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## **Official Report of Debates (Hansard)**

**Wednesday 26 October 2016**

## **Journal des débats (Hansard)**

**Mercredi 26 octobre 2016**

**Standing Committee on  
Estimates**

Ministry of Energy

**Comité permanent des  
budgets des dépenses**

Ministère de l'Énergie

Chair: Cheri DiNovo  
Clerk: Eric Rennie

Présidente : Cheri DiNovo  
Greffier : Eric Rennie

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## ASSEMBLÉE LÉGISLATIVE DE L'ONTARIO

STANDING COMMITTEE ON  
ESTIMATESCOMITÉ PERMANENT DES  
BUDGETS DES DÉPENSES

Wednesday 26 October 2016

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*The committee met at 1500 in committee room 1.*

## MINISTRY OF ENERGY

**The Chair (Ms. Cheri DiNovo):** Good afternoon. Pursuant to the order of the House dated October 24, 2016, we are here to resume consideration of vote 2901 of the estimates of the Ministry of Energy. We have been authorized by the House to meet today until the remaining time for the consideration of these estimates has completed. There is a total of three hours and 15 minutes remaining.

Before we resume consideration of the estimates, if there are any inquiries from the previous meetings that the minister has responses to, perhaps the information can be distributed by the Clerk. Are there any items, Minister? No? Thank you.

When we last adjourned, the official opposition had 10 minutes remaining in their round of questions. Mr. Yakabuski, the floor is yours.

**Mr. John Yakabuski:** Thank you, Minister, for joining us again this afternoon.

I can't even remember where we were yesterday, so I won't pick up exactly there, but I want to talk about the Windstream case and the \$28 million. I've heard—and I don't want to put words in your mouth, but I'm suggesting that I've heard you say, even in the context of the House, that research with respect to offshore wind was an ongoing pursuit of the government since the announced moratorium, back in 2010, on offshore wind projects. According to Windstream's documents and the federal government's statement at the NAFTA hearings—they would have been relying heavily on the Ontario contribution to that. Ontario would not have been the one arguing the case; the feds would. But Ontario had 20 lawyers; the feds had 10. So I would suggest that Ontario played a huge role there. The federal government's opening statement at the NAFTA tribunal contradicts those statements by you, the previous energy minister and the Premier. In this publicly available document they state, "Ontario's not planning to commence further scientific studies in the near term to address areas initially set out in its earlier plans."

Could I have an undertaking by you, Minister, and the deputy to release to me—and when I say "me," I mean all of us—all relevant documentation to research that was conducted by you, your ministry, the Ministry of the

Environment, the province of Ontario, since that moratorium was issued? Dates, times, what was done, findings and conclusions—could I ask that that all be released to this committee?

**Hon. Glenn Thibeault:** Good afternoon, everyone.

Thank you for that question. I think it's important for me to say, as the new Minister of Energy—and I think my "new" comes off after six months. With Windstream, one of the things that we are doing is carefully reviewing that decision that came forward from the tribunal—and I know that's not the question, but I am bringing this into context. We still believe that our decision to put the moratorium on offshore wind is a correct one. That's why we're continuing to move forward with that cautious approach to offshore wind, which includes finalizing that research to make sure that we are protective of both human health and the environment. The MOECC—and I know the minister can get into some of the details that you're looking to, MPP Yakabuski. In relation to that, we're making sure that we finalize all of that research because we're going to continue to prudently rely on that available scientific research.

**Mr. John Yakabuski:** So would you release all—

**Hon. Glenn Thibeault:** We're going to continue to rely—

**Mr. John Yakabuski:** I apologize, but I have to interrupt. I'm trying to be polite here, and it's not easy.

**Hon. Glenn Thibeault:** I appreciate it, though, John.

**Mr. John Yakabuski:** Would you undertake to release to me—when I say "me," I mean all of us at the committee—all information, all research that has been done to date since that moratorium was issued? Frankly, we agree with the decision. The problem was that the decision you made in the first place—not you personally—the decision that was made to sign a contract that you weren't going to be able to fulfill. You should have done all of that research in advance. Now we're all left possibly holding the bag for \$28 million, but also the potential that the court could still rule that that contract was valid. That's my concern.

I want to move to something else. Would you release all of the research that has been done since that moratorium was issued?

**Hon. Glenn Thibeault:** The specifics relating to the research: I know the deputy can speak to that.

**The Chair (Ms. Cheri DiNovo):** State your name again.

**Mr. Serge Imbrogno:** Serge Imbrogno, Deputy Minister of Energy. The studies that are being undertaken are being done by MOECC and other ministries. The stage at which those studies are under way—I don't know. I think that's a question for MOECC and MNR and the other ministries that are undertaking those studies.

**Mr. John Yakabuski:** It's almost six years. It sounds to me like that's a delay tactic.

We'll move on. Let's talk about Northland Power and the \$95-million award by a lower court, I guess it was, and then it went to the Ontario Court of Appeal, which dismissed the appeal, or stayed the appeal. Now the OEFC is taking it to the Supreme Court of Canada.

It's highly unlikely, if the Ontario Court of Appeal saw no reason to even proceed—they stayed the request, at the Court of Appeal, which leaves us on the hook for the money. In fact, that money, I believe, has been retroactively advanced to Northland. They may have to repay it if they lose, but the reality is that they're probably not going to lose. I know you won't comment on the court case, but every court along the line has ruled in their favour. That's another \$95 million.

It was an Ontario regulation that led to the court case. It was a regulation passed by your government that led to the court case. This is another \$95 million. We're hearing every minute about \$70 million over seven years like it was the second coming. Now we have another \$95 million that we could be on the hook for, if this goes through to its end.

Can you tell me—

**The Chair (Ms. Cheri DiNovo):** Mr. Yakabuski, you have about three minutes.

**Mr. John Yakabuski:** My, time flies, eh?

Can you tell me how many other Northland Powers are out there with respect to the decision—and I don't have the regulation. If I had faster eyes—there is a number of that regulation. I did have it—Ontario regulation 398/10. How many other Northland Powers are out there that are affected by this? What is the total amount that Ontario could be on the hook for, if all of those rulings go against us?

**Hon. Glenn Thibeault:** Thanks for the question. From my understanding, the Ontario Electricity Financial Corp., which is under the Ministry of Finance's purview, made a decision relating on how the NUGs were paid. They disagreed with that and went through the court process. Through the court process, it is now once again under appeal. From me having lots of lawyers giving me advice, I'm not able to comment on any of that, because it is under the appeal process right now.

**Mr. John Yakabuski:** But you could tell us what the total amount is that could be at stake here.

**Hon. Glenn Thibeault:** What I've been told very clearly is, because this is under appeal right now, it is not something that I'm able to comment on.

**Mr. John Yakabuski:** So you do know the total amount, but your lawyers are telling you not to comment on that.

The amount that is at stake with respect to Northland Power is public, and we asked questions on it today in

the Legislature. You took one of those questions. It wasn't shuffled off to the Minister of Finance, so you took the question.

1510

**Hon. Glenn Thibeault:** And I answered the same way I just did.

**Mr. John Yakabuski:** Not exactly, but—

**Hon. Glenn Thibeault:** Well, I answered, and then I talked about some of our programs, but I don't think you want me to talk about our programs right now. I know you only have three minutes.

**Mr. John Yakabuski:** Not again, no. I'm fairly familiar with your programs at this point.

So are you saying you don't know how much is at stake, or that you just aren't able to disclose that based on lawyer's advice?

**Hon. Glenn Thibeault:** All I'm saying right now is that because the process is under appeal, I can't comment on anything to do with this file or this case.

**Mr. John Yakabuski:** Wow. It's just amazing how we can have this kind of—yesterday, we find out, and I noticed too that the Premier again said yesterday in the Legislature, “no additional financial impact.” But how can you say that when you know that—no additional impact other than the original decision, award, change or whatever—

**The Chair (Ms. Cheri DiNovo):** I'm afraid your time is up, Mr. Yakabuski.

**Mr. John Yakabuski:** Can I get an extra minute?

**The Chair (Ms. Cheri DiNovo):** Sorry. We now move on to the third party: Mr. Tabuns.

**Mr. Peter Tabuns:** Good afternoon, Minister and Deputy Minister.

**Hon. Glenn Thibeault:** Good afternoon.

**Mr. Peter Tabuns:** I was asking yesterday about the Pickering life extension and whether or not the government had actually looked at the cost comparison between conservation on the one hand and the Pickering life extension on the other. You referred me to the Ontario Energy Board filings on the extension. I poked around. I found them. There is no mention of conservation. The only comparison for the Pickering life extension is to combined-cycle or single-cycle gas turbines, not conservation.

Conservation is much cheaper than gas. I understand that gas-fired power in Ontario is around 11 to 12 cents a kilowatt hour. I've seen your numbers showing 3 to 6 cents a kilowatt hour for conservation. Why did you not compare the Pickering life extension to the option of expanding our investment in conservation?

**Hon. Glenn Thibeault:** The deputy was the one who was explaining that piece, so I'll hand that back to the deputy.

**Mr. Serge Imbrogno:** Just a couple of points, Mr. Tabuns. The Pickering life extension: The government has given OPG the green light to pursue the approvals through the regulator, both the OEB and the CNSC, and then to return to the government after we have all the information. I just want to clarify that. They still have to

report back once they have gone through the regulatory process with the OEB and the CNSC.

**Mr. Peter Tabuns:** I'll come back to that question. Your whole thing is conservation first. I hear that all the time. The minister spoke eloquently about it the other day. Why aren't you using conservation as a comparator when you're making decisions on generation?

**Mr. Serge Imbrogno:** When we do our long-term planning, we take into account conservation. When you look at the demand curve, it already takes into account all the conservation that we've put forward. In the \$2 billion-plus that we're going to spend on conservation in this next framework, all that is taken into account. If you were to do it the other way, you would add that back in. We've already taken it into account through all the measures that we've announced that the demand curve would be reduced by that amount. Then, the IESO does their analysis from that basis.

What I'm saying is that we've already taken into account all the conservation when you see the analysis that the IESO does in that piece.

**Mr. Peter Tabuns:** We had this discussion the other day. You're not planning at this point—we'll see what happens with your long-term energy plan—to take advantage of all the conservation opportunities that have been identified. There is a lot more conservation opportunity out there than is currently planned for. Why, when you say conservation is your first option, do you not compare it to life extension for Pickering? Why does it not even feature in the documentation that is put together?

**Mr. Serge Imbrogno:** I think our conservation targets are very aggressive. That's already incorporated. I think the study you're referring to talks about economic conservation if you have no budget constraint. I'm sure you could drive further conservation if there was no budget constraint. I think what we'd do is optimize through the IESO: Where's the best return for your investment? That's what we've built into the plan.

Going forward, as we electrify, for example, there'll be more opportunities for more conservation—more opportunity for different funding from the cap-and-trade proceeds, for example.

At this point, we believe we've captured all of the conservation that's appropriate. Going forward, there's opportunity to do more.

**Mr. Peter Tabuns:** I have to say, the way you appear to be using conservation is, if you need a filler in your graphs, you put it in as a filler. You never compare it to actual generation investments. So if you're making a generation investment here, in a province where people are hard-pressed with high hydro bills, you have an opportunity with conservation to provide electricity services at a much lower price than the extension of Pickering, yet you didn't do that.

Conservation is clearly not first in your assessment of options. Frankly, you could make an assessment of conservation compared to Pickering and, in five years or 10 years from now, as technologies develop, look at other

conservation options to deal with the need for electricity services. Deputy Minister and Minister, conservation is not first. Conservation apparently, in your scheme, is a filler. It is not actually compared to generation.

**Mr. Serge Imbrogno:** I think it's the opposite, because when we do our forecasts of our supply need, we first start with conservation and reduce demand by that amount. Once we reduce demand, then we forecast what additional supply we need. So we actually do start with conservation, reduce the demand accordingly and then we fill in the supply, based on what's left. In doing that, we try and optimize how much conservation is achievable, and that's what the achievable potential study does, from the IESO. Once we've done that, then we fill in the difference with supply.

**Mr. Peter Tabuns:** Minister, if you were going to make the decision around the extension of Pickering—and I'll be interested to hear exactly what you're charging per kilowatt hour for power from that plant—and you have the opportunity to fill that gap with conservation today, why are you not putting conservation on one side of the balance and Pickering life extension on the other and looking to see which is most cost-effective?

**Hon. Glenn Thibeault:** Thanks for the question. To reiterate the piece—I am aware of the time, so I won't reiterate a lot of what the deputy minister was talking about. It is important for me to highlight that the framework specific to this is talking about—we're working on trying to achieve seven terawatts of savings to assist the province in achieving its long-term conservation target of 30 terawatts by 2032. When we're comparing those two, we're wanting to make sure, as the deputy minister said, that conservation does come in first, we reduce that demand and then we meet the needs in our capacity accordingly.

On the specifics of Pickering, I know, Deputy, that you can talk about those costs and those types of things.

**Mr. Serge Imbrogno:** I could provide more detail, if you want, on Pickering.

**Mr. Peter Tabuns:** I will ask specific questions about that.

**Mr. Serge Imbrogno:** Okay.

**Mr. Peter Tabuns:** Moving on to that, in the last long-term energy plan, your projection was closing Pickering by 2020. In fact, in the plan you say that there are opportunities to close it earlier. Why are you extending it to 2024 and why are you doing that without a public consultation on that?

**Mr. Serge Imbrogno:** The IESO is always looking for opportunities to find efficiencies. OPG is also looking for opportunities to run their existing plants more efficiently.

The opportunity exists to extend the life of Pickering. It's not a refurbishment. It's using the existing facility. It's doing more testing to determine if the life could be extended, which is part of the return to the CNSC.

For a marginal investment in extending the life of Pickering, we're able to continue with that zero-GHG-emission power. We'll save money, because it will be

extended at the existing relatively low price for nuclear power. That saves us money, going forward. The IESO analysis says, on a system-cost basis only, that it's \$600 million. That doesn't include the additional GHG reductions. It doesn't include extending the workers at Pickering as well. There are other economic benefits that we haven't incorporated into that \$600 million. We think that for a modest increase in extending the life, we have a large benefit.

**Mr. Peter Tabuns:** Just to be clear, you have not yet made a final decision to extend to 2024. Is that correct?

**Mr. Serge Imbrogno:** That's correct. We've given OPG the authority to go forward, to go through the OEB, and also to the CNSC for regulatory approvals, and then to return, closer to 2017, I believe, for a final decision.

**Mr. Peter Tabuns:** That will be a decision made at the cabinet level?

**Mr. Serge Imbrogno:** It will be made by the minister and, I would suggest, at the cabinet level as well.

1520

**Mr. Peter Tabuns:** Are you currently in the process of putting in place plans should the CNSC or the OEB give you a red light on this?

**Mr. Serge Imbrogno:** That's the job of the IESO. They would take into account all of the different options and be ready in case we go one way or the other. That's something that the IESO does. It's part of their job.

**Mr. Peter Tabuns:** So are they doing it?

**Mr. Serge Imbrogno:** Yes, that's what they do.

**Mr. Peter Tabuns:** They do all kinds of things. Sometimes, they may miss something. Can you tell us that they are currently planning for contingencies in case they don't proceed with the Pickering extension?

**Mr. Serge Imbrogno:** The IESO is planning for contingencies in all events in Pickering's service life. Whether it's shorter or longer would be one of the contingencies that they would take into account.

**Mr. Peter Tabuns:** And do you know what the contingencies are—what they are currently planning as the alternatives to the life extension?

**Mr. Serge Imbrogno:** I don't know. There are contracts that are coming due that they could extend. There are other measures that they could take. I don't know the specifics.

I guess that an obvious one would be to continue to run the gas plants that are currently running, which we were going to get the GHG reductions from. That's always an option for the IESO, but one that we're trying to reduce in order to reduce the GHG footprint.

**Mr. Peter Tabuns:** What is the cost per kilowatt hour of power from the Pickering reactors? I gather that four of them are at one cost and two are at a different cost. What is the cost?

**Mr. Serge Imbrogno:** It's estimated in the \$65-per-megawatt-hour range.

**Mr. Peter Tabuns:** That's the average between all six of them?

**Mr. Serge Imbrogno:** When we extend the life of Pickering, that's what we're forecasting for the cost of the production.

**Mr. Peter Tabuns:** So \$65 per megawatt hour for production as a whole?

**Mr. Serge Imbrogno:** That's correct.

**Mr. Peter Tabuns:** And there's no differentiation between the reactors?

**Mr. Serge Imbrogno:** They would just get the price that the OEB provides—the nuclear rate.

**Mr. Peter Tabuns:** I've seen in the past a price of nine cents per kilowatt hour for power from two of the reactors at Pickering. You're telling me that that's not the case?

**Mr. Serge Imbrogno:** I don't know where that number comes from. I think that Pickering's performance has improved dramatically, so you may be referring to an older number.

**Mr. Peter Tabuns:** So you're currently saying \$65 per megawatt hour?

**Mr. Serge Imbrogno:** That's the forecast of what the price would be for the extended terawatt hours that we'll be receiving.

**Mr. Peter Tabuns:** Is the government of Ontario currently seeking to negotiate an electricity supply contract with Hydro-Québec which would permit Ontario to close Pickering earlier?

You were able to get something like five cents a kilowatt hour in the most recent deal, according to La Presse. This is six and half cents a kilowatt hour. Are you looking at a deal to give us lower-priced power, as opposed to that extension?

**Hon. Glenn Thibeault:** I think that, when it comes to the deal that we announced with Quebec last week, we were pretty excited at the deal that we were able to get. The two terawatts that we are getting now, we're going to target, as mentioned, to our natural gas utilities during peak times. We're helping them, doing the 500-gigawatt swap in their peaking hours, and then we're going to do the storage component as well.

I think that it's important for us to say that we're always going to look at opportunities that present themselves with Quebec in relation to where that goes. We just finished a three-year deal. I think that we're all taking a breath right now. But it's important for us to—

**Mr. Peter Tabuns:** Minister, I think that you're getting off-track from my question. Are you looking now, given that you were able to get a good price from Quebec, at a cheaper price than the one that the deputy minister just cited for the Pickering plant?

**Hon. Glenn Thibeault:** I was going to say, in answer to your question, the importance for us to continue working with Quebec on all aspects—I don't think that any door is shut. I think that this three-year agreement that we've been able to come forward with is exciting news for Ontario because it just shows that we can continue to have negotiations with Quebec. But any of those specifics, Deputy?

**Mr. Serge Imbrogno:** I'll just add—

**Mr. Peter Tabuns:** No, I would like to go back to the minister, sorry.

I'm not talking about doors open or closed. Are you negotiating with Quebec right now to follow up on that

five cents a kilowatt hour—which is cheaper than Pickering—to see if you can replace power from Pickering that we will be paying a lot more for until 2024?

**Hon. Glenn Thibeault:** As I was saying, the agreement that we had over the last three years was a landmark deal. We're excited to have the opportunity to have this deal with Quebec. The IESO and Hydro-Québec were the two entities that sat down and had that conversation. I know the IESO is always in negotiations and always looking for ways to benefit the province. But when it comes to those specifics, I do believe that the deputy would have more details for you.

**Mr. Peter Tabuns:** Are they negotiating a deal to replace the power from Pickering?

**Mr. Serge Imbrogno:** I would just add that the power from Pickering is different in the sense that—it's baseload power, but it's 24/7/365 and an 80%-plus capacity factor. So this is our baseload power. The negotiations with Quebec were really at the margins to try to reduce our gas burn, so it's not throughout the year. It's a different type of negotiation. That's why Pickering provides us with such an important part of extending that life, because of the type of power we get and when we get it.

**Mr. Peter Tabuns:** So you're not negotiating with them.

**Mr. Serge Imbrogno:** I think we always have discussions between the IESO and Hydro-Québec—

**Mr. Peter Tabuns:** But you're not negotiating with them right now to see if you can replace some or all of the power from Pickering with lower-cost power from Quebec. Is that correct?

**Mr. Serge Imbrogno:** I wouldn't frame it that way. I would just say that—

**Mr. Peter Tabuns:** Well, you can say no.

**Mr. Serge Imbrogno:** The other thing, the minister and I haven't confirmed that it's five cents, just to make that clear.

**Mr. Peter Tabuns:** No, I understand. It was La Presse who did the calculation: the number of years, the total amount of power, the total price. You do the math; you do the division.

If you have a different price, I'm quite happy to have you put it on the table today.

**Mr. Serge Imbrogno:** No, I just didn't want to give the impression that we were confirming it was five cents or not. We'll leave it to—it was in La Presse.

**The Chair (Ms. Cheri DiNovo):** Mr. Tabuns, you have about four minutes.

**Mr. Peter Tabuns:** Thank you.

So you're not negotiating with Quebec to try to replace some or any of the power from the Pickering life extension.

On another matter related to Pickering, the International Atomic Energy Agency, when talking about decommissioning of facilities, says that best practices call for immediate dismantling of a plant that has been shut down on the basis that there's no safety advantage in waiting decades to start the process. Are you planning to tell OPG, when Pickering is shut down, to start

dismantling it so it's in line with the International Atomic Energy Agency's standard recommendations?

**Mr. Serge Imbrogno:** The plan right now for Pickering, like all the other nuclear facilities—the CNSC reviews those plans and approves those plans and the OPG sets aside funds for decommissioning and for used fuel disposal. The CNSC has approved a 30-year safe storage period. That allows the facility to sit for 30 years and then we begin the decommissioning. So that's approved by the CNSC, and OPG funds according to that plan.

**Mr. Peter Tabuns:** Do you have the funds now to decommission or do you have to wait 30 years for interest to accumulate to be able to decommission?

**Mr. Serge Imbrogno:** There are two parts of the funds that have been established. There are the funds for decommissioning and there are funds for the used fuel disposal. The Ministry of Finance through the OFA manages those funds, along with OPG. There's full disclosure. I believe the decommissioning funds are fully funded and then the used-fuel funds, over time, will be invested and contributed to in order to be fully funded. But that information is available.

**Mr. Peter Tabuns:** So the funding is available for doing a decommissioning consistent with international best practices. That's what you're telling me.

**Mr. Serge Imbrogno:** Consistent with what the regulator requires.

**Mr. Peter Tabuns:** I'm sure the regulator doesn't see a big problem giving you a 30-year pass, but I'm sure the regulator may also be totally open to having you do it very quickly, because there's a job creation opportunity here in Pickering that would put an awful lot of people to work. Is there a reason that you're not going to do it now, in 2024 or earlier, which would put a lot of people to work?

I'm glad to hear that there's money in the kitty so that we actually could do it now, if we wanted. That's great.

**Mr. Serge Imbrogno:** Every five years, the liability estimate is updated and OPG goes before the regulator. I guess there will be opportunity for the regulator to determine a different course, but OPG would provide its evidence and best advice on how to move forward with decommissioning. I don't think there are any plans to change that from a 30-year safe storage to a prompt decommissioning.

1530

**Mr. Peter Tabuns:** Is there a reason you wouldn't take advantage of this job creation opportunity?

**Mr. Serge Imbrogno:** I think there are pros and cons. We leave it up to the regulator to provide whatever they believe is the best course. I think the longer you have the safe storage, the longer you can accumulate the funds and invest them and have that money available for decommissioning.

**Mr. Peter Tabuns:** But I gather it's fully funded now, correct?

**Mr. Serge Imbrogno:** Well, there are assumptions about when you do the decommissioning and what

you're going to get when you invest those funds over the next 30 years. All of those things are factored in.

**Mr. Peter Tabuns:** So it's not fully funded now. It's fully funded if we have 30 years of interest accumulation on it.

**Mr. Serge Imbrogno:** Well, we would classify it as fully funded.

**Mr. Peter Tabuns:** And that means the money could be used to decommission within the next five years, within the next eight years.

**Mr. Serge Imbrogno:** No, they would be fully funded according to the plan that you have in place, that they would be available 30 years from when you start.

**The Chair (Ms. Cheri DiNovo):** I'm afraid your time is up now, Mr. Tabuns. We move to the government side: Mr. Dong.

**Mr. Han Dong:** Good afternoon, Deputy. Good afternoon, Minister. I want to talk about the Green Energy Act, because it actually made Ontario a leader in clean energy. From my experience travelling, I've seen emerging economies and jurisdictions that, although they're doing well in terms of GDP, do pay a hefty environmental cost, and health care costs as well. I think that as globalization deepens, entrepreneurs and innovative minds will pick and choose where they want their families to reside. That's why Ontario and Canada keep being, perhaps, some of the most popular destinations for immigration. Just thinking on the reverse side of that, there are countries that are losing talent and entrepreneurs, and it partly has to do with the quality of air and water and all of these basic necessities to provide for their families.

I'm very pleased that the Green Energy Act has actually made us a leader in clean energy. I wanted to ask the minister for your thoughts on how Ontario has benefited from integrating these renewable energies into our system, and whether or not other jurisdictions are following our path to achieve cleaner energy systems, if you can give us some explanation.

**Hon. Glenn Thibeault:** Sure. Thanks for the question. I think it's important to talk about our commitment to renewable energy. We currently have 18,000 megawatts of power contracted or online. That's very, very important to say because we've seen significant reductions in GHGs that relate to that.

Another important thing in relation to your question is how we eliminated our coal-fired plants. When we stopped polluting our air, the benefits that we're seeing in health care—we're talking about \$4.3 billion in savings in health care. The Toronto's Vital Signs Report talked about how we've seen a 41% reduction in air pollution deaths. That's significant and something that we should all be proud of in relation to our investments that we've made when it comes to green energy and the importance of having a clean, reliable system. Some of the specifics on what we've done since 2003, even—I know, Deputy, that you can get into some of those details.

**Mr. Serge Imbrogno:** Yes, thank you. I was going to ask Kaili Sermat-Harding, our ADM who works in the

renewables division, to come up and say a few words, but I would just say, as the minister said, we have 18,000 megawatts of solar and wind energy, bioenergy and hydroelectric energy.

In terms of other jurisdictions, our Independent Electricity System Operator has been able to integrate renewables into our grid. I think we're looked upon as a leading jurisdiction for that. One part of the piece that some people forget is how the IESO has been able to integrate wind and solar into our system.

But I'll let Kaili walk you through the investments we've made over time and how they've contributed to our greenhouse gas reduction.

**Ms. Kaili Sermat-Harding:** Thank you, Deputy. My name is Kaili Sermat-Harding. I'm the assistant deputy minister of the conservation and renewable energy division at the Ministry of Energy. I appreciate the opportunity to dive into some of the details around the initiatives that Ontario has been pursuing, as well as to put it into a bit of global context and outline some of the very tangible benefits that have come about as a result of our series of initiatives.

In 2013, wind and solar power represented 8% of Ontario's energy supply mix. Today they comprise approximately 17%, and are expected to rise to approximately 23% by 2025. To date, as the minister mentioned, Ontario has over 18,000 megawatts of wind, solar, bioenergy and hydroelectric generation contracted or online. Of the almost 16,000 megawatts of renewable energy that is online, that includes 4,500 megawatts of wind power, roughly 2,200 megawatts of solar PV, approximately 8,800 megawatts of hydroelectric capacity and roughly 500 megawatts of bioenergy.

The province is home to five of the 10 largest wind projects in Canada as of the end of the 2015 calendar year, more than 99% of all installed solar PV capacity in the country, and the largest 100% biomass facility in North America at the Atikokan Generating Station.

Ontario has established itself as a leader in renewable energy through a variety of initiatives, including the Green Energy Investment Agreement, the feed-in tariff and microFIT programs, the large renewable procurement program and net metering.

With respect to the Green Energy Investment Agreement, Ontario's partnership with Samsung through the agreement, referred to as the GEIA, has supported the creation of a strong and thriving clean energy industry in the province. The agreement set a framework to build renewable energy projects and manufacturing plants in Ontario. It was signed in 2010 between Ontario and Samsung, with amendments negotiated in 2011 and 2013.

In June 2013, the ministry worked collaboratively with Samsung to update and revise the agreement, and this resulted in reducing contract costs by \$3.7 billion. The revised agreement includes protecting the original agreement's job commitments and adding a commitment to solar manufacturing jobs in 2016, reducing the agreement's total commitment for renewable energy projects from 2,500 megawatts to 1,369 megawatts and requiring

Samsung to obtain municipal council support resolutions for the remaining projects to come forward under the agreement.

The agreement has led to a number of significant investments in Ontario to create jobs in the province, while also bringing clean renewable energy into our electricity system. Samsung has partnered with manufacturers in Ontario to produce renewable energy components for projects across the province, including Samsung's own renewable projects under the agreement.

Samsung's investment has helped attract world-class companies like Siemens, CS Wind, Canadian Solar and SMA, helping Ontario to become a global leader in the industry. Four of the more than 30 solar and wind manufacturers operating in Ontario were established in partnership with Samsung, resulting in the creation of 900 direct jobs at its partner manufacturing facilities in Toronto, Tillsonburg, London and Windsor.

Under the agreement, Samsung's commitment for renewable energy projects includes 1,069 megawatts of wind power and 300 megawatts of solar through 10 projects across the province. Some 869 megawatts of wind and 200 megawatts of solar have already come online, with more scheduled to start in the near future. In total, these projects will add enough electricity each year to power approximately 300,000 homes.

Samsung is also making significant contributions to local communities where their projects are located. For example, the Six Nations of the Grand River is a 10% equity partner in the Grand Renewable Energy Park located in Haldimand county. The project consists of 149 megawatts of wind energy capacity and 100 megawatts of solar capacity. The equity arrangement with Six Nations is expected to generate no less than \$65 million for the community over the next 20 years.

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The 270-megawatt South Kent Wind project in the municipality of Chatham-Kent is another example of a project developed by Samsung that is providing benefits to the local community. The project helped create local jobs in Ontario, with over 1,000 workers contributing to the project, from the manufacturing and assembly of the wind turbine components to site construction. The project also contributed to the establishment of the South Kent Wind community fund. Administered by the Chatham Kent Community Foundation, the fund will support community resilience and prosperity by funding initiatives in five key areas, including community, environment, health and wellness, youth and education, and First Nation and Métis initiatives.

The province recognizes the investments that Samsung and other companies have made in Ontario's renewable energy sector over recent years and the opportunities these investments have provided to communities across the province.

Turning to other initiatives, the feed-in tariff program provides standard prices, contract terms and program rules that apply to all participants, which may include municipalities, public sector entities, co-operatives,

indigenous communities and companies. Since the introduction of the FIT program in 2009, over 3,200 megawatts of clean, renewable energy have been brought online, with another 1,400 megawatts under development.

Last year, the ministry published an update to its Renewable Energy Development in Ontario: A Guide for Municipalities, which is available on our website. It included several examples of the many successful projects implemented under the FIT program. One of these examples is the town of Mono, which installed a 100-kilowatt solar photovoltaic system on the roof of the town's public works garage in 2014. The town estimates that the project will generate a total of 138 megawatt hours of electricity annually and that they will receive a net revenue of approximately \$800,000 over the span of the FIT contract. Another example is the Perley and Rideau Veterans' Health Centre, which is a not-for-profit centre focusing on providing quality care for veterans and seniors in Ottawa. The centre completed a \$6.6-million facility renewal program, including more than 100 energy retrofits and the installation of 1,200 solar PV panels under the FIT program, with a generating capacity of 250 kilowatts. The solar project, which went into operation in May 2014, is expected to generate revenues of more than \$200,000 per year for the facility.

Most recently, in June of this year, the IESO announced 936 FIT 4 contract offers, totalling 241 megawatts of generation capacity, including:

- 907 solar photovoltaic projects, representing 232.26 megawatts;
- 14 bioenergy projects, representing 3.45 megawatts;
- six wind energy projects, representing three megawatts; and
- nine water power projects, representing 2.72 megawatts.

These FIT 4 contracts have been offered to developers, co-operatives, municipalities and indigenous communities. And that includes—870 projects, representing 216 megawatts, received municipal council support resolutions; 413 projects, representing 67 megawatts, have municipal or public sector entity participation; 186 projects, representing 60 megawatts, have community participation; and 96 projects, representing 41 megawatts, have indigenous participation.

Procuring 241 megawatts under FIT 4 at 2016 prices has resulted in a total contract cost reduction of approximately \$250 million, compared to 2015 prices. FIT 4 applicants also had the opportunity to gain priority points by electing to reduce the base price available in the FIT price schedule by one of three optional tiers. Some 52% chose to apply for price reduction priority points, representing all three available price reduction tiers, leading to approximately \$31 million of additional cost reductions achieved through the voluntary price reductions as part of FIT 4.

On April 5, 2016, the IESO was directed to launch FIT 5, with a procurement target of at least 150 megawatts for small, renewable projects greater than 10 kilowatts and

up to 500 kilowatts in size. Any capacity that becomes available as a result of prior microFIT or small FIT contract terminations will be added to this base target, and the IESO will determine the amount of any such additional capacity and publish the FIT 5 procurement target by December 31 of this year. The IESO is planning to open the FIT 5 application period on October 31 and run it until November 18, 2016.

With respect to the microFIT program, it is designed specifically to encourage the development of micro-scale renewable energy projects 10 kilowatts or smaller, such as residential solar PV installations. Since the introduction of the microFIT program in 2009, over 24,000 projects have been brought online, representing over 200 megawatts of power. The 2016 microFIT procurement target is 50 megawatts, with applications being accepted until the end of the year. There will also be a 50-megawatt procurement target for the microFIT program in 2017. The program is expected to conclude at the end of 2017.

Through annual price reviews of both the FIT and microFIT programs, Ontario has continued to reduce costs. Since the programs were introduced in 2009, prices for new solar projects have been reduced between 50% and 75%.

The competitive large renewable procurement process is another important initiative replacing the large FIT program for renewable energy projects generally larger than 500 kilowatts. In June 2013, the minister directed the IESO to end the procurement of large renewable projects under the FIT program and replace it with a competitive procurement process that would take into account local needs and considerations before contracts are offered.

The first phase of LRP had an overall procurement target of up to 565 megawatts, which included up to 300 megawatts of wind, up to 140 megawatts of solar PV, up to 50 megawatts of bioenergy and up to 75 megawatts of water power.

**The Chair (Ms. Cheri DiNovo):** Mr. Dong, you have about four minutes left.

**Mr. Han Dong:** Thank you, Chair.

**Ms. Kaili Sermat-Harding:** On March 20, 2016, the IESO released a list of 16 contracts that were offered under the first phase of LRP, representing nearly 455 megawatts of renewable energy capacity. Of the 16 contracted LRP I projects, more than 80% include participation from one or more indigenous communities, including five projects with more than 50% indigenous participation. In addition, 75% of the successful LRP I projects received support from local municipalities, and more than 60% had support from at least 75% of abutting landowners.

In light of the Ontario Planning Outlook, which was provided to the ministry on September 1 and advised that Ontario would benefit from a robust supply of electricity over the coming decade to meet projected energy demand, the minister directed the IESO to suspend the second round of LRP. The decision will maintain system

reliability while saving up to \$3.8 billion of electricity system costs relative to the 2013 long-term energy plan forecast.

The ministry's consultations now under way on the long-term energy plan will provide an opportunity for a province-wide discussion on future energy demand and the need to meet the demand with clean, reliable and affordable supply.

Turning to net metering, Ontario's 2013 long-term energy plan committed the ministry to examine the potential to transition microFIT from a generation purchasing program to a net metering program. Ontario has had a net metering regulation in place since 2005, and the ministry is currently in the process of updating and streamlining the Net Metering program in order to support customer choice in generating clean, renewable energy, align with value to the system and enable innovative technologies and customer utility relationships.

The ministry is taking a phased approach to updating the Net Metering program. Phase 1 includes proposed updates that were posted on the environmental and regulatory registries from August 9 to October 6. The updates include proposed regulatory amendments that would, for example, adjust the net metering bill credit carry-over period to 12 months; allow any-sized renewable energy generation system, subject to the system being used primarily for the generator's own use; and allow for the use of energy storage when paired with renewable energy generation.

The ministry is currently reviewing the feedback it received in response to the postings. If implemented, the amendments are proposed to take effect July 1, 2017. For phase 2, the ministry is planning to consult further this fall on potential longer-term program updates that may require legislative amendments.

To put Ontario commitments and initiatives into a global perspective, Ontario is not the only jurisdiction with programs supporting the development of renewable energy. Globally, 110 jurisdictions are using feed-in tariff programs to stimulate the development of renewable energy, something Ontario has been doing successfully since 2009. Ontario's move to purchase large-scale renewable energy projects through a competitive process is also mirrored in other countries, such as Germany, France and Poland. As of the end of 2015, at least 64 countries had held competitive renewable energy tenders.

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As Ontario updates its Net Metering program, other countries around the world are following a similar path, with over 50 having net metering policies in place.

Significant investment in renewables is a growing global trend. An estimated 147,000 megawatts of renewable power capacity was added in 2015 alone, marking the sixth consecutive year that renewables outpaced fossil fuels for net investment in power capacity additions.

Wind power was the top source of new power-generating capacity in Europe and the US in 2015. Globally, a record 63,000 megawatts was added. Emerg-

ing economies are also investing heavily in wind, with Brazil adding 2,800 megawatts and India adding 2,600 megawatts in 2015.

Solar PV is experiencing significant growth as well, with a record 50,000 megawatts added in 2015. While major economies like China, Japan and the US account for the majority of new capacity added, significant investments in solar PV are also happening in countries like Chile, where 400 megawatts—

**The Chair (Ms. Cheri DiNovo):** Thank you. I'm afraid your time is up.

We now move to the official opposition: Mr. Yakabuski.

**Mr. John Yakabuski:** Don't go away, ADM. I'm sure that my friend on the other side, Mr. Dong, will be able to repeat everything you said, with no problem, within the next half hour. He'll remember every project that you spoke about, because he was listening so attentively when he asked that question that he had deliberated over so long before presenting it to you. So we certainly appreciate that very, very thorough answer to that question.

**Ms. Sophie Kiwala:** I'm sure you'll remember all the details too.

**Mr. John Yakabuski:** A couple of things you mentioned—and correct me if I'm wrong, because you were giving a lot of numbers there in very short order: You said that currently, if I'm not wrong, that the capacity of solar and wind was about 16% of Ontario's capacity.

**Ms. Kaili Sermat-Harding:** Yes. Today they comprise approximately 17%.

**Mr. John Yakabuski:** It's 17%. I was off by 1%; look at that. Of the energy generated, what percentage of Ontario's energy would be generated by wind and solar?

**Ms. Kaili Sermat-Harding:** I'd have to check.

**Mr. Serge Imbrogno:** If you check our LTEP modules, they provide you with that information—

**Mr. John Yakabuski:** I thought she'd covered everything, but I must have missed it.

**Ms. Kaili Sermat-Harding:** No, I was talking about capacity, and new-capacity additions. I wasn't talking about generation.

**Mr. John Yakabuski:** Do you have an idea of how much of our production came from those two sources?

**Mr. Serge Imbrogno:** We probably have it in our OPO. We could check, if you want us to give you that precise number.

**Mr. John Yakabuski:** Okay. I'm trying to determine here—what capacity of our system is nuclear: about 30%?

**Mr. Serge Imbrogno:** I think it's higher than that.

**Mr. John Yakabuski:** A little higher than 30?

**Mr. Serge Imbrogno:** In terms of capacity.

**Mr. John Yakabuski:** Capacity. So what's our total capacity in the province?

**Mr. Serge Imbrogno:** In the 40,000-megawatt range.

**Mr. John Yakabuski:** It's 40,000 megawatts? And you're saying we have a nuclear capacity of greater than a third of that?

**Mr. Serge Imbrogno:** That's correct.

**Mr. John Yakabuski:** You're counting all units—

**Mr. Serge Imbrogno:** In terms of capacity, and then, on the energy side, given that nuclear runs close to 90% of the time, it will produce more energy. So it's closer to 59% of our energy and about 40% of our capacity.

**Mr. John Yakabuski:** You're saying 40%. I think it might be a little lower, but—

**Mr. Serge Imbrogno:** In that range.

**Mr. John Yakabuski:** I think it might be a little lower than that. Okay, so that's interesting. Production is much higher than its capacity, from the nuclear side, for Ontario's needs. Production outstrips its capacity. It outperforms its capacity.

**Mr. Serge Imbrogno:** The system is built on different types of generation: the baseload, the intermediate and the peaking. Each one serves a purpose. Nuclear power serves the baseload need because it runs best when it runs all the time, and it produces a lot of energy.

**Mr. John Yakabuski:** We know how it works.

**Mr. Serge Imbrogno:** I just wanted to clarify.

**Mr. John Yakabuski:** It outperforms its capacity. Okay, so that's—

**Mr. Serge Imbrogno:** It's a percentage. You asked me what per cent of the total capacity. I think that's what you asked me.

**Mr. John Yakabuski:** For value for money, nuclear punches way above its weight.

**Mr. Serge Imbrogno:** The system is built on different types of generation, and the baseload capacity is an important part of our system, so it contributes a significant amount of energy, I guess.

**Mr. John Yakabuski:** You must have a hard time ordering in a restaurant, eh? Sometimes you just have to answer the question, you know.

**Mr. Serge Imbrogno:** Well, I'm providing you with the context, because each of the generation sources provides different types of benefit to the system.

**Mr. John Yakabuski:** Yes, I'm trying to help you here. Anyway, let's go back to a more favoured subject. Assistant Deputy, I think I'm going to be done with those questions at this point.

I want to go back to the Windstream, the Northland Power, the IESO pension issues. We're talking over \$200 million here now that the electricity ratepayer could be on the hook for. As you said the other day, Deputy, whatever costs are borne by the system are borne by the ratepayer. Is that pretty much it?

**Mr. Serge Imbrogno:** Yes. The costs of producing electricity, whether it's labour, capital costs, fuel costs—

**Mr. John Yakabuski:** Whatever costs are borne by the system are borne by the ratepayer.

**Mr. Serge Imbrogno:** Yes. There are—

**Mr. John Yakabuski:** Good, good, good. Hey, that's progress. "Yes." I appreciate that. A good, clean answer. I've got to write that down.

That being the case, every time the government messes up, makes a mistake, does something wrong, whether it's by accident or by design—those are always

matters of opinion, and we may see things differently—every time that something like that happens that adds a cost to the system, the ratepayer, at the end of the day, pays the bill. If it adds costs to the electricity system, the ratepayer pays the bill. Fair enough?

**Mr. Serge Imbrogno:** I think we've said that if it's part of the production costs—salaries, benefits—

**Mr. John Yakabuski:** It's got nothing to do with production. No matter what happens, if it adds costs to the operation of our electricity system here in the province of Ontario, it is passed on to the ratepayer.

**Mr. Serge Imbrogno:** If it's part of the cost of producing electricity, it would be passed through to the rate base.

**Mr. John Yakabuski:** I think that's about as good as I'm going to get. I'll have to accept that.

Anything that goes on, the ratepayer ultimately is responsible. The ratepayer has got nothing to do with it. The ratepayer has got nothing to say. The ratepayer has no input. The ratepayer doesn't give the old Roman gladiator, emperor, whatever, up/down signal at the Colosseum, and makes no decisions. But at the end of the day, they ultimately bear the cost of every decision that is made with respect to the energy system. You don't have to answer that, because that's more or less a statement. You've already answered it previously.

One of the first questions we talked about was the \$12 million for consultants and advertising with regard to the Ontario Electricity Support Program. I thought we had an undertaking that I was going to get the information on those contracts. I haven't seen anything yet. My colleague Mr. Tabuns is either more persuasive or asks better questions, but he got his information like that, on the Bruce refurbishment deal. My understanding is that you did commit to getting me that information. I think Mr. McLellan could confirm that. I'm waiting for that. I was hoping that I'd have that prior to the end of these hearings, and today, of course, is the last day. Is there some sort of a holdup, administratively? What's the story?

**Mr. Serge Imbrogno:** I believe I committed to getting those, what's publicly available. On the OEB website, they list all their procurements and who was the successful proponent, and so—

**Mr. John Yakabuski:** No, we wanted to know the information about what specifically they're asked to do in those contracts, because we need to be able to make the determination as to whether we thought that money was money well spent, or whether it was money spent in a friendly way.

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**Mr. Serge Imbrogno:** On that website, it also gives the details of what they asked each of the proponents to do. That's available on the OEB website.

**Mr. John Yakabuski:** I am very poor with computers. I was hoping you'd do that for me. You said maybe you'd do it for me. You know exactly where to look. Even Mr. Tabuns, who's better with computers than me, asked you to wend your way through the minefield

and the maze and get us the information we're asking for. Are you going to do that?

**Mr. Serge Imbrogno:** Absolutely.

**Mr. John Yakabuski:** Thank you very much.

I'm going to pass this over to my colleague Mr. Smith. He has some questions to ask, and I don't even know what they are.

**Mr. Todd Smith:** Neither do I. I wasn't ready. I thought you were going to go there.

Good afternoon, Minister and Deputy Minister.

**Hon. Glenn Thibeault:** Good afternoon.

**Mr. Todd Smith:** We're in the home stretch here, I guess. Minister, I just want to ask you a couple of general questions. You don't necessarily need the Deputy Minister to answer these.

Do you agree with the Premier when she says that Ontarians are "bad actors" when it comes to climate change?

**Hon. Glenn Thibeault:** I think the Premier has been very clear when she spoke in the House and answered that question previously—and to the media. She apologized for using that language, because it wasn't the intention as to the way it came out.

But I think we all agree that we all have to do a better job when it comes to addressing climate change. You and I, I think, will agree on that. When it comes to climate change, I know that we'll have a difference of opinion on how we need to get there, but we all need to figure out what we can do—not necessarily even as politicians, but as humans—to make sure that we address this.

**Mr. Todd Smith:** So do you think, then, that it would be helpful, Minister, if we as individuals in Ontario, whether we're bad actors or not, were made aware of what our carbon footprints were as individuals? If the Premier is going to call us bad actors, I think it would probably be helpful for us to understand just how bad of an actor we actually are. Do you agree that we should have some kind of an idea about our carbon footprint?

**Hon. Glenn Thibeault:** I think it's important that Ontario continue to play a leadership role when it comes to climate change. We've been doing that. We have eliminated coal. We brought on 18,000 megawatts of renewables. We have our conservation programs in place. Every single person, everyone in in this province—it's not just individuals, right? It's businesses as well. We just had AMPCO here yesterday. I'm sure you had the opportunity to see some of those great folks that are on the hill. I know there are some great companies in your riding. They understand the importance of addressing climate change as well.

**Mr. Todd Smith:** The Premier's comments disparaging Ontarians as bad actors—she has kind of apologized for it, or she said that maybe she shouldn't have used those words, but when she made those comments, she specifically referenced our individual carbon usage. The climate change action plan, which the Premier has directed you to harmonize with the LTEP in your mandate letter, is based on a somewhat similar premise.

Do you think that Ontarians have to take individual responsibility for their carbon consumption? Do you think they should know how much they are using?

**Hon. Glenn Thibeault:** What I think about what people need to do when it comes to addressing climate change isn't the end-all and be-all. It's people recognizing that we need to make a better world for our next generation. I know our First Nations always talk about thinking about seven generations, and we need to start doing a lot more of that.

From individuals and small businesses to large industrial, everyone needs to play a part, and we've been doing that in Ontario. We should be proud of our record. We are global leaders. We have been doing a lot of that heavy lifting. We have been partaking in many of the programs that have been signed and talked about worldwide.

Is there more that we can do? Sure there is, but I think we're on the right track. When it comes to energy, we've done a lot of that heavy lifting. We've done some great things, as I talked about: the elimination of coal, bringing on 18,000 megawatts of wind, and then the Quebec deal with the two terawatts.

**Mr. Todd Smith:** I know, and we've gone over that a million times, but—

**Hon. Glenn Thibeault:** Well, you haven't asked a question about it yet in the House.

**Mr. Todd Smith:** No, no. I'm asking you about—you know of the letters that have gone out from Hydro One saying that you're using more or you're using less than your neighbour, but do you not think it would be beneficial to me to know what my carbon footprint is as an individual?

**Hon. Glenn Thibeault:** Are you asking about the social benchmarking that was being done by Hydro One?

**Mr. Todd Smith:** No, I'm just wondering, in general, do you think it would be a good idea to know—

**Hon. Glenn Thibeault:** Because I know Hydro One is doing that social benchmarking, which is talking about "neighbour A and neighbour B" comparables. For those who have been part of this pilot project, they actually like to be able to know what is happening.

Within the framework of Hydro One, I know they were doing that pilot project and using some comparables. Greater Sudbury Utilities, for example, sends me information as to what my usage is compared to my neighbours. It allows individuals to look at if there are other things that they can do to help with climate change. I think, as I said before, that every individual and every business, large or small, needs to play that role.

**Mr. Todd Smith:** I think those letters that went out were actually quite insulting, because I don't know if they were actually based on anything. A lot of people were very upset that they received this letter in the mail. But I think if people actually knew what their carbon footprint was, that would be good information for them to have.

If I can read a quote for you, Minister: "Armed with better information and a clear price signal for the carbon costs associated with their gas usage, a customer should be able to make more informed decisions regarding energy conservation and efficiency measures." Do you agree with that statement?

**The Chair (Ms. Cheri DiNovo):** Mr. Smith, you have about four minutes left.

**Mr. Todd Smith:** Thank you.

**Hon. Glenn Thibeault:** When it comes to cap-and-trade and when it comes to our climate change action plan, we're going to continue to lead the fight against climate change. That's why we released the climate change action plan.

Reducing people's use on fuels is something that will reduce GHGs. We as the Ministry of Energy are talking about lots of electrification. We're working with MTO and we're working with MOECC on the importance of electric vehicles and how we can actually see some of those reductions come into place.

In terms of the question talking about footprints, individuals' footprints from right across the province will be different in northern Ontario than they would be in southwestern Ontario—or in your great part of the province as well, MPP Smith. It's important for all of us to recognize that we can do more to help with addressing climate change and moving forward with a lot of that.

**Mr. Todd Smith:** The quote that I just recited comes from the IESO. They believe that individuals should be armed with information so that they can reduce their carbon footprint or at least have some kind of knowledge about how much they're using, how much carbon they're actually putting in the air. So I'm wondering why you're insisting on including the cap-and-trade in the delivery charge and not making it a separate line item on bills going forward.

**Hon. Glenn Thibeault:** That was a decision by the OEB, which is a quasi-judicial organization that's at an arm's reach from the government. They made the decision after due diligence: talking with stakeholders, holding consultations. The result of that decision was that they stated that it was the cost of doing business. They don't put on the bills the cost of having to put the steel in the ground or the pipes in the ground or the cost of labour. So, again, the quasi-judicial organization which is known as the Ontario Energy Board made that decision.

**Mr. Todd Smith:** In an August 4 interview with the Canadian Press, you said, "It's not up to us as the government to tell an arm's-length organization what they can and cannot do"—which is what you just said, basically. However, on June 27, you directed the OEB to report back to you with options for a separate rate for on-reserve customers. Why could you tell an arm's-length agency what to do in that case, but not with regard to the separate itemization of cap-and-trade costs?

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**Hon. Glenn Thibeault:** Bill 35 allows me to ask them to undertake a study, which is what they're doing when they're looking at the First Nations rate. But a quasi-judicial organization, when they make a decision about the business component—they're two different worlds. You're not comparing apples to apples there; you're comparing apples to oranges.

**Mr. Todd Smith:** It's a ministerial directive, and this government has issued 96 ministerial directives. I know

not all of them were you. Your predecessor was responsible for many of them, and Minister Duguid was responsible for many of them.

How do you decide when you are going to deliver a ministerial directive?

**Hon. Glenn Thibeault:** I have great consultations with many people and many stakeholders, making sure that we're moving forward on the important decisions and making sure that we help our First Nations, many of whom live in abject poverty, and looking at what we can do to help there is the directive that I asked the OEB to undertake. It's an undertaking with the OEB that's going to bring us some information and then we move forward from there.

**The Chair (Ms. Cheri DiNovo):** I'm afraid that your time is up. We now move to the third party: Mr. Tabuns.

**Mr. Peter Tabuns:** Minister, the IESO put out a report on connections between Ontario and Quebec. In that report, it noted that upgrades to the Hydro One transmission system costing about \$2 billion could permit Ontario to import up to 27% of its annual electricity needs from Quebec. Are you investigating the potential to invest in that upgrade? Are you talking to the government of Canada about their support for strengthening this interprovincial trade?

**Hon. Glenn Thibeault:** As I said to you earlier, I don't think anything is off the table when it comes to negotiations with Quebec. We're very excited in relation to—

**Mr. Peter Tabuns:** Are you actually talking to them about this project?

**Hon. Glenn Thibeault:** —the deal that we just had. As we continue to move forward, we'll work with the IESO and encourage them to continue to have conversations with Hydro-Québec.

**Mr. Peter Tabuns:** So I can take that as a no, that you're having general conversations, but you're not discussing this right now and you're not planning to do this right now. Is that correct?

**Hon. Glenn Thibeault:** From my understanding, the IESO is always in consultations with Hydro-Québec or with any contractor in terms of benefiting our overall system.

**Mr. Peter Tabuns:** That's very vague. So I assume you're not discussing this with them.

The Darlington nuclear refit: I gather that there are two advisers doing quarterly reports on the refit. According to the Toronto Star, January 2013, Energy Minister Bentley at the time said one was working directly for OPG and that the province had an overseer called Calm Consulting Inc. Are those reports available to us here in the Legislature?

**Hon. Glenn Thibeault:** I'm going to defer that to the deputy.

**Mr. Serge Imbrogno:** Calm Consulting was hired by the ministry to provide oversight during OPG's preparation phase of the Darlington refurbishment project. There were reports provided to the ministry. We also shared them with OPG so they could see what our oversight adviser was saying.

I believe the OEB has asked for those reports as part of OPG's rate application process. My understanding is that OPG will be providing those reports that they have in their possession to the OEB.

**Mr. Peter Tabuns:** So the Calm Consulting reports will be made available to the public, as well as the OPG reports; do I understand you correctly?

**Mr. Serge Imbrogno:** I can't speak for the OPG reports.

**Mr. Peter Tabuns:** Okay. So then you can talk to Calm Consulting.

**Mr. Serge Imbrogno:** Right. The Calm Consulting reports we would have provided to OPG will now be provided to the OEB as part of the review process.

**Mr. Peter Tabuns:** And will that be publicly available?

**Mr. Serge Imbrogno:** I believe it will be publicly available through the OEB, yes.

**Mr. Peter Tabuns:** As you may remember, in July 2014, the Toronto Star reported that there was already one significant overrun in this refurbishment project. It was a non-nuclear item that went over about \$300 million, as part of the campus plan projects. Have there been more overruns since the ones reported by the Toronto Star in 2014?

**Mr. Serge Imbrogno:** It's a \$12.8-billion project. The \$300 million would be part of that \$12.8 billion. The \$12.8 billion hasn't changed. OPG has just started with the refurbishment now, so they're—

**Mr. Peter Tabuns:** I'll go back to my question. Have there been more overruns since the report in 2014 on the \$300-million overrun?

**Mr. Serge Imbrogno:** What I'm trying to say—I wouldn't suggest it's an overrun of the whole project. The \$12.8 billion has been confirmed, and OPG is starting the refurbishment process.

**Mr. Peter Tabuns:** Deputy Minister, I—

**Hon. Glenn Thibeault:** Sorry, before you begin—I do apologize, but can I ask for that five-minute break now, and that we continue on afterwards?

**Mr. Peter Tabuns:** As long as it comes out of your time, I'm happy with that.

**Hon. Glenn Thibeault:** The time will continue—

**The Chair (Ms. Cheri DiNovo):** It doesn't change the time.

**Mr. Peter Tabuns:** Fine. I'm good with that.

**Hon. Glenn Thibeault:** Thanks.

**The Chair (Ms. Cheri DiNovo):** We'll take a five-minute break. Thank you, Minister.

*The committee recessed from 1616 to 1621.*

**The Chair (Ms. Cheri DiNovo):** Welcome back. We'll continue with the third party: Mr. Tabuns.

**Mr. Peter Tabuns:** Going back, Deputy Minister, I can tell that your communications concern is making sure that no one states that we've gone over the \$12.8 billion. But within the budgets that were previously allocated, since the last report of an overrun for a project that was part of this refurbishment, have there been other overruns?

**Mr. Serge Imbrogno:** I'm not aware of any other overruns. OPG has put out this document, ready to execute. It has the four pillars that they're reviewing on an ongoing basis: safety, quality, schedule and cost. Under "cost," they say that they've improved since the last report. They remain in the \$12.8-billion projected estimate. I guess that would be your answer. There is this report that's public, for your consideration as well.

**Mr. Peter Tabuns:** If you're going to be providing the Calm Consulting reports to the Ontario Energy Board, could you table them here with estimates, so that we can see what has been happening?

**Mr. Serge Imbrogno:** I think that would be appropriate. As soon as OPG provides them to the OEB, we can provide them to the committee at the same time.

**Mr. Peter Tabuns:** Sorry, just so I'm clear—I had thought that you were talking about the adviser that you've hired.

**Mr. Serge Imbrogno:** We provided reports from the ministry to OPG.

**Mr. Peter Tabuns:** Right.

**Mr. Serge Imbrogno:** OPG has provided those to the OEB. I'm saying that we could provide those reports to the committee, the reports that we provided to OPG.

**Mr. Peter Tabuns:** Could you please provide them to us? I gather they're quarterly?

**Mr. Serge Imbrogno:** There are quarterly reports, yes.

**Mr. Peter Tabuns:** Could we have filed with the committee the quarterly reports since the one that was reported by the Toronto Star in July 2014?

**Mr. Serge Imbrogno:** Yes, we can do that; we can undertake it.

**Mr. Peter Tabuns:** Excellent. Okay.

Have you done modelling on the alternatives to the Darlington and the Bruce life extensions?

**Mr. Serge Imbrogno:** The IESO would always be doing their analysis as part of the long-term energy plan. The next long-term energy plan will take that information and move forward with the scenarios.

**Mr. Peter Tabuns:** Has the Ministry of Energy done its own modelling?

**Mr. Serge Imbrogno:** We rely mainly on the IESO for the modelling expertise. We don't want to try and duplicate what they're doing.

**Mr. Peter Tabuns:** Are you telling me that you have not done your own modelling?

**Mr. Serge Imbrogno:** We would have worked with the IESO during the LTEP process on the modelling—

**Mr. Peter Tabuns:** I have a fairly narrow question. You in the Ministry of Energy: Do you have your own model? You can say yes or no, because you can tell me that the IESO does the modelling and you use theirs. If you have your own, have you done modelling on the Bruce and Darlington life extensions?

**Mr. Serge Imbrogno:** We have our own model, but it's not there to replicate or try and copy what the IESO is doing. IESO has the most comprehensive model. Any

of the large supply questions would have been posed through the IESO—

**Mr. Peter Tabuns:** So you do have your own modelling.

**Mr. Serge Imbrogno:** We do have our own model, but it's not there to model these big supply questions.

**Mr. Peter Tabuns:** So you haven't used your own modelling for the life extensions for Bruce and Darlington. Is that correct?

**Mr. Serge Imbrogno:** Not that I'm aware of. We would have asked the IESO or received that information through the IESO—

**Mr. Peter Tabuns:** I would hope that, as the deputy minister, you would be aware if someone was doing that kind of modelling. I'll take that as more definitive than "I would hope so."

Can we see those life-extension assessments, the alternatives to the Darlington and Bruce life extensions?

**Mr. Serge Imbrogno:** All the modelling would have been done through the IESO during the LTEP process. We now have our long-term energy plan for the OPO, where there is more information provided. There are, I think, six modules with detail on them. I think that would be the appropriate place to look for various modelling.

**Mr. Peter Tabuns:** So everything that was in the modelling was incorporated in the Ontario Power Outlook. Is that correct?

**Mr. Serge Imbrogno:** There's the OPO document, plus there are technical schedules that are made public on the IESO website that go through all the various scenarios. Mr. Tabuns, I don't know if there was a particular model for refurbishment or not. I'm just saying that with the OPO update, all the information is provided in those OPO schedules.

**Mr. Peter Tabuns:** Are you saying that we would have made commitments to \$25 billion worth of investment without having modelled the alternatives to the life extension? Am I understanding you correctly?

**Mr. Serge Imbrogno:** I'm saying that the LTEP, going forward, will be the venue for bringing all that information together and making any other decisions that the government needs to make.

**Mr. Peter Tabuns:** You've made decisions about Bruce already. I've got the contract. You've made decisions about the OPG refurbishment of Darlington. We've seen the announcements. I'm assuming you did modelling before you made those decisions. That is a reasonable assumption, is it not?

**Mr. Serge Imbrogno:** Yes, I agree with you that that was part of the—

**Mr. Peter Tabuns:** Excellent. So could we have those models tabled so we can see what was taken into consideration and what the impact would be of not doing those life extensions?

**Mr. Serge Imbrogno:** I'm saying that the latest modelling that the IESO would have done would have been in the OPO outlook and the technical—

**Mr. Peter Tabuns:** I would like the modelling that you used to make your decisions, because those are pretty weighty decisions.

**Mr. Serge Imbrogno:** That would be part of the OPO and that's the intent of the OPO, to make all our modelling assumptions available for people to review, scrutinize and discuss with us as part of our consultations.

**Mr. Peter Tabuns:** Since they've incorporated that data into their projections in their report, surely there's no problem then with giving us the data that came directly from the models. You have them. You've done them. They're of consequence to us in terms of determining the future of energy use and production in Ontario. Will you table the findings from those models for the Bruce and Darlington life extensions?

**Mr. Serge Imbrogno:** What I'm saying is, in the OPO, that was the intent: to provide all the information that's contained in the OPO with detailed schedules to inform our consultation that we are now engaged in.

**Mr. Peter Tabuns:** I think of the OPO as much more of an overview or a summary at a high level. I assume that when you did the modelling you were fairly detailed.

**Mr. Serge Imbrogno:** The OPO is at a fairly high level, but the modules that are attached to the OPO, which is on the IESO website, are very detailed and provide all the analysis behind each of those outlooks.

**Mr. Peter Tabuns:** So the modules will have all of the data from the modelling that was done for Bruce and Darlington life extensions—is that correct?—and the alternatives to those extensions. Did you look at the alternatives to doing the Darlington and Bruce life extensions?

**Mr. Serge Imbrogno:** The detailed modelling will show you what's underlying each of those demand outlooks and supply outlooks that are contained in the OPO.

**Mr. Peter Tabuns:** No. I think, then, I'm asking you a different question. Did you do modelling to see what the alternatives were to the Bruce and Darlington life extensions? Did you say, "Okay. Here is one proposition: If we go down this road we'll spend this amount of money. Here's another option, another scenario: We don't spend money on those two projects. This is what it would cost; this is what it would look like." Did you do those alternative models?

**Mr. Serge Imbrogno:** We would have done that modelling as part of the long-term energy plan in 2013, and provided the LTEP modules as well that contain that information. Going forward, we have that information embedded in the OPO and its LTEP modules as well.

**Mr. Peter Tabuns:** I would ask you to break out those two pieces of data, the Darlington and Bruce life extension alternatives, and provide them to us. You've already made the decision.

I'm assuming you liked what the models had to say. I'm assuming you thought the life extension was a better deal. Can you give us what the alternative would have looked like?

**Mr. Serge Imbrogno:** I don't want to keep repeating myself, but that's the intent of the OPO, to have these

discussions, to provide all that information in the modules. Everyone has that information. As part of the consultation, if there are other views then they can be entertained at the time, or discussed.

1630

**Mr. Peter Tabuns:** I actually think it would make sense for us to see how you scoped out the alternatives and what the costs were. I'm looking at the OPO, and I see it as a synthesis. I'd like the raw modelling to show me what you explored and what your assumptions were. Can we have that?

**Mr. Serge Imbrogno:** I'm just going to repeat myself again. The—

**Mr. Peter Tabuns:** So you're saying no, I can't have that.

**Mr. Serge Imbrogno:** I'm saying that the modules of the OPO have all the detailed analysis that sums up into the OPO outlook.

**Mr. Peter Tabuns:** I know you're talking about the summary of it. I take it as a no; that we can't have that. Can you provide us with a formal schedule of the potential off-ramps and when decisions would be made on the off-ramps for both the Bruce and the Darlington refurbishments?

**Mr. Serge Imbrogno:** For the Darlington refurbishment, unit 2 begins. It's scheduled to come back online in 2019. The other units are not scheduled to come online until that first unit is done. That is the off-ramp that the government has to decide whether to proceed with the next units.

**Mr. Peter Tabuns:** So what triggers an assessment on your part of an off-ramp? Let's say that it's 18 months to refurbish one of those reactors. You've started one now; it'll be 18 months from now when that should be done. The day that it's finished, do you sit down and make a decision as to whether or not to exercise the off-ramp for the next reactor; do you wait a month; is it automatically a rollover? What exactly happens and when?

**Mr. Serge Imbrogno:** The government has given OPG permission to proceed with the first unit.

**Mr. Peter Tabuns:** I understand that. I'm talking—you'll be exercising an off-ramp for the other three, if you exercise any off-ramp at all. That off-ramp is closed. No traffic will go through this ramp. So, at the end of the work on the first reactor, you will be considering whether or not to do the second; correct?

**Mr. Serge Imbrogno:** That's correct. We have due diligence. OPG has their due diligence, and we're monitoring. I think that the government will need to make that decision on a go-forward basis.

**The Chair (Ms. Cheri DiNovo):** Mr. Tabuns, you have about four minutes left.

**Mr. Peter Tabuns:** Thank you. So what's the time frame once the refurbishment of that first unit is done? What's the time frame after the second or the third—what's the time frame within which you'll be doing an assessment as to whether or not to exercise the off-ramp or proceed with refurbishment?

**Mr. Serge Imbrogno:** I wouldn't characterize the OPG Darlington refurb as an off-ramp. We've given

OPG permission to proceed with the first unit. They have to come back and get government permission to proceed with the next units. So the question is: At what point would the province provide OPG with the approval to proceed with the remaining units?

**Mr. Peter Tabuns:** And how will that decision be made? Who will be making the assessment? Who will be making the decision?

**Mr. Serge Imbrogno:** The final decision will be made by cabinet. It'll be based on information we would receive from OPG and from our own due diligence adviser. That would be an ongoing review of that information as it comes in.

It's hard for me to speculate on at what point a future government may make a decision on when to proceed.

**Mr. Peter Tabuns:** I'd just like to know what the structure of decision-making is for you. So, 18 months from now, all of that will be—maybe after the next election. But let's assume for the moment that it happens before the next election. So OPG will come back, report; the Ministry of Energy will do an assessment; I assume the IESO will do an assessment. Am I warm so far?

**Mr. Serge Imbrogno:** I don't think they would come back, because our advisers would continuously monitor, review and work with OPG and its advisers. So it won't be like: In two years, they come. It'll be a full engagement by the ministry and our advisers working with OPG as well.

**Mr. Peter Tabuns:** And then your ministry will make a recommendation to the cabinet to make a decision on the next; is that correct?

**Mr. Serge Imbrogno:** I guess that would be correct.

**Mr. Peter Tabuns:** Okay.

With the Bruce off-ramps, I'm sure you won't have the same monitoring capabilities you do with OPG. They're a separate, independent corporation. Tell me about the off-ramp process. I've had a chance to scan the contract. I appreciate you providing it. What's the time frame and the process?

**Mr. Serge Imbrogno:** You'll see that it's a fairly detailed contract—

**Mr. Peter Tabuns:** Yes, it is. I noticed that. I have other questions.

**Mr. Serge Imbrogno:** I don't want to give you the impression that I'm the expert on that contract, so I'll give you a perspective on the oversight.

It is a contract between Bruce Power and IESO. IESO will be the agent that will do the due diligence. There's already an IESO person on-site at Bruce, monitoring the work that's going on now in terms of looking at the contracting that Bruce is doing. IESO is the group that will do the due diligence. They have a dedicated person on-site right now.

Before the first unit is refurbished, there is an off-ramp related to cost. The contract provides terms as to at what threshold the IESO can exercise that cost-performance off-ramp.

**Mr. Peter Tabuns:** Actually, is there a term sheet that sets out the prices that will be the thresholds for you saying, "No, we're not going forward"?

**Mr. Serge Imbrogno:** It's a—

**The Chair (Ms. Cheri DiNovo):** I'm afraid we're going to have to stop there. We're at the time.

**Mr. Peter Tabuns:** I'll be back to that. Thank you.

**The Chair (Ms. Cheri DiNovo):** We'll now move to the government side: Mr. Dong.

**Mr. Han Dong:** Deputy, if I may, I would like to offer an opportunity to the ADM to finish her answer with regard to what other jurisdictions are doing around the world, following the path of clean energy that Ontario had walked. Unlike what my honourable colleague Mr. Yakabuski suggested, I generally don't know the answer to that, and I am very interested to find out. Yes, if she might give us the complete answer to that.

**Ms. Kaili Sermat-Harding:** Thank you. My name is Kaili Sermat-Harding, assistant deputy minister of the conservation and renewable energy division of the ministry.

Perhaps I'll just go back to where I left off and repeat a little bit of that, and then have a look at the renewables future, if you will.

It was solar PV where I had left off, noting that it is experiencing significant growth as well, with a record 50,000 megawatts added globally in 2015.

While major economies like China, Japan and the US do account for the majority of this new capacity, significant investments in solar PV are also happening in countries like Chile, where 400 megawatts of solar capacity was added in 2015.

Looking forward, the existing centralized electricity network is transforming to one that is increasingly distributed and bi-directional. Customers are increasingly interested in generating and managing their own power.

At the same time, the cost of renewable technologies is declining, and new, complementary smart grid and storage technologies are continuing to emerge.

The potential growth of storage, microgrids, electric vehicles and the increasing electrification of transit and transportation will bring growth opportunities for renewable distributed generation as well as challenges in energy planning and regulation.

Several North American jurisdictions from New York to California are assessing how best to prepare for a changing energy infrastructure and to integrate distributed generation in a manner that mitigates impacts on ratepayers and capitalizes on its potential benefits.

Ontario is investigating these topics as well. I mentioned the ministry's engagement with stakeholders to update the Net Metering program for small renewable energy projects as one example.

Continued deployment of small-scale renewables contributes to a clean and diverse electricity system and aligns with the province's goals of low-carbon buildings and transportation. Renewable energy will help the province to reduce greenhouse gas emissions in support of Ontario's climate change action plan.

As an early adopter and a leading North American jurisdiction in renewable energy procurement and de-

velopment, Ontario has made critical investments to maintain a clean, modern and reliable energy system.

As the global renewable energy market continues to grow and evolve, Ontario is well positioned to share its learnings and expertise with other jurisdictions and capitalize on the deployment of new and innovative renewable energy technologies.

1640

**Mr. Han Dong:** Thank you. Just one quick follow-up question: I know that Ontario was the first jurisdiction in North America to have gone completely coal-free in its generation. Are we still the only one, the only jurisdiction, in North America?

**Ms. Kaili Sermat-Harding:** I think, in North American, we are the only one that has eliminated coal from its supply mix.

**Mr. Han Dong:** Thank you.

**Mr. Joe Dickson:** Good afternoon, Minister.

**The Chair (Ms. Cheri DiNovo):** Mr. Dickson? Yes, go ahead.

**Mr. Joe Dickson:** Thank you, Madam Chair. This will take a little extra time because I lost my glasses this afternoon.

As I understand, there are currently a number of—

**Ms. Sophie Kiwala:** Do you want mine?

**Mr. Joe Dickson:** They fit perfectly, and I can read—First Nations communities that still rely on diesel to generate their power. There has been significant talk over time and over the past year of the possibility of connecting these First Nations communities to the electric grid. What steps is Ontario taking to help remote First Nations communities?

**Hon. Glenn Thibeault:** Thank you for the question, MPP Dickson. It is a very important one, and I do appreciate the opportunity to respond to it because I think our government has made the connection of First Nations communities a priority in the long-term energy plan and also with the designation of Watay Power to connect 16 of the 21 northwest First Nations in that part of our great province to the electricity grid.

I think there are many cases where we can show examples that connecting to the grid really will be an economic driver, will provide economic growth and will provide community and social growth, but all of that right now is really at its capacity because they're on, as you mentioned in your question, diesel generators. That really limits their building of new schools, new houses and new recreation centres because they simply cannot be connected to that new source of power. Unfortunately, it keeps that cycle of poverty going. Connecting them to the grid—and, if they can't be connected to the grid, using new technology like microFITs or other opportunities like that—will be key because we recognize that we have to create a cleaner electrical supply for those First Nations that are struggling to get connected to the grid.

I know some of the specifics—we can have the deputy speak to that.

**Mr. Serge Imbrogno:** Thank you, Minister. I'll talk a bit about it, but I'd like to call up ADM Michael Reid,

who has been working on this file for a number of years. I know, when I first came to the ministry many years ago—I think four years ago plus—this was one of the top priorities for the ministry. We've been working diligently to move this file forward. We recently passed some legislation that provides the authority to designate, and I think Michael will go into more detail on that.

We've been working with the federal government on moving forward with cost sharing. Since the federal government provides a lot of the communities with diesel, there will be a benefit to the federal government from ensuring that the remote First Nations are connected to the grid. We continue that, and we believe we're getting very close.

I'll let Michael take you through some of the work that we have done and some of the prospects going forward.

**Mr. Michael Reid:** Thanks. I'm Michael Reid, assistant deputy minister of the strategic network and agency policy division at the Ministry of Energy.

As both the minister and deputy have mentioned, the connection of remote communities has been a priority all the way back to the 2010 LTEP and reaffirmed in the 2013 LTEP. I'll talk a little bit about what has happened since the 2013 LTEP and the progress that has been made both in terms of the connection of the 21 remote communities as well as some of the efforts that are under way, as the minister mentioned, to do local and microgrid-type solutions in the four communities that the transmission connection is not economical for.

By way of a bit of background on Ontario's remote First Nations communities: There are 25 remote First Nations communities in northwestern Ontario that rely on diesel systems. In terms of the makeup of these communities, the combined on-reserve population of these communities is about 15,000 people. From an electricity system perspective, their total peak load is about 18 megawatts. In terms of the diesel consumption of these communities, it's about 30 million litres of diesel that's consumed annually to power these communities. Geographically, these communities are in an 800-kilometre arc up around northwestern Ontario, extending from about 90 kilometres north of Red Lake to some 160 kilometres east of Pickle Lake, and then the communities stretch from there all the way up to James Bay and Hudson's Bay. It's an immense territory that we're talking about for the remote connection project.

Just a little bit more background on the fuel costs as well: Given that these communities are remote, most of the diesel that they use for consumption either has to be transported in via winter roads or flown in, which makes the cost of fuel extremely high. Up to 70% of the diesel actually has to be flown in to these communities. Just from a cost perspective, what it means is that the cost of electricity in these remote communities is about 10 times the cost of providing electricity in other parts of the province that are connected to the transmission grid.

As significant as or maybe even more significant than the cost of diesel are some of the other impacts of relying on diesel power. There are health impacts in the

communities. There are also GHGs associated with the use of diesel to power communities. As the minister noted, as well, a lot of these communities are on what is called load restriction, where the diesel generators are basically maxed out. You do have instances where new housing has been provided in these communities, or a new business or a new school has been set up, and can't get hooked up. Communities have to make a choice to unhook older housing stock and hook up new stock. As the minister mentioned, the transmission connection will remove all of those load restrictions and allow communities to take advantage of business opportunities, as well as to restore housing stock and whatnot. There are all kinds of corollary benefits with the diesel connection.

The focus on remote communities really has two components. It has both the transmission connection component for 21 of the 25 communities, and then the local microgrid solutions for the other four. I'll talk a little bit about both. In terms of the grid connection projects, I've already mentioned the range of benefits that grid connection will provide. It will lower the cost impacts and it will lower the environmental impacts, as well as hopefully unlocking a lot of social goods within these communities.

The grid connection project, following the 2013 long-term energy plan, was also underpinned by a business case that the Independent Electricity System Operator undertook on our behalf. What the Independent Electricity System Operator did is that they looked at the costs of connecting communities up through the transmission grid to a whole range of alternative options, which included renewables and microgrids. In the development of the business case, it did ultimately come to the conclusion that with the 21 communities, it made clear business sense to hook them up to the transmission grid. In other words, over a 40-year lifespan, there were clear, demonstrable savings—in the order of \$1 billion—through the transmission connection project.

As the deputy mentioned, those savings accrue to both the provincial government and provincial ratepayers but also to the federal government, which does provide some of the costs of electricity service in remote communities, so that's part of the discussions we've been having with the federal government: both hopefully to have them issue a statement of clear support for the project, and then also to come up with a cost-sharing arrangement that allows the province and the federal government to appropriately share in the costs of building the transmission infrastructure.

**1650**

In terms of some of the specific policy supports that the province has put in place to help move the connection project forward since the 2013 long-term energy plan: The deputy minister mentioned a couple of pieces of legislation that were passed over the last couple of years which provided new policy supports that were used in the case of this particular project. There were three, in particular, that have been used.

The first was an order in council that designated Watay Power as the actual transmitter that would com-

plete this project. Watay Power is actually a great success story and a great proponent to be associated with, in that it is a consortium of First Nation communities who have partnered up with transmission developers as the proponents who will actually lead the construction, ownership and operation of the line.

Essentially, this order in council clearly states that Watay Power will be the proponents to bring forward their application to the Ontario Energy Board for the leave to construct. They are working through both the environmental assessments—all of the approval work that will need to be done on the project, including a filing with the Ontario Energy Board for the leave to construct.

The second instrument is another order in council that designates the remote connection project as a priority project. What that essentially does, when it comes to the leave to construct or the Ontario Energy Board approvals, is that it really says to the Ontario Energy Board, "You don't need to consider the need for the project. The government has clearly stated that it's a priority and that the project will be built."

The Ontario Energy Board still does the full range of other approvals that it would do for a project. That includes making sure that costs incurred by Watay Power in the development of the line are prudent and then figuring out how to allocate the costs. It really just accelerates the project a little bit by saying, "It's clear that we're going to move forward with this," but then the board does everything else that it would normally do in the case of a transmission project.

The last thing that was done to support the project is that there were some amendments made to the rural or remote rate protection program. Currently, remote communities benefit from this program, which essentially helps residential consumers in remote communities. It lowers the costs that they pay for electricity—

**The Chair (Ms. Cheri DiNovo):** You have about four minutes left.

**Mr. Michael Reid:** Okay.

That program was amended a little bit just to make sure, if there were capital costs associated with the transmission connection, that you wouldn't have a remote community that was ultimately handed a bill from the Ontario Energy Board or anyone else to pay for that. It's clear that the province has a mechanism to make sure that the province's fair share of the funding is actually passed on to remote communities.

I think that, with the combination of these three policy tools, from my perspective, we've seen a great deal of progress in this project with Watay Power—now up and running quite fast—to begin that next stage of development, which are all of the approvals that will be required for transmission connection.

I think that, in the interest of time, I do want to say a little something on the other four communities as well, because I think that we, as a ministry, always want to make it clear that for the remote connection project—although a lot of time and effort goes into the transmission connection, just because it is such a huge and

complicated undertaking—we're also working with the four other communities. The IESO said that, for a variety of reasons, it doesn't make economic sense to extend the grid to those communities. Those four communities are Whitesand, Gull Bay, Weenusk and Fort Severn. With those four other communities, there's a variety of efforts under way to develop local microgrid solutions that do rely on local renewable energy.

For example, with Whitesand, in December 2015, the Minister of Energy asked the IESO to begin negotiating a power purchase agreement with them for a biomass facility in that particular community. Those negotiations are ongoing between the community and the Independent Electricity System Operator.

With Fort Severn, for example, they've received some \$2.5 million from the Northern Ontario Heritage Fund Corp. They're looking at the construction of a solar/diesel microgrid as a partnership between the community, NCC Development LP—a First Nation company—and Canadian Solar.

With Gull Bay First Nation and Weenusk First Nation, there are also projects under way that have been sponsored by the Green Investment Fund, which is something that came out of the climate change action plan, which is looking at a bunch of different microgrid projects, solar PV storage, and also the kind of smart controls that go along with minimizing the use of these over maximizing the use of renewable power.

In all these instances, both the transmission and the microgrid solutions, these are also clearly community-driven projects, with Wataynikanepap Power as well as the other proponents with the uneconomic-to-connect communities. There has been a lot of community engagement. The communities are actively involved in these projects. The communities want these projects, and that's part of the reason why the particular projects will proceed.

I think the minister also mentioned the pan-Canadian task force on diesel reduction. Not only are we talking with the federal government, but the province is also engaged with other provinces to see whether or not there are best practices, or somebody else has a particular model that has worked well, with the reduction of diesel in remote communities.

Ontario is a bit unique in that most other provinces are looking at local microgrid solutions. Most other provinces don't have the same opportunity we do to connect communities up to the transmission grid.

**The Chair (Ms. Cheri DiNovo):** And that is time. Thank you.

We now move to the official opposition: Mr. Smith.

**Mr. Todd Smith:** Back to the minister: Minister, you've been the Minister of Energy now for about four months, so I'm sure you've had a ton of conversation with staff, and political staff as well. It seems like in the four months that you've been the Minister of Energy, there has been a shift with the government when it comes to the severity of the electricity crisis facing Ontario.

When you first started, I think you were interviewed on television, and you said that there wasn't a crisis. At

what point over the summer did you realize that there actually is a crisis when it comes to electricity prices in Ontario?

**Hon. Glenn Thibeault:** When I did that Global interview, I think I was not even a month in. One of the things that I said at that time was that I recognized that for some families, they are having difficulty. Even before that time, our government was very clear that we recognized that we had a lot of heavy lifting to do. We had a lot of work to build the system up over the 10 years. We did that, and we recognize that there are costs associated with that.

There were families that were having a difficult time paying their hydro, paying their electricity bills, so that's why we brought in, in January of this year, the OESP program and we eliminated the debt retirement charge for residential customers.

Do you know what? The government has recognized that there have been families experiencing difficulty for quite some time. But even in my experience as executive director of the United Way, going back to 2008 and earlier—I started there in 2003—there were programs being offered even back then to help people who were having a hard time with energy bills at that time.

**Mr. Todd Smith:** How, then, does the government decide that they're going to remove the Ontario Clean Energy Benefit this past January, knowing that families were struggling? When you listened to the previous minister, at times he was very dismissive of the fact that there was an energy crisis, saying it was nothing more than a cup of Tim Horton's coffee, and these types of comments.

Your initial comments, when you first became the minister, were that there was no crisis here. Now, suddenly, here we are, back at the stage again where we're taking the 8% portion of the HST off people's bills.

It just seems like there has been a real rollercoaster ride when it comes to the government's understanding of the cost of electricity for not just residential consumers but small businesses, and those large manufacturers that you were speaking of as well.

**Hon. Glenn Thibeault:** Thanks for the question. Again, we can go back and point at a lot of things that the government was doing before my arrival as Minister of Energy, and even before my arrival here as an MPP.

When it comes to what I've done in the last four months, the direction that I got from the Premier was to continue on the work that the former Minister of Energy was doing and to continue to find ways to help families. That was my mandate when I got the call to be sworn in as minister on June 13, and that's where we started to work.

**1700**

The initial question that you asked is, yes, I've been talking with a lot of people and meeting with a lot of stakeholders and reading a lot of letters. I know that you're doing good work as an MPP to ensure that your constituents that have concerns—many opposition members and even many folks from my side submit those

letters. We act on those and let people know of the programs that are available. There are a lot of folks out there, as I'm sure you're aware, that don't know about some of the programs that are offered to them. I think it's important for us to get them on those programs so that they don't have a difficult time when it comes to electricity.

**Mr. Todd Smith:** So the price of electricity is a problem and you're taken steps, you feel, to deal with that.

The price of natural gas is going to be increasing, and I want to go back to what we were talking about in our last round of questioning. Do you not feel it's important for people to know what the increased usage is on their natural gas bill?

**Hon. Glenn Thibeault:** We've been very up front about the costs relating to natural gas when it comes to our cap-and-trade program and with the climate change action plan. We've said all along that we recognize that there are going to be some cost increases to the natural gas bill. But that's the great thing about the cap-and-trade program. If you look at the cap-and-trade program and really analyze and understand it, when an individual family reduces their GHG emissions at home, with natural gas, that portion will continue to reduce. So they can make savings, and then we're going to see savings and a reduction in GHGs so that's actually a hopeful thing for—

**Mr. Todd Smith:** Why not have the separate line item, then? Why not have the separate line item on the bill? The Independent Electricity System Operator, the system operator, says to separate it: Put the line item on there, telling customers how much they're using.

**Hon. Glenn Thibeault:** The OEB made that decision, but we're not putting the line item of the cost of labour on there; we're not putting the line item of the cost of putting the pipe on there; we're not putting the cost of the benefits that they have to pay. The quasi-judicial organization that is known as the OEB has made the decision that the cap-and-trade cost is a cost of doing business.

**Mr. Todd Smith:** So it's not a political decision?

**Hon. Glenn Thibeault:** It's not a political decision. The OEB is at arm's-length from the government, and we respect their decisions on that.

**Mr. Todd Smith:** In a story that was written in September by Adrian Morrow of the Globe and Mail about the Premier's chief of staff, a Liberal insider stated about Mr. Bevan's thinking at the time—Andrew Bevan, the chief of staff for the Premier; I know you know that, but for the sake of the committee—that “anything that's a consumer-visible tax is scary.”

Prior to making the decision not to issue a ministerial directive that would have followed IESO's advice about making cap-and-trade visible on bills, did you have any conversations with Mr. Bevan or members of the Premier's staff about whether or not cap-and-trade was going to be on the bills as a separate line item?

**Hon. Glenn Thibeault:** Stepping into this portfolio, I had—I don't know how many briefings I've had. I think I

had four briefings on the first day. We've had many, many conversations, but, again, when it comes to the OEB, those decisions that they make are quasi-judicial, and we respect that. There are no directives that come from us that dictate how they make their decisions on the billing piece, for example, when it comes to natural gas.

**Mr. Todd Smith:** We know that the IESO, the system operator, said to include it as a line item. Are you aware that over 50 other submissions came into the OEB requesting that cap-and-trade be itemized separately on natural gas bills?

**Hon. Glenn Thibeault:** What the OEB has informed us is that they did a very extensive consultation on this process. They got written submissions; they had consultations; they talked with stakeholders, and then the OEB made their decision on this. Again, as I said earlier, I respect that they're the energy regulator for the province and that their decision, when it comes to natural gas, is not something that we get involved in. They made their decision on that, and we respect it.

**Mr. Todd Smith:** So there were 50 submissions that were made to the OEB regarding a separate line item on cap-and-trade, and aside from the OEB staff opinion, the only other one that recommended including cap-and-trade in the delivery charge—or burying the cost of cap-and-trade—was made by a stakeholder with strong ties to the Premier's policy staff. The other 49 all believe that there should be a separate line item on natural gas bills.

You're claiming there was no political interference in this. This was a decision that was made by the OEB. I just find that hard to believe. Why have public consultation—

**Hon. Glenn Thibeault:** You can put all the innuendo you want into it, but the OEB is the regulator that makes these decisions. They held public consultations. They put their decision out to the public. They consulted with stakeholders. They did it online. They got written submissions. Again, when they make their decision, it's based off of what's best for the ratepayers of the province, because that's their mandate. They follow that mandate to ensure that they always keep the ratepayers, and savings for ratepayers, in mind.

**Mr. Todd Smith:** So to sum up, we've got the system operator, the IESO, that recommended that cap-and-trade be itemized separately. We've got 50 submissions that were made with the same recommendation. You or your ministerial office and previous ministers have intervened over 90 times with ministerial directives in the past. We've got evidence that both the Premier's chief of staff and policy staff prefer keeping cap-and-trade costs hidden for consumers on these natural gas bills. Is it your contention, Minister, that you don't have the ability to direct the OEB, or have you been told by the Premier's office not to direct the OEB in this matter?

**Hon. Glenn Thibeault:** Again, as I answered that question previously, you're not comparing apples to apples. You're asking me about apples and oranges. As a minister, I send a directive to the OEB that asks them to look into a study for me. They are the experts when it

comes to ensuring that we can find savings for rate-payers.

When it comes to making a decision on billing, especially when it relates to natural gas, that is not the role for us, to give them a directive. They need to go out and do their consultations. You can't have it both ways. You can't have it one way where we're saying we can ask them to lower prices and then ask them to increase prices. That's not the role. We don't do that. What we do with the OEB is we ask them to do studies or partake in a certain subject matter—and that was related to Bill 135, which we brought forward.

**Mr. Todd Smith:** We're not asking them that. We're asking them to put the information out there so that the public can have some kind of understanding as to what kind of "bad actors," as the Premier says, the people of Ontario are.

**Hon. Glenn Thibeault:** You're getting into—so should we be putting the cost of steel onto all of the bills, the cost of labour onto all the bills?

**Mr. Todd Smith:** You said in the past that cap-and-trade costs are similar to other sunk costs, correct?

**Hon. Glenn Thibeault:** Me personally?

**Mr. Todd Smith:** Yes.

**Hon. Glenn Thibeault:** When would I have said that?

**Mr. Todd Smith:** I don't have the date in front of me—sometime in the last four months, I'm assuming.

**Hon. Glenn Thibeault:** For me, I've been working on electricity and finding ways to bend the cost curve for families, businesses and large industrial players in the province. A lot of the work when it comes to cap-and-trade is being done by the Ministry of the Environment and Climate Change.

I do understand why you're asking these questions, but at the same time, it's not the role. That is the role of the OEB. They have dictated and they have stated that their consultation process and the work they've done with stakeholders have outlined that it was the cost of doing business.

We as a government have been very clear all along to state that—we have always talked about the cost of cap-and-trade, and that there is going to be a cost on natural gas bills. I believe it's going to be about \$5 a month. But with the benefit of having cap-and-trade as our mechanism, families can continue to find ways to reduce those costs.

That additional \$5 can be reduced if they work with Union Gas or Enbridge. I know that on some of the programs that those organizations offer, the minister can speak to those in better detail than I—

**Mr. Todd Smith:** You're the minister.

**Hon. Glenn Thibeault:** Yes, but I like using some of the experts as well. I've got great people around me and I always use them.

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I think the important thing there is that there are great programs in place that will actually help families reduce those costs. If you're interested in hearing about those—

**Mr. Todd Smith:** That's okay. Let me move on, because we've only got a short amount of time left.

I recall that a previous energy minister said that the Green Energy Act was only going to cost us \$1 a month, and it has certainly cost us a lot more than that. So I don't know if we can put much faith in the fact that you're saying that natural gas bills are only going to go up by \$5. There's not a lot of credibility behind that claim.

Let's move on here. We've got a person who's going to pay HST regardless of how much electricity they use. Similar to your argument with including cap-and-trade pricing in the delivery cost of natural gas, shouldn't the HST rebate that people are going to get be included in the delivery charge of a bill? Can you square that circle for me? There's no line item for cap-and-trade. There probably won't be a line item for the HST rebate on bills, right? I know we're comparing different programs here, but—

**Hon. Glenn Thibeault:** We are comparing completely different programs. When it relates to natural gas, the OEB is the entity that administers that piece. I don't know the specifics in relation to the electricity piece, but I know that there will be a line on that that talks about the rebate that we're bringing forward.

**Mr. Todd Smith:** There is authority, because we've seen it in the past. I'm not saying "you," but the minister has established the authority to direct the OEB if he wanted to, in the past. You're saying that it's apples and oranges, but you've already done so. Given the evidence presented here and the urgency that the Premier has expressed in getting people to reduce their carbon usage, will you commit to itemizing the cap-and-trade costs separately on natural gas bills?

**Hon. Glenn Thibeault:** The OEB has come forward with that decision already, and they said it was a cost of doing business.

**Mr. Todd Smith:** So once again the government is going against the advice of the Independent Electricity System Operator and going against 49 others that have taken the time to submit their opinions to the OEB. The government is ignoring the system operator again, and the government is ignoring 49 different agencies or organizations that have taken the time to submit. Once again, is it fair to say that this government believes it knows better than the system operator?

**Hon. Glenn Thibeault:** No. The OEB, who actually looks at all of the details and looks at and works with the IESO, would have taken all of that into consideration. As I mentioned to you before, the OEB doesn't make this decision in isolation; the OEB makes this decision after talking and speaking with numerous stakeholders. They talked about—I believe it was having over 40 written submissions. They spoke with utilities. They spoke with consumers. They spoke with environmental stakeholders. As I stated, this non-political, quasi-judicial regulatory body has a mandate to protect consumers. That's why they made that decision. In relation to the IESO, they constantly work with them.

**Mr. Todd Smith:** Can I ask you about a local power initiative, since we only have about two and a half

minutes left? This is important to people in Hastings county in particular, but to all of eastern Ontario. The wardens' caucus there has endorsed the project. I did invite you—not so formally, but I did invite you to come and see and visit the proposed Marmora pumped storage power facility, which is the centre of my riding. It's a Northland Power project.

I know that the deputy minister would be very well aware of this project that Northland is proposing. I'm not sure how aware of it you are, but do you have any thoughts on pumped storage and where it might fit into the long-term energy plan for the province?

**Hon. Glenn Thibeault:** I have to say, I'm not specifically aware of your piece, but I spoke to the energy storage association of Ontario. I probably got their name wrong because I believe they just changed it. But I have to say that being the Minister of Energy and being involved in energy right now and seeing the great work that's happening out there especially when it comes to storage, that's that tipping point for us. The way that energy is done, the way we produce electricity, the way we use electricity—for those of us that are in this room and part of this whole process of committee and looking at electricity, most folks don't realize that when you produce an electron, you have to use that electron. We don't have an inventory that people can go to and say, "I'm going to pull off this much electricity," and they turn their lights on and they're happy that it's there.

There are great companies that are doing great work. I know you mentioned Northland and pumped storage. I had the opportunity of touring the Beck facility and seeing the great work that's happening with OPG and Beck. In relation to the specifics of yours, I don't know the details, but pumped storage and anything to do with storage is—we all know of Elon Musk and his batteries, but I just look to what we're doing here in Ontario, and there are many, many great companies that are doing some great work.

**Mr. Todd Smith:** There's an open invitation for you to join us at Marmora. It's quite a sight to behold. It's a massive, massive hole in the ground. You can actually fit six SkyDomes or Rogers Centres inside of this. It's an interesting project—

**Hon. Glenn Thibeault:** Do you not have an AHL franchise coming in your neighbourhood?

**Mr. Todd Smith:** We do, actually. We could talk about that too.

**Hon. Glenn Thibeault:** That's for a different committee. But maybe I can pair it in with an AHL game and come tour that sometime.

**Mr. Todd Smith:** There you go. It's an open invitation.

**The Chair (Ms. Cheri DiNovo):** And I'm afraid that is it, Mr. Smith.

We move now to the third party: Mr. Tabuns.

**Mr. Peter Tabuns:** Thank you very much, Chair. When we left off, I was asking if it would be possible to get a term sheet setting out the prices that would be the no-go point for the refurbishment of Bruce nuclear. Is that available?

**Mr. Serge Imbrogno:** Mr. Tabuns, all that is in the contract that you have that's on—

**Mr. Peter Tabuns:** It actually has the numbers in there, saying the threshold at which we won't proceed?

**Mr. Serge Imbrogno:** It has how the threshold would be determined. It's a cost threshold. IESO would have done extensive due diligence with Bruce Power during the negotiation process. They would have agreed to the scope of the project. Once that scope has been locked in, which is in that contract, IESO would continue to do due diligence; that's why they have a person on-site. It's an open-book process. As you approach the first refurbishment date, they would compare, if there was an update on that cost estimate, to what was embedded in that contract. If it's above a certain percentage, then IESO has the ability to not proceed with that refurbishment.

**Mr. Peter Tabuns:** So what's the base number and what's the percentage?

**Mr. Serge Imbrogno:** That's all in the contract. I don't know, off the top of my head, what the—

**Mr. Peter Tabuns:** So the base number is in here and the percentage—so by reading this I can determine what the break-even point, the point at which we would say, "Don't proceed"?

**Mr. Serge Imbrogno:** That should be in that contract, yes.

**Mr. Peter Tabuns:** And with OPG, what's the break-even point? At what point will an overrun say, "We're not going further"?

**Mr. Serge Imbrogno:** Once again, on OPG, that'll be the determination of the government comparing the original \$12.8-billion estimate. And then as we approach the completion of that first refurbishment, the government will decide at that time. There's no magic number pre-determined in advance.

**Mr. Peter Tabuns:** So if it goes over 20%, that's fine?

**Mr. Serge Imbrogno:** I can't speculate whether—OPG may actually come in under 20%. That's also a possibility.

**Mr. Peter Tabuns:** Far more remote than the one that I put out, but anyway. So there is no fixed threshold, then?

**Mr. Serge Imbrogno:** It's a government decision point whether to proceed with the next unit after the first unit is complete.

**Mr. Peter Tabuns:** Okay.

What will power cost from the Darlington plant after completion of the refurbishment of the four units?

**Mr. Serge Imbrogno:** OPG is before the OEB right now with their rate application. It'll be determined by the OEB going forward.

**Mr. Peter Tabuns:** What was the basis of your government saying that we would proceed?

**Mr. Serge Imbrogno:** OPG would provide their base case, which I believe they provided to the OEB. The government would have reviewed that as part of OPG's business plan submission. But the government would have always made the determination that whatever the

OEB decides would be the basis of whatever costs would be recovered.

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**Mr. Peter Tabuns:** How did you make a business decision to proceed with the Darlington refurbishment when you didn't know what the cost would be for the power at the end?

**Mr. Serge Imbrogno:** It would have been based on OPG's belief of what they would provide to the OEB, what they believed would be a fair return, and that would have been the basis for it.

**Mr. Peter Tabuns:** So we don't have a fixed price, then. That's what you're saying to me.

**Mr. Serge Imbrogno:** In terms of the cost, how it's recovered, what the rate is will be determined through the OEB process.

**Mr. Peter Tabuns:** What's the price per megawatt hour for power now from Darlington? I've got this sheet.

**Mr. Serge Imbrogno:** There's an OPG rate—

**Mr. Peter Tabuns:** It says \$59.29 per megawatt hour.

**Mr. Serge Imbrogno:** That's provided through the OEB. That's part of the rate regulation of—

**Mr. Peter Tabuns:** So that's what we're talking about for now.

**Mr. Serge Imbrogno:** For now, yes.

**Mr. Peter Tabuns:** Okay. Now, any study I've seen with this refurbishment shows the cost of Darlington coming in slightly above the cost of combined-cycle gas turbine, at about eight cents a kilowatt hour. Is that correct?

**Mr. Serge Imbrogno:** I would suggest it's lower than the eight, in the seven—between seven and eight cents.

**Mr. Peter Tabuns:** Oh, really? And what would it be?

**Mr. Serge Imbrogno:** Well, I said it's lower than eight. I think it's in the seven-cent range, or 7.7 cents. It's close to what Bruce will be coming in at.

**Mr. Peter Tabuns:** Okay. In this rate-smoothing proposal, this document that I gave you earlier, which is the Nuclear Rate Smoothing Proposal from OPG, EB-2016-0152, it shows \$59.29 for 2016. By 2019, it's \$81.09—and I'm going with the smooth amounts. By 2021, it's \$99.91. We're getting above eight cents pretty quickly. That's an escalator of 11% a year, so over a decade, we're talking about 180%. We're talking an awful lot more than eight cents a kilowatt hour—or seven, if that's your target.

Why are we looking at rates that are far above the amount that you just cited to me for this project?

**Mr. Serge Imbrogno:** That number I provided would have been the average over that period. So it would start lower and then escalate higher, but the average would be in the 7.7-cent range, or between the seven- and eight-cent range.

**Mr. Peter Tabuns:** If you take \$59.29 and you look at 11% a year over a decade, that's about 180%. We're talking more like 15 cents a kilowatt hour. That's an awful lot more than seven cents.

**Mr. Serge Imbrogno:** It's the average we provided, and it's the average of those rates over that refurbishment period.

**Mr. Peter Tabuns:** You know, I don't think that math works. I'd be very interested to see how you averaged those out, because it's going to be a lot more than seven cents, or 7.7. We're going to be hitting more than seven cents within three years. You're not going to have much below seven cents to help balance out when you get above 10 cents. This project has been sold on the idea that with 7.7 cents a kilowatt hour—I'm using the number you used, quoting Bruce—but this is going to be way north of 10 cents for most of its lifespan.

**Mr. Serge Imbrogno:** If you look at the smooth rate—and the OEB could come in with a different smoothing, so I wouldn't say these are fixed, but—

**Mr. Peter Tabuns:** No, it's what they proposed.

**Mr. Serge Imbrogno:** —it says that as you have production coming in, you'll be paying \$65.81, according to this, through the OPG rate-smoothing proposal.

**Mr. Peter Tabuns:** For one year. Then the next year, it goes to \$73.05. So you're going over seven cents a kilowatt hour within the first three years. You've got another seven years to go. You're going to be at \$81.09 in the fourth year and then it goes up from there at 11% a year. We're talking a lot more than 7.7 cents a kilowatt hour.

**Mr. Serge Imbrogno:** The 11% is the OPG rate.

**Mr. Peter Tabuns:** Yes.

**Mr. Serge Imbrogno:** And then it's the actual impact on the consumers as well, so that has to be taken into account.

**Mr. Peter Tabuns:** No, I'm talking about—the ministry and OPG have been selling this refurbishment based on it being cheaper than combined-cycle gas turbine. You've been saying it's under eight cents a kilowatt hour. Based on what was brought forward to the Ontario Energy Board, you're talking about a lot more than eight cents a kilowatt hour over the balance of this decade.

**Mr. Serge Imbrogno:** I think when you do the math it will come out, as an average—I agree we have said that there would be an escalation in the rate. On average, it will be 7.7 cents.

**Mr. Peter Tabuns:** Well, I'd be very interested in your providing us with a table to show that.

**Mr. Serge Imbrogno:** As you know, the OPG rate application has hundreds and thousands of pages.

**Mr. Peter Tabuns:** And because you're deputy minister, I know you have power over these things. Could you provide us with the table showing how you get to 7.7 cents per kilowatt hour over a decade when you're escalating the price by 11% a year starting next year?

**Mr. Serge Imbrogno:** I will refer to where it is in the OPG rate submission.

**Mr. Peter Tabuns:** If you'll refer me to the page within that rate submission, that would be great.

**Mr. Serge Imbrogno:** It might not be on one page, but I will endeavour to get the OPG—

**Mr. Peter Tabuns:** If you will refer me to the section of the rate application that shows that over a decade, with

an 180% price increase over that decade, it averages 7.7 cents, I'll be really intrigued.

**Mr. Serge Imbrogno:** I'll provide you what OPG has provided to the OEB in terms of its projection of what the rate would be.

**Mr. Peter Tabuns:** Okay.

The first reactor has already gone out of service. You did that, Minister, just recently. When is it coming back into service?

**Hon. Glenn Thibeault:** I believe it's 2019.

**Mr. Serge Imbrogno:** That's correct.

**Mr. Peter Tabuns:** Okay. So why would the unsmoothed rate show this really huge increase between now and 2017? What changes? Because I thought we were recovering the cost when the reactor came back online. You just said to me—was it 2019, Minister, that the first reactor will come back online? So why this huge increase?

**Mr. Serge Imbrogno:** You'd be taking that production out, so you'd have less production, and you'd have to recover the same amount of cost for running the units. Your fixed costs don't reduce.

**Mr. Peter Tabuns:** Is that factored into the \$12.8 billion, the cost of lost production?

**Mr. Serge Imbrogno:** Well, it's part of the refurbishment project—when the units go off, when the units come on.

**Mr. Peter Tabuns:** What's the total cost value of the non-production periods?

**Mr. Serge Imbrogno:** Well, I—

**Mr. Peter Tabuns:** I mean, this is a very sharp increase that we're looking at. I understand the math that you're referring to. Sometimes I've heard in the nuclear industry that the cost is considered the overnight cost: What if you were to start one day and be finished the next? That would be the capital cost. But you're telling me that there's a very substantial expense that comes from units not producing power for 18 months at a time.

**Mr. Serge Imbrogno:** Well, when you take it out of production, obviously, it's not producing power—

**Mr. Peter Tabuns:** That's right—

**Mr. Serge Imbrogno:** —so that would have an impact on OPG and its revenues.

**Mr. Peter Tabuns:** Is that factored into the \$12.8-billion cost for this refurbishment?

**Mr. Serge Imbrogno:** Well, the \$12.8 billion is the cost of the Darlington refurbishment project.

**Mr. Peter Tabuns:** Of the construction costs.

**Mr. Serge Imbrogno:** The replacement power during that power during that period would be part of what the IESO does. That's why we've been doing planning through the LTEP and the OPO process to determine what other generation is going to come on during that time. The Pickering life extension is part of that. The negotiations we've had with Quebec are part of that.

**Mr. Peter Tabuns:** So the capital cost we've seen doesn't reflect these costs, the loss-of-production costs.

**Mr. Serge Imbrogno:** Well, they would be incorporated into the IESO as part of the system planner and ensuring that there are resources available.

**Mr. Peter Tabuns:** The \$12.8 billion figure is, effectively, the overnight cost. If we could refurbish in a day, we're talking \$12.8 billion. But we're going to incur many other billions for replacing power while reactors are down—we, the ratepayers. Am I correct?

**Mr. Serge Imbrogno:** As the reactors come off—they would have been producing power, which they're not producing, so someone else has to produce that power. That's why we've extended the life of Pickering, to get the lowest-cost power that's available. Looking at imports—there are a lot of options that the IESO has for replacing that power, and that's the whole planning process that we went through with the LTEP.

**Mr. Peter Tabuns:** Has anyone quantified the cost to the system of replacing that power in that period? Because you're looking at a very sharp increase between 2016 and 2017. Frankly, you're looking at an escalation of 11% per year over a decade—cumulatively, a 180% increase in the cost of power. These are very big numbers, and not ones that we have been talking about in the past.

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**Mr. Serge Imbrogno:** This refers to OPG only, in terms of the overall system and the impact on ratepayers. That's why we're bringing in this other production, through extending the life of Pickering, more imports—

**Mr. Peter Tabuns:** This is a cost to OPG. They're losing this revenue. It's a cost to them.

**Mr. Serge Imbrogno:** That's correct.

**Mr. Peter Tabuns:** Is it factored into the \$12.8-billion cost of the refurbishment?

**Mr. Serge Imbrogno:** It would be reflected in OPG's reduced revenues, but it's not part of the cost of the \$12.8 billion.

**Mr. Peter Tabuns:** So I can fairly accurately say that it's going to cost Ontario a lot more than \$12.8 billion, because there's going to be a lot of money spent on replacement power?

**Mr. Serge Imbrogno:** I wouldn't put it in those terms, because that's how we do the planning of the system. When units come off, we plan for replacement power. That's what the IESO does.

**Mr. Peter Tabuns:** So has anyone done a calculation of the value of this lost production?

**Mr. Serge Imbrogno:** I'm having a hard time understanding—but that's how we do the planning process—

**Mr. Peter Tabuns:** I understand. I've heard you.

**Mr. Serge Imbrogno:** —even if you're refurbishing anything—

**Mr. Peter Tabuns:** This is how you do it. What's the value of it?

**Mr. Serge Imbrogno:** I would depend on the difference between what OPG was receiving and the incremental production. But that's part of what IESO has been doing: trying to minimize any costs going forward.

**Mr. Peter Tabuns:** What's the cumulative value of that? You're telling me that it has been done. I believe you that it has been done—

**Mr. Serge Imbrogno:** I'm not saying it has been done; I'm saying that IESO has been doing planning for all these refurbishments to ensure that we have enough power to maintain the system.

**Mr. Peter Tabuns:** Yes, so I'm very curious. What's the value of that? Because there's a value to filling in. If I'm not at work in a regular workplace and you have to fill in, you hire someone to fill in for me. I'm getting, hopefully, sick pay that day, so there's an extra expense to the corporation.

Here we have a reactor that's not producing power. You have to fill it in; you have to get it from somewhere. Someone has done the assessment of the value of that fill-in power. You told me that IESO would have done it in their planning. What's the number? What is the value of the power that has to be filled in in that period?

**The Chair (Ms. Cheri DiNovo):** Mr. Tabuns, you have about four minutes.

**Mr. Peter Tabuns:** Thank you.

**Mr. Serge Imbrogno:** The IESO would have said that as Pickering comes down, these are the other productions that are going to be there to replace it. So you'd have imports from Quebec. You'd have imports from other jurisdictions. You'd have Pickering life extension.

**Mr. Peter Tabuns:** And what's the value of that? Has anyone aggregated that?

**Mr. Serge Imbrogno:** I think it's all part of our long-term energy plan and the outlook.

**Mr. Peter Tabuns:** There are many things that are part of the long-term energy plan—

**Mr. Serge Imbrogno:** In your analogy, we're not double-counting. We're not paying you for sick leave and then paying a substitute. You won't be receiving your money, and we'll pay someone else to do the—

**Mr. Peter Tabuns:** You're looking at OPG taking a very substantial reduction in its revenue, which it's going to have to try and recover, which is why we have this rate smoothing. What's the value of that?

**Mr. Serge Imbrogno:** The value of the rate smoothing has a couple of advantages. It really is to—

**Mr. Peter Tabuns:** Sorry. What's the dollar value? What's the dollar cost of all of that?

**Mr. Serge Imbrogno:** I think OPG provides that information in their submission in terms of, if the OEB—

**Mr. Peter Tabuns:** So that accumulated deferred revenue isn't a cost on top of the \$12.8 billion. That's what you're saying to me.

**Mr. Serge Imbrogno:** I'm not saying anything to you. I'm saying—

**Mr. Peter Tabuns:** No, I think you are.

**Mr. Serge Imbrogno:** What the OEB will be reviewing is OPG's rate-smoothing proposal. It's up to the OEB to determine whether it's 11% or some other figure.

**Mr. Peter Tabuns:** Assuming that this goes forward, and this is five years out of 10, what do you expect the rate to be for power from Darlington at the end of this 10-year period? It's going to go up to \$99.91—sounds like a real bargain to me—in five years. What's it going to be in 10 years? Do you know?

**Mr. Serge Imbrogno:** That would be determined through the OEB process.

**Mr. Peter Tabuns:** So you don't have any projection. You don't know what it will cost.

**Mr. Serge Imbrogno:** The OPG would come in every five years and then make a submission to the OEB. It would be determined at that point. So I can't really speculate on what the OEB is going to do, either in this rate case or in future rate cases. OEB has been known to reduce OPG's ask, sometimes substantially. These are OPG's asks and projections. We'll know, once the OEB does its final review, what the rates would be.

**Mr. Peter Tabuns:** I will feel free to speculate, then. That's great.

Last item, because I know my time is short: I looked again at the climate change adaptation section in your estimates, and you still don't seem to have any assessment of risks to the system overall. The Climate Ready proposal that the government brought forward said that you needed to look at the vulnerabilities of the system overall and prepare to ensure that the power would stay on. What we've got is the IESO telling market participants to respect the reliability requirements. It's very different. Is there no central process where you're looking at the vulnerability of the system to climate change? Are we prepared for another major ice storm?

Actually, I'll just stick with that. We had an ice storm. I had to climb many storeys to get to people trapped at the top of apartment buildings. They wanted me to talk to them. Are you prepared for another ice storm? Are you doing the work for climate adaptation to make sure that the lights stay on in extreme weather? Based on what you've got here, you're not. Is there something else going on that we should be aware of?

**Mr. Serge Imbrogno:** The province is doing extensive work. The agencies are doing extensive work. In our summary in the estimates binder, we wouldn't have outlined everything that's being done in the sector. We can take you through more detail if that would help. We can talk to you about—

**Mr. Peter Tabuns:** Can you provide a report to this committee showing what your work plan is for assessing the vulnerability of our hydroelectric system in Ontario and what you're going to do to correct it?

**The Chair (Ms. Cheri DiNovo):** I think that's it, Mr. Tabuns.

We now move to the government side: Mr. Potts.

**Mr. Arthur Potts:** I'm delighted to have an opportunity to participate in these estimate hearings. Thank you, Minister. Thank you, Deputy Minister. I don't think this time I'm going to go over the history of my engagement in the sustainable energy program, but I do want to talk a little bit about some of the issues that Mr. Tabuns was raising around long-term energy planning.

The government has come forward with two long-term energy plans over the last number of years. One is Building Our Clean Energy Future, and then, in 2013, Achieving Balance. I know that we're now about to set off on another long-term energy planning process. Obviously

the issues that Mr. Tabuns was raising about the appropriate mix of generation and the appropriate transmission structures in the province—whether it's nuclear or wind or solar or gas, we'll be estimating demand and estimating supply, and we'll be doing it in the context of our cap-and-trade legislation and the kind of long-term direction we want to see on carbon and where carbon is in our mix.

It is kind of interesting: As we talk about conservation issues, particularly in the electrical sector, there's a bit of a disconnect or dichotomy in that we actually want to see more electrons being used in the province of Ontario and less fossil fuel electrons or carbon used. When we talk about the conservation of electricity—and you mentioned earlier about the massive opportunities that there are for conservation first in electricity—it actually, in a sense, works against the system because we want to be getting people moving from carbon into electricity. What we'd really like to see in our system going forward is a doubling or quadrupling of electricity use if it gets people off of carbon sources—fossil fuels, primarily.

I know that in Beaches—East York, for instance—and I'm sure Mr. Tabuns has much the same response—when our constituents come in and talk about their high energy bills, electricity bills, Toronto Hydro bills, they're talking about \$250 or \$300 bills over a two-month period. In some cases, they have jumped. They've jumped in part because we've increased the peak-time rate to 18 cents, trying to give people more of a stretch between peak time and low usage so that they can make change-of-use behaviours so we can reduce peak demand. I'll point out to them, "That's not a very big electricity bill." I have a lot of empathy for my friends in the rural areas of Ontario who are paying significantly more for their electrical use on a monthly basis. Most of my constituents are paying on a bimonthly basis.

I like to point out to them—I say, "Do you heat your house with natural gas?" For the most part we do, because we have access to gas in downtown Toronto. I point out to them that gas pricing has never been cheaper. Our gas bills have gone down dramatically. It's not like members of the opposition are coming forward and thanking our government for the low gas rates and the way that the OEB has worked in order to make sure that the private operators of the gas business, Enbridge and such—

*Interjection.*

**Mr. Arthur Potts:** That's right—that we're reflecting in our pricing. Those prices have come down. Our bills are lower.

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There's this dichotomy, again, in our long-term energy planning where we want to see people off of fossil fuels. Fossil fuels are cheap, relatively. Electricity, which is the good stuff, is more expensive.

One of the advantages we'll see coming forward, with a climate action plan and the cap-and-trade system, is that there will be upward mobility on the price of fossil fuels. As we get more people transitioning to electricity,

there will be greater use of kilowatt hours over the same infrastructure so that, overall, people will be more effective and more efficient in the use of electricity.

So the cost of electricity needs to come down to get people motivated to use more electricity, and the cost of fossil fuels has to go up. Those are part of the challenges that I think we'll face as we do our long-term energy planning.

I know the ministry is going to go out—I think it's every five years that we are obligated to do a long-term energy plan. Notwithstanding the full plan, I know that when the IESO came out with their supply-demand report in early September, we then had the engineers, we had the system experts, actually coming forward and saying, "You know what? We're probably at a stage now where we don't have to go forward with the second LRP process," because we've probably reached a critical mass that wasn't part of our long-term energy planning because we were on a trajectory and following along that trajectory of a planned and smooth process for ensuring energy security, and particularly carbon-free energy security, for the long-term future.

Now we're going to be in a five-year planning process—or a planning process that will dictate where we'll be in the next five years. This has been governed by legislation that we have brought forward. Maybe, Minister, you could talk a bit about how our legislation has made that long-term energy planning process more fluid, more predictable, and the kinds of inputs that we hope to get so that we can plan whether it's this much nuclear, this much natural gas, this much wind and solar.

We're talking about the First Nation projects and particularly the microgrids. I particularly took some interest in some of the communities that are going to be off-grid, the opportunities for microgrids and using sustainable energy to produce, whether it's biomass or battery or hydrogen storage.

Again, it could be another use of hydrogen. We could be putting up windmills all the way up the shores of Hudson Bay and James Bay and having that wind generating excess electricity that we could capture in some other transferable medium; maybe it is hydrogen or some other source. Those are great opportunities both to get carbon-free and off of diesel generation in the north. I'm very interested in those kinds of projects. I'm sure you'll be hearing from those communities as you go forward in the long-term energy planning.

Maybe, Minister, if you would, give us a little sense of how those changes to the Electricity Act will improve our energy planning process.

**Hon. Glenn Thibeault:** Thanks, Mr. Potts, for the question and thanks for your comments before the question, because it is important to outline the great work that we've done over the last decade when it comes to our electricity system.

We have brought forward and produced two long-term energy plans—one in 2010 and one in 2013—to guide energy planning and advance our energy policy initiatives. The 2013 LTEP was the biggest and most open and

comprehensive consultation in the ministry's history, and an early leading example of what we saw as our principle of open government, to move forward on this.

We recognize that sound and prudent long-term energy planning is going to be essential for us to continue that clean, reliable and affordable energy future. We're achieving that goal, and we're achieving it with key objectives through the implementation of the 2013 long-term energy plan. We use that language, "LTEP," often. Since I'm new to the energy portfolio, I'm finding that everything comes in acronyms, so I'm trying to make sure that I don't talk in them.

The long-term energy plan is key. For us right now, being at the part of the process where we're at, launching the long-term energy plan two weeks ago, with the first session happening here in Toronto this week, is very key.

Some of the specifics, I guess, in relation to the past two long-term energy plans and where we're at now—Deputy, maybe I'll hand that to you.

**Mr. Serge Imbrogno:** Thank you, Minister. I'd like to call up Michael Reid, ADM. Michael has been leading our work in terms of when we put Bill 135 through, which really legislates the long-term energy plan process that we started in 2010 and 2013. Part of what we've incorporated into the legislation is an extensive consultation process. In fact, we started that a few days ago in Toronto. Our first session and our public open house was last night at the YMCA as well. We are starting the LTEP process, and I think Michael can take you through some of the important pieces that are incorporated in the legislation.

**Mr. Michael Reid:** Thank you, Deputy. Michael Reid, assistant deputy minister of the strategic, network and agency policy division at the ministry.

As both the minister and the deputy have mentioned, the upcoming long-term energy plan is governed by a new legislative framework that Bill 135 put into place. The bill received royal assent in June 2016 and came into effect on July 1, 2016. Pretty much once it came into effect, the long-term energy planning process was kicked off.

The process that's outlined in Bill 135 has really three distinct steps. The first step is the development of the plan itself. The second is the implementation planning: Once the plan is developed, how do we actually work through the details of making it real? The last phase is the programs and the procurements that come out of the development of the plan and the implementation planning. I'll walk quickly through each of those steps.

In terms of the development, we've already talked a little bit in the proceedings today about the Ontario planning outlook. That really is the first step in the development of the long-term energy plan: that with the legislation outlines, the Minister of Energy will ask the Independent Electricity System Operator to basically prepare a technical report that gives their best assessment of what demand looks like, what supply scenarios look like. This technical report is really to serve as a starting point for the development of the plan itself and the consultations that will be part of the planning process.

This is something that I think we learned from doing the 2010 and 2013 processes, in that the 2013 process, at the end of it, all of the various what we called modules—really, all the data that was associated in the plan—were published when the plan was released so that people could go and look at cost information, demand supply and see all of the various assumptions that went into the plan. We realized that publishing that at the end was helpful, but maybe didn't make that much sense. So the new framework says it right at the very beginning of the process; it's kicked off with this information. So you get the Ontario Planning Outlook itself, which is kind of the high-level report, but I think, as the deputy has already mentioned as well, there is a whole series of modules that you can download, see all the key assumptions and stress-test those assumptions, and then, in the consultations, come in and actually chat with us and challenge us about those assumptions. That technical work was kicked off almost immediately upon the legislation coming into force. The minister at the time asked the IESO to publish that by September 1, which they did. It's up on the website now.

In the OPO, we also did work closely with the Ministry of Environment and Climate Change to make sure that the various scenarios in the planning outlook reflected the climate change action plan and where the future looked like it could be going in terms of the province's climate change activities.

I'd also mention as well that alongside the Ontario planning outlook, there was also a fuel sector technical report that was published. Again, this is I think an innovation of the current long-term energy plan, where we're really trying to make it an integrated energy plan. So it's going to look at both electricity as well as other fuel sources. The IESO isn't a technical expert on the fuel sector, so it was the ministry that commissioned a third party to work through the equivalent on the fuel side of things. That fuel sector technical report is also available on the website for people to download and, again, look at all the assumptions and come to the consultations armed to challenge us with the assumptions and whatnot that are outlined in both of these plans.

**1750**

Following the publication of both of these reports, then we enter into the consultation phase. Again, as the deputy and minister have mentioned, we just kicked that phase off. On Monday we had our first stakeholder consultation session here in Toronto, and then we had a public open house yesterday evening. We have a separate indigenous stream, as well, that's going on, and that kicked off last Thursday, I believe, in Fort William First Nation.

The process that we're going to follow for the development of the next long-term energy plan, again, builds on what the ministry did in 2013. The minister mentioned that the 2013 process was the most extensive the ministry had ever undertaken. We did end up all across the province, in 12 different communities. The way that we modelled those sessions was that in the

daytime we would talk to key energy stakeholders and get their feedback and whatnot on the plan, and then we would have what we call public open houses, and senior ministry officials would be there. We advertised in communities that we were coming. It was a little bit like a science fair. We had a series of poster boards on some key energy topics, just to spark conversation, and then people could come in and talk to us about whatever was on their mind in terms of the energy sector.

At the time, we also held a separate indigenous stream. We had 10 sessions with various First Nation communities as well as Métis communities. The process was pretty successful. We used the Environmental Registry as a way to solicit on-the-record feedback from people, and we had some 1,200 submissions. We were sort of overwhelmed because we had to go through each and every one of them and do the analysis on them.

We also had other forums. We had online questionnaires and things, so that if people didn't want to go through the whole process of an Environmental Registry submission, they could still provide feedback through these questionnaires.

So all of this stuff is part of the process that we will be running this year. We have also tried to make sure that there are even other enhanced online tools that we will use, just to make sure that there is hopefully something for everybody in terms of participating in the development of the next long-term energy plan.

This year—as I've mentioned, we've already kicked it off—we're going to head to some 16 communities across the province to do the public open houses, and then in some 10 communities, including some of the remote communities on the indigenous side, as well, to solicit feedback from the indigenous communities.

The only other thing I'd mention on the indigenous communities is, what we've tried to do is make sure that as a ministry, we're developing long-term relationships. The way that the indigenous sessions work is that we work with the local community to host First Nations from the surrounding areas. Obviously, First Nations and Métis can participate in the general consultations, too. But we just figured that there are some unique challenges and some unique perspectives, so holding this parallel session where you can have those kinds of conversations—

**Mr. Arthur Potts:** Mr. Reid, I want to actually get another piece on the record that I forgot in my initial remarks. I had an opportunity to spend some time with engineers today, and they have a concern in the engineering community—Professional Engineers Ontario—that they're not as widely consulted in our plan. So maybe you could talk a little bit about the role within the ministry that professional engineers are playing in doing the modelling and giving us professional advice, and reassure that community that we are reaching out and want their input, as much as we can, into the long-term energy plan. Many of those are people who are making their livelihoods, who are well versed in the needs of the province and the needs of the different energy mixes.

Maybe you can speak a little bit to where you are with engineers in Ontario.

**Mr. Michael Reid:** You're right: The sector is full of engineers, including the ministry—I'm not, personally—and the IESO. Certainly, that professional background is part of our work. Again, we've reached out very widely to key stakeholders.

We're actually extremely interested to hear what the professional engineers would have to say by way of the formal consultation process, as well, so we'll either hit them as part of the road show or their EBR submissions. Through this next six to eight weeks, which is the consultation phase, the ministry's doors are open, and we do genuinely look forward to hearing all the views.

**Mr. Arthur Potts:** Well, I'll endeavour to make sure the association comes in to see you—

**Mr. Michael Reid:** Yes, we can give you the websites and personal contact information.

**Mr. Arthur Potts:** That would be fantastic. I appreciate it.

**Mr. Michael Reid:** Just quickly, after the consultation phase, we do move into the development of the plan itself, taking what we've actually heard from stakeholders and the general public, as well as the best advice from the IESO and others, and develop the plan. It's a cabinet plan, so it will go to cabinet to be approved by cabinet and released following that approval.

The implementation planning is something that's new to this process, as well, so it's worth mentioning. With the issuance of the plan, there's also the ability to issue directives to both the Ontario Energy Board as well as the Independent Electricity System Operator. The idea there with the IESO is that they're our procurement agents so if there are things that the plan outlines as being needed to procure, they will come up with a plan: "Here's what we think the best way forward." With the Ontario Energy Board, as the minister has already mentioned, we have used section 35 to ask them for their best advice on various regulatory matters. I think the directive would be the same sort of flavour. There are things that we would like their best advice on. After the plan, we can ask them for that advice in a single same directive.

Both the IESO and the OEB would develop those plans. They would come back for a look, and once they have been looked at and approved, then that is the actual program and procurement phase of the plan itself. We'd forward, with the IESO, again, doing what it had outlined in its plan, as well as the Ontario Energy Board moving forward with what they've outlined in their plan.

So from a ministry perspective we do think that the process that is put in place—again, we learned a lot from the 2010 and 2013 processes and have tried to build a framework that allows for as much openness and transparency.

**The Chair (Ms. Cheri DiNovo):** Thank you. I'm afraid your time is up. Right now, we're down to seven minutes and 40 seconds per caucus, or per person. Mr. Smith, official opposition, you're up.

**Mr. Todd Smith:** This would be the speed round, I guess. Thanks, Chair.

Mr. Potts just talked about the affordability of natural gas in Ontario, but unfortunately there's a lot of Ontario that has no access to natural gas and there are a lot of communities in my riding of Prince Edward–Hastings that are still waiting. This was a program that was announced previously to your becoming the minister, but natural gasification in rural Ontario seems to be taking quite some time to roll out. Can you update the committee on the progress currently being made on the expansion of natural gas to certain parts of rural Ontario?

**Hon. Glenn Thibeault:** Thanks for the question, Todd. It is important for us to get the natural gas rollout happening. I will be able to comment a little bit about it and give you some information, but the Ministry of Infrastructure now has that file and looks after that file. In your riding, your part of the province—and I've been up in parts of northern Ontario—where they're still heating their homes with oil and wood, making sure that we get natural gas into these communities is paramount for our government. I use that word "paramount" intentionally, because it is very important.

The Ministry of Infrastructure has this program. It has got a \$200-million loan portion and a \$30-million grant to start getting that program out. Again, just to emphasize the importance of it, when I was at AMO—and I believe many of your colleagues were there as well—many municipal councillors, mayors and municipalities in general have talked to us about the importance of getting this out. It was even asked in the "bear pit," as they call it, when all of us ministers were up there. It was a question that was asked, and it is something that we recognize.

**Mr. Todd Smith:** Yes, sure, and people are starting to wonder, right? It's been a couple of years since this program was promised to be rolled out. There's some frustration out there. We can draw the comparisons to question period this morning when a member of the official opposition was asking the Minister of Northern Development and Mines about the Ring of Fire project that has been promised budget after budget after budget, but there hasn't been any progress on that. I almost want to draw the parallel with this. I hope it doesn't become the same thing. I hope this actually does start to expand into rural Ontario. As I say, there are a number in my community—Prince Edward county is one of them, right across on the North Shore, across the bridge from Belleville. That's a community that is hoping to get access to natural gas as a part of this program. Their feeling is that the program has stalled at the Ontario Energy Board. Is that the case? Is this program stuck at the Ontario Energy Board?

1800

**Hon. Glenn Thibeault:** As I said from the outset, this is something that has been taken over from the OEB, but maybe, Deputy, you can offer some insight to that.

**Mr. Serge Imbrogno:** With respect to the OEB, the OEB announced a generic hearing process back, I think, in January 2016. There were 46 intervenors at the OEB. This was to determine the rules going forward for expansion by Union and Enbridge into communities. I

think Union had approached the OEB with some applications. The OEB stepped back and just said, "Let's have a hearing to determine what the process will be going forward for anyone who applies." That hearing has been ongoing. Our understanding is that the OEB will come out in October—shortly—with the results of the generic hearing.

Once that is in place, then Union and Enbridge can come forward and they'll know what the rules of the game are in terms of moving forward with their own expansion plans. That could be supplemented by the funds that are available through the Ministry of Infrastructure in terms of the grants and the loans as well.

**Mr. Todd Smith:** This is imperative for people in rural Ontario. You know what the price of electricity is doing in rural Ontario. If they had the ability to switch to natural gas, there are a lot of people that I believe would do that to heat their homes in the wintertime.

Is there anything further that the government can do to get this ball rolling, to move it forward quicker?

**Mr. Serge Imbrogno:** I'll just start.

**Hon. Glenn Thibeault:** Sure.

**Mr. Serge Imbrogno:** I think the minister did ask the OEB to move forward with it, and that's why we have the generic hearings. Union has said in those hearings that they have 29 projects that, once these generic hearings are over, they'll be able to move forward with to the OEB for approvals. Enbridge has 39 expansion projects. I think with the generic hearing completed, there will be more progress going forward. That's through the OEB process. That could be supplemented from the government in terms of its loan program and grant program as well.

**Mr. Todd Smith:** Is there any way to forecast for residents in the community of Rossmore when they might actually see pipes in the ground?

**Mr. Serge Imbrogno:** That's difficult for us to forecast, but I think we've put everything in place that allows that to happen, with both the generic hearing either complete or about to be complete, and the government moving forward with the loans and the grant program.

**Hon. Glenn Thibeault:** It's in the budget; take that for what it is. We are moving this forward as quickly as we can because, as you said—I've been to places like Sioux Lookout: a beautiful community, but when you drive through almost what seems as downtown, you're still seeing the oil fuel tanks on the outside of the homes.

I understand you advocating on behalf of your constituency—and good for you; that's important for you to continue to do—but it is something that we do see is important for right across the province.

**Mr. Todd Smith:** Right. I'm talking about my communities because I represent Prince Edward–Hastings, but obviously this is an issue for rural residents across the province.

There was a leaked climate change action plan, as you will recall, prior to you becoming the minister. So there are a lot of skeptics out there as to whether or not this government is actually committed to the expansion of

natural gas into rural Ontario. I guess I just want to know for sure from you, Minister, if this is a priority for rural Ontario moving forward.

**Hon. Glenn Thibeault:** It is. Hopefully that's as simple as an answer can be. By saying that we're committing \$200 million, that's a significant amount of money that I'm sure we can all agree, in the Natural Gas Access Loan program, and \$30 million through the Natural Gas Economic Development Grant, we are taking that seriously and we do want to see that happen.

**Mr. Todd Smith:** It's extremely important. Our rural communities that don't have access are obviously depending on it. When they hear about the leaked document and the fact that there are those in your government who believe that natural gas should be phased out in the future as far as a home heating fuel goes, you can understand why there are skeptics in rural Ontario, I'm sure.

**The Chair (Ms. Cheri DiNovo):** I'm afraid that is time, Mr. Smith.

We move to Mr. Tabuns.

**Mr. Peter Tabuns:** So, where I left off—I didn't realize I'd get more time; it's a wonderful thing. Can you provide for us a report on your assessment of the vulnerabilities of our electricity system to climate change and a list of the actions that you're going to be taking to address those vulnerabilities? "Yes" would be great.

**Mr. Serge Imbrogno:** I would suggest that we could walk you through what we do through the IESO and the bulk system planning that Hydro One does. We could talk to you about what the OEB does with the distribution companies, what international agreements are in place and what MOECC is doing as well.

**Mr. Peter Tabuns:** Are you saying to me that there is no current assessment of the vulnerabilities of the system that centralizes the information in one place?

**Mr. Serge Imbrogno:** I'm saying that there are a number of agencies. All of the agencies are looking at climate change as part of their business planning going forward. MOECC is updating its climate change action plan. That's happening now, and they'll be moving forward.

**Mr. Peter Tabuns:** Have you done an assessment of the vulnerability of the electricity system in Ontario to climate change? Have you done that?

**Mr. Serge Imbrogno:** Hydro One would have done an assessment within Hydro One. The IESO has international standards, so they're continuously monitoring and thinking about how the system needs to change. Distribution companies are doing the same. Toronto Hydro is doing it. So I think there is a lot of attention towards climate change adaptation. And within the government, the MOECC is pulling a plan together as well.

**Hon. Glenn Thibeault:** The IESO, through its market rules, defines the roles and obligations for all of the market participants who own or operate elements within their controlled grid. It's included in the obligations and those requirements to comply with those types of reliability standards. So the IESO, as the deputy was emphasizing, is key to ensure that we have our adaptation policy implemented in that.

**Mr. Peter Tabuns:** What sort of world are you planning for? Are you planning for a 1.5-centigrade degree increase? Two? Three? Four? What standard are you using?

**Mr. Serge Imbrogno:** I think MOECC would outline that in their climate change action plan and in their adaptation plan, which they're moving forward with.

**Mr. Peter Tabuns:** I've looked at the climate change action plan. I'm asking you. You're the ones responsible for planning energy in this province. Apparently you don't have a central assessment of our vulnerability; it's distributed throughout. I'm not even sure you do a central assessment of those plans. What standard are you applying? What sort of climate are you planning for?

**Mr. Serge Imbrogno:** We are working closely with MOECC. As I've said, we're updating the climate change adaptation plan. We work closely with the IESO. They have international obligations as well. In terms of a specific standard, as I've said, we're working with MOECC.

**Mr. Peter Tabuns:** So you don't, to date, have your own plan for the electricity system. Is that correct?

**Mr. Serge Imbrogno:** The IESO is our system planner. The IESO, as the minister said, requires standards of participants. It also, itself, is required to set standards based on its international obligations with the US. I think Hydro One also has its own standards and requirements to consider climate change going forward. So I think everyone is planning. MOECC is coordinating across the government. There are plans in place, and each agency is moving forward with those plans.

**Mr. Peter Tabuns:** You've offered me a briefing. I'll take you up on that offer. From what you've said to me, you don't have a comprehensive assessment of the risks and the steps that need to be taken. I would like the briefing so that you can tell me—

**Mr. Serge Imbrogno:** I wasn't sure if I offered you a briefing, but—

**Mr. Peter Tabuns:** Well, I thought you said you'd take me through what's there.

**Mr. Serge Imbrogno:** Right now, we can walk you through. I can have our ADMs come up who are working closely with MOECC to give you more detail, if that would be of assistance.

**Mr. Peter Tabuns:** I'm not sure I have enough time, but bring up your ADM and tell me what has been done.

**Hon. Glenn Thibeault:** While we're bringing up the ADM, I think I can outline some of the stuff that's here in one of my notes in relation to adaptation actions by the Ministry of Energy and the agencies, which I think you were asking in relation to.

Specifically talking about the IESO, they maintain a list of all registered market participants, including over 200 names of generators, consumers, LDCs, transmitters, traders and centralized forecasters. Each participant submits an annual emergency plan to the IESO, used to inform the Ontario electricity emergency plan, or OEEP—as I said, everything in energy is an acronym—

which describes the coordinated efforts required when facing a variety of challenges.

**1810**

The IESO implements a new operating policy. It did in 2012—actions in advance of extreme weather—to outline actions that may be taken to prepare the electricity system for extreme weather. The IESO has an 18-month outlook established and forecast for Ontario's electricity system that includes temperature fluctuations and severe storms.

Exercises have been carried out to predict how various extreme events across North America would affect Ontario's system, and the research allows the IESO to increase the grid's preparedness for potential cascading outages. The IESO has a variety of operational options to maintain reliability when faced with extreme weather situations. Outages can be cancelled or deferred, additional generation can be made available and several additional layers of reliability can be deployed surgically, as needed, to augment grid resiliency.

I'm wondering if there's anything else that we can add to this. Maybe—

**Mr. Peter Tabuns:** It still doesn't sound like what your climate-ready policy is supposed to be providing, but I'm happy to hear the staff on it.

**Mr. Michael Reid:** Well, I think you can continue on in terms of some of the work that the IESO has been doing. The Ontario Energy Board is also doing some work. But in addition to the points that the minister raised, the IESO also has a regional planning process which actually looks specifically at electrical regions, working with the local utilities in those regions, as well as Hydro One from a transmission perspective.

So, through this regional planning process as well, the IESO has been working with local utilities to work through some of the specific regional impacts that may happen with respect to climate change and adaptation.

The Ontario Energy Board is also adopting new measures with respect to extreme weather events and—

**The Chair (Ms. Cheri DiNovo):** And I'm afraid that is your time.

We now move to the government side: Ms. Vernile.

**Ms. Daiene Vernile:** Thank you very much, Chair. I was a little worried this afternoon that I was not going to get the opportunity to wade in here and make some comments about the great work that you were doing, Minister.

I want to ask you about smart grid technologies. You may know that in my community of Kitchener-Waterloo, not long ago our region was named as one of the most intelligent communities on the planet. Whether you're looking at our high-tech sector or are looking at our advanced manufacturing, there are many people there who are very committed to and concerned about green energy and green technology.

I've been inviting you to come to my community. I want you to come see this brand new, massive solar array that went on the roof of the Mennonite Central Committee. This is a non-profit group, but they see the value

in green energy. This panel is on raised racking. It's angled in a certain way to make it easy to clean, snow off and also to do maintenance. They are producing so much power—51,000 kilowatts of energy—that they're now selling it back to the city. I think this is a great example of clean energy technology that we should see reproduced elsewhere. I would love to have you come there and take a look at this.

My question to you is about job creation. We know that when it comes to producing technology like this, there is great opportunity to produce thousands and thousands of jobs. Talk to us, if you can, about these made-in-Ontario solutions and the jobs that we're seeing created.

**Hon. Glenn Thibeault:** Thank you for that question and thank you for the invite to your great riding. I think that after today's committee meeting, I need to get to a couple of communities to see some great work that's happening in the energy sector.

I talked about that initially to my honourable colleague MPP Smith, in relation to energy storage. It's very exciting to see the growth that's happening in that sector. It is that tipping point, that precipice, in which we're going to see great things happen in this sector. But it is creating good-paying jobs within our province. In the clean tech sector alone, the province has created a total of 42,000 jobs. I'm pretty adamant that we'll continue to see that grow.

In relation to the smart grid and smart grid technologies, I'm very proud to be making an announcement tomorrow with a couple of organizations that brought forward some great technologies: solar panels and storage and combining the renewable piece with the storage piece. That's something that I know we're going to see more and more of.

Everyone hears about Elon Musk and Tesla and the great work that they're doing. I tip my hat to them, that they're doing this great work out there. But, really, you can look to Ontario as a jurisdiction that is leading the way when it comes to green technologies.

It's great that we can hear about the Mennonite community centre, in your riding, putting solar panels on the roof. Or I can talk about Pioneer Manor in my riding, which put solar panels on their roof. This is a long-term-care home that has solar panels on the roof, to help them generate a little bit of revenue but, at the same time, contribute to that clean, reliable grid.

For us, it's exciting to be able to see the growth that's happening in this sector, it's exciting to see the jobs that are created and it's exciting to see the benefits that we're creating for the next generation.

I think we can go around the room and we all wear other hats besides the hats that we wear as politicians, either as MPP or as minister. The most important hat that I wear is "father," as a parent. You always worry about what kind of world we're going to leave for our kids. I have two daughters that I love very much—13 and nine years old. I know we could go around here and we'd all have family that we care about dearly. So when you eliminate coal, and you no longer have to send out email

notices, or notices to the news media, to tell people to worry about going outside and having to worry about breathing, that goes a long way.

I talked earlier about the reductions—I used Toronto’s Vital Signs report, but every Vital Signs report has some great information about the reductions that we’re making in terms of clean energy and smart grid technologies, the benefits that that has to really help families in their health care system, in their health care, in many aspects. Eliminating air pollution is so key for us as a government, and we have invested in that heavily. The Ministry of Energy has done a lot of heavy lifting in terms of reducing the GHGs that we would necessarily produce in the past to create electricity.

With the Quebec announcement—two terawatts of power that we’re going to be bringing in to help us target specifically the natural gas peaking generation—that will actually go a long way for us in helping us reduce the amount of GHGs that we’re producing, up to one megatonne. That’s another 25% reduction that we’re going to see within the electricity sector. For us, we’re very excited with this opportunity to be able to partner with Quebec. We’re going to continue to work with Quebec. This was a three-year negotiation with our neighbour to the east, and it was great that we were able to get that done.

Now we’re going to continue to work with the industry sectors that are within Ontario—energy storage, the innovation piece. I know, Deputy, I can get you to speak a little bit about so many of the innovative companies that we have out there that are coming forward with great pieces of technology, from the pump storage that happens in MPP Smith’s riding to some of the great storage that’s happening here in Toronto and other places in northern Ontario.

With that, I’ll hand it over to the deputy to speak for about how long?

**The Chair (Ms. Cheri DiNovo):** Less than a minute.

**Hon. Glenn Thibeault:** Good luck, Deputy.

**Ms. Daiene Vernile:** This is vitally important in my community, where we have upwards of almost 3,000 high-tech companies. Their innovating; they’re producing. What is to stop us from being innovators on this planet and exporting what we know to other jurisdictions?

**Mr. Serge Imbrogno:** Absolutely. One of our LTEP consultations will be in Kitchener. We’re meeting with the University of Waterloo in the morning. I think we’ll probably attract a lot of the innovation crowd to that consultation.

The government in 2011 did put in place the Smart Grid Fund. It was a \$50-million fund that was targeted to investing in the smart grid and building the smart grid. To date, we’ve created about 900 jobs and \$170 million—

**The Chair (Ms. Cheri DiNovo):** I’m afraid that concludes the committee’s consideration of the estimates of the Minister of Energy.

Standing order 66(b) requires that the Chair put, without further amendment or debate, every question necessary to dispose of the estimates. Are the members ready to vote?

Shall vote 2901, ministry administration program, carry? All those in favour, say “aye.” Opposed? I declare it carried.

Shall vote 2902, energy development and management, carry? Those in favour? Those opposed? I declare it carried.

Shall vote 2905, electricity price mitigation, carry? In favour? Opposed? I declare it carried.

Shall vote 2906, strategic asset management, carry? In favour?

**Mr. Peter Tabuns:** Recorded vote.

**The Chair (Ms. Cheri DiNovo):** Pardon me?

*Interjection.*

**Mr. Peter Tabuns:** I was too late.

**The Chair (Ms. Cheri DiNovo):** Opposed? Carried.

Shall the 2016-17 estimates of the Ministry of Energy carry?

**Mr. Peter Tabuns:** Recorded vote.

**The Chair (Ms. Cheri DiNovo):** Okay, a recorded vote.

#### Ayes

Dong, Kiwala, Potts, Vernile.

#### Nays

Smith, Tabuns.

**The Chair (Ms. Cheri DiNovo):** Carried.

Shall I report the 2016-17 estimates of the Ministry of Energy to the House? All those in favour? Opposed? Carried.

This committee now stands adjourned until 9 a.m. on Tuesday, November 1, when we will resume consideration of the estimates of the Ministry of Agriculture, Food and Rural Affairs.

We are adjourned.

*The committee adjourned at 1822.*

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