next decade using this system. So that's 1 per cent over the existing electricity rates. And I believe that all customers would be charged, or however they break down their customer prices, they would be charged across the board so the customer on the receiving end would not pay a different price based on the type of energy that is being supplied to them.

The Chair: — Yes. You know, I do the quick math in my head, and I think if there's people selling it onto market at 80 cents a kilowatt hour and it's currently selling, if it's similar to Saskatchewan at about 9, that's several hundred times the cost. And I haven't seen the information, but my expectation would be that . . . Maybe I won't do the math in my head because this . . .

Ms. Fortugno: — But I imagine that the reason, like for example that 80 cents a kilowatt hour for rooftop solar voltaic cells is to allow that type of technology to quickly develop and to become one of the focuses of manufacturing in the province. And I imagine over time that rate would decrease so it would just be probably an initial high rate to spur that development.

The Chair: — Okay, thank you. Mr. McCall.

Mr. McCall: — Thank you, Mr. Chair. And thank you, Ms. Fortugno, for your presentation. I guess I'll take the Chair's questions and perhaps state them in a different way. Over the years one of the concerns with the power supply in Ontario has been the question of rolling brownouts and the basic instability of the power supply for the people of Ontario. In your investigation of the new measures being brought on stream in Ontario, is there any sort of recognition of addressing that basic question of security and stability of supply?

Ms. Fortugno: — It is my understanding that proponents of the feed-in tariff system feel it is actually a more secure and stable manner of having an energy supply in a location or a province or a region. And that is because there are guaranteed contracts with various renewable energy producers and from various forms so that they each balance each other out.

And another feature I think also of this type of a system that is envisioned is the smart grid, and that the smart grid will require such elements as storage capacity. So for example, when the wind isn't blowing, the energy that has been generated by the wind is stored. And also when the sun is not shining, the energy that was generated during the day when the sun was shining is stored overnight in different systems including compressed air systems, batteries, the electric cars as I mentioned. And as well there are schemes for moving water. And the water is moved uphill is my understanding, and then when that energy is needed, that water is released.

Mr. McCall: — Okay. Is there any consideration in terms of moving to a more distributed generation model? What does that do to the . . . And again to clarify what you've just said, but in terms of moving to a more distributed model, what are the pros and cons for that in terms of stability and security of power supply versus the current regime where they have had problems in terms of rolling brownouts and the like?

Ms. Fortugno: — Well even in my personal experience with some colleagues who live in Ontario, some of them are not on the nuclear energy grid, the centralized system. They have a different, smaller local utility. And so when the larger Toronto area, Greater Toronto Area, experiences a brownout or a blackout, they are unaffected because they have their own smaller distribution system and it's up and running.

And I imagine that with the more distributed system that will be the same for a province like Saskatchewan, where if one area of the province is experiencing low wind or low solar energy production, another area of the province will have a different set of circumstances. So the energy will still be produced in that area, and if there is an integrated smart grid, then any of those kind of issues can be managed successfully.

Mr. McCall: — Okay. Thank you for that. Just shifting my line of questioning a bit, I was very interested to hear about the Aboriginal and community-based projects incentives under the new Act in Ontario. To your knowledge, have there been any projects proceed under the new regime, under the new legislative regime to date with this new legislative authority around Aboriginal projects, community-based projects?

Ms. Fortugno: — I would just be speaking off the top of my head, but I believe there are projects that are in development phase. I'm not sure yet if they're in the implementation phase.

Mr. McCall: — Okay. And again in terms of the work of the renewable energy facilitation office, they provide expertise and resources to these projects to help them along and bring them to fruition would be the assumption. No? Is that correct?

Ms. Fortugno: — Right. Right. That is the goal.

Mr. McCall: — Okay. I guess one last question on this aspect of the new legislation. Do you have knowledge of how joint partnerships would be treated under the legislation? Say for example an individual First Nation partners with a large energy company. Is there any sort of consideration in the legislation around what the parameters are for those kind of partnerships and their access to these special provisions under the legislation?

Ms. Fortugno: — Right. According to the research I conducted, there are provisions for, for example, the joint projects between an Aboriginal group and a larger company. And the incentives would be allocated then in shares according to the shares owned by each party. So it might be 50 per cent ownership by the Aboriginal community, and so they would, 50 per cent of the project value would have the extra incentives added.

Mr. McCall: — Okay. So it's handled on a proportionate basis.

Ms. Fortugno: — Right.

Mr. McCall: — Okay. I guess that's all I've got for questions for the time being. Thank you.

The Chair: — Mr. D'Autremont.

Mr. D'Autremont: — Thank you very much. Thank you for your presentation today. I have a number of questions arising from your presentation. I think it was about five or six years ago perhaps that SaskPower and the previous administration passed legislation preventing anyone else from selling electricity in Saskatchewan. You weren't allowed to retail it or to deliver it across a property boundary up to, I think you could up to 7.5 kVA [kilovolt amperes]. So you could run your little generator at home for yourself or your farm, but you couldn't transport it or sell it. Are you suggesting then that the legislation should be changed to allow others to be able to retail electricity in Saskatchewan?

[10:45]

Ms. Fortugno: — I think I am. And I think that is because that is the type of approach that has worked most successfully in advancing renewable energy development in Europe and elsewhere.

Mr. D'Autremont: — Thank you. Your comments on electrical vehicles, that we should be moving in that direction. If everyone moved to electrical vehicles, wouldn't that significantly increase the demand for electricity in Saskatchewan? And do you think that . . . And you gave a list of

what you consider to be green, so there would be no coal, no oil, no gas, no large hydro, no nuclear. Do you think the other alternatives that are available would be able to supply that significant increase in demand, as well as the normal increase in demand? And what kind of a price would we be looking at for that electricity?

Ms. Fortugno: — Well I haven't crunched any numbers like that, but I do believe that electric vehicles will be phased in. It will happen gradually probably, rather than a rapid increase. And if we do have the solar voltaic, photovoltaic panels on each home, then it won't become a large issue because we'll generate the energy that we need for our own electric vehicles.

Mr. D'Autremont: — You mentioned storage. That's clearly one of the problem issues, is that currently there is no reliable and efficient storage mechanisms. There's lots being tried and lots being researched, but we don't have them available today. And so I'm sure that if I have my electric car plugged in at night and I come out in the morning, I'm assuming that the power hasn't been sucked out of my battery, rather it's been recharged for my use the next day. So you know, I can understand the thought that you could use this distributed storage system, but I want mine full when I get in. So I'm not sure just how effective that's going to be.

Yesterday we heard from the Meadow Lake Tribal Council about Aboriginal power production. And they said they were more than prepared to accept any free grant money that the government might have, but that they didn't need it. They had the resources and the capability to proceed on their own; they just wanted the opportunity to be able to do so. So should we be providing subsidies to those entities that themselves admit they don't need it?

Ms. Fortugno: — I think under the Ontario scheme, their goal is not to provide subsidies, but through the feed-in tariff to guarantee a certain price that allows for profit. However the grant or subsidy program is in place for the small developers who do actually need access to such funds. So I think something similar could be done in Saskatchewan, where if people actually need those funds, they could make an application and receive those grants or subsidies rather than being provided to anyone even if they do not need those funds.

Mr. D'Autremont: — So you would put a means test in place then. Yes. Okay. Thank you.

Ms. Fortugno: — If I could just speak briefly to the issue of storage with electric cars. I think that would be an issue that the electrical engineering and other engineering community specialists would be able to address. And I'm sure there might be a plugging system where you plug it in into one slot to make sure you're only charging your vehicle, and you'd plug it into a different slot if you're wishing to release energy into the system. So I think those kind of issues could be addressed through the innovative minds of Saskatchewan and other citizens.

The Chair: — Mr. Belanger.

Mr. Belanger: — Thank you very much. I just want to point out that some of the work and some of the points you raise today are very exciting opportunities for Saskatchewan. They are very exciting.

And one of the things . . . I have three questions. The first one is that, what do you say to those people that are skeptical about the alternative energies options — that exciting new frontier if you will. If they say, well we'll never, ever get away from our dependency on oil, gas, coal; you know, it's going to be there forever. We'll have to use it forever. And do you think . . . What would you say to them if they're not putting equal emphasis and opportunity into the alternative energies?

Ms. Fortugno: — Well my response is that the non-renewable energies such as coal, oil, nuclear, etc., those are time-limited options for the globe, for us as a whole, because those resources will be running out. And some analysts have indicated that we've already reached peak oil in the world, so maybe over the next 40 years we'll run out of those oil resources. And as the oil resources decrease or non-renewable resources decrease, their cost increases exponentially.

So in order to be able to manage that situation, we do need an alternative. And the renewables, including solar and wind which are free to all of us, like the sun's rays and the wind are free and plentiful and will not run out over time. So we need to focus at least some of our energies, and I would say the majority of our energies, on those renewable energy projects. And also the reality is in other parts of the world, nations are turning to the renewable energies to supply the bulk of their energy needs.

Mr. Belanger: — And that's fair because I think the whole notion of embracing the reality that coal and gas and so on, they're a finite option for us.

Shifting gears a bit about the Aboriginal community per se, when you mentioned some of the opportunities they have in Ontario, in Saskatchewan the vast majority of the Aboriginal communities live far away from mainstream. Yet they have forests around their reserves, or forests around their Métis community. And I'm quite pleased you used First Nations and Métis; it's a good point to raise. But nonetheless they live in the forest area of our province. They always assert their traditional territory right under the First Nations, and Métis also assert land base as some of their territory as well.

Is there any kind of study as to the distribution system that SaskPower has that would really allow generation of power, say using biomass, in the locations that our First Nations and Métis community are at, which is in the forest belt. To tie into the lines, as I understood from the MLTC [Meadow Lake Tribal Council] folks, was you needed expensive infrastructure. So my point is, if we have the trees, you have the Aboriginal partnership, you have the investment, you still have to tie into the line. So how does that infrastructure challenge counter your point?

Ms. Fortugno: — Well in Ontario, they've taken that into account. And so one of the requirements under the legislation is that the Ontario Power Authority provide connection facilities for the renewable energy producers. So that is one of the elements of that legislation, that new connections and transmission lines will have to be implemented.

Mr. Belanger: — My final question is again, it's an exciting opportunity. I really do believe that there's got to be a lot of work. My second question, you mentioned specialized rates for biomass. Do you have information as to what those rates are? And I'll kind of attach another question to that: and do you, given your environmental, your impressive resumé and your environmental background in law and all that, do you really believe that there's such a thing as clean coal? Those are the two questions I have.

Ms. Fortugno: — With respect to biomass, I don't have the figure but I could look that up for you and get back to you with that information. With respect to clean coal, I understand that it's actually an improvement on the dirty coal because of the scrubbing technologies and the use of any excess energy that's generated by the use of the coal and also there is some carbon sequestration elements. But I think that's probably an interim measure.

So it's better than the dirty coal that we have, but I don't think it's a long-term solution. And for example, I've heard there are problems with landowners' wells being contaminated by the carbon sequestration process. And this was in . . . [inaudible] . . . I imagine if I can't drink my water, to me that would be enough proof that my well is contaminated. So I think those are some of the issues that carbon sequestration raises. And it's probably an interim approach, but it's certainly not a long-term solution to our energy requirements.

Mr. Belanger: — Thank you.

The Chair: — We're now at 5 to the hour and we have a presenter scheduled at 11. So the committee certainly appreciates you taking your time out of your day to present to us this morning and to answer the questions you did. So thank you very much.

Ms. Fortugno: — Thank you, Mr. Chairperson. I did want to mention that I'd like to table my written comments within a short time in electronic format.

The Chair: — Excellent. No, that would be fine. If you provide them to the Committee Clerk, they will be put up on our website. With that, the committee will recess for a short, about four minutes, and we'll hear from our next presenter. Thank you.

[The committee recessed for a period of time.]

The Chair: — I'd like to welcome everybody back. Before we hear from our next witness, I would like to advise the witness of the process of 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, the position within the organization you represent. If you have 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 will be available on the committee's website.

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Our presenter has provided the committee members with a document to be tabled. So with that I would ask our presenter to introduce herself and go ahead with your presentation.

Presenter: Saskatchewan Conference of The United Church of Canada

Ms. McKechney: — Thank you, and I would like to thank the hon. members of the legislature for your time in this hearing. My name is Margaret McKechney. I represent Saskatchewan Conference of The United Church of Canada. The first page of our document gives you some information about us, and I'll leave you to look at that at your leisure.

In the United Church creed, which is said in every congregation across this country, we have a sentence, "to live with respect in Creation." And so it's out of that that we come to you with our concern about ecological sustainability and, especially with respect to your committee, wise use of our energy resources. And so as a first principle of our understanding of how we desire to live that out is the ecological sustainability and conservation. So we encourage the Government of Saskatchewan to continue to provide incentives for the conservation of energy, both within the private sector — such as residential programs — within the public sector, transportation, and within industry.

Our particular interest is that we set our targets a little higher. It seems that about 1 per cent per year is seen as the challenge that we present ourselves with, and we think that we will achieve what we aim for and that our targets for conservation of energy could be set considerably higher than that. For example in Ontario — and I was interested in the previous speaker's comments about that Act — they have set their targets at 2.5 per cent annual compounding in the reduction of . . . [inaudible] . . . resources from 2011 to 2027. So I think that leaves for us some incentive for increasing our targets.

We are aware that there have been a number of programs for the individual level of conservation. And one of the observations we have is that a lot of those are not well known, that people often find the accessing and the paperwork a little daunting. So we would encourage that those programs that are already in existence that there might be some higher profile given to those programs. And that's not a criticism so much as an awareness that it is always difficult to reach a wide populace with those kinds of programs.

So we'd encourage the net metering program, the energy retrofit, solar water heating, the investment in energy-conserving appliances and furnaces. And those programs are in place, but I think again there are room for an increase in the access to those programs and in the number of programs available.

The Ontario energy Act also proposes electrical pricing that reflects its true cost and provides signals to consumers to manage their energy demand. We recognize that the cost of energy will increase. We have an aging grid in this province. The cost of renewable energy may well be greater than what we currently have, and consumers will have to bear the burden of some of that and need to be aware of what it really costs to have an energy system that is renewable. And we encourage that in our policies and in our regulations that the true cost of energy and the need for renewable energy is given a higher profile. At the level of industry, we request regulations that will functionally reduce energy use, the regulation of water consumption, work to retain the integrity of soil on working sites and reduce the release of pollutants.

And those regulations we want to have clearly identified objectives and delineated ways of measuring performance. And they need to be reviewed prior to the approval of a development and an industry or business, and have ways of adequately monitoring and penalties for non-compliance that will actually act as some kind of deterrent.

Our second proposal has to do with ecologically sustainable energy sources, and as I read your interim report there are a lot of similar themes to what I am presenting here. We commend the government on the decision not to proceed with nuclear power generation at this time. Questionable economics because of the cost of building, refurbishing, decommissioning, and dealing with waste products can be excessive. And so we would prefer that that money be spent on other sources of energy, the first being that of wind energy, and we look to places like Germany and Spain for their leadership in technology with this regard.

But the Canadian Renewable Energy Alliance points out a study that indicates that in the United States the Midwest feels they could provide 30 per cent of their annual power production from distributed wind farms, which can be counted on not only for sporadic input but to supply the base power with the same reliability as coal. And the similarities of that study to the Prairies is very striking. That would need to be accompanied by smart technologies that have made advances in balancing baseload needs from varying sources. So with regard to wind energy, we think that there is reason to set our goals higher in terms of the amount of wind energy that could be provided within this province.

We talk about the possibility for sources of employment, noting that Germany has provided significant jobs through their pursuit of wind energy and Spain's development is similar. And in fact in Canada, Ontario and Alberta and Quebec have moved more quickly on their production of wind power and have found increased employment. At the same time there's still room for more expansion in terms of the wind power industry. I was noticing that there's been some news articles lately about the electronic giant, Apple, coming to the U of S [University of Saskatchewan] to recruit people because of the technical and computer knowledge that our students have.

And it seems to me that in terms of those smart technologies, in terms of developing wind power, that we have considerable resources here to look to the future in developing that. And Saskatchewan is an innovative province. We have been leaders in many areas and in terms of developing a wind technology and similar solar power, I think we have the people here that could provide us with that kind of leadership.

Wind power we favour certainly because of the lack of any toxic waste, its reduced environmental impact, and the possibility that the wind power could be distributed round the province and therefore provide jobs to people in rural areas and also in remote areas.

With regard to solar, thermal, and other energy sources, solar's often seen as not an option because of its cost. However there's good reason to believe in looking at other sources and the advancements around the world that those costs could decrease and that the feasibility of solar energy could become viable on alternatives in the not too distant future.

We know that the project on water heating from solar energy is under way and we strongly encourage that and hope that as the future unfolds that we would see solar as a more viable alternative. Saskatchewan does have sun. The technology perhaps needs to still catch up a bit, but the solar energy be kept in mind as a distinct possibility.

We encourage the existing projects with regard to thermal energy, although it won't provide a strong alternative at this time. We adhere to the principle that many sources spread around this large province will, in the long run, meet our needs in a sustainable way. Megaprojects have proven expensive, unsustainable, and often their ecological footprint is very high. Diversity in our approach to meeting our needs will prove more viable.

The one other area that there's . . . I'm not reading all of the information that's here, but the other area that we particularly want to comment on is the possibility of biomass as alternate energy. And we have concerns about grain-based ethanol and biodiesel as the source of that. There are a number of reasons why we have concern about that.

[11:15]

There is questions about the amount of return that you actually get from, if you track the production of ethanol from the time it is planted through to when it becomes available to the gas tank for use. There are a number of studies, especially the Swiss institute, Empa, that suggests that the net gain is very little.

And if you add to that the environmental impacts of producing grain-based ethanol, it raises some serious concerns. First, the reduction of climate change impacts by grain-based fuels is questionable. Nitrous oxide from nitrogen fertilizer is 300 times more powerful as a greenhouse gas than carbon dioxide. And canola has been shown to be one of the ones where there's a very high input of nitrogen and a high environmental impact.

Many of us are aware of the increasing concern of our water sources. Especially the one that probably gets the most publicity is the condition of the water in the Gulf of Mexico where there's a dead space the size of half of Saskatchewan. And it's recognized that that is contributed to largely by runoff from fertilizers. And so when we talk about biomass, all of the aspects of that production has to be taken into account.

Then there's also the question of food versus fuel. And the United Nations have taken a strong stand on that in saying that all initiatives to convert food into fuel, that there should be a moratorium for five years on any of that — any of the approach of turning food into fuel. In addition, it doesn't seem to have provided the kind of economic development that we might have hoped for.

We do however believe that biomass as a source of energy has potential as one of the alternatives. Forestry waste, landfills, various other sources may well turn out to be sustainable.

With regard to forestry waste however, there is a caution that many environmental organizations have raised. And that is that the kind of forestry waste that is a by-product of saw mills and other forest industries oftentimes would be better distributed back into the land itself, that that kind of biomass is needed to maintain a healthy forest, to maintain a healthy land itself.

In conclusion we do believe that Saskatchewan could be in a leadership position in renewable energy. We have the educational facilities to lead us. I believe that we have a will to look at more green alternatives. And it can create jobs. One point I did want to mention too is that partnering with our First Nations and Métis people, we see as being a very high priority as we proceed with alternate sources of energy. Thank you.

The Chair: — Well thank you very much for your presentation. If some of the committee members have questions, we can . . . Mr. Taylor.

Mr. Taylor: — Thank you very much, Mr. Chair, and to our witness, thank you very much for your presentation. You were here for part of the, maybe all of the presentation that took place before you, and so you heard an outline of Ontario's Act. You've also referenced Ontario's Act in your presentation. I was hoping that the previous presenter could have made a comment with regards to the question I'm about to ask, and maybe you can as well.

But I'm just looking for some update on what's taken place in Ontario because I think the advice that we're getting from both yourself, the previous presenter, and others that have appeared before us is that the committee should look carefully at what Ontario has done with their green plan and their legislation, their feed-in tariff program and the targets that have been set, look carefully at that Act to see what relevance it might have in the Saskatchewan situation. Because our challenge of course is to identify ways to meet Saskatchewan's energy needs for the future. So what's the package?

My question stems from the fact that driving in this morning I heard on the radio . . . And I've been unable to locate anything in writing on this. But it appears that Ontario today will sign an agreement with one of the large Japanese technology firms that will meet some of the commitments in that Act, and I'm looking for some comments or direction in this regard.

The news that I heard was the Japanese company will provide, under the Ontario Act, 2500 megawatts of power from solar and wind. They will manufacture, distribute, install, and create the power of up to 2500 megawatts, which is really about two-thirds of what Saskatchewan currently produces from all our sources. This was strictly . . . The agreement is apparently on solar and on wind.

It seems to demonstrate that the argument that has been made to date that renewables will create jobs, renewables will create a diversified energy package, not just diversified in terms of the technology but across the province, so from that perspective, Ontario seems to be taking steps beyond just saying we'll do this. They're now taking steps to actually put some of these things in place.

To make a long story short, did you hear that? Do you know anything about it? Can you provide us with any information? Or failing that, can you tell us that if that is correct, that that's a direction you think Saskatchewan should be looking at, and we should get more information about this agreement that appears to be being signed today?

Ms. McKechney: — It's news to me and it peaks my interest. Should Saskatchewan be going that way? I think that we can perhaps look to Germany, Spain, and what the US [United States] is doing in terms of a little more experience in using those kind of alternate energies, and they appear to be very successful in those situations.

Having said that, we're not Spain and Germany. We have very cold winters and we have different circumstances. However it does seem that the technologies and the smart girds that feed in different sources of energy during low points and high points, that that technology is now there for us to strongly consider those alternatives. I'll be going to look and see what that news release was this morning.

I definitely am of the strong opinion that we as a province need to look alternative energy sources. It appears that they will create jobs. More than that, they can be located in places around the province so that it can also be a benefit to the rural areas. The questions that have been raised over the years about the up and down of alternative energies between the smart technologies and the storage techniques — which are still, I think, somewhat experimental, but again they appear to be working in some places — I think that we can look to that as our future. We might not be able to do it in the next year or two but look to that as a future of how our energy needs could be met.

Mr. Taylor: — Mr. Chair, that having been said, I have no further questions. But I would like to ask that the committee obtain as much as possible the agreement that Ontario is signing today to give us, the committee, some idea of what the technology companies actually believe is possible and can deliver at, obviously to the Government of Ontario, an acceptable price.

The Chair: — Our Clerks are so efficient they're actually

printing off a copy with some information to provide to committee members at the moment, so we'll have that within seconds. Our next questioner is Mr. Bradshaw.

Mr. Bradshaw: — Thank you. Thank you for your presentation. You had some things marked in here as I was quickly reading through your bulletin here. Part of it was, it says that, and I'll just read it:

> . . . the . . . Renewable Energy Alliance points out that a study in the US indicates that the US Midwest could provide 30% of its annual power production from distributed wind farms which can be counted on to supply base power with the same reliability as coal.

I don't know of that study. Could you tell me the study, the name of the study that was done?

Ms. McKechney: — I can certainly. I meant to bring that with me and I apologize for not having done so. But I can certainly send an electronic copy to the committee. It came from the Canadian alliance on renewable energy. That's where the information about the study came from. And I can see that you get that.

Mr. Bradshaw: — Yes, and I guess I was quite interested when it said it can supply the base power. Do you know? Have you seen that study then?

Ms. McKechney: — Yes, I've seen the study and that's the claims that they are making. I was quite surprised too because that has been one of the major concerns about wind energy on the Prairies, that we couldn't provide that amount of wind energy, but they are saying that they can. I'm not an environmental scientist, so some of the information was quite technical. But at the same time, they do believe that they can provide that kind of wind energy in the Midwestern states.

Mr. Bradshaw: — We had a previous presenter that presented a wind map of Saskatchewan, so to speak, and basically that map was showing that we did not have enough wind energy. It pretty well came up to Saskatoon, but anything north of Saskatoon, we did not have enough wind to produce enough sustainable energy. Have you seen that? Have you seen that map?

Ms. McKechney: — Yes, I have looked at those maps, and that's why this study in the US really caught my attention. I mean perhaps the Midwest US is different, but perhaps we need to rethink the possibility of how much wind energy actually could be generated here. Yes, I've seen those maps and I know what you're referring to.

Mr. Bradshaw: — What is your position on hydro? Or do you have a position on hydro?

Ms. McKechney: — Yes, and I mean run-of-the-river hydro we see as an option. We certainly would not favour any additional dams to create power, but I don't hear you saying that's your position either. One of the major concerns with regard to hydro is the concerns around climate change, the possibility of utilization of our water resources. And so I guess it would be, proceed with caution. But if it was seen as one possibility among a number and if it's run-of-the-river hydro, then yes.

Mr. Bradshaw: — Just one more and more of a statement than actually a question. And you had it here that canola requires high inputs of nitrogen. Actually coming from a farming background, canola doesn't use any more nitrogen than wheat, barley, or other crops that you put in.

Ms. McKechney: — That information comes from the Swiss institute, Empa, which I've referenced because I wasn't sure whether folks would be aware of their expertise. So that's where the information came from. I too come from a farming background, but I don't know the amount of fertilizer used with . . . but it was the Swiss Empa institute that did the study and made that claim.

[11:30]

Mr. Bradshaw: — Okay. I guess one more just . . . and there again a bit more of a statement. I realize that Germany has actually backed away a little bit on some of their renewables and in order . . . On the baseload power, it is my understanding that they are buying power from France when their wind energy isn't there at the present time because they actually don't have the storage capability yet for wind energy.

Ms. McKechney: — Well the storage capability does seem to be something that is currently being researched significantly. And hopefully, as I said earlier, we might not be quite there yet on some of these things, but I think the intention to find suitable storage for wind energy is there. Hopefully in the next few years we might be able to look towards better technology for the storing of wind energy.

Yes, I'm aware that there's some backing off in Germany. It depends on where you get your information. I've seen varying opinions on that and I can't say for sure whether . . . So I trust what you're saying.

Mr. Bradshaw: — I had one more question there, but I lost it here. But I did have one more question, but I can't remember now what it was, so I'll let it go. If it comes back to me I'll . . .

The Chair: — Mr. D'Autremont.

Mr. D'Autremont: — Thank you. A very good presentation. I note in your presentation here that you list a number of the programs that are already in place for energy conservation or for providing for the use of alternate energy sources. The small power producers program, there was an announcement on that earlier this week with some new updates on it and some expansions. I think they're looking there at from 100 kilowatt to 10 megawatt projects to come forward for the small energy producers program and then they'll contract with SaskPower.

Ms. McKechney: — I admit to being in Toronto earlier in the week, so I didn't hear that announcement. I'm very pleased to hear that. That seems to be . . . I think there's a fair amount of potential for that particular program.

Mr. D'Autremont: — I know even in my own constituency we have one project at 5 megawatts that's a heat capture program from a gas compressor and produces 5 megawatts of electricity

that way. Otherwise the heat was just being wasted.

Ms. McKechney: — It, to me, is an interesting observation. I grew up on a farm where all our power was from a wind charger, so we're kind of coming full circle.

Mr. D'Autremont: — Mr. Taylor was commenting on the Ontario announcement of 2500 megawatts. In our presentations that we've received from SaskPower, they've indicated to us that they believe SaskPower network can handle about 8 per cent wind because of its intermittent nature, that it creates loads and spikes and various mechanical concerns to the system. 2500 megawatts in Ontario would probably put it in about that 8 per cent range for their total generation capacity which I think is about 35 000 megawatts.

There was just an announcement made as well here in Saskatchewan calling for a new RFP [request for proposal] for additional, I believe, 200 megawatts of wind generation, which will bring us up to about that 8 per cent level if it proceeds. They're looking for people to make submissions on that. So I think we'll be reaching what SaskPower considers to be basically our maximum capability to handle intermittent electrical generation.

So I think, if that's the case, a distributed system of providing localized power — say the small generators, the 10 kVA ones that you see on farms — would be beneficial if they're economical for the farmer to put them up or whoever else would want to. But that's one of the sources.

But you've mentioned biomass and that's where I'm interested. We've received a number of presentations from particularly people in the North on biomass, and yet you seem to be indicated from your organization that you don't view biomass as a good alternative. There are quite a few sawdust piles across the province. MLT, Meadow Lake Tribal Council, is proposing power plants that would use biomass that they would harvest from the forest, so it wouldn't be residual biomass. It would be new biomass that they would be harvesting. So your organization would not support those kind of efforts?

Ms. McKechney: — No, I don't think that's what I'm saying. Just to go back to your previous comment, the intermittent production of power from wind is being addressed in quite a number of ways. One is the smart technologies. Another is storage. So those, I think, will be addressed in the upcoming time. We're not, again, we're maybe not quite there but there are places that are successfully addressing the intermittent.

Now back to the question of biomass, no we're not saying don't do biomass as an alternative. What we're saying is there are concerns to be raised around crops as the main source for biomass as an energy source. There are ecological concerns. There are concerns around whether or not it really actually does give you an increase in clean energy. And if it does, that may not take into account the amount of greenhouse gases being emitted in the process of getting there. So it's not that we say you can't do any of that either, but one approach would not be our choice.

Other sources of biomass, if we use a number of sources, yes. There's lots of potential there. With regard to the forest industry, I guess just to raise a caution, because there are people who are saying that we have to be careful how much mass we take from the soil before we begin to erode the soil itself. If we have piles of waste sitting there, that's probably a good use. But if we're harvesting it from the forest itself, then I think we have to be careful about how we're doing that.

It's not really saying no to any of them. It's saying, keep them in balance. If we're going to use crops as a source of biomass, that shouldn't be the only approach and we need to be careful about how we do that. If we're using other products, again the balance of that with ecological systems needs to be determined. And I'm not saying in any way that you wouldn't be doing that, but it's just to raise a caution that, as we proceed, let's look at all of the ways in which those industries may affect the environment around us so that we don't have to look back in years and say we shouldn't . . . you know, we should have done that.

And it's saying a diversity and an integrated approach will be sustainable in the long run. A variety of sources, integrated, will sustain us into the future.

Mr. D'Autremont: — So would it be safe to paraphrase that as being, there's an ecological cost to all energy production and an increased cost for all new electrical generation?

Ms. McKechney: — Probably, and we need to look at those carefully. And in some places, I mean we're all aware that coal, we've been paying a very high ecological cost for the production of power through coal, and so we're beginning to address that. And if we're reliant on one source — be it hydro, be it coal, be it nuclear — if it's one source, chances are the ecological footprint will be higher.

The Chair: — Mr. McCall.

Mr. McCall: — Thank you, Mr. Chair. And thank you, Rev. McKechney, for your presentation and our thanks of course to the conference, if you could extend them. I guess the first question I'd have arises from something you touched on earlier on in the reports on page 3 around conservation and the desire or the observation that we can do better in terms of promoting the existing raft of programs that are there. I guess that leads me to two observations and I'd like your feedback on them if you could.

The first is that there are a number of programs that are out there, and would it be better if they were . . . you know, you don't have to consolidate them or take them out of existing departments or places like SaskPower or the Environment department or Energy and Resources, but to have an entity that is responsible for coordinating them and promoting them and to bringing them forward. Would that not seem to make good sense in terms of raising the profile of these issues, better coordinating their deployment?

Ms. McKechney: — It sounds to me like it would, but I think we're facing more than the question of people accessing those programs. There are lots of programs there and I'm not sure they're being utilized to their maximum, so that might address some of that.

I think we need to start in our school systems and in our universities in promoting the idea of alternate energy so that people's mindset to look for ways of doing that begins. And I mean we're facing a very similar question in our own organization of trying to raise that understanding across the national church, and we're beginning a program to try to get people to be more aware.

So it's not something that I would say the government needs to do better. We all need to look at ways of helping people understand that we need to move to renewable energy sources so that then they begin to look for ways to do that. If the motivation to seek alternate energy sources is not there and to conserve energy, they probably won't go to that newly formed body either. So I think the raising awareness in general about the fact that our current practices are not sustainable into the future.

And it is going to cost money to move to alternatives, and we have to have the will to do that. But to the practical question of having an organization that did that, is we certainly would favour seeing if that would have an impact. We need to get those programs utilized. There's lots of good programs there. They just need to be utilized.

Mr. McCall: — And I guess that's the response I was anticipating because there are, there are a lot of good programs. But it seems to be from an administrative standpoint a fairly disparate effort that is being put into them, and it's not the kind of focused, well-led, well-executed administrative practice that we would hope for, being legislators.

Ms. McKechney: — As an organization, and in my own previous work, we were accessing some of those programs and it was quite daunting as a volunteer organization to do the paperwork. It was difficult to understand. It was difficult to find the volunteers to be able to put together the proposals that needed to be done. And that's not being critical of the program; it's just the reality that it was difficult to do. And partway through the process we were uncertain as to whether we had in fact done it correctly. So I think as people not aware of how these programs are accessed, we sometimes feel that it's just too difficult to do all the paperwork.

Mr. McCall: — Yes. And I guess as a legislator you observe practices sometimes where, you know, you wonder if they're having programs just to say that yes, we have a program, or are they actually implementing a program to get the resources and the knowledge in the hands of people so that it can make a difference in their daily lives.

Ms. McKechney: — It's a delicate balance, isn't it?

Mr. McCall: — Indeed. Indeed. I guess the other observation on this topic I'd welcome your response on, as has been brought up in other presentations — the presentation previous, your presentation — concerning the legislative regime in Ontario and the aspect of the renewable energy facilitation office that they've brought in as part of their new regime to do just that, in terms of facilitating these projects as they come forward. It would seem, talking to different groups that have expressed an interest in alternative energy programs or renewable energy programs, it seems to be a bit haphazard in terms of the technical expertise and guidance that they're receiving from the current government. Is something like the office that has been brought into existence in Ontario, is something like that a best practice that we should be aspiring to here in Saskatchewan?

[11:45]

Ms. McKechney: — We would more than welcome that. And that needs to have, to our mind, a number of aspects to it. One is the public education which needs to happen. But another is best policy, you know, how do we regulate industry in such a way that . . . how do we have regulations in place so that when new industry, new businesses are coming on stream, the programs are already there in terms of setting those targets? Without good regulation — and then of course there's the monitoring of those regulations once they're brought into place — without all of those things in place, I think our progress will be somewhat minimal.

So it's public education. It's good policy, good regulation, and then programs for access. That strikes me as being a pretty big load for an already existing government department that it probably will require. And that would also be a signal to the people of Saskatchewan that we're serious about going green, which we would really welcome. Love to see that happen.

Mr. McCall: — I guess one last question. You raise the point of green jobs in your presentation, and certainly what I'd like to correlate that with is the other observation you make that in terms of the production of wind power we've come to lag significantly behind Ontario, Alberta, and Quebec, and with today's announcement, I guess even further behind the province of Ontario.

And one of the ways that the wind power efforts to date in the province had realized themselves was in jobs in something like Hitachi Industries, here in the fair city of Saskatoon. It started with great promise, but of course that depends on leadership and commitment from the partners that are going to be availing themselves of the wind power and the products that are needed to bring that to bear in terms of the turbines and the platforms or the columns.

And I just note with some regret that, while we lag behind in terms of the wind power production in this province, the two years of inaction that we've seen on this file . . . This past year saw layoffs at Hitachi Industries here in Saskatoon. So I guess I bring that forward as an example of, certainly if you've got leadership on the file, if you've got commitment on the file, green energy can produce green jobs. But if you've got inaction, it can lead to lost opportunity and lost employment.

Ms. McKechney: — You know, we're aware that . . . And I'm interested in what you say about Hitachi. We know that there have been significant wind energy producers that have moved from Canada to Germany because they can't sustain the jobs here. Why is that? I mean we have a number of companies more recently — Solar Outpost, some of the other companies that are developing. How do you encourage that kind of initiative? That would be something that we would like to see happen.

And I think too, to move forward and to have people see that we're serious about those alternative energies would at least be

some encouragement to those companies. And hopefully if they know that they will have some jobs to do, we'll have some employment. The jobs can be there. It's been demonstrated in other places. It'd be interesting to see what happens in Ontario in the next five years as they . . . I mean if this contract that you mentioned is in the winds, hopefully that'll happen here. The work will happen here.

Mr. McCall: — Well yes. I guess I raised the point around Hitachi to offer up further proof of your observation that it can translate into green jobs, but you need a commitment and you need leadership on the file, and if you don't have that, the opposite happens. You can actually lose jobs in what should be a ready-for-growth sector in the economy.

Ms. McKechney: — I couldn't agree with you more. I think that if we show some leadership as a province saying, this is the direction we're going to go, that will happen. That will begin to happen.

Mr. McCall: — Anyway, thank you very much for your presentation. Thank you, Mr. Chair.

The Chair: — Mr. Allchurch.

Mr. Allchurch: — Thank you, Mr. Chair. Thank you, ma'am, for your presentation here today. And just speaking on what Mr. McCall has talked about and also Mr. Taylor in regards to the Ontario announcement today, we just got some highlights here. And under one of the highlights, it says under the ratepayer impact that it's only going to cost $1.60 annually to the residential bill, which doesn't sound like a lot of money. And being that your presentation was referenced around wind, solar, and a little bit on biomass, if you turn further down, where it says, "Leveraging transmission investments," and I'll just read it for the record:

> The renewable energy projects committed to under this agreement will take advantage of the more than 20 transmission projects announced last fall. The transmission projects will unlock significant opportunities for green energy projects across the province. About $2.3 billion will be spent by Hydro One on transmission and distribution projects over the next three years.

So if you look at this project in Ontario, there's a significant cost which has to be designated to the taxpayer or the ratepayer, but it's not in here. It only says $1.60 per residential bill. So who is paying the 2.3 billion for transmission lines to carry this excess power produced by wind and solar?

Ms. McKechney: — The cost of distribution is certainly a significant point. Now it would be my understanding that the issue of distribution of power throughout our province would be an issue whether or not we're looking at renewable energy because we are at that point in our history where distribution lines are needing to be rebuilt, to be distributed in different ways. So some of that cost will be there.

However it does appear that when you have wind farms, for example, and they're distributed around the province rather than one place, that the cost of distribution can be less, so that a variety of renewable energy sources can create distribution costs slightly less than by having all of the distribution coming out of our coal plants or out of our hydro plants.

Who's going to pay that? I think we're all aware that we will be facing costs of energy higher than what we have been used to. And consumers have to be aware that those costs will be there. I suspect that as a government, as a province, we will be facing increased costs in energy. Hopefully we can minimize that by planning ahead and utilizing various sources.

Mr. Allchurch: — Well during our discussions here and by our presenters, they were saying that through wind, solar, biomass, that there's not going to be a lot of extra upgrading to our transmission lines. But it's proven here in the Ontario model that there'll be a significant cost to wind, solar, and biomass — just on the transmission lines alone.

Ms. McKechney: — My reading of it has varying opinions. Would there be greater costs than what we would already incur as a result of upgrading our energy system? The weight of it seems to be in the direction of saying that alternate sources of energy won't increase that. I mean the costs are going to be there, but they're probably going to be lower if we have a variety of sources as opposed to maintaining the system that we currently have. Cost will be there, but will it be increased by alternate sources? Hopefully not.

Mr. Allchurch: — Thank you.

Ms. McKechney: — And possibly decreased.

The Chair: — Well thank you very much for your presentation, and I appreciate my committee members' adherence to the time. Our next presenter has a PowerPoint presentation we have to set up for, which I guess dictates we do need the full five minutes. So thank you very much for your presentation . . .

Ms. McKechney: — And thank you.

The Chair: — And answering the questions you did today.

[The committee recessed for a period of time.]

The Chair: — I would like to welcome everyone back to hear our next presenter. I would like to advise witnesses of the process of 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, the position you hold within the organization you represent.

If you have a written submission, please advise you would like to table it. Electronic copies of tabled submissions will be published to the committee's website. The committee has asked each submission and presentation to be in answer to the following question. That question is: 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 with time set

aside for question-and-answer to follow. I will be directing questioning 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 submissions presented to the committee will become public documents and posted to our website.

Our presenter has prepared a PowerPoint and he said it runs a little longer than the 15 minutes. I've asked him to try and keep as close to that timeline to allow for questions, but if it's all right with the committee, we'll indulge him. But I think the questions have been a very valuable portion of our hearings.

With that, please introduce yourself and go ahead with your presentation.

Presenter: Canadian Nuclear Society, Saskatchewan Branch

Mr. Keyes: — Thank you, Mr. Chairman. Is my mike on? My name is Walter Keyes. I am from Regina and I'm the chairman of the Canadian Nuclear Society, Saskatchewan branch.

Our society is a national society. We have branches in many provinces, and in Ontario we have 10 branches in various different sites — some at power stations, some at research centres, some at universities, and so forth. Altogether we have about over 1,200 members that pay their dues where . . . We don't get funded by any government or industry association. And over the years we have had Nobel Prize winners as members in physics and many distinguished Canadians that have gone on to become world authorities in various aspects of either nuclear medicine, nuclear power, or other nuclear fields.

Our Saskatchewan branch is quite small. We only have about 30 members and we are primarily involved, have been involved historically, more around the uranium issues simply because Saskatchewan is more of a uranium province, obviously.

So the presentation I have . . . Mr. Chair, with your permission I'll probably skip some sections because I know that I can't do this in time that we've got here so I'll skip ahead on a few things, just so you're forewarned.

So the question, should nuclear development be a part of Saskatchewan's energy future, a question I pose to you. And the answer is, well why shouldn't it be? It has been for the past 60 years. And in the 1940s, beginning with Premier Douglas, the city of Uranium City was created, 16 uranium mines were built in that area, three mills. Moving on to the '70s, Premier Thatcher and the Rabbit Lake mine. Into the '80s, Premier Blakeney with new mines at Key Lake, Cluff Lake, and so forth.

Devine era, the creation of Cameco Corporation — the merger of SMDC [Saskatchewan Mining Development Corporation] and Eldorado Nuclear. In the '90s the big expansion in the mines under Premier Romanow and Calvert, and in the last year or so the statement of the present government that they're open for business in the nuclear area. So there's been a lot of consistent government support for the nuclear industry. I think that's important to keep that awareness in perspective.

Within the institutions of Saskatchewan, at the University of Saskatchewan particularly, there's a long and distinguished history of nuclear science, engineering, and medicine. The creation of a betatron in the 1940s, a linear accelerator, a Slowpoke reactor, a synchrotron in the '90s, and laser enrichment. These are all things that have happened right here at home and mostly in a fairly quiet and uncontroversial manner.

Nuclear medicine. Harold Johns and our former Lieutenant Governor Sylvia Fedoruk developed a cobalt bomb treatment for cancer — co-developed, I should perhaps say, because the University of Western Ontario also worked on it at the same time. That has made Canada world renowned for that form of treatment. These are Saskatchewan realities. And for 60 years the nuclear industry has served Saskatchewan people very well.

So what are the arguments for continued nuclear development? Well we would suggest health, environment, socio-economic development, building on our existing resource base, and in the case of electricity, reliable power.

What are the arguments against proceeding? Some would say nuclear weapon proliferation. Safety, citing Chernobyl or perhaps Three Mile Island. Some argue about storage of spent fuel. Others suggest there are better alternatives, and some question the economics of nuclear power.

Well let's go back to uranium mining. Saskatchewan's uranium mining has been an enormous benefit to the people of northern Saskatchewan. I'm pleased to see one of the MLAs [Member of the Legislative Assembly] is from that area and I'm sure he can brief you on that as well. The region has high unemployment. Historically the only other large employer in northern Saskatchewan was government. That worked for a while, but government budgets dwindled and there was no way government could carry the load. So the uranium industry has stepped in and done a very commendable job creating employment, income, business opportunities in northern Saskatchewan.

Uranium is a Saskatchewan resource, but global demand currently exceeds production. And Saskatchewan has always felt that we have a hold on this industry, but we really don't. And it's important to understand that it's maybe slipping. We are now number three in the world in terms of uranium production. We used to be number one. Why? Who's ahead of us today? Kazakhstan is the largest producer, and Australia is the second largest producer. So we don't want to take this for granted because we could lose this position if we adopt unfavourable and inhospitable policies towards this industry.

Saskatchewan, as we know, needs new electricity generation, relies on coal for over half of our energy needs. Coal plants, many of them are old and obsolete, need to be replaced. The greenhouse gases from coal may soon be taxed and that will drive up the cost of electricity greatly.

And in terms of the baseload, electric utilities consider baseload to be made hydro, coal, or nuclear, and many will argue wind or solar or gas production. Those are all important and valuable, but they're not core baseload suppliers. These three that I've mentioned are. We can't use coal, and hydro is fairly limited in

terms of new development. And there's lots of obstacles to hydro development too, so nuclear seems to be an important piece in this fit.

Another good reason is the environment. Nuclear produces no greenhouse gases whereas the other sources do, of course coal and gas being the largest.

Nuclear weapons? Well the irony of this is that in the last 20 years, with the breaking up of the Soviet empire and so forth, the nuclear bomb, the military applications, they've taken bombs and converted them back to nuclear power plant fuel. So both Cameco and Areva have converted 20,000 Russian nuclear weapons to electricity. So I mean, we're not going the arms side, we're going the de-arming side, even though of course there's some concern about rogue nations like Iran or North Korea or places like that. But in general, this is what's actually happened in reality.

[12:15]

Nuclear has a good, not a bad, safety record. It's highly regulated internationally, nationally, provincially. Compared to other electricity industries, has much higher safety requirements. And there are two notable world accidents, and one of which was Chernobyl, which was people bent on causing a problem with lax safety regulations and lax management regulations. And the other one was Three Mile Island, which was a large risk. But it proved everything worked. At Three Mile Island, all of the safety and all of the security issues all worked. That's why there was no loss of life or emissions to the environment or anything else. So that's nuclear's record.

Another good reason to support nuclear is health, and anti-nukes . . . I don't know if I . . . Anti-nukes, some people don't like that . . . [inaudible] . . . I mean no pejorative meaning but it's just pro-nukes or anti-nukes is all, oftentimes say there's no connection to health. But you know, we really disagree. There are many connections. AECL [Atomic Energy of Canada Ltd.], until its problems at Chalk River with the reactor, was the world's largest producer of medical isotopes. These isotopes save tens of thousands of lives each year. And most hospitals have nuclear medicine. Anti-nukes have lobbied government to cut funding. Isotope crisis today is actually part of their legacy in my opinion, and so forth. No adverse health effects.

Now in May of this year, this spring, the Canadian Nuclear Safety Commission released summaries of health studies in Canada spanning 30 years. And the findings across the board were no abnormal health effects from nuclear facilities. In the same era, December of '08, the health region that the Bruce Power eight reactors are situated had delivered the same findings. The overall incidence of cancer in Grey Bruce Health Region is exactly the same as in Ontario for the years '86 to 2004. So there's no evidence of adverse health effects.

But what about other health studies? And sometimes the antis bring up this favourite one, the German leukemia studies. And this study found that there were some elevated cancers in the area of a nuclear power plant in Germany. And so the authors of this study said it could be attributable to the presence of a nuclear power station. It was not their only . . . They couldn't explain it and they couldn't make a connection, but they acknowledge that it could be. The anti-nukes changed that and said this study proved that nuclear was the cause. That was never, if you read the study, it was never . . . those words were not used.

The German government went back onto it, commissioned a high-level panel of scientists, reviewed the methodology of the studies, and came to the conclusion that there were some inappropriate study techniques and that there was no basis for concluding nuclear to be a cause. This is the German government, which at the time was a green government, and so you might expect to be more disposed to being anti-nuclear. But these were the findings of a panel they put together.

And in Saskatchewan this spring, Dr. Mark Lemstra produced a sensational report. It was in the news, in the *Leader Post* and *StarPhoenix*, about how unsafe Canadian nuclear power plants were and that each worker now died 1.5 times. Now how he could arrive at that finding is itself astonishing. The report was flawed, if it was not intentionally miswritten. The flaw was based on Lemstra's misunderstanding of scientific terms. He was an epidemiologist, not a scientist, and he got the units incorrectly described. His work was repudiated but has never been corrected.

And unfortunately Saskatchewan Union of Nurses, who sponsored this study and initially came out in support of it, have been put in a very messy situation. On paper they support it, but if any of you talk to them privately, they don't want to be associated with this. So it's an example of how, you know, the political nature. This is a very hot political topic. And it's got to have a public expression, but it also has to have good science and sound science findings behind some of the statements.

I'll just go by storage of nuclear. There must be better alternatives. Well you know many of the antis always use, well there must be better alternatives. Well let's actually hold them up, take a look. If there are, great. You know? Nobody's suggesting that nuclear should be used if there is a better alternative. But if there isn't, then it should be considered.

Costs of nuclear power. Sometimes nuclear power in the past has cost more. Some plants have been taken far longer to construct, and that's driven up the costs. But on the other side, there are plants that have been built ahead of schedule and below budget. And that tends to be the trend in the last decade of nuclear power station construction.

There is a consequence to some, avoiding some of these opportunities. And we had it here in Saskatoon in 1980 with . . . Okay. I'm getting the three-minute signal here, so I'll try to move along.

The point is this: Premier Blakeney was trying to encourage and almost require the uranium companies to refine the Saskatchewan-produced uranium here in Saskatchewan and went to great lengths to kind of get something started. The company, which was Eldorado Nuclear, put in a proposal to build a plant. It went through an environmental review, and there was an incredible amount of misinformation and controversy created around this. The company withdrew its application, built the refinery at Blind River, Ontario. That plant has operated safely for 30 years, over 110 Steelworkers union

people are employed there at premium wages and good working conditions — 160 direct jobs. So there's a consequence of bad decision-making model, and I just bring that to your attention.

I think the Saskatchewan decision-making model is a good one, that came out in the UDP [Uranium Development Partnership] report. It's broken into four categories. There's a technical element so that you have a technical decision. And that tends to be quite scientific — engineering, you know, things like that. And the people that are involved in that are the project proponent, the builder, the regulators, and the client.

Another element is the financial element. The costing of all of these units and different energy options is very complex and very sophisticated. And the people that are most likely to arrive at the right decisions and be involved are the proponent, the investors, and the client, perhaps SaskPower being the client.

At the social end, it's important that public involvement be present throughout, and so there's a public role and a government to respond to that public role. And finally there's a regulatory, an ongoing regulatory role. And that's government's role primarily to do that.

So, Mr. Chair, I'm just going to very quickly, with your indulgence, two or three more slides. And I'd like to leave you with this kind of thought about SaskPower. I've been involved in monitoring and following public hearings on uranium and nuclear development in this province for 30 years, more than 30 years.

And what needs to take place in my opinion is the proponent needs to put out more information about the realities of its need. In my view, SaskPower is negligent and hasn't done that. It's created the aura that wind is almost, you know, their preferred thing. That's publicly. Behind the scenes, I know the engineers, that's not their view. You know, so it misrepresents this, so the public does not have a fair awareness of . . . There's a good role for wind in this province but not for baseload production. And I think the utility could go way further in doing that.

They should also discuss the environmental impacts. For example — and you, this committee may not know it — at the coal-fired power stations they have smokestacks and there's a lot of radioactive elements in coal. Carbon 14 is an isotope of . . . and it's a radioactive element. There's other elements that go right up the smokestack.

If those coal plants were under nuclear power plant regulations, they would all be shut down for radiation exposure. The radiation levels at their gates — this is quite hard to believe, I realize that — is higher than it is at Bruce or Darlington or the other nuclear power plants in Canada. Now you can ask yourselves independently, check this out, but keep it in mind.

So again, power companies should be disclosing more of these things, and I don't think they have.

You folks are looking at this. I wish you luck. I hope we've given you some ideas around it, and I'll look forward to trying to answer any of your questions.

The Chair: — Well thank you very much for your presentation. Mr. Weekes has questions.

Mr. Weekes: — Thank you, Mr. Chair. Thank you, Mr. Keyes, for your presentation. A very complicated issue, nuclear power generation, with many aspects. I was interested to note you listed all the premiers of the day going back to Premier Douglas, and it's interesting the politics around this issue. And recently former Premier Calvert even was quoted as saying nuclear power generation was the dirtiest form, and then suddenly he changed his mind and suddenly it was maybe not so bad.

But my question to you is, when we get into the nuclear debate, I mean the number one public issue is safety. I mean there's many other, the economics of it, but safety is the number one reason. We've been told, you know, that the new generation of power plants are safer.

My question to you: in layman's terms, could you explain . . . I think I understand why the Chernobyl power plant was very unsafe and you talked a bit about that, about the Soviets. But could you in layman's terms try to, I guess, reassure us that nuclear power generation, nuclear power plants today and the ones that have been developed are safer than previous ones and why?

Mr. Keyes: — Well thank you for that question. The safety question is an interesting one because Canadian and CANDU power reactors and most, like American reactors or French or Japanese, they're all safe. The safety record of those plants is far, far — the existing plants — and so there is no question about safety of the past plants that were built. They are very, very safe, and when you look at the numbers the facts are there.

Now the problem is one of credibility or belief or this big picture of Chernobyl, you know, and things like that. And that's a fear factor. And I don't know how, I think the only way you get around that is by having some kind of, you know, like you folks are doing a panel. And you might at some point get a recommendation that more public education needs to take place. And you put together people with high stature from this province and good scientific, you know, that is factual and have them try to inform the public.

Because you're right. There are public misconceptions about . . . Like if you go to Ontario and to the communities beside those power stations, they're not at all worried, and for good reason. They've never had anything to worry about, you know.

[12:30]

And so that's the best answer I can give you because I know that you can have a scientist stand up in front of the public, and they'd go to sleep. Because it's got to be some credibility, maybe some workers from union. I know the Canadian Nuclear Workers' Council is 16 workers of union people that are in the nuclear field. They're very credible. They're the online folks like the IBEW [International Brotherhood of Electrical Workers] in the United States has. They operate about 45 of the plants in the United States. They'll tell you about safety. They're there 24-7.

You get people speaking like that more so than nuclear industry

salespeople, you know. You've got to get the credibility issue addressed, and I think that's the way to do it.

Mr. Weekes: — Just one more follow-up if I may. And the other aspect, you talk about the Chernobyl-type accident, but storage is the other big issue as far as safety and public concern. I believe I'm right in saying this, that 80 per cent of France's electricity is generated through nuclear power. And they have them in cities or next to cities and they store the nuclear fuel in super swimming pools.

And it's funny how certain parts of the world now, Asia and China and India and Asia, are moving ahead with more nuclear power plants, but in North America, it's just been a standstill for decades. And I guess that all ties into public perception and maybe low cost of energy production in North America up until recent times.

Mr. Keyes: — It does. And the question of spent nuclear fuel. I mean, France, it also reprocesses some of that fuel because spent nuclear fuel has lots of energy left and it's only a small per cent of the uranium is actually transmuted in the fission process. So they can reprocess it and use it several more times.

But the storage is . . . In Canada, you know, we're a wonderful democracy but sometimes there's a line in the sand here. We've got to say, well okay, there's got to be some closure to some of this stuff. Like there was a huge study — it lasted 30 years, huge panels — the Seaborn Commission, to look at nuclear fuel storage and the technology and all of the things. And then from that they concluded that, yes, the engineering and the science, we could store this stuff safely.

But there's a huge public concern still. So you've got to work on allaying those public fears, and the Nuclear Waste Management Organization was created to do that. Well quite frankly, I go to their conferences and things like that and they talk to themselves. They haven't changed, in my opinion, Canadian public opinion 1 per cent, you know, and so more has to be done.

And your group, as all-party members, there's enormous leverage that you can get into information if you can agree. You know, I'm maybe lecturing you just a little bit here on politics. But agree to set the partisan part aside, look at what's good for Saskatchewan and, you know, move in unison on things like that, and sharing that information with the public in credible ways is the way you do it.

Mr. Weekes: — In your presentation, just to move away from the safety factor issue, you had said that the newer power plants are now more cost-effective. The cost overruns aren't as big an issue. But, you know, in our government's response to the UDP report where we decided not to proceed with the large nuclear reactor, that was one of the major issues, you know — what the provincial taxpayer was going to be asked for as far as loan guarantees and the cost overruns and all of those factors. That was a very big issue and that's something that has to be addressed with the nuclear industry, or why would a nuclear power plant be built if it's not cost-effective?

Mr. Keyes: — Personally I agree with the government's decision not to go ahead with nuclear in this province. I think it was the first power plant was going to be a prototype, never been built before. So what happens to prototypes? They always cost more. So, you know, you're right. Like the old CANDUs, they had them down to . . . Like building them in China, I worked on the two that were built in China and I worked on Wolsong 3 and 4 in Korea. And those they had down, they knew how to build them. They knew how to cost them, and they knew how to, you know, ahead of schedule and below budget. That's how those came in.

But a new one, you have a huge regulatory uncertainty. It's just out there. You know, the regulators call for a halt or, you know, there's so much uncertainty. So I think Saskatchewan made a very wise decision this time. But overall the world is building a lot of nuclear power stations and so, you know, maybe five years from now, when one has some of the prototypes built . . . And probably Alberta's better. Its system is bigger and, you know, they might be a good candidate for the first one of these new reactors, and then once you see, well you know, you might want to come back on it. But I know that's probably not what you might call Nuclear Society party line, but I think it was a wise decision.

The Chair: — Mr. Taylor.

Mr. Taylor: — Thank you very much. Just for clarity on that matter, on the one hand, sir, your presentation indicates Saskatchewan should consider nuclear. And on the other hand, you're saying the province saying we're not going to proceed with nuclear was the right decision. So I seek some clarification about how do you mesh your presentation with your opinion about what the government's announcement has been. That's my first question.

Mr. Keyes: — Yes, okay. Well my point in the presentation, and I kind of went through it quickly, is nuclear should be considered by Saskatchewan. Now considered doesn't mean do it. It means don't be ideological about it and say no way because . . . [inaudible] . . . Be practical. Look at the numbers. Look at the . . . [inaudible] . . . If it's the best decision, then why not go for it? But if it isn't the best decision, why would you go for it? That was my point. And in this particular case, I think you folks made the right decision.

Mr. Taylor: — So our challenge as the committee is to identify ways in which Saskatchewan can best meet the future energy needs of the province. That's the challenge. You've given us a challenge to consider nuclear power but at the same time don't recommend that anybody proceed with it. We are considering nuclear power. That's part of the . . . [inaudible interjection] . . . No. I'm thinking the terms of reference for the committee gave us the authority to review nuclear, and different presenters have been here to argue that point. So when we write our report, we have to take into account what people have told us and what the recommendations are.

So again I seek some clarity as to we take it into account, but as a presenter, you're actually telling us it's okay not to proceed. It's difficult for me to wrap my head around what is the conclusion that we should take from your presentation when we consider writing our report.

Mr. Keyes: — My suggestion would be that in your report you

go to some length to establish that nuclear has validity and merit, but that there is a choice that's been made, looking at the detailed numbers. I'm not privy to the numbers. I know pretty well how those numbers are going to work out though, I think, and I think you made the right choice. But you've got to work; a lot more work needs to be done with the public, and this is really my point to you. And one of the recommendations, if in the future, you know, five years will pass very quickly and five years from now you may well be in a whole different energy scenario.

So use that time to get started to prepare the public with factual things, with good information. And, you know, I know how politics are. It would be my wish that it could be taken off the partisan table and become a non-partisan issue, that energy is something that is so vital to our future and everything that, you know, some of the back and forth stuff that you hear from time to time, it doesn't help it. You know, it doesn't help public understanding.

Mr. Taylor: — My last question is just also to get some clarification on one of the points that Mr. Weekes made about costs, overruns, and loan guarantees. I attended the Canadian Nuclear Society's most recent conference in June in Calgary.

Mr. Keyes: — Yes.

Mr. Taylor: — I also attended the Canadian Nuclear Association's conference last February in Ottawa.

Mr. Keyes: — Yes.

Mr. Taylor: — In both cases there were presenters who argued the biggest risk to developing nuclear power in Canada was not public perception, but financing. The biggest risk was that investors would be very reluctant to put money into it without loan guarantees almost always required of government. And we've got governments across Canada who are now saying that we are not putting public money at risk to provide guarantees for investors who are excited about the potential for nuclear power.

So all of the comments about the industry saying, we can be self-sufficient, we don't need any government dollars, still rely on governments to provide the risk mediation in potential cost overruns and guaranteed return. Would you agree that those presentations are accurate and that indeed, as Saskatchewan has done, reviewed the potential cost to taxpayers that aren't construction costs outside — they're guaranteeing the return on investment for investors — would you concur with those presentations that I've summarized?

Mr. Keyes: — I think the core issue is finance and cost and that, so to the extent that those things were raised at those two conferences and many others, that's correct. Public perception plays a role in that because it always can delay and cause additional costs and uncertainties to projects.

But the point of, for example, in Ontario they were looking at the nuclear, the new design. Well the Ontario power utility and the government said there'll be no way that . . . Like the first unit is always a prototype, so who's going to bear the development costs of that first unit? So if they want a price where they're just paying for the full, all the development costs, the cost of that unit's going to be billions of dollars more than if you were going to produce 10 or 15 units or 25 units, you know, over a period of time.

So to an extent, somebody has to underwrite this risk. And you know, ideally, at least in the past, the Canadian government as owner of AECL and Ontario Power as the big nuclear utilities kind of went together and they underwrote those risks.

I mean it would be idiotic, in my opinion, for little, poor old 1 million people in Saskatchewan to underwrite the development costs of that first unit. It'd be way too much risk for our people to take. So you know, that's . . . I hope I've answered. I've tried to answer your question. I don't know if I have.

Mr. Taylor: — That's great. Thank you very much. Thank you, Mr. Chair.

The Chair: — Mr. Belanger.

Mr. Belanger: — Yes. I just want to point out you've been around for a number of years, Walt, and I consider you a learned friend even though we've had our political discussions and so on and so forth. And a simple answer of yes or no: given the fact that we want to have an informed debate about this particular issue, would you say yes or no to the notion that the NDP [New Democratic Party] governments in the past have advocated and supported uranium development in Saskatchewan?

[12:45]

Mr. Keyes: — Definitely yes.

Mr. Belanger: — The second question is that one of the things that's really important is you talk about being logical and being informative and being neutral on a whole notion of meeting energy needs in Saskatchewan. Would you say that one of the important things is that we present fair information to the public and not make political arguments or political rhetoric attached to this whole debate of looking at uranium development as one of the baskets of opportunities for Saskatchewan? So I think that's one of the important points about, we both agree. Number one is getting a well-informed public to make logical, sane decisions and support the direction of the people of Saskatchewan. Is that fair?

Mr. Keyes: — I think yes is . . . Your question got a little hard to follow there at one point, but I think what you're saying is, yes I would agree that more public and non-partisan, non-political spin-type stuff is really important and it's in everybody's interest. I mean, because everybody changes sides of the House every few years . . .

Mr. Belanger: — Right.

Mr. Keyes: — So you all know that, so find some other topics to argue about and get together on this energy stuff because it's so important. And there's not a lot of huge political capital to gain from it, you know. I mean I'm pretty familiar with public opinion polls and I see quite a few polls and I know the numbers quite well.

Mr. Belanger: — And see, exactly my point. Sorry for the interruption. The thing is we have to find these solutions. We have to focus on the solutions and see what is out there.

Now what if we had this process undertaken and we said to your industry, well we're not going to consult with you. We're going to consult with all the other sources of power generation, and we're giving them money and support to find out what they can do to find this energy problem. You're talking about a $15 billion project here. Would you feel upset that you are not part of that equation towards success, as I often use the phrase, in finding those solutions?

Mr. Keyes: — Are you saying that to give money to wind and solar and clean coal and . . . [inaudible] . . . but to give no money to nuclear?

Mr. Belanger: — Right.

Mr. Keyes: — Well I mean, doesn't sound very fair to me; doesn't sound very logical either. But you know, why would you do that?

Mr. Belanger: — Right. And that's exactly our point. That's exactly my point. In a well-informed public process, you must be fair, open-minded, and logical, as well as not tied to your personal beliefs when evaluating these options on behalf of the public of Saskatchewan. And that's why there was an outcry when the UDP process was undertaken. All the alternative energy folks said, well hey, how about us? How about us? And as much as the current government wants to complain and say, not so, we dragged them kicking and screaming to look at this option. And the people of Saskatchewan and myself as well, are better informed as to the energy alternatives that you make reference to as a comparison to nuclear development.

Now I've always advocated in northern Saskatchewan that I'm considered pro-development. You know, we've had discussions in the past, but you've got to be fair and logical and consistent. People want to take a . . . You know, it's quite a serious business. So I think overall that's the purpose of this process. It's a complement to what your argument is. We need a well-informed public. We need it to be logical and we need it to be neutral. And that's exactly what people are saying to us.

Now one point you made and I just wanted to get clarification from you. I'm not trying to be adversarial here; I'm just trying to get clarification. When you mentioned the medical isotopes shortage, was what you said, I personally believe that the anti-nuke movement is responsible for that? I thought it was major problems at the plant that cost billions of dollars to rectify that problem so there could be the isotopes developed. And again I'm just a hockey player dabbling in politics, so maybe you connect the dots for me.

Mr. Keyes: — Without question, this is a very old reactor at Chalk River where these things are produced. My point about the anti-nukes shouldering some of the responsibility is they have been lobbying government for years and years and years to cut back on funding to AECL. And AECL is the company that produces the isotopes. And if they're getting cutbacks, that those cutbacks partly explain why they've got such an old, rundown reactor that is shut down now for very expensive repairs, jeopardizing health, you know, isotope use around the world.

And so I'm not making a direct connection to blame the anti-nukes for that. No. It's a mechanical, rust, deterioration issue at Chalk River. But you know, I think when you're criticizing and when you're advocating reductions of budgets, you've got to be somewhat accountable for the consequences of those things. And that was my point.

Mr. Belanger: — Thank you very much, Mr. Chair. Final point, did you advise this government in your capacity as a member of your group?

Mr. Keyes: — You mean the current Saskatchewan government?

Mr. Belanger: — Yes.

Mr. Keyes: — No. Over the years, we've made presentations to caucuses, our society has. I know some of the members I recognize, but we've had no role in advising the Saskatchewan government. Had we had a role, we would have never advised that UDP approach. Sorry for that, Mr. Chair.

Mr. Belanger: — Thank you.

The Chair: — Mr. D'Autremont.

Mr. D'Autremont: — Thank you. Welcome, Mr. Keyes. In Saskatchewan we have a variety of electrical sources presently. We have coal, hydro, gas, wind, cogeneration. And some of this is new; some of it's very old. You've been around the energy generation system for a good many years. Have you ever had the opportunity to participate in any public hearings dealing with electrical generation?

Mr. Keyes: — Yes.

Mr. D'Autremont: — And when were those?

Mr. Keyes: — Well I'm suffering a little bit from failing memory, but the significant one that I was quite involved with was one that SaskPower initiated in the early '90s. And it was called energy options, and I thought it was an excellent model because they created a panel. The dean of engineering from the University of Saskatchewan was one, Ann Coxworth, environmentalists. And, you know, it was five or six people but it was technically competent panel. They then had a very broad public information program and all the options like wind, just all the ones, hydro, and a little bit of sort of pros and cons. And they went around the province and did presentations, and I was involved in quite a bit of that.

And so it ended up with the panel — Chief Crowe was on that panel from the FSIN [Federation of Saskatchewan Indian Nations] — and the panel recommended, I can't even remember off . . . I think that nuclear be considered. Yes, sure that nuclear be considered, but that it had other recommendations beyond nuclear. And to me that was really a good way to, you know, to go about doing it. And then from that actually what SaskPower signed a MOU [memorandum of understanding] with AECL for that CANDU-3 research. That's right; and I was very involved

in that. I was very involved.

Mr. D'Autremont: — Thank you. I believe that was in 1990.

Mr. Keyes — Yes.

Mr. D'Autremont: — And after the government changed, that report seemed to have got lost, and the CANDU-3 research reactor was cancelled by the NDP administration.

And over the past 16 years with the previous administration there were no public hearings over electrical generation, so this basically is a new process. And I understand the members opposite are complaining bitterly that they didn't get a whole bunch more money put into this process.

And yet with the committee hearings that we have been doing, we have four presenters today. That is the largest number we've had this week. We've had one presenter, two presenters. None of the public are coming to attend any of these hearings, so it seems that the public has very little interest in participating in this. And yet the members opposite are decrying the fact that there aren't a lot more hearings to take place.

So I would like to thank you for coming forward with your presentations today, and I'd like to thank all the presenters that have come forward. But it seems that in coming to make the presentations to us, there is very little interest. So thank you, Mr. Keyes.

The Chair: — With that, we're at 5 to the hour. So thank you very much for taking time to share your presentation and answer our questions here today.

Mr. Keyes — Thank you.

The Chair: — The committee now stands recessed for five minutes and will reconvene at the top of the hour.

[The committee recessed for a period of time.]

[13:00]

The Chair: — Welcome back to our committee. Before we hear from our next presenter, I would like to advise witnesses of the process of presentation. I'll be asking all witnesses to introduce themselves and anyone who may be presenting with them. Please state your name and the position you hold within the organization you represent.

If you have a written submission, please advise us that you would like to table the submission. It will then be made available on the Internet. Electronic copies of tabled submissions will be available on the committee's website.

The committee is asking each presenter to present an answer to this: how should Saskatchewan best meet the growing energy needs of the province in a manner that is safe, reliable, 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 with question-and-answer period to follow. 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 also like to remind witnesses that any written submissions presented to the committee will become public documents and will be posted to the website. With that, would you please introduce yourselves and go ahead with your presentations.

Presenter: Greater Saskatoon Chamber of Commerce

Mr. Smith-Windsor: — My name is Kent Smith-Windsor. I'm the executive director of the Greater Saskatoon Chamber of Commerce.

Mr. McIntyre: — My name is Jamie McIntyre. I'm the president of the Greater Saskatoon Chamber of Commerce.

Mr. Smith-Windsor: — Jamie was a little remiss in identifying himself as also the vice-president of environmental leadership for Cameco, and that may well lead to some broader range questions that people have.

I think that there was a submission that was presented to you. I don't intend to read the document in its entirety. If people want to go over certain points that we raise here, we'd be happy to revisit them. But there are some broad themes that we wanted to bring to your attention in the context of the question that you have before you, and the first one is the uncertainty related to future costs of carbon. We do not yet know what those prices may be and nor it is particularly clear as to when those costs might be identified. But we expect that they will occur and they'll have significant impact on the future of SaskPower.

A second point that we'd like to raise, and it was to really build on a point that was first discussed with your committee on an earlier submission relating to the Mining Association where they had indicated that it was their view, while they were still in the middle of creating a more defined analysis, that the presentation that was made to you on behalf of SaskPower relating to future power needs may well be low in view of the kinds of projects that they had seen. And there was another element to their discussion relative to where those emerging power needs would be occurring in the province and the implications relating to the transmission grid in Saskatchewan.

When we had an opportunity to read their document, I did have an occasion to talk very briefly about some of the analysis that they had done. And we identified three other items that felt that they weren't accommodated even within the Mining Association's consideration. And that related to three trends that we have identified that represent a significant change from perhaps what we'd seen in the past 20 years or so relating to power demand, the first one being population growth. And I think it's fair to say that there was a fairly extended period in the province where population growth was normalized at being flat if not somewhat negative.

And Saskatoon is the epicentre of that. And if you follow the analysis that the city of Saskatoon has historically been using relating to planning of population growth, they were using

something somewhat less than 1 per cent. And that was really based on an analysis that was done from 1995 to 2005. But if you look historically in Saskatoon's case, population growth is averaged at a compounding growth rate of 1.9 per cent since the community was first formed in 1903. And the last three years we've seen population growth in Saskatoon hovering in and around 3 per cent.

And if you follow the work that the Saskatchewan chamber has been doing, of which we are part, they are projecting and aspiring to seeing population in Saskatchewan reach something in the order of a million and a half people within the 2030 time horizon, which equates to about one and a half per cent compounding growth. And so the population growth number based on what we've looked at in the SaskPower document, it wasn't altogether clear that the population growth component that we're now seeing was necessarily accommodated within their projections.

A second component, and this is one that we were quite specific on in our questioning with the Mining Association, was whether they had contemplated any development of the oil sands in Saskatchewan. And they confirmed that none of their analysis accommodated any considerations relating to oil sands development. I know that Petrobank in its new company has got some interest in that area, and I believe the principal landholder in that area has now split itself in aspiring to not only see development in the oil sands projects as they are currently under investigation in Saskatchewan, but also to see if there isn't a way to accelerate some work that they're doing in the Pasquia Hills. So if you were to just look at the oil sands component in and of itself, it's a significant future power demand source.

Another component that maybe hasn't been fully articulated within the thought process of what we saw with SaskPower related to the irrigation potential of Saskatchewan. This is something that our chamber had been involved with for quite some time through an organization that's subsequently wound down, but Saskatchewan Agrivision did a fair bit of work on the potential for irrigation in Saskatchewan.

We recently had an inquiry from the Irrigation Projects Association of Saskatchewan asking about our interest in continuing to promote that. Our agri-business committee was wholehearted in that support, and I think that if you were to investigate the analysis that's undertaken relating to the irrigation potential — we're talking about over a period of time — the potential is several million acres of irrigation land in Saskatchewan that probably would help dealing with any climate change impacts that we might be dealing with in this province into the future. And those will have significant power demand components as well.

And it wasn't clear to us that the SaskPower presentation necessarily accommodated those pieces, and we'd ask you to think about those in what we could consider a reasonable likelihood that the considerations that are now within SaskPower's planning process may well understate the future power demands for this province.

Then we build on the supply locations and the demand locations. If you think historically, by and large the power generation in Saskatchewan has been perhaps a little bit to the eastern side of the province — some hydroelectric projects — but substantively in the southern portion of the province. If you just follow what's been discussed relating to the aspirations of BHP and, while that project is still under consideration, a lot of the projects that are now being investigated are occurring in locations where SaskPower does not have immediately adjacent power generation capacity. And that's got implications relating to both where future power generation might be sited and also relating to the distribution network that we have within this province.

Then if we move on to the profile that SaskPower is dealing with and if we think about when SaskPower was first formed, the ability to get power to farms and the like, the risk profile for SaskPower today is substantially different than perhaps we have seen for most of the 20th century. If you think about the kinds of discussions that go on in jurisdictions relating to transmission grid approvals and siting locations related to transmission, it's fair to say that that's significantly more complex today than it was perhaps 20 years ago.

Then if you move on the environmental regulatory oversight piece, there are even some of the components that seem to have, at least from the popular media's perspective, some support. Wind power generation. We're aware of, where there are significant growth in wind power generations, fairly significant pushbacks from communities relating to impacts on quality of life and potentially even health impacts.

So even those projects that we have seen traditionally being generally considered to be supportive when the projects actually come forward, we find that they become significantly more complex than they may have been in the past. And so that's got implications as to the kinds of resources that SaskPower or any power provider might need to bring to bear relating to the regulatory oversight. Mr. McIntyre can tell you far more articulately than I relating to the nuclear power generation.

But we're also generally aware of the fact that many new jurisdictions are now pushing aggressively against future expanded coal production as well. We're aware of the fact that a number of states in the US have put moratoriums in this area. I think Ontario has spoken against expanding coal-based power production, regardless of how one might approach the impacts of carbon pricing and other emissions.

So that really rolls us into the fact that all power sources have risks. If you think about the discussions that are current around the hearings on the Uranium Development Partnership findings, there were components to the Saskatchewan public that quite articulately indicated the concerns that they had relating to that particular source. We ran down the issues of what people are running into relating to coal-fired production. I think I've got something appended relating to some of the wind generation pieces that people are running against in other jurisdictions.

And so what we're finding is that people are naturally gravitating towards something like natural gas by way of production. And that's got its own set of risks relating to price. And that's really a risk that we're finding ourselves not only in Saskatchewan but probably across North America exposing ourselves to. And if you were to think in terms of this

discussion three to four years ago and people were to be championing natural gas as a power source, they'd simply indicate that it was uneconomic.

And this is all put in the context of needing to have dependable and affordably, in our context from a business perspective, competitively priced power production. Because of the ability for projects to occur in various jurisdictions, the competition that occurs between jurisdictions for the location of assets is very much dependent on a variety of input prices. And it is difficult for us to say all industries are equally adversely impacted by uncompetitively priced power. It depends very much on the kind of business you're dealing with. But it is fair to say that a significant number of businesses that might choose to be located in Saskatchewan would be substantially sensitive to a pricing structure in Saskatchewan that might ultimately become uncompetitive versus other locations that they might choose to have for that investment.

The cost of capital, if you think about it, over the last 20 years, we saw interest rates go from 17 and 20 per cent now into historically low levels. But it's not altogether clear that those low pricing structures will remain in the case in the future. So whoever might be dealing with future capital expenditures, they've got a capital cost risk that is going to have impacts on how they might approach projects in the future.

[13:15]

With an aging workforce, wage pricing has got its own set of risks relating to pension costs. If you follow what was going on in the automobile industry, the pension costs were substantially responsible for their inability to be competitive. When you talk about the technological risks that are attached to clean coal, it's not altogether clear that SaskPower has a defined method by which that they can go at this and end up with an economic output.

So from our perspective, we're suggesting that SaskPower needs some focus, that they ought to be looking very extensively at upgrading their transmission grid, not only within the province, but also in a pan-regional perspective to other provinces and perhaps even into the United States.

I think that the government has most recently entered into the Pacific NorthWest Economic Region. And some impacts to negotiate amongst those groups may require some subsidiary structure of some nature that would allow SaskPower to move forward on an inter-regional grid that would add robustness to be able to allow people to take advantage of any comparative advantage that they might be able to bring to the table from a power source perspective. We also think that it would help with the robust capacity of wind to its technical limits. We also acknowledge that wind, at this point in its development, is not able to be a baseload production source.

So that leads us to natural gas and the pricing risk and the fact that SaskPower is not in a position to be able to fully protect itself from a pricing perspective. Because it's a monolithic company, no matter what hedging strategy it undertakes, it's exposing itself to some level of risk.

So what we're suggesting is that SaskPower ought to focus on this transmission grid component, both within the province and in the regional context, and focus on the carbon sequestration work that they're trying to do, to understand how to develop a technology that's still got technological risks. The more robust grid will allow us to tap into other power sources and may even allow us to be able to take advantage of sources from other jurisdictions as they emerge.

An active encouragement of independent power producers allows us for dispersed power production across the province, a diversity of hedging strategies that might be employed to mitigate against risk, and allows SaskPower to take constrained capital and human resources to be focused in the transmission grid and coal sequestration.

Future nuclear power production, should it occur, will depend very much on a robust grid. Even if it were to occur in this province, we'll need to have regional grid ties. And should it emerge in another jurisdiction, those regional grid ties would allow us to tap into that source, should that source of power be developed elsewhere.

So we in general, we support the SaskPower submission in its articulation. However, we suggest that the power forecasts may be low. We suggest that SaskPower will need to focus itself on the transmission grid and upgrades that would be attached to that, that it should focus on the carbon sequestration technology and see that that emerge. They identified the risks that are attached to its current fleet of power production should that technology not prove, so we need to ensure that it's focused in this area. And we lastly and most importantly need to have dependable power.

Jamie is in a position to answer questions you might have relating to the impacts of undependable power for mine production, but the implications are quite significant on the economics of a project and the environmental footprint of those projects. And so having an affordable, dependable grid and a pricing source that allows businesses to take advantage of a variety of pricing strategies in the market provide us with the best capacity to be able to answer the question that is set before your committee.

The Chair: — Well thank you very much for your presentation. Before we go to questions from the committee, we're tending to have our questions go longer than our five-minute, which has been our tradition. I would remind members, if we do want to extend longer we can, but I think it's probably most efficient if we can keep our question sessions down to the five minutes. So I will now open it up to questions from the committee members. Mr. Taylor.

Mr. Taylor: — Good. Thank you very much. And again welcome to the witnesses and thank you very much for your interest and the presentation.

As you referenced in the presentation, we did hear a joint presentation from Cameco and Areva yesterday, and they talked about the need for a dependable grid serving the North, and the challenges that are there. Certainly if Jamie wishes to expand on that in any way, we're happy to hear about that.

But one of the things that was discussed yesterday in a couple

of presentations was the need to consider increased generating needs in the North and dependable grids, also to focus on some of the other unique needs of the North which aren't addressed by some of the activity that's taking place in central and southern Saskatchewan.

But the news today — and just try to keep the chairperson's comments about the five-minute time limit in mind here — the news today out of Ontario is the agreement that they are signing today with Samsung and a consortium of others to expand their green energy component of the Ontario energy plan. This is designed to bring in $7 billion of investment to the province of Ontario, create 16,000 jobs dispersed throughout Ontario, new manufacturing on wind and solar. They've taken up the challenge of trying to become a leader in renewable energy.

Saskatchewan began that process with a SaskPower agreement with Hitachi a few years ago, and Saskatoon welcomed Hitachi into the city of Saskatoon and has saw for a couple of years some growth in wind power. And there was talk for a while of Hitachi helping to create a wind power technology centre of excellence, almost, by being here.

I just wonder, from your presentation as Saskatoon Chamber of Commerce, given the recent inactivity on wind and the layoffs that have taken place in Hitachi, whether or not the chamber thinks that perhaps we lost an opportunity not to utilize the resource that Hitachi had brought to our province to keep Saskatchewan a leader in alternative energy, building additional jobs in Saskatoon, while at the same time expressing interest in the development of other energy sources. Just wondering from the business perspective what the loss of, to Ontario, of the leadership on wind power has meant to the city of Saskatoon or could mean to the city of Saskatoon.

Mr. Smith-Windsor: — I'll let Jamie talk about the . . . In his role he has spent a lot of time looking at wind and its capacity to fit within a grid. And there may be some components that he would like to add in that area, but Hitachi is a diverse company. Its history was actually relating to a coal-fired plant in southern Saskatchewan, and that's where it first got established. And from that, it acquired expertise and had significant development and expansion as a result of natural-gas-fired production in the United States. Then it developed expertise in terms of being able to help the oil sands industry in northern Alberta, relating to pressure vessels and the like. And then more latterly it developed, because it was able to expand its plants because of these other projects, into the tower component of wind production.

And so I think that the answer around Hitachi — and I certainly would not want to put words in their mouth and would have to speak to them directly — is that I think that they look at power production in Saskatchewan in a broad context, where they would have capacity to meet our needs in a variety of ways. And one would assume that, be it an independent power producer, perhaps even Hitachi — and I think that they were in fact at one point involved in a potential cogeneration project in Saskatoon or Saskatoon region — that they would be able to explore the activity that could occur relating to expanded power production of whatever description.

So I don't think that we see one over another as being compromising a particular industry. Based on what we see is that there will probably be broad expansion of wind power in North America to the extent that it's technically able to fulfill power production in a complementary fashion. But we're not aware of anybody in Canada, and certainly not in Western Canada, that's looking at wind power as baseload production.

Jamie, do you want to make any comments about baseload?

Mr. McIntyre: — I don't think we've lost any opportunity. I think the opportunity still exists, and I would encourage the province of Saskatchewan to pursue the opportunities to develop and expand its renewable energy power production.

But the fundamental reality, in my opinion, is that Ontario will not live or die on its technological advancements in renewable energy. It will live and die on its baseload from nuclear, essentially. Nuclear is really the heart and soul of the energy system in Ontario, and that will remain that way for many decades to come, I suspect.

I'm a fan of renewable energy technologies, and I think we should do everything we can to sort of take the full advantage of those technologies. But I'm also a realist, and I believe essentially that the contribution of coal-fired generation globally in this province is not going to diminish. In fact we should be moving with great haste to build, you know, the kind of technologies that we need to align the stars to make cogen be, you know, truly clean, a clean source of energy. Coal is responsible for over 50 per cent of global energy supply, and that's not going away. So I think the challenge that we have is to lead the world in terms of developing the clean coal technologies.

But I also believe that we should be pursuing our energy policy on the basis of enhanced efficiencies, expansion, renewable energy technologies, exploration of other technologies, inner agreements with our two neighbouring provinces so that we can, and we currently do . . . I mean we're purchasing power, surplus power from our adjoining provinces and we should enhance those agreements to an extent that we can actually do that. So it's multi-faceted.

But the fundamental reality for us is 75 per cent of the power in this province is consumed by industry and business, and essentially I can tell you that Cameco won't be powering its Key Lake mill on with wind turbines. It just is not going to happen. So the fundamental reality is, is that the lifeblood of an energy system is its baseload power so you need to think that way and then you need to really figure out how to maximize the beneficial contribution of your renewable energy sources.

Mr. Taylor: — Okay.

Mr. Smith-Windsor: — If I may just add one other comment here that relates to wind. As the power production in Saskatchewan grows, the capacity to grow wind as a complementary power production source becomes better. And if you were to look at the amount of wind that we have in the system today, it's small and that's partially because the baseload production in Saskatchewan is small. And the bigger the baseload, the bigger the capacity we have to use wind as a complementary power source.

Mr. Taylor: — I might add, and I'll be very quick in summary here. I have one last perhaps short question. But in this regard, the presentation we saw yesterday indicated the need for some immediate action in the North for the uranium mines. And they're very much looking at hydro. You said not wind, but they're very much looking at hydro expansion in partnership with some of the First Nations or Métis communities in the North and as a result increase their power capacity. So you're right, they wouldn't reliant on wind but there are other renewable sources that they're looking at for immediate power capacity.

You have talked about nuclear in your comments. This committee has been charged with also reviewing nuclear in our overall plan. The government, before our efforts have been completed, have made a decision there'll be no consideration of large-scale nuclear in Saskatchewan, some say until after the next election in 2012. Some say maybe not before the subsequent election in 2015. Does that decision of government disappoint you at this point in time?

[13:30]

Mr. Smith-Windsor: — I think it's fair to say that it's disappointing to some members of the business community, but I think that was seen as an opportunity to establish leadership in an area.

Yet when you investigate what's currently understood by baseload power in the context of nuclear energy, it's a substantially larger portion of the grid then we're ready and able to absorb within our current context. And it probably is not feasible even in Saskatchewan unless we have a substantially more robust interconnection between other jurisdictions.

So I think that if you read the detail of our document, we would say that if you were to see nuclear power emerge in our region — and that could be somewhere in the United States, be it in Montana or North Dakota or in Alberta or in Manitoba — we could benefit from that with a stronger grid. Should it occur in Saskatchewan, that would also be dependent on an intertied grid. But I think that the benefit for the intertied grid probably comes back to your comments around wind as well, where we understand that having a very robust grid system is helpful in that area as well.

Mr. Taylor: — Okay, thank you. Thank you very much.

The Chair: — Mr. D'Autremont.

Mr. D'Autremont: — Okay. Thank you very much, a very good presentation and good opportunity for me to segue in with your last comment. The province has put out an RFP for an additional 200 megawatts of wind-generated electricity. But a number of the presenters that we have had come before us have made the point that they don't believe we need further baseload, rather that we need a more distributed generation system based on alternatives — wind, solar, biomass, etc.

Do you have any concerns with that from the business community? Do we need to strengthen our baseload or can we rely on the alternatives to provide for the growth? If we're looking at a 50 per cent population increase over the next 20, 30 years, that's probably a 25 per cent increase in generation need there, and that doesn't take into account any business increase over that period of time where the increased population would be employed at. So do you believe that we can maintain our living standard, our business component without increasing baseload?

Mr. McIntyre: — No.

Mr. D'Autremont: — Good. Good answer, I guess. I was hoping for a little more explanation on what we might . . .

Mr. Smith-Windsor: — Really, no.

Mr. McIntyre: — The fundamental reality is that the best operated, since we keep talking about wind, the best operated wind farms in the world are essentially operating about 30 per cent of the time. Cameco is actually an owner of a wind farm called Huron Wind, and we get a capacity factor of between 18 and 25 per cent. So I don't know of a business that would want to essentially rely on a generating source that essentially is only reliable 25 to 30 per cent of the time. So I think the fundamental reality is that, as I keep saying, the heart of it is the baseload sources.

And I think if we're going to go with coal, and I'm reasonably optimistic on coal, the fundamental reality is it's going to be a lot more expensive than it's ever been in the past. It's going to require more of the energy itself to control its emissions. So for example, imagine that a 400 megawatt coal-fire generating station today, in order to sort of deploy the kind of carbon capture and sequestration and carbon management strategies, could be consuming a third of its power source to manage its own carbon stream. So I think that we need to really fundamentally understand that, even in the context of coal, the economic base case for coal is actually going to change fundamentally.

So again I think that I heard it when Walter was sitting here, that Saskatchewan's really, really blessed. I mean we've got an extraordinary energy endowment in this province, and I think that really is incumbent upon SaskPower and the legislators to really open their minds and hearts to looking at all of those endowments that we have to sort of maximize.

And I think that there's an opportunity for Saskatchewan to really sort of come out of this as a real shining light, a leader in the deployment of renewable energy technologies. Perhaps in some time in the future, the deployment of distributive nuclear energy technology that essentially if it comes in small packages, I think we can look at, you know, the future for Saskatchewan in terms of global leadership on clean coal.

Coal gasification technologies is a wonderful opportunity for us. We've got vast coal resources. Why would we turn our back on our coal resources? That's as dumb as a post. You wouldn't want to do that. I mean that's a natural endowment that we have that essentially if we can use the intellectual brain power in this province, we can turn that endowment into something very special.

But my sense is that the heart of it is baseload power. You've got to have that, and then the rest of it is really, you know, the

kind of the fancy wheels on the Cadillac.

Mr. D'Autremont: — Okay, thank you. You mentioned cost. Initially as we toured around, a number of the presenters came forward believing that or putting forward the proposition that alternate energy sources would provide for cheaper power. More later, the presenters have seemed to be saying that they expect, no matter what kind of generation source is chosen, that the costs will be greater.

We've had presenters saying that we need to upgrade our grid. Our grid may be upgraded differently just depending on what kind of generation source. If you have a single source generator, you're going to have a particular kind of grid cost. If you have a distributed power, you're going to have a different kind of grid cost, but that there is going to be an additional grid cost no matter which way you go.

Would you agree with that that no matter what kind of future energy source is chosen, whether it's a centralized large producer or a distributed system, that both the capital costs for the generation itself and the grid system that there will be additional costs for all of us?

Mr. McIntyre: — Yes. Yes, clearly.

The Chair: — Mr. Belanger.

Mr. Belanger: — Yes. I just want to make sure in terms of your view in the future in terms of SaskPower's role. You know, we've heard some of the challenges. And I'm not trying to put you in an awkward spot, but it's a question that the people of Saskatchewan often ask themselves: what do you envision SaskPower looking like within 5, 10 years? Just from an economic perspective, do you see a bunch of partnerships looking at the generation of power, them playing a bigger and larger regional role as you mentioned? Because I think Saskatchewan has to get with the program in terms of trying to develop our economic opportunities.

By the same token, there's a balance. People of Saskatchewan do not want to see their Crowns lost. Given the challenges that they have today, this is one of reasons why we're here, is that if Saskatchewan Power doesn't get it right, instead of us looking at a $15 investment, it's going to be a $15 billion environmental deficit.

Now what we're careful about is watching the rates because obviously everybody's going to pay more power. And when my learned colleagues from across the way talk about rising costs of power, sometimes I hope they don't take the money from our power bills to pay off their deficit. That's always something that we watch very carefully because if they're starting to use the Crowns to reap off profits for the sake of debt surcharges, then that becomes a problem. So my point being is that, what do you see SaskPower becoming from your perspective, as a bit of advice?

Mr. Smith-Windsor: — I think we've sort of answered that in the presentation. I'll try and go back at that. This inter-regional grid may require some organizational structure for SaskPower to be able to have a partnering arrangement. That doesn't necessarily compromise SaskPower in its current context. We also need a very robust grid, and so we're suggesting that SaskPower ought to focus on those two things.

And when you relate to the contingent risk of SaskPower, again relating to the potential future costs of carbon, it's got a fleet of coal plants that require substantial new investment on a technology that really isn't that well defined yet. And so we're suggesting that it ought to focus on those two things: the first to give it a set of choices for providing baseload power and available power and affordable power; the second one relating to defending its existing asset base.

Mr. Belanger: — What do you think that the rate would be for the carbon tax, so to speak? Is there projections that you guys assume, like from the corporate perspective or the chamber?

Mr. McIntyre: — Yes. Yes, we project somewhere in the ballpark between $20 and $30 a tonne. I think, just to answer your previous question, I think there's one of the textbook models that business uses to really, you know, share risk — in other words, mitigate risk — and I think that we've tried to talk a lot about the very nature of the risk profile that SaskPower is about to enter, relative to its past. I think that I would say that the risk profile for SaskPower is going to increase by several orders of magnitude over the risk that it had accepted in its business model of the past.

And a textbook example or model that businesses use all the time is they invite partners into their risk profile so that they can actually spread the risk over more partners in the business. And as a simple example of that is that we have partners in our uranium business. And one of the reasons why we have partners today is because we made a conscious decision to invite partners into McArthur River, the richest uranium mine in the world. We invited partners into McArthur River because it presented a high-risk profile and we were able to share the risk.

So my sense is that the SaskPower of the future will be a SaskPower that invites this sharing of risk by inviting, not just tampering or tinkering with the idea of independent power producers, but actually building a business model that actually has independent power producers.

And perhaps that means that SaskPower might have to grow up to a stage where they aren't the only purchaser of power or might have to grow up to a stage where they aren't the only purchaser of power in the province because that's a risk to business. When you say to business, we want to invite you into our business, but we want to set all of the entire policy framework. So trust us. But if you would invest in a 500 megawatt natural-gas-fired power station, but you have to sign a power purchase agreement with SaskPower, then do you like that? Does that make you feel comfortable knowing that you have one customer?

So I think that, now that requires some courage because I am personally in favour of a strong public utility. I'm personally in favour. I think it's a dangerous world to enter where you give unfettered right, you know, to the private sector in something as important as power production and energy supply. So don't get me wrong, but I think that there's a new day that SaskPower's got to have the courage enough to kind of step into, and that is willingly inviting participation into the energy provision

business and creating a business model that will excite that private sector investment.

Mr. Belanger: — The final two points I would make is that some suggest that the price per tonne is going to be double; it's going to be 60.

Mr. McIntyre: — Perhaps.

Mr. Belanger: — And I think that's going to dictate change within SaskPower.

Mr. McIntyre: — Well $30 will too.

Mr. Belanger: — Yes, but that will dictate even greater. But I'll point out, in the sense of the challenges when you look at the whole notion of SaskPower, Saskatoon has other challenges, a transportation challenge as an example. And skilled workers shortage is another challenge. But in the city of Saskatoon, I understand that . . . What's the relationship between the power company that Saskatoon owns and SaskPower? And are they doing something different than what SaskPower is, in relation to what the Chamber of Commerce wants to see occurring? Is there a different mindset there?

Mr. Smith-Windsor: — Well I think that there are two remnant distribution grids. You should remember that SaskPower came as a coordinating body for power distribution across the province subsequent to the establishment of power generation in Saskatchewan. And so in Saskatchewan, and if you were to look at Saskatoon, they were in the power production business many, many, many years ago. And they said they wanted to get out of the power production business. They weren't particularly good at that. And SaskPower took over the responsibility for power generation.

On the other hand, they said they believed they had some proficiency relating to a distribution grid that they've maintained for a number of years. And we actually are continuing to have an ongoing discussion with the city as to how to enhance their capacity to provide dependable, affordable power within their own grid. We've actually got them pretty excited about being involved in a productivity initiative in this particular area. We've invited SaskPower to participate in a similar way, and so you'd be better to ask both SaskPower and the city of Saskatoon as to the intricacies of their relationship. But from the city of Saskatoon's perspective it's mirrored in pricing, as I understand it. However, the city does provide a portion of the power within the, we'll call it the centre areas of the city within its own system and it's been doing so since the city was formed.

The Chair: — Mr. McCall.

Mr. McCall: — Thank you, Mr. Chair, and thank you to the presenters for coming here today with a good bit of information and ideas to consider. Two main topics I'd like to ask you some questions on. First, I know that both of you in your professional lives have paid a fair amount of attention to the question of labour force development and the better engagement of First Nation and Métis people in the economy in Saskatchewan. Given the challenges or the problems in front of us and given the need for a broader thinking, does it occur to you that in this circumstance, are there opportunities here to better engage First Nations and Métis people in addressing these power needs?

Mr. McIntyre: — Yes. I think there's two examples have already emerged. The Black Lake power project for Queen Elizabeth Falls, and that's something I was working on for many years and was really encouraging SaskPower to not take a passive role in that. I encouraged SaskPower to, you know, step right in because Black Lake is the kind of community that really doesn't have the capacity to even interact on an issue as complex as power production. So you know, I was delighted to learn that SaskPower actually did decide to take a much more proactive, hands-on approach. There's an example. I think the James Smith Band is also looking at hydro power. And the province of British Columbia has pioneered some wonderful ways for the direct participation of Aboriginal people in power production and distribution. So there's all sorts of ways to do that.

My personal bugaboo is that I still don't believe the Crown corporations generally have really stepped up to the plate in terms of primary labour force development, training, and employment. I think that the models in our industry are models that are recognized around the world, and I think that you don't have to reinvent this. This is not rocket science; it's pretty straightforward. And I think Buckley can speak to it as well as I can because we were both born and raised in the North and we saw it evolve and we both had a part in it. So yes, I think there's a great opportunity for much greater participation.

Mr. Smith-Windsor: — If I might add something. In terms of successfully engaging the First Nations community, the best opportunity we have is a robust economy; the more opportunities we create, the more successes we'll have, and that's why it does pull back to this affordable, dependable power. We can provide those two things, and the accommodative structures that Jamie was alluding to, to . . . We need thousands of new opportunities to successfully engage First Nations people — thousands, not a few.

Mr. McCall: — I guess I both generally agree with you, but in a particular sense there's a tremendous amount of economic activity that will take place over the next years in this endeavour and to make sure that we're fully engaging the First Nations and Métis community and realizing that opportunity and bringing people forward, I think you've answered, you know, certainly in accord with the work you've done over decades in terms of trying to accomplish that.

I guess the second question I'd have is around carbon capture and storage, and I was very glad to hear you touch upon that. I share the belief that obviously we've got a lot of coal, there's a lot of our grid is coal-fired, and if we could square that circle with the proper technology, it's a tremendous advantage for the province of Saskatchewan and takes us a long way towards securing that sustainable, affordable grid.

And I guess in terms of past years, or, you know, in the years to come, are there things that we haven't done to move as quickly and as thoughtfully down that path as we need to? What kind of improvements can we make? And are we still maintaining the . . . I'm from Regina; I'm a University of Regina graduate. The kind of work that's gone on at the International Test Centre is

certainly a point of pride for the province, but that kind of leadership, we worry about the initiative being lost and perhaps being surpassed by places like Alberta where the federal government is making strategic investments that may see them surpass us. And if they accomplish the technological fix, you know, perhaps that's fair enough.

But we have, you know, decades of work that has been done at the ITC [International Test Centre for CO_2 Capture]. We've got some real opportunities around not just being global leaders in carbon capture and storage but really finally squaring that circle in terms of accomplishing the technology. Are there things that we need to do better there, and do you have any concerns about Saskatchewan losing the initiative and the leadership on that file?

Mr. Smith-Windsor: — If we understand how this technology is developing, it's not just a Saskatchewan or an Alberta story. I think that the work that was done to reach out to Montana is helpful. The ability to have a relationship with North Dakota concerning the Weyburn project was quite helpful. So I would just encourage the government on both sides of the House to continue to reach out in regional perspective, not only into Alberta or Manitoba but also into the United States.

And I wouldn't look at it as an either/or technology. If we understand this, the aspiration relating to carbon sequestration is still not well defined, technologically nor economically. And so that's why we're suggesting that SaskPower needs some focus on its activities to pursue to the extent that its resources allow, to participate in those things.

And in truth we're inventing a new light bulb. And I think that if I remember Edison's quote, there were a few ways that he discovered didn't work before he found the one that did. And we don't need to look at it as only our technology. Nor would we look at only one way to produce an automobile or computer.

What we need to see is ways to encourage and engage others in an international basis. So this taking your blinders off from a province's perspective, and think of it as being a solution for the world because these challenges apply to India and China perhaps even to a greater extent from a climate perspective and an overall environmental perspective. We need these solutions not just for Saskatchewan; we need them globally.

Mr. McCall: — And I guess I'd certainly agree with you on that question, or the observation of global need. It's just seeing recent developments around the carbon capture and storage file, seeing the way that different players in the equation have made investments, it gives one pause for thought; but certainly the global application of this technology is as evident as the sun rising in the east. So I thank you, gentlemen, for your presentation. Thank you, Mr. Chair.

The Chair: — Mr. Weekes.

Mr. Weekes: — Thank you, Mr. Chair. Thank you for the presentation. A couple comments and a question. As after the 2007 elections, Saskatchewan Party government found in SaskPower and in general that there was virtually no infrastructure investment under the 16 years of the NDP government. And we found that too, when you look at those 16 years, the NDP government did do equity stripping.

We in the Saskatchewan Party as government have taken the stance that, you know, there has to be a reasonable return on investment, and that means investment to the taxpayer to fund things like health care and education and also a reasonable investment in the infrastructure. And that's certainly what our plan has been and will be into the future.

But under the government's response to the UDP report, we found that building a large nuclear power plant had an additional cost to the infrastructure upgrade of transmission lines, and that was one of the thoughts or concerns in how we came up with the decision not to proceed with a nuclear power plant. But there seems to be some validity to smaller power plants if the technology's there, and I would say more of a regional power plant that would not need the same upgrade to infrastructure that a large site plant would need in one location. What is the chamber's thoughts on a more regional nuclear power plant?

Mr. Smith-Windsor: — I think Jamie talked about the potential of new technologies of a smaller scale and the ability to use it from a distributive perspective. And that's something that Saskatchewan ought to investigate and pursue and research, much in the way they're trying to do on clean coal.

From the standpoint of inter-tying for power generation of a larger scale, we ought to be thinking about the grid to allow comparative advantage by jurisdictions to emerge. I think south of us they have significant coal resources, to the east of us there is significant hydroelectric resources, and to the west of us there are significant coal resources as well.

But a more robust grid also allows us to take advantage of things like wind power as a complement, and only a complement, likely, for coal. However it does fit or dovetail nicely into some forms of natural gas production. Should a technology emerge relating to smaller scale nuclear power production, I think that we've got in our study we'd love to see that kind of activity happening in Saskatchewan in the context of affordable power.

Mr. Weekes: — Thank you very much.

The Chair: — Well we're at the top of the hour again, so thank you very much for your presentation and the questions you answered for us today. Thank you.

Mr. McIntyre: — No problem; thank you.

Mr. Smith-Windsor: — Thank you.

The Chair: — The committee will now stand adjourned until tomorrow morning at 10 a.m. in Yorkton.

[The committee adjourned at 13:57.]