G-32

ISSN 1180-5218

Legislative Assembly
of Ontario

First Session, 41st Parliament

Assemblée législative
de l'Ontario

Première session, 41e législature

Official Report of Debates (Hansard)

Wednesday 7 October 2015

Journal des débats (Hansard)

Mercredi 7 octobre 2015

Standing Committee on General Government

Ending Coal
for Cleaner Air Act, 2015

Comité permanent des affaires gouvernementales

Loi de 2015
sur l'abandon du charbon
pour un air plus propre

Chair: Grant Crack
Clerk: Sylwia Przezdziecki

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Room 500, West Wing, Legislative Building
111 Wellesley Street West, Queen's Park
Toronto ON M7A 1A2
Telephone 416-325-7400; fax 416-325-7430
Published by the Legislative Assembly of Ontario

Service du Journal des débats et d'interprétation
Salle 500, aile ouest, Édifice du Parlement
111, rue Wellesley ouest, Queen's Park
Toronto ON M7A 1A2
Téléphone, 416-325-7400; télécopieur, 416-325-7430
Publié par l'Assemblée législative de l'Ontario

LEGISLATIVE ASSEMBLY OF ONTARIO

STANDING COMMITTEE ON GENERAL GOVERNMENT

Wednesday 7 October 2015

ASSEMBLÉE LÉGISLATIVE DE L'ONTARIO

COMITÉ PERMANENT DES AFFAIRES GOUVERNEMENTALES

Mercredi 7 octobre 2015

The committee met at 1603 in committee room 2.

ENDING COAL FOR CLEANER AIR ACT, 2015

LOI DE 2015 SUR L'ABANDON DU CHARBON POUR UN AIR PLUS PROPRE

Consideration of the following bill:

Bill 9, An Act to amend the Environmental Protection Act to require the cessation of coal use to generate electricity at generation facilities / Projet de loi 9, Loi modifiant la Loi sur la protection de l'environnement pour exiger la cessation de l'utilisation du charbon pour produire de l'électricité dans les installations de production.

The Vice-Chair (Mr. Joe Dickson): Good afternoon, ladies and gentlemen. Welcome to the Standing Committee on General Government. I think everyone is familiar with the process. Each witness will receive up to five minutes for their presentation, followed by nine minutes, or three minutes each, for questions from the committee members.

Deadline for written submissions—I'm supposed to say this at the end; I'll do it right now—is 6 p.m., Thursday, October 8. Is that right? It's probably wrong. We'll change it at the end.

We're dealing with Bill 9, An Act to amend the Environmental Protection Act to require the cessation of coal use to generate electricity at generation facilities. I just took the first lady to come in the door on my left-hand side, other than government, so I will start with the opposition party, Ms. Thompson or Mr. McDonell—after we do the speaker. Okay? That was a test.

ONTARIO PUBLIC HEALTH ASSOCIATION

The Vice-Chair (Mr. Joe Dickson): I wonder if you would welcome, from the Ontario Public Health Association, Pegeen Walsh, for her presentation. It's very nice to have you with us. Are you okay there?

Ms. Pegeen Walsh: Yes, thank you very much.

The Vice-Chair (Mr. Joe Dickson): Thank you very much.

Ms. Pegeen Walsh: Thank you for the opportunity to appear before your committee. My name is Pegeen Walsh, and I'm the executive director of the Ontario Public Health Association.

Our non-profit, non-partisan association brings together those committed to improving people's health from the public and community health, academic, voluntary and private sectors. Many of our members, be they public health nurses, inspectors, nutritionists, doctors, planners, health promoters, epidemiologists or environmental health managers, are working on the front lines to protect and improve public health in their communities.

I am also the co-chair of EcoHealth Ontario, a collaborative of professionals in the fields of public health, medicine, education, planning and the environment. We are working together to better understand the relationships between the environment and health, and to increase the quality and diversity of urban and rural spaces in which we live.

The Ontario Public Health Association has been a champion for healthy public policy since its creation over 66 years ago. We are committed to strategies focusing on prevention, health protection and promotion. As such, we are supportive of the amendments outlined in Bill 9, as they represent an important step in reaching our goal of a healthier province. The major determinants of health transcend the health care system, including the environment in which Ontarians live. We therefore encourage government to consider health in all policies and take efforts to protect Ontarians.

OPHA, along with many other groups, advocated for the elimination of coal-fired plants for over a decade. In our 2002 report entitled Beyond Coal: Power, Public Health, and the Environment, we called on the Ontario government to phase out coal-fired power plants. We also recommended that Ontario establish a shared savings plan to reward utilities for investing in energy efficiency programs and encourage policies which reduce emissions from non-renewable fuel sources.

With the greater availability of sources of clean, renewable energy, Ontario no longer has the need for the burning of coal as a source of electricity. While the phasing out of coal may now seem like old news, I would like to review why these changes were so important, given that there are still jurisdictions that are burning coal. My remarks can also serve as a reminder that we can tackle challenging health and environmental issues when different sectors come together and cross-party support is achieved.

Coal burning has been proven as one of the major contributors to pollution and greenhouse gases. Aside from the immediate harms this brings to human health, it can also speed the rate of global warming and climate change, which has grave consequences. Back in 2002, we recognized the importance of reducing greenhouse gases. Since then, research and new evidence have underscored the urgency.

Coal continues to represent an enormous burden on the climate and air quality. The David Suzuki Foundation, who I gather you have heard from, talks about how an 150-megawatt coal-fired plant can produce more than a million tonnes of greenhouse gas emissions per year.

Burning coal produces large quantities of chemical matter which can cause breathing and respiratory problems, irritation, inflammation, damage to the lungs, and premature death. Air quality affects not only individuals with heart and breathing problems, but also pregnant women, the very young and the elderly. The chemicals released into the air can also result in acid rain, which can have drastic ecological impacts on lakes by changing the water's acidity and making them uninhabitable for fish, plants and animals. Coal-fired power is also a leading source of mercury emissions in North America, which are dangerous to people and wildlife.

Climate change resulting from the burning of coal has a strong impact on human health. As the climate changes, it brings tropical weather to higher latitudes; tropical diseases like West Nile virus and Lyme disease will follow. Ecosystem disruption will make the outbreak of water-borne diseases more likely as well. Studies also show that warmer temperatures drive up pollen counts, which can worsen symptoms of allergy sufferers.

Other health impacts expected from climate change include increases in heat waves, air pollution, and extreme weather events such as tornadoes and floods. Indirectly, health impacts expected include increases in drought, changes to water and food supplies, and increases in the range of vector-borne and infectious diseases.

With the phase-out of coal-fired power plants in Ontario, the province has seen significant reductions in emissions, and improvements in air quality and human health. By ensuring coal burning is banned as a source of electricity, we can help reduce health care costs, minimize future environment damage, and install a protective barrier to regressive energy policy.

The Ontario Clean Air Alliance has noted that the phasing-out of coal has shown that it is possible to take meaningful action on climate change and air quality, without stalling economic growth or lowering quality of life. As a society, we tend to be reactive rather than proactive. It costs less to prevent health and environmental problems than it does to treat them.

OPHA encourages the Legislature to pass Bill 9 as an insurance measure. We welcome the opportunity—

The Vice-Chair (Mr. Joe Dickson): Thirty seconds. You're fine. Keep going.

Ms. Pegeen Walsh: We welcome the opportunity to work with legislators on proactive initiatives that address climate change, land use planning, green spaces, air quality, and industrial and vehicle emissions. We can't afford not to act when it comes to safeguarding the determinants of our health.

Thank you for the opportunity to convey the ideas and concerns of our association.

The Vice-Chair (Mr. Joe Dickson): Thank you very much. You did that with one second to spare.

I would like to now go to the opposition party, to the young lady there on my left.

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Ms. Lisa M. Thompson: Very good. Thank you very much, Chair, and thank you so much for coming in. I really appreciate your comments.

I have two questions for you. In your opening remarks, page 1, you mentioned that you recommended that "Ontario establish a shared savings plan to reward utilities for investing in energy efficiency programs and encourage policies which reduce emissions from non-renewable fuel sources."

What kind of response did you get from the government with regard to that recommendation?

Ms. Pegeen Walsh: This is something that we put together in 2002. At that time, it was very challenging to get action. Since then, with different governments that have come to the fore, there have been initiatives that are moving towards that goal. Our association would argue that there is still more that could be done.

Ms. Lisa M. Thompson: Expand on that. What more could be done?

Ms. Pegeen Walsh: Right now the government is working on a climate change strategy. We think that's going to be an important initiative. There is also a review being done on land use planning, so it's very important how we design our communities. They can also encourage use of public transit and active transportation.

Ms. Lisa M. Thompson: Okay. Thank you.

Changing gears here a little bit, you talk about climate change, and we all have to appreciate that we can do better. Your report points to climate change specifically bringing tropical weather, which leads to tropical diseases like West Nile and Lyme disease. Does your organization recognize that Lyme disease does exist in Ontario?

Ms. Pegeen Walsh: Yes. If you go to the website of Public Health Ontario, they've been doing some scenario and modelling planning on how, as the temperature warms, these diseases will be reaching further north in Ontario.

Ms. Lisa M. Thompson: Okay. Thank you for that. Why do you think people who contract Lyme disease have to go to the States for proper treatment? It's in the report.

Ms. Pegeen Walsh: I'm not aware of that; I can't speak to where people are getting treated.

Ms. Lisa M. Thompson: That's it.

Mr. Jim McDonell: Just a quick question.

The Vice-Chair (Mr. Joe Dickson): Go ahead, sir.

Mr. Jim McDonell: Just some information—I know the bill is a little bit like apple pie. We no longer use coal. Actually, back in 2003, I think Elizabeth Witmer was the first—she was the PC minister who actually ordered the first closing of the first coal site. Now we're 100% off of coal as of sometime last year.

We are now using nuclear as our mainstay; I think it's 65%. Water power is the next largest at 20%. I think around 17% is natural gas, with renewables between 1% and 3%, depending on the day.

As we pick up on natural gas—

The Vice-Chair (Mr. Joe Dickson): Ten seconds.

Mr. Jim McDonell: —anything from your organization, a comment on the natural gas sources for electricity?

Ms. Pegeen Walsh: We recognize that energy policy is very challenging and we would like to see more emphasis on renewable sources. Obviously, that's better for health and it's better for the environment. We're making the point that as different parties came together to support the banning of coal, it can make a difference.

The Vice-Chair (Mr. Joe Dickson): Thank you very much. We appreciate that. And thank you for the question MPP McDonell.

The next speaker will be the distinguished gentleman from the third party.

Mr. Percy Hatfield: Why, thank you, Mr. Chair, and good afternoon to you, sir.

The Vice-Chair (Mr. Joe Dickson): It's hard to see down that far.

Mr. Percy Hatfield: It's okay.

Thank you for being here, Pegeen. I guess I agree with you somewhat when you said the phasing out of coal may now seem like old news, but what's next for the OPHA? What are your other objectives now? What are you going to tackle to help us lead to cleaner air and better overall health?

Ms. Pegeen Walsh: There was a terrific report that came out from the medical officers of health in the greater Toronto-Hamilton area about land use planning. There is a lot more we could be doing between planners and public health to design our cities to make them more healthy environments. There is more and more research that is showing that the way our cities are designed can affect disease rates and affect air quality and climate change. So that's our priority right now.

Mr. Percy Hatfield: Are you getting involved in all of the discussions around the greenbelt and what we have—

Ms. Pegeen Walsh: Yes. We put in a submission and appeared before the Crombie panel.

We are also calling for help in all policies legislation. We think it would be important that every time governments make the initiative—investments, programs, policies—that the health implications are looked at.

Mr. Percy Hatfield: Does your association's mandate end at the border or do you look beyond into Michigan, Ohio, Indiana and places where they still burn coal? That air pollution—the prevailing winds just blow it over to my part of the province, at least down around Windsor?

Ms. Pegeen Walsh: We are concerned first and foremost about Ontarians, but we are part of a global community so we will be speaking out on things that affect Ontarians. That's why I wanted to come today, because, as much as we banned it here, we are being impacted by what's happening elsewhere, so governments need to be conscious and encourage changes among other jurisdictions.

Mr. Percy Hatfield: As part of that global outlook, does your association network with similar organizations in the northern American states on these issues?

Ms. Pegeen Walsh: Our main network tends to be with other provincial associations and the Canadian Public Health Association, and national organizations like the Canadian Association of Physicians for the Environment. So we're working through our Canadian networks to connect beyond Ontario borders.

Mr. Percy Hatfield: I understand you're working on active transportation as well. What are you doing in that regard?

Ms. Pegeen Walsh: Again, we're advocating for more investment in public health initiatives. For example, we've created an online tool where planners and public health can learn more about each other's discipline and find ways to work more closely together in city planning, whether it means changes to official plans or what have you.

Mr. Percy Hatfield: Did you ever take a stand on, say, the Union Pearson Express, which is burning diesel instead of being electrified? Do you ever take a stand on something like that?

Ms. Pegeen Walsh: We try to look at causes and go upstream as much as possible rather than focusing on issue specifics like that one.

Mr. Percy Hatfield: Thank you.

The Vice-Chair (Mr. Joe Dickson): Thank you very much, MPP Hatfield. I will now go to the government side. It is Ms. Wong.

Ms. Soo Wong: Thank you very much, Mr. Chair. Thank you, Ms. Walsh, for being here today. Let me put on the table that I'm familiar with this organization because I came from public health before I became a member of provincial Parliament. So I'm very familiar with your work.

On the last part of your page 2, in your conclusion: "OPHA encourages the Legislature to pass Bill 9 as an insurance measure." As you heard, even in this morning's debate, there is a presumption that this particular bill is redundant. Can you elaborate on why this bill is so important not just to the province of Ontario but across Canada and beyond?

Ms. Pegeen Walsh: On the one hand, we've identified this as an insurance measure. There's a loophole there and we want to make sure that is plugged so that there aren't any changes in the future and that somehow we might consider going back, because it's very important that we continue on this path of having clean energy sources.

Ms. Soo Wong: The other thing here is that I know that OPHA has been a leader when it comes to environmental health issues and public health policy. How do you see this particular legislation in terms of protecting air quality and protecting the health of all of Ontario and beyond? I hear about this legislation having a huge impact in the northern upper states—New York and elsewhere.

Ms. Pegeen Walsh: Again, we wanted to appear because it's important that, as we have some successes, we stop and evaluate and learn from that. As well, hopefully, that can support others in their efforts as they're trying to effect similar changes in their jurisdictions.

Ms. Soo Wong: As a co-chair of EcoHealth Ontario, do you collaborate with your colleagues in the United States? Is this issue about coal health also discussed in your committee?

Ms. Pegeen Walsh: Right now we're looking at Ontario. We feel there's much that can be done in terms of protecting green spaces, investing in more green spaces and better understanding the links between health and environment. So our focus has been mainly on Ontario, and our representatives are coming from that area. On the one hand, the David Suzuki Foundation is part of that, so we do have networks that go beyond Ontario as part of EcoHealth.

Ms. Soo Wong: Anyway, I want to be on record, Mr. Chair, that the great work of Ontario Public Health Association leading the discussion about health and the health of all Ontarians—I want to say thank you to your association as well as to the various groups that are attached to OPHA. Thank you for your good work.

Ms. Pegeen Walsh: Thank you.

The Vice-Chair (Mr. Joe Dickson): Further from the government?

Thank you very much, Ms. Walsh, on behalf of the Ontario Public Health Association.

CANADIAN NUCLEAR ASSOCIATION

The Vice-Chair (Mr. Joe Dickson): We now go to the second item on the agenda, and that is the Canadian Nuclear Association. We welcome Malcolm Bernard, director of communications, the Canadian Nuclear Association. Good to have you with us, sir.

Mr. Malcolm Bernard: Thank you for that kind introduction, sir. It's very much appreciated. I'm pinch-hitting today for Dr. John Barrett, our president, who fell ill overnight and is unable to attend. He sends his best regards.

Our association represents approximately 100 diverse member organizations involved in improving Canadians' lives through civilian nuclear technologies. Two of our members, OPG and Bruce Power, produced more than 62% of Ontario's electricity last year through clean, reliable and affordable nuclear generation.

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We are proud of the role that our members have played in helping Ontario rid itself of coal-fired generation. Reaching this milestone is widely recognized as the single greatest climate change achievement in North America. Nuclear technology played a key role in supporting Ontario policy, as it has since its earliest days.

Candu reactor technology was born and raised in this province, has its supply chain in this province, is an integral part of our engineering and manufacturing base, has been a successful technology export to six other countries, including China, Korea and India, and has been running safely for over 60 years now. That's why Ontario trusts it to provide the foundation of our electrical supply.

Ontario has a solid long-term energy plan, and the nuclear industry supports it and wants to help the province achieve its goals. LTEP sees nuclear as the backbone of the supply mix in Ontario. Refurbishment of 10 of the province's 18 generating units will assure that support for the province's electricity needs—are met for another 25 years or more. It will also be a fantastic economic driver for Ontario growth and jobs, given that nuclear's supply chain is right here in the province. Not only will refurbishment create an estimated 65,000 person years of work, but it will enable thousands more jobs at the nuclear power plants to continue for decades.

But we're here today to talk about the environment. The province has been making important strides towards cleaner air, and the results show in the reduction of the number of smog days in Toronto in recent years, with a payoff in the health of Ontarians and our neighbours in states and provinces alongside us.

The nuclear industry encourages this work, but we know that we are also shifting our focus now to a broader challenge, a global challenge, that of climate change. That means further reducing greenhouse gases. Unlike other pollutants that can be processed and absorbed to some extent, GHGs accumulate and persist in the atmosphere. When we put them there, they remain for centuries. This implies that, unless we accept the heating of the planet as inevitable, our net emissions must eventually go to zero, or even negative, later this century. That is a very different challenge from the traditional emission measures. It's not just about emitting less; it's about emitting zero.

That means three things for Ontario. It means electrifying activities that currently use fossil fuels. Cars are the most visible requirement, but industry must also decarbonize so that we can reach our GHG targets. Let's not deceive ourselves: We will need more electricity in the future, not less. It means also generating that electricity without GHGs. And it means having an electrical supply that is competitively priced and very reliable—or else people just won't make the switch away from fossil fuels. Expensive power would make that shift much harder.

What does this all mean? The bottom line: It means both more renewables and more nuclear; not one or the other, but both.

The exit from coal, which this legislation before you today would seal and protect, happened only because of the successful restart of the nuclear units at the Bruce and

Pickering nuclear power plants and the improved performance of Ontario's nuclear fleet. This added close to 4,000 megawatts of clean electricity to the grid. Those units affordably and reliably picked up the power load that coal was leaving behind—cleaning up the air that we breathe, saving millions in health care costs and lost output related to respiratory ailments and lifespans.

That is the reality which has given Ontario its remarkable success story in ending coal-generated electricity.

I'll just skip forward in the interests of time, Mr. Chair.

It's worth noting that Ontario grew this technology. It is an integral part of Ontario's engineering and manufacturing capability. Keeping nuclear at the centre of our energy mix means continued investment in Ontario science and technology; in Ontario engineering; in Ontario pipes, valves, pumps, electronics, robotics, quality control; and, finally, in durable, well-trained jobs for Ontarians. That means continued leadership for Ontario, not only in this province, but also in Canada and beyond.

Thank you. I'll take any of your questions.

The Vice-Chair (Mr. Joe Dickson): Thank you very much, Mr. Bernard. You have 11 seconds left, but we'll proceed to the third party representative, MPP Hatfield.

Mr. Percy Hatfield: Good afternoon, Malcolm. Thanks for being here.

Mr. Malcolm Bernard: Good afternoon, sir.

Mr. Percy Hatfield: You talked about the restart of the nuclear units at Bruce and Pickering. When did that happen?

Mr. Malcolm Bernard: Between 2000 and 2012, six units came back online: the entire A side at Bruce Power, so units 1, 2, 3 and 4 at Bruce; and also two units at Pickering, in 2003 and 2005.

Mr. Percy Hatfield: What was the cost of that?

Mr. Malcolm Bernard: I don't have the cost figures with me, sir. I'd be pleased to provide them as best as I can.

Mr. Percy Hatfield: Thank you. What would be the cost of the refurbishment of the province's 18 generating units?

Mr. Malcolm Bernard: I couldn't speak to refurbishing 18. We're contemplating 10; that's the proposed project.

It's worth noting that the units at Pickering would not be refurbished and two units at Bruce Power have already been refurbished. That leaves 10.

The current estimate is $25 billion. The final amount will depend on the final project plans from both OPG and Bruce Power. I know that OPG is due to release its plan sometime this month, and Bruce Power is still in negotiations.

Mr. Percy Hatfield: I don't know if the ceilings in this room are high enough. When we normally talk about an estimated cost going into building or refurbishing nuclear, the end cost seems to skyrocket. We're talking $25 billion at this point. How can we believe that that would be the final result?

Mr. Malcolm Bernard: Well, sir, I would invite you to consider the considerable efforts the industry is making to ensure that this comes in on time and on budget.

Mr. Percy Hatfield: Yes, but you've done that in the past as well—on time, or tried to get on time and on budget. You haven't done it yet.

Mr. Malcolm Bernard: In fact, if you speak to Candu Energy, you'll notice that the installations over the past 15 years—new reactors were installed in China, Korea, Romania and Argentina, all of them on time and all on budget. This is the same company that is at the heart of restoring these reactors in Ontario.

As well, OPG has put in place a reactor mock-up at Darlington that precisely replicates the reactors that will be renovated. This enables crews to test their equipment and also their teams, and perfect their training before going in. You can imagine, Mr. Hatfield, that finding out halfway through a refurbishment project that you have the wrong customized tool would cause a fair amount of damage.

The industry is doing everything it can to make sure its crews and its equipment are ready so that we can proceed through refurbishment and deliver on time and on budget. We know the challenge that we face and we're determined to meet it.

Mr. Percy Hatfield: Have we learned anything from the recent past, say in Japan, about the dangers of nuclear power?

Mr. Malcolm Bernard: It's obvious that the accident in 2011 captured the world's attention and led some countries to re-evaluate their dependence on nuclear.

At the same time, I would point out that several countries have connected new reactors to the grid since. This year alone, six new reactors have come onto the electrical grid, five of them in China.

The Vice-Chair (Mr. Joe Dickson): That is your time, sir. Thank you very much.

I will then proceed to the government's speaker, MPP Thibeault.

Mr. Glenn Thibeault: Thank you for being here, Mr. Bernard. I hope you give me a little bit of indulgence because for seven years of my life, I was a radio broadcaster, and I had to listen to a Malcolm Bernard from BN news. Is this the same thing?

Mr. Malcolm Bernard: Same one, sir.

Mr. Glenn Thibeault: Okay. Well, anyway, it's very nice to meet you face to face, sir, because I listened to you for seven years and it was very nice listening to you this afternoon.

Mr. Malcolm Bernard: You are too kind, sir. Thank you.

Mr. Glenn Thibeault: I'm going to try to take this back to the bill. Part of Bill 9 is to ensure that we close the door forever on—making sure that we keep coal out. We heard of the health benefits, not only the economic benefits of this. I think it's important for us to reiterate that.

Last year, 90% of our grid-connected power in Ontario came from emission-free sources. I guess if we're

looking at where our emissions have gone—from 38 megatonnes to five. Natural gas is another tool that we use, but we only use it sparingly. Can you talk particularly to how much of our base comes from nuclear here in Ontario right now?

Mr. Malcolm Bernard: The province consumes roughly 160 terawatt hours of electricity per year. Last year nuclear provided, I believe, 93 terawatt hours. It comes out to about 62.9% of the grid-delivered electricity in the province, so three fifths of the power comes from the nuclear sector.

Mr. Glenn Thibeault: That three fifths: Obviously, all of it is emissions-free, correct?

Mr. Malcolm Bernard: When you say emissions-free, we need to be careful. We are greenhouse gas-free. We do not generate carbon dioxide.

Mr. Glenn Thibeault: Okay, so when we're talking in terms of air pollution right now, with which Bill 9 is—that's the kind of emissions that I'm making reference to.

Mr. Malcolm Bernard: Correct.

Mr. Glenn Thibeault: By 2025, 20,000 megawatts of renewable energy will be online, representing about half of Ontario's installed capacity. Where do you see nuclear playing a role in that, and how are we moving forward?

Mr. Malcolm Bernard: The essence of refurbishment is to ensure that those reactors are available to the province for at least another 25 or 30 years, so they would remain at the heart of the generating system.

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The government has said in its long-term energy plan, which we support and endorse thoroughly, that nuclear would remain at the centre of the mix. There is a current target of approximately 50% of generation, so we're exceeding that now. When we go through refurbishment, reactors will come off-line one at a time at Bruce Power and at OPG's Darlington complex. They will be renewed and will be brought back online. At the close of the project, we would expect nuclear would still be the heart of the province's generating capacity.

Mr. Glenn Thibeault: Great. Thank you, Chair.

The Vice-Chair (Mr. Joe Dickson): Thank you, sir. You have eight seconds left; your timing is impeccable.

Mr. Malcolm Bernard: Thank you, sir.

The Vice-Chair (Mr. Joe Dickson): I will then go to the opposition party. MPP McDonell, please.

Mr. Jim McDonell: Thank you for coming today. Actually, I had the good fortune to work at the Bruce plant when I was in university, just as they were turning up the first unit way back. So I know it's interesting. They've turned up, you said, 50 new reactors this year in the world?

Mr. Malcolm Bernard: No. There are currently under construction, according to the International Atomic Energy Agency, about 63 or 64 reactors. Eventually, those construction plans come to fruition. This year alone, according to the IAEA, six reactors have reached the point of grid connection and are now supplying electricity reliably and affordably.

Mr. Jim McDonell: Yes. It's interesting, because I think—

Mr. Malcolm Bernard: If I may add one point, I was counting these numbers just yesterday, anticipating that somebody might ask exactly that. Since Fukushima, 25 new reactors have been connected to the grid. So globally the trend is towards more nuclear, not less.

Mr. Jim McDonell: And I think the Candu technology is much different than the Japanese reactor, and, of course, they make them a lot safer.

Mr. Malcolm Bernard: Yes, it is safer than the reactor, from what we've seen from the evidence. We've not had any issues with Candu reactors here in Canada. But also notice the technology is entirely different and the regulatory system is also entirely different. We are governed in Canada by the Canadian Nuclear Safety Commission. They are very tough on the industry, justifiably so, and we welcome, frankly, their toughness. They keep us safe.

Mr. Jim McDonell: Yes. I know that we started this program of closing the coal plants back in 1993, I guess, as we talked. But it's interesting to note that since the Green Energy Act came about, there have been over 200 coal-fired stations opened in the world. So the world is going backwards as far as closing coal-fired plants.

Mr. Malcolm Bernard: Coal is very attractive to many of the developing nations because of its low cost per kilowatt hour. If you're prepared to ignore the environmental effects, then you would want to put coal in place.

If, however, you recognize that climate change is a serious and growing problem, then you would opt for a cleaner technology, and nuclear is one of those technologies that fill the bill. It provides stable baseload power while avoiding greenhouse gas emissions. Several countries are looking at introducing nuclear power for the first time, even places like Vietnam.

The Vice-Chair (Mr. Joe Dickson): Yes, MPP Thompson.

Ms. Lisa M. Thompson: Thank you very much, Chair.

Just so you know, I've had the occasion to tour your mock-ups at Darlington. Clearly, best practices are going to be embraced with the refurbs. I believe MPP Wong has toured it as well. So I congratulate you on that.

Mr. Malcolm Bernard: I'll pass that along to our member, OPG. Thank you.

Ms. Lisa M. Thompson: Thank you. Now, going back to last day, the very first deputant talked of nuclear energy being unreliable. When I asked him to clarify that, he went back to historic data, if you will. I would appreciate your comments on that very quickly.

Mr. Malcolm Bernard: Well, 62.9% of all the electricity in the province last year: We're as reliable as that. You expect a light to turn on when you flick the switch. Nuclear enables that.

Ms. Lisa M. Thompson: Thank you very much.

The Vice-Chair (Mr. Joe Dickson): That's your time.

Thank you very much, members. Thank you very much to our guest speakers.

Mr. Mike Colle: Turn the lights off.

The Vice-Chair (Mr. Joe Dickson): Mr. Colle, thank you for all of your assistance and direction.

I would issue a reminder that, as per the order of the House dated June 2, 2015, the written submission deadline is today as of 6 p.m. Also, the deadline for filing amendments to Bill 9 is tomorrow, Thursday, October 8, at 12 noon.

I appreciate everyone's time and preparedness. Everyone did a wonderful job today. Thank you very much.

The committee adjourned at 1635.

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