HOUSE OF COMMONS
CHAMBRE DES COMMUNES
CANADA

Standing Committee on Natural Resources

RNNR • NUMBER 039 • 1st SESSION • 42nd PARLIAMENT

EVIDENCE

Thursday, December 8, 2016

Vice-Chair

Mr. John Barlow

Standing Committee on Natural Resources

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● (0845)

[*English*]

The Vice-Chair (Mr. John Barlow (Foothills, CPC)): Good morning, everybody. We'll get started.

Before we get started, Mr. Cannings has a letter he wants to bring up.

I think, Richard, if it's okay, we'll do it in camera at the end. We'll have some time at the end, if that's okay.

Mr. Richard Cannings (South Okanagan—West Kootenay, NDP): Could I just do it now quickly?

The Vice-Chair (Mr. John Barlow): You're not going to be controversial in anything, are you?

Mr. Richard Cannings: No, I'm not going to be controversial. I'm never controversial.

The Vice-Chair (Mr. John Barlow): Okay.

We'll give Mr. Cannings the floor first, before we start.

Mr. Richard Cannings: I just want to let the committee know that I received a letter yesterday that had been sent to Mr. Maloney, the chair, and I was copied on it. It's from Dr. Sunil Nijhawan, who is a nuclear engineer from Toronto. I won't go into the details, but he disputes quite strongly an answer that Dr. Binder gave me to the CNSC's assessment of off-site consequences of a Fukushima-scale radioactive release.

I wanted to make sure this got into the record, the testimony for the study, and also I think we should.... Ideally, and I don't know if it's possible, I'd like to maybe call Dr. Nijhawan before us to give more details and to allow Dr. Binder some opportunity to respond to this. Perhaps we could do that by correspondence, but I think we should do both those things.

The Vice-Chair (Mr. John Barlow): Mr. Strahl.

Mr. Mark Strahl (Chilliwack—Hope, CPC): I don't think I have a copy of that. If the committee agrees, I'd like to have it tabled, translated, and sent to the committee. That would be helpful.

Mr. Richard Cannings: Yes, we've just sent it to the clerk.

Mr. Mark Strahl: Okay, thank you.

Mr. Richard Cannings: It's a serious matter, I think.

The Vice-Chair (Mr. John Barlow): Yes, I don't think there's a problem with submitting the letter to the committee as part of the testimony for the nuclear study. I don't think we have time to add another witness. We finish next Tuesday, which is probably our last committee meeting. I don't think we have an opportunity to have him here in time as a witness for this study, but he's certainly welcome—unless I hear concerns from anyone else—to submit that letter as part of the nuclear study.

Mr. T.J. Harvey (Tobique—Mactaquac, Lib.): I have no issue with submitting the letter. I do agree that it's highly unlikely that we're going to have time to call him as a witness, but we can accept the letter, and then, if either one of them wants to add additional information, they can submit that to the clerk, as long as it's in a timely manner before we finalize the study.

The Vice-Chair (Mr. John Barlow): Perfect. Thank you very much.

Thanks, Richard. We'll get that through translation and submitted to the clerk and the analysts.

I'd like to welcome Gordon Edwards, president of the Canadian Coalition for Nuclear Responsibility, and Shawn-Patrick Stensil, a nuclear analyst from Greenpeace Canada.

In case you haven't done this before, you will each be given 10 minutes to make your presentation, and then there will be questions from the committee.

Maybe we'll start with Mr. Edwards, if you would like to go first. You have 10 minutes, please.

● (0850)

Dr. Gordon Edwards (President, Canadian Coalition for Nuclear Responsibility): Thank you, Mr. Chair.

I'm honoured to be invited to address the committee members today. My name is Gordon Edwards. I am president and co-founder of the Canadian Coalition for Nuclear Responsibility, a not-for-profit organization. I have also served as a consultant on nuclear issues for governmental and non-governmental organizations for the last 40 years. For example, I was retained by the Office of the Auditor General last year to serve on an external advisory committee in connection with a performance audit of the CNSC.

I graduated from the University of Toronto in 1961 with a gold medal in mathematics and physics. In the ensuing years, I earned two master's degrees and a doctorate. In 1974 I coordinated a study on the role of mathematical sciences in Canadian business, finance, industry, government, and policy planning for the Science Council of Canada. This study was published in eight volumes, and copies were placed in all Canadian university libraries.

The greatest challenge facing the nuclear industry today is the question of nuclear waste, including the dismantling of radioactive structures and the decontamination of radioactive sites. Going forward, parliamentarians need to play a much more active oversight role. The industry is making plans to abandon these dangerous wastes right beside major bodies of water, such as the Ottawa River, Lake Huron, Lake Ontario, and the Winnipeg River.

Important matters of public policy are being decided by default, by the nuclear industry and its regulator, based on technical considerations buttressed with scientific extrapolations, but these decisions are not wholly technical in nature, as they will implicate society as a whole. For example, right now there is a plan to ship 23,000 litres of highly radioactive liquid waste over a period of four years from Chalk River, Ontario, down to Savannah River Site in South Carolina. This type of material, containing a witch's brew of fission products and actinides, has never before been shipped anywhere in North America in liquid form. Nevertheless, there has been no environmental impact statement, nor have there been any public hearings having to do with this proposal. I believe Parliament should be intervening in this and saying, “Wait a minute. What's going on here?”

There are other questions here. Should the radioactive internals of the nuclear power demonstration reactor and the Whiteshell WR-1 reactor in Manitoba simply be entombed right beside the rivers where they were built, where they will remain dangerous for many thousands of years? Or should all the nuclear waste from all of Ontario's reactors, except the irradiated nuclear fuel, be placed in a deep geological repository less than one mile from the waters of Lake Huron?

Surely these are societal decisions and should involve our elected representatives. This is especially so when two DGRs, deep geological repositories, in Germany, expressly built for the permanent disposal of non-fuel nuclear waste, have failed spectacularly. They figure it'll take 30 years to get the radioactive waste back out of the Asse II repository and the Morsleben repository. The German government has declared that what is happening now is unacceptable. As well, the DGR in Carlsbad, New Mexico, underwent a major failure in 2014, costing billions to set straight.

It would be beneficial to Canadians if the various agencies of the nuclear establishment, such as AECL, the CNSC, and the NWMO, were called upon to report regularly to a parliamentary committee at least once per session. This would allow parliamentarians to gain a better understanding of why the spending estimates for AECL have tripled from last year to this, going from $327 million to $969 million, or why the estimated radioactive cleanup costs for the town of Port Hope increased overnight from $800 million to $1.2 billion. That, by the way, is a federal program.

The safe, long-term storage of high-level nuclear waste is one of the world's major unsolved problems. There we're talking about the irradiated fuel, which is much more radioactive than the Port Hope waste or other waste.

● (0855)

In 1978 the Porter commission, the Ontario Royal Commission on Electric Power Planning, recommended a moratorium on any new nuclear power plants in Canada if the solutions to the nuclear waste problem were not forthcoming by 1985. We have surpassed that deadline by more than 30 years.

After 10 years of intense deliberations and public hearings in five provinces, the Seaborn panel unanimously recommended, in 1998, the formation of a nuclear fuel waste management agency that is independent of the nuclear industry, whose board includes representation from the stakeholders and indigenous peoples, and that reports directly to Parliament.

Instead, the Government of Canada created the Nuclear Waste Management Organization, an agency that is totally owned and operated by the nuclear industry, in particular by the nuclear fuel waste producers. There is a built-in conflict of interest in such an arrangement that may seriously undermine the public trust that is needed for a successful long-term nuclear fuel waste program.

In order to dramatize the scope of the nuclear fuel waste program, the Royal Commission on Electric Power Planning published a graph in 1978 showing the radiotoxicity of irradiated nuclear fuel over a period of 10 million years. The graph shows the radiotoxicity declining for the first 50,000 years or so and then going back up again, not to the top: it becomes more toxic after that 50,000-year period. So it doesn't just simply go down and down. The radiotoxicity begins to increase again due to internal radiological changes in the fuel waste, which I could elaborate on, if you like.

For purposes of illustration, the graph also shows how much water would be required to dilute the irradiated nuclear fuel from one CANDU reactor produced in one year to the maximum allowed concentration of radioactive contamination for drinking water. For one year's worth of irradiated fuel from one CANDU reactor, the amount of water needed would be almost exactly equal to the volume of Lake Superior. By this calculation, if Ontario were considering 20 reactors operating for 30 years, we'd be talking something in the neighbourhood of 600 Lake Superiors.

Now, this is a totally theoretical calculation, but the purpose of it is to highlight the extreme toxicity of this material and the reason why it simply cannot be treated the way even other very long-lived, highly dangerous materials are treated. It has to be stored with virtual perfection, which is something humans are not so good at.

This brings me back to the question of siting. At the present time, the NWMO is looking for a willing host community in the vicinity of Lake Huron. Given the extraordinary radiotoxicity of irradiated nuclear fuel, and given the fact that these wastes will remain highly radiotoxic for literally millions of years, is it wise to store them right beside the Great Lakes, the source of drinking water for tens of millions of people?

The industry and the regulator plan to abandon these nuclear wastes after a certain finite period of time. In other words, monitoring and retrievability of the waste will not last forever. The intention is to cut the industry's liability and to terminate the regulator's obligations vis-à-vis the highly toxic material. Abandonment implies that amnesia will set in. At some point in the not-so-distant future, the dangerous nature of this waste will be forgotten. If it does start to leak after abandonment, people will be ill prepared to deal with the situation.

The Canadian Coalition for Nuclear Responsibility believes it is essential to have parliamentary oversight of the nuclear industry, especially in matters of nuclear waste. Without a proper mechanism of accountability, monumental mistakes can be made. In the continental U.S.A., there have been eight separate attempts to locate a deep geological repository for irradiated nuclear fuel, and all of these attempts have ended in failure.

On a more positive note, there's going to be a multi-billion dollar industry in the field of nuclear demolition, particularly the dismantling of defunct nuclear power plants at a cost of about $1 billion each. The expense of decommissioning is due to the high levels of radioactivity found in the primary cooling system of the reactor due to contamination in the pipes spread from defective fuel bundles. In addition, there are radioactive activation products, such as cobalt-60 and many others, that build up in the entire core area of the reactor. The structural materials themselves become radioactive waste.

● (0900)

At one time it was believed that it would be better to wait 40 years or more after a reactor is shut down to begin the dismantling of a structure. However, European authorities and the International Atomic Energy Agency are now recommending immediate dismantling to take advantage of the expertise and experience of those workers who know the plant inside out as a result of years of working there. Besides, there are potential contamination dangers that will not be alleviated by waiting 40 years. For example, carbon-14 dust, which contaminated a lot of Pickering workers at one point in time—

The Vice-Chair (Mr. John Barlow): Mr. Edwards, you're at your 10 minutes. Could you wrap it up quickly?

Dr. Gordon Edwards: Okay.

Workers can learn the skills of nuclear demolition by taking these smaller prototype reactors apart—the Douglas Point and Gentilly-1 reactors—and this will give them experience in nuclear demolition, which will be big business in the future.

I'll just wind up there. Thank you.

The Vice-Chair (Mr. John Barlow): Thank you very much, Mr. Edwards. I know that 10 minutes can go quickly.

Dr. Gordon Edwards: Thank you.

The Vice-Chair (Mr. John Barlow): Mr. Stensil, you have the floor for 10 minutes, please.

Mr. Shawn-Patrick Stensil (Nuclear Analyst, Greenpeace Canada): Thank you very much.

Thank you for this opportunity to present to you today. My name is Shawn-Patrick Stensil. I'm a senior energy analyst with Greenpeace Canada. I also work as a radiation protection adviser for Greenpeace International and have done field work in such contaminated such as Chernobyl, Fukushima, and Palomares in Spain.

[*Translation*]

My presentation today will be in English. Although I have lost some of my French since I have been in Toronto, I will be pleased to answer your questions in French if you wish.

[*English*]

For the past month, you have been hearing from witnesses and seeking perspectives on the potential for innovation and economic opportunities in the nuclear sector. You've heard from a long line of industry witnesses who have claimed there is a huge potential for innovation and significant economic opportunities in the industry, but with more often than not a request for policy or financial support from the federal government. In my presentation today, perhaps unsurprisingly, I'm going to give you a skeptical view.

I've observed this industry, in Canada and internationally, for over 15 years now. I encourage the committee in its deliberations to also be skeptical about what you've heard, because, well, the nuclear industry has always been a “promising” industry. Its promises have caused the federal government to spend significant taxpayer dollars over the past several decades. In your deliberations I encourage you to weigh the future conditional promises you've heard over the past month against the industry's delivery in the past. This is necessary to not only protect taxpayers, but in light of climate change, we don't have the time or funds to let ourselves be distracted by false promises.

The challenges facing the Canadian nuclear industry are more or less the same as they've always been—specifically, technological complexity, escalating costs, and a lack of social acceptance. This lack of social acceptance is reasonable given that this industry has the capacity to displace large populations and burdens future generations with radioactive waste.

But today there's a new challenge: the competition. Rapid innovation and growth in the renewable and clean tech sector is making both existing and future conditional nuclear technologies irrelevant.

Today, I don't think there can be any credible assessment of the opportunities in the nuclear sector that doesn't consider the increasing challenge renewables and clean tech pose to the sector. So I have two main takeaway messages for the committee today. First, in light of the magnitude of past government support, the federal government should not provide any additional financial or significant policy support towards the development of new reactor designs, such as small modular reactors. Second, this committee should study innovation in the renewable and clean tech sector, and specifically whether the federal government and the Department of Natural Resources are properly tooled and focused to support the transition towards renewable-powered energy systems we're witnessing internationally.

I provided a briefing note to the committee. The first section of the briefing note is entitled “CANDU: A Technological Dead-End”. I think this is a good starting point for your deliberations. Despite significant policy support and $25 billion in taxpayer subsidies, the CANDU nuclear technology has failed to significantly innovate and evolve since the 1970s. The main focus of possible future reactor sales is the CANDU 6, a reactor that was first developed, with federal support, in the early 1970s.

Here I would like to point you to the story of the advanced CANDU reactor. Fifteen years ago, in front of this committee, we would have been discussing the promise of the advanced CANDU. At the time, parliamentarians and the public were being promised that the Canadian nuclear industry could design and build a cheaper and safer reactor that would find significant markets in both Canada and internationally. Believing these promises, Parliament approved over $400 million to support the design of this reactor that will never be built.

● (0905)

The Canadian nuclear industry was unable to innovate, overcome market barriers, and find markets. That $400 million was wasted and diverted from other energy options. There's a lesson in this. In short, despite what I would take as sincere promises, the Canadian nuclear industry was not able to innovate, reduce costs, increase safety, or develop viable new markets. That should be considered by this committee.

In fact, the Canadian nuclear industry is now in decline. Ontario, New Brunswick, Alberta, and Saskatchewan, who were all talking about building this advanced CANDU 10 years ago, have all abandoned those plans. By 2025, nine of Canada's 22 operating CANDUs will be closed due to the prohibitive cost of keeping them operating. That's almost half of the CANDU fleet in Canada, so the industry is clearly in decline.

I've raised the point about the failure of the advanced CANDU because the narrative that supported it gaining government support is very similar to what the committee has been hearing about small modular reactors. These are also promised to be cheaper, cleaner, and safer, but as I point out in the briefing note, the designs are purely conceptual at this point, and in most cases not much more than a power point presentation. There is no proven SMR design. Industry will probably look for government backstopping to build a demonstration plant. There's talk of doing this at Chalk River. I encourage this committee to advise against this.

This leads me to the major challenge I see for this industry and what should be the focus of this committee, in my view: the competition. While the Ontario government study on SMRs thought it would be possible to use small modular reactors in some communities to displace diesel, it did not consider other alternatives, such as renewable-based micro-grids, even though the technologies exist and are being used in other off-grid communities. This is an obvious blind spot in light of the declining cost of renewables and other clean technologies.

Put yourself in the shoes of a community that would be offered an SMR. Would you want to trust some big company from Toronto coming in with a nuclear reactor, given all the history that's surrounded it? There's not a market for these. Energy systems worldwide are being transformed by innovation in the clean tech and renewable sector. While nuclear costs have only ever risen, renewable costs are declining rapidly. That's called innovation. For this reason, more and more communities and countries are committing to go 100% renewable to fight climate change. In Canada, Vancouver, Victoria, and Oxford County—where, I would note, I am proud to have grown up—have all committed to go 100% renewable by 2050. They're doing this because the technology is already viable and becoming more viable, it brings local economic and social benefits, and it fights climate change.

I urge the committee to acknowledge this fact in your study. The declining cost of renewables, along with safety issues, and the waste issue that Dr. Edwards described so well, in my mind are an insurmountable challenge for the nuclear industry. The federal government should not waste additional financial resources or policy support on propping up this stagnant industry. Indeed, Greenpeace recommends that this committee turn its focus to study whether the federal government is properly tooled to enable the already innovative renewable and clean tech sector. That's where the change is actually happening and what Canada needs to be part of.

With that, I'd like to conclude my remarks. Thank you for listening to my comments. I'm happy to take questions.

● (0910)

The Vice-Chair (Mr. John Barlow): Thank you very much, Mr. Stensil. I appreciate that.

We will now go to Mr. Harvey for seven minutes, please.

Mr. T.J. Harvey: Thank you, Mr. Chair.

I'd like to thank both of you for coming.

My home province is New Brunswick. I'm from the western part of New Brunswick, which is probably one of the only landlocked ridings in the east coast. I don't have access to tidal, of course, but tidal is going to play a very large contributing factor to our renewable sector on the east coast. I understand the challenges that we face in New Brunswick, and right now we have a significant challenge with building a generating station. We're looking at where we're going in the future, and the select committee on climate change in New Brunswick identified an action plan that would see us off coal in New Brunswick by 2030, or 2040 at the very latest, but that would have to be under a very stringent set of guidelines that would guide that.

From the Conservation Council of New Brunswick, Lois Corbett and Louise Comeau, two people from my riding who are very passionate about renewables, have endorsed that plan. I think Louise Comeau has even said that she feels that it's one of the most proactive prospective plans that she has seen so far across the country. They've both identified Point Lepreau in New Brunswick as playing a contributing factor at this point to getting where we need to go in the short term, just as they have agreed that hydroelectricity plays a role in where we need to go in the short term.

I have the Mactaquac generating station in my riding. I understand the challenges around Mactaquac and in the refurbishment of it as well, which makes the refurbishment costs at Point Lepreau look minute because of the large scale. I have been in favour there of an option that hasn't been really touted too much, which is the idea of an in situ refurbishment at Mactaquac. That would extend the life of that generating station by up to 40 years. I've been in favour of that because I believe that our energy spectrum could look significantly different 40 years from now than it does right today. I recognize that, and when you talk about SMRs, I'm open to just about everything right now. I agree that we need to have increased investment in renewables and clean tech.

Actually, Mr. Stensil, you'll be happy to know that we are fully intending to do a clean tech study, I think, in the new part of the year, which will give greater focus to that.

At the same time, I'm open to looking at the SMR option. The reason I'm open to looking at it—and I'm not saying that I'm sold on it or not sold on it—is that when you talk about rural northern communities, especially ones that are isolated, and you talk about an integrated renewal grid in those areas, I think that's great, and it's definitely going to take into account solar, and wind, and possibly submersible hydroelectricity. In the north it's quite cold, so I'm assuming we won't have a lot of conventional hydroelectricity generation, but we could have submersible generators, which we've seen used in Europe some, that would provide that generation load for those communities.

I think the reason you've heard so much talk about SMRs is that potentially we're still going to need baseload generation, no matter what, and you're going to need baseload generation in those communities. I'm not saying they're a viable alternative to diesel generation, and I'm not saying they're not a viable alternative to diesel generation. I'm just saying that I'm not discounting them based on the history of a different design of reactor, and I'm not discounting them based on the belief that renewables will 100% eclipse traditional generation. I do believe the future is in renewables, and I do believe we're going to get there. I just don't believe it's going to happen overnight, and that's the issue I have.

● (0915)

I want to ask you, Mr. Edwards, about the 23,000 litres of, I'm assuming, spent fuel that they're talking about transferring to the United States. Isn't that part of a....not a decommissioning, but they're going to reuse that fuel and blend it down so that it's not nuclear grade? Isn't that the idea? I thought the reason they couldn't ship it as solid was that you can't do anything with it once you encapsulate it.

Dr. Gordon Edwards: They have 21 tanks of liquid waste at Chalk River, which they are in the process of solidifying. The plan was always to solidify the contents of the FISS tank also, which is the 23,000 litres we're talking about.

Mr. T.J. Harvey: Right.

Dr. Gordon Edwards: The main problem here is that there's been no public discussion, no public debate, no environmental impact statement, no public hearings, and this material is extremely dangerous. One litre is sufficient to ruin an entire city's water supply, and every one of the 150 shipments will contain 252 litres. Although the packaging is very good, and the industry, of course, expects that everything will be just perfect, why run the risk of transporting this material in liquid form when, if the unforeseeable happens, and it does leak, it will be very damaging to water systems?

You mentioned quite correctly that they're planning to down-blend the highly enriched uranium in order to use it as fuel. They can do the down-blending part right at Chalk River. In fact, they've already done that in Indonesia. Earlier this year, in three months, they down-blended all of their highly enriched uranium liquid waste, and they're not shipping it. They're not shipping it to the United States. This could be done in Canada as well.

The idea of down-blending it for the purpose of using it as reactor fuel is frankly kind of ridiculous, because ordinary fuel is so cheap, comparatively speaking, and this fuel would be extremely expensive. It would also be contaminated with fission products, so it would be more costly than it should be, and it would be dangerous to handle.

Mr. T.J. Harvey: But then 23,000 litres, once—

The Vice-Chair (Mr. John Barlow): Thank you. That's your time, Mr. Harvey. Sorry.

Now we have Mr. Strahl for seven minutes.

Mr. Mark Strahl: Thank you, Mr. Chair.

I thank the witnesses for coming to talk to us today.

Mr. Stensil, I spent some time in the north, although not as much, obviously, as Mr. McLeod. After Greenpeace has done more to destroy the way of life, and the income, and the hunting and trapping, and the sealing industry, etc., with their international campaigns against Inuit people up there, I think they'll view your offer of help probably with suspicion, like they would from someone from Toronto. I think that has been a tragedy, and I note there are some Inuit organizations that are looking to bring a class action lawsuit, actually, to recoup some of the damages that have been inflicted on their communities.

Speaking of damages to the people of Ontario, I noticed your concern for significant taxpayer dollars having been spent on the nuclear industry, but between 2006 and 2014, hydro bills for homes and small businesses in Ontario rose 70%. Ontario's auditor general, Bonnie Lysyk, placed the blame on Ontario's Green Energy Act. She noted that hydro companies will pay a total of $9.2 billion more for wind and solar projects under the Liberals' 20-year guaranteed price program for renewable energy. Soaring hydro rates are forcing people out of their homes, closing small and medium-sized businesses. We're hearing about people having to choose between heating or eating, or choosing between heating and paying for their prescription medication.

The premier herself, Kathleen Wynne, has admitted that high electricity prices were her mistake, and that people had been placed in an unacceptable position of having to choose between paying their electricity bill and, as I said, buying food or paying rent.

With about 60% of Ontario's energy currently generated by nuclear energy, I know that Greenpeace has also opposed hydro-electric projects. You said we shouldn't be making policy that benefits the nuclear industry. We've seen what the policy looks like. We don't have to guess. We don't have to pontificate. We don't have to model it. We've seen how disastrous the Ontario green energy policy has been, so why would we repeat that right across the country? Have you done any modelling that would show how much that would cost ratepayers, the people who actually have to pay the bill, if we repeated, right across the country, the mistakes that Kathleen Wynne has made?

● (0920)

Mr. Shawn-Patrick Stensil: Great. Thank you for the question.

I'll start out with a compliment to the Conservative Party. Greenpeace supported the privatization of Atomic Energy of Canada Limited. It was a good thing for ratepayers, and it is protecting ratepayers from ongoing cost overruns at Point Lepreau and future refurbishments in Ontario. So that was a good thing. Let's keep the dialogue open, because sometimes we can find common ground.

On your point around the Inuit, I can supply this information to you, but you may be very intrigued to see the work we've been doing in Clyde River. This summer we helped the community install solar facilities to help them get off diesel generation. That's been something going on. We've also been supporting their Supreme Court case against seismic testing. So there's a different type of relationship on which I'm happy to provide you with more information.

For clarity, for communities in the north—and this goes for Mr. Harvey as well—listen to what my message was: namely, be skeptical about the promise that's been given around SMRs but also look at what the other alternatives to SMRs are other than diesel, and that is renewable micro-grids. To get to a good decision, we need to have both options on the table, and right now, as I noted in my briefing note, the only options we have are SMRs against diesel. I think a fair way to approach those communities, to allow them to make their own decisions, is to say, "Here is an SMR option, and here are renewable micro-grids, which are already being done in Alaska. What do you want to do?" Right now that information isn't available, so I would encourage the committee to look for it.

When it comes to Ontario, you're right, there have been a lot of mistakes, and a lot of that has to do with the Green Energy Act and how it was implemented. The government bought a lot of solar power at really high levels. The way green energy acts are supposed to work, as in Germany, instead of putting out big offers and buying a lot of power at once, you buy it in small increments as the price goes down. What Ontario did was buy a lot of solar power in 2010, when prices were higher. They didn't do what Germany is doing, which is ratcheting the price down consistently.

As I mention in my briefing note, it's very interesting to investigate where the price points in the renewable sector are going. If we do a forward-looking analysis, the cost is dropping consistently. In the last RFP the Ontario government put out, they got wind power in at 6.5¢ for the first time. That's lower than nuclear generation, and it's lower than wind was five years ago at 13¢. That is where, for this committee that's studying innovation, you can look at what the real deliverables are. There is a trend line there that we should look at as evidence for what's going on and how we, as the federal government, take advantage of that for ratepayers, for everyone.

I would urge you to keep an open mind. Yes, there have been some mistakes in Ontario. A lot of the problem in addition to the Green Energy Act—I'm right now working on Greenpeace's submission for the province's long-term energy plan—is the fact that we're exporting the entire output of Pickering, the nuclear station, about 20 terawatts, to Michigan at a loss. They have kept that station online. It's going to close in 2024. It should have closed in 2014. All of it is surplus, so right now ratepayers are buying that power at 7¢. We're selling it to Michigan at 2¢, and the ratepayers are paying that difference.

We also need to protect ratepayers, and I agree with you on that, but let's look at the evidence on the other side. I think you're getting some distorted views of where the renewable sector and clean tech sector are going. They're actually bringing their price points down. Between Greenpeace and Conservatives, we can find agreement that this is a good thing. We need to find out how it can be used in the public interest.

● (0925)

The Vice-Chair (Mr. John Barlow): Thank you. That's your time.

Mr. Mark Strahl: Thanks.

The Vice-Chair (Mr. John Barlow): I appreciate it.

Mr. Cannings, please, for seven minutes.

Mr. Richard Cannings: Thank you both for coming here this morning.

I'd like to start with you, Mr. Stensil, and talk about CNSC. I want you to talk about what you think its role should be and how it has measured up to that role over the last few years. We have heard of whistleblowers telling us of sloppy procedures within CNSC, and we've heard the environment commissioner talking about a certain level of disregard for those procedures and those criticisms.

I wonder if you could expand on that and talk about how we view the CNSC, perhaps, how confident we are in it, and how that should perhaps change in the future.

Mr. Shawn-Patrick Stensil: Thank you. That's a very good question.

It's important for the committee to realize that when it comes to nuclear accidents, the cause is often—for Fukushima and Chernobyl—attributed to something called "institutional failure", which is basically when the regulator and the operator dismiss the risks that the technology poses and start to cut corners. That's exactly what happened at Fukushima. There was a bad regulator.

What really worries me about the CNSC is that, instead of acting as an independent, unbiased regulator, it has become over the past 10 years a promotional agency. That was caused—I already gave a compliment to one side of the table—when the Harper government fired president Keen in 2008. What was really driving that, according to Ms. Keen, was that she was imposing modern safety standards on the licensing of the CANDU 6 reactor, which is a pre-Chernobyl, pre-September 11 design. I mention that in my briefing note. Ms. Keen was saying that if they wanted to build it in Ontario, they needed to meet modern safety standards, and that that was the CNSC's job as an agency. That got Atomic Energy of Canada and SNC-Lavalin, who's since bought Candu, very upset because they were losing money and competitive advantage. They fired her for that and put in a new president, Mr. Binder, who you've seen.

These are some of the hard things to measure. The tone of the commission has changed considerably over the past 10 years. If you look at the likes of their communications, instead of just putting out simple facts, they're often touting the industry and its accomplishments. That's where you start to see a sort of conceptual capture that goes on. They're more interested in trying to prop this industry up.

So I'm very worried about the commission. I've been intervening at the commission for the past 15 years. There was no love lost between Greenpeace and Ms. Keen, either. We had our own fights. It has gotten significantly worse, though, under Mr. Binder. When I talk with international journalists from the nuke industry, they're shocked at some of the things that come out of the CNSC compared to other international regulators. This is actually a topic that the committee itself should look into more deeply, I think.

Gordon, did you want to say something?

Dr. Gordon Edwards: Yes, maybe I could add to that.

There are some alarming situations that have developed. One was that, through carelessness and through lack of monitoring, over 500 workers, a lot them just local workers who were tradesmen, were exposed to breathing, without respirators and without protective clothing, plutonium-contaminated dust over a period of weeks before it finally was detected, and they blew the whistle on it.

What bothers me is that nobody at Bruce Power, where this happened, or at the CNSC was taken to task, fired, demoted, or even investigated for allowing this to happen. There was absolutely no reason that this should have happened. All the information was there.

That kind of laxity is very hard to accept.

● (0930)

Mr. Richard Cannings: I just want to quickly ask about DGRs and their design. You mentioned a failure at Carlsbad. What would you recommend that we do with the nuclear waste that we have and that we have to deal with?

Dr. Gordon Edwards: To tell you the truth, for the first 30 years of the nuclear industry here in Canada, nuclear waste was not even mentioned. It was presented as a completely clean technology. It was only in 1977 that the federal government published its green paper on managing Canada's nuclear waste, the so-called Hare report. That's where the idea of a DGR, a deep geological repository, for this waste was put forward in Canada. Subsequently, there were many other hearings that commented on this.

The difficulty is with the experience that we've had worldwide. The United States has failed eight times to locate a waste repository for their high-level waste. In Carlsbad, New Mexico, a drum exploded, and plutonium dust went 475 metres up. It contaminated 22 workers, and then drifted downwind to Carlsbad. There are also the two episodes I mentioned in Germany. These experiences should teach us to be cautious. Our organization has come to the view that, certainly for the foreseeable future, we should adopt a policy of rolling stewardship. That means we should not be irrevocably burying nuclear waste underground where it's beyond human control, but rather keeping it monitored and retrievable until we know a whole lot more than we do now.

Mr. Richard Cannings: How am I doing?

The Vice-Chair (Mr. John Barlow): You have one minute.

Mr. Richard Cannings: Mr. Stensil, maybe I could get a quick response to the question about how CNSC has modelled Fukushima-level incidents as if they were to occur in Canada. How important is that? Is it something we should be concerned about?

Mr. Shawn-Patrick Stensil: Yes, it is something we should be concerned about, because for emergency planning purposes we should be ready for worst-case scenarios. That's what other countries such as Germany and Belgium have done since Fukushima. They've actually modelled these types of accidents and asked what they need to be ready for off-site, so that they can protect the public.

The CNSC, at hearings in 2012 and 2013, heard from hundreds of Ontarians that we need to look at these types of studies, whatever you think about the nuclear industry, to better our emergency plans. They've consistently dodged modelling a Fukushima-scale accident and done a lot of—I don't know—bafflegab to avoid actually addressing the question.

This goes back to your original question about the CNSC. It really worries me that they haven't been direct with the public about that.

The Vice-Chair (Mr. John Barlow): Thank you very much. That's your time.

I believe, Mr. Lemieux and Mr. Harvey, that you're going to split your time.

Mr. T.J. Harvey: Yes.

The Vice-Chair (Mr. John Barlow): Mr. Lemieux will go first.

[*Translation*]

Mr. Denis Lemieux (Chicoutimi—Le Fjord, Lib.): Thank you, Mr. Chair.

I would like to thank the two witnesses for their presentations this morning.

As you know, I am from the province with the smallest carbon footprint in Canada, thanks to its hydroelectric facilities and its wind farms. In Quebec, we have also chosen to close the only nuclear plant that we had, the one in Gentilly.

Examples of nuclear disasters abound, such as the nuclear accidents at Chernobyl and Fukushima. The disposal of nuclear waste and the decommissioning of nuclear plants are costly aspects of producing this type of energy. On the other hand, I am a person who believes in looking at both sides of the coin.

In Canada, we have developed nuclear technology and expertise that are respected the world over. In addition, our nuclear safety system is among the safest in the world.

Do you think that the government's announced carbon tax of $50 per tonne starting in 2022 will encourage the development of the nuclear industry in Canada, which boasts of producing energy without any CO2 emissions?

I would like to hear from both witnesses on this.

Mr. Shawn-Patrick Stensil: Thank you for the question.

I doubt that the carbon tax will lead to growth in Canada's nuclear industry since the cost of building and refurbishing reactors is rising steadily.

Ontario, for example, is closing eight reactors. The province has put forward a plan to reduce greenhouse gas emissions, while also reducing the number of reactors. In other countries, such as Germany, good greenhouse gas emission reduction targets are set without resorting to nuclear energy. Like Quebec, Belgium and Switzerland are doing away with nuclear energy. These countries will use other technologies because renewable energies are more competitively priced than nuclear energy, and their costs keep dropping.

As I said in my presentation, we expect the cost of wind power to drop by 50% by 2050. There is a lot of innovation in this sector. The challenge facing the nuclear industry involves not only the costs of disposing of waste and the risk of accidents, but also the competition. Technologies are improving very quickly.

If you do a study of the cleantech industry, you will find, as Wayne Gretzky said with regard to hockey,

● (0935)

[*English*]

that's “where the puck is going”.

[*Translation*]

Everyone is going in that direction. Germany and Japan, which are the third and fourth largest economies in the world respectively, are doing away with nuclear energy while striving to reduce their greenhouse gas emissions.

Investments in renewable energy are transforming economies and businesses everywhere. Companies such as General Motors, Google, and many others are setting targets and using renewable energy to meet their energy needs.

To answer your question, I doubt that a carbon tax will make nuclear energy more competitive. In addition to the costs, there is still the problem of the social acceptability of this source of energy.

As to small modular reactors, it takes at least 15 years to build a demonstration facility, and then buyers have to be found. So that would be too late to fight climate change.

Mr. Denis Lemieux: Do you agree with that opinion, Mr. Edwards?

[*English*]

Dr. Gordon Edwards: Yes, I am. I do believe the writing is on the wall with regard to....

Again, the simple fact is that nuclear costs keep going up. They never go down. Renewable costs go down. This is a mathematical certainty that they're going to cross and have already crossed in many places. The real problem here is learning how to store energy efficiently. Please bear in mind, though, that even the nuclear people are talking about electrical vehicles. Well, electrical vehicles do not work unless you have a breakthrough in storage. We are getting some of those breakthroughs. Tesla has some fantastic batteries that have been developed, and that's only the beginning.

The point is that we haven't really devoted our ingenuity to this. We've been spending our ingenuity on other things. Once engineers and scientists start concentrating on that problem, I believe we'll see the storage problem solved. This means that nuclear will be outpaced completely by renewables.

[*Translation*]

Mr. Denis Lemieux: I would like to hear your opinion on this, Mr. Harvey.

[*English*]

Mr. T.J. Harvey: I have just a quick question.

I really liked that comment, by the way.

Mr. Stensil, I think there was something you wanted to add to that.

Mr. Shawn-Patrick Stensil: I just wanted to mention to the committee that in terms of storage, that is also developing really quickly. In October I attended the first conference of the Canadian storage association. That industry did not exist in Canada four years ago. I really encourage the committee to invite them here. Ontario has already rolled out some storage facilities. Texas has large ones. Again, this is where the innovation is happening, and you should invite them in front of you.

Mr. T.J. Harvey: I have a quick question on the backgrounder you provided us with, Mr. Stensil. With regard to Point Lepreau it states, “This estimate does not include the hundreds of millions of dollars in cost over-runs transferred to the federal government.” I'm wondering if you could elaborate on that.

I know there are two ongoing lawsuits, one on behalf of the AECL and one on behalf of New Brunswick Power Corporation—one for $204 million, one for $320 million—against the seven insurance companies that had backstopped the project when they bought the original half-billion-dollar policy when they started the project. In addition to that money from the cost overruns, which cost overruns were you referring to when you said that they had been put over onto the federal government?

Mr. Shawn-Patrick Stensil: Thank you. That's a great question, and I think a very important one.

For Point Lepreau, the cost estimate is about 10¢. That figure comes from the New Brunswick public utilities committee. I followed the Point Lepreau debate back in 2002, and way back in the day, they said it was going to cost 5¢. So ratepayers in New Brunswick have been hit by those cost overruns in the long term.

In addition to that, the federal government signed risk transfer agreements through Atomic Energy of Canada for the life extension of Point Lepreau. If you look back at the supplementary estimates over the past 10 years, you'll see that over $1 billion in cost overruns from Point Lepreau, the Bruce station, and Wolsong in South Korea were transferred to the federal taxpayer. So those—

● (0940)

The Vice-Chair (Mr. John Barlow): Sorry, Mr. Stensil, that's seven minutes. Thank you.

Mrs. Stubbs, you have five minutes, please.

Mrs. Shannon Stubbs (Lakeland, CPC): Thank you, Mr. Chair.

Maybe I would just invite both of you to pick up on some of the conversation we've been having about Europe's experience with renewable energy. I acknowledge your accurate claims about the downward trend in cost, but even today German power prices are at an all-time high in 2016 on low wind energy.

I was reading earlier about the European Commission's winter package of energy measures. I understand they have a goal of at least a 27% share of renewables in gross European energy consumption by 2030. My understanding is that this is set at the EU level, not at the member state level. The European Commission has criticized both the target in place and also the governance framework, and suggests that modelling demonstrates that the EU is not on track to meet that target. They say that new measures will be needed to maintain even the 2020 status quo goal. They suggest that neither the governance frameworks nor the evaluations in place would be able to achieve the target. Relying solely on the EU measures would not be cost-efficient, and would lead to an uneven uptake of renewables across the EU and ultimately a failure of those targets.

Mr. Edwards might have comments on this as well, but since you referenced it, Mr. Stensil, I wouldn't mind hearing your comments on that in general, on the applicability that you would foresee for Canada, and on any lessons learned. Obviously you're familiar with what's going on in the European Union. If you want to look ahead, I invite you to discuss any jurisdictional comparisons.

Mr. Shawn-Patrick Stensil: Thank you for the question.

In terms of doing this in a few minutes, European federalism is a lot more complex than Canadian federalism sometimes. There are leaders and followers in the European Union on renewables, for sure. Germany is the main leader, and actually the world leader in that, so you'll see a lot more uptake in places like that. The U.K., for example, is not seen as a leader in the same sense.

I think the difficulty with finding the right mechanism.... Mr. Strahl had asked a question about subsidies, and I admitted that Ontario has made some mistakes. The problem with finding the right policy framework on renewables is because the price point is moving so quickly, how do you find the right mechanism to protect ratepayers but also encourage innovation and encourage uptake of these new industries?

What we've seen is that it's a success story. It's the kind of problem that you want to have. The price points have been changing so quickly with renewables that there's a lot of back and forth about how to do that in a just fashion, so you'll often hear stories here that are trying to dismiss what's going on in Germany, where they're adjusting their renewables framework. They're doing it for a reason; they're doing it to try to protect ratepayers while continuing to deal with this rollout. So in a general way for the European Union I think it is a bit of a mishmash.

I think what we need to look for in North America.... Ontario has made a commitment in its climate plan to make it the easiest and most affordable place in North America for homeowners and communities to install renewable or storage facilities. That is an interesting way to pose the question. They don't know yet what the mechanism will be. What's happening with energy markets is that in Canada we started with selling big hydro, like in Ontario and Quebec, really large power stations, and everyone was a consumer. The word that's now being used is “prosumer”. There is an actual two-way market that's taking place. People who have solar power on their roof are also selling it into a market. So it's about finding those market mechanisms that enable that, that are also fair to other consumers, which I think Mr. Strahl was getting at, and also for maintaining some basic facilities on the grid. That is the struggle we're dealing with in North America.

New York state is doing some renewable.... I forget what it's referred to as, but in their energy vision they're doing a lot on micro-grids and trying to enable how we allow communities to develop power on their own. I think that's something where across party lines we could find some agreement, and it is about finding those mechanisms. I don't have a clear answer to that because it's in development. But watching Ontario, it's kind of at the leading edge of it in Canada, but there are other areas like New York state in the United States that could also be looked at.

I think that tension is just because of the innovation, and it's about finding the right policy mechanism. With a nuclear plant, they come online and then you charge them the price and you increase it with operation maintenance costs for 30 years. It's fairly simple.

With renewables, we have to change our thinking from top down to bottom up.

● (0945)

The Vice-Chair (Mr. John Barlow): Thank you very much, Mr. Stensil.

Thank you to our witnesses. That's all the time we have for this first part of our meeting. Again, thank you very much for providing your testimony. We appreciate it—

Mr. Nick Whalen (St. John's East, Lib.): Mr. Chair, on a point of privilege, there are still four minutes left in this 50-minute round, and we have the privilege to speak. It's supposed to end with us.

The Vice-Chair (Mr. John Barlow): I have one minute past the time allotted.

Mr. Nick Whalen: I have 9:46 a.m.

The Vice-Chair (Mr. John Barlow): Yes, and 9:45 a.m. is the end time. Thank you very much, Mr. Whalen.

Thank you very much. We will adjourn for a couple of minutes and get our next witness ready.

● (0945)

(Pause)

● (0950)

The Vice-Chair (Mr. John Barlow): We will now get ready to carry on with our next witness.

From the International Union of Operating Engineers, we have Mr. Steven Schumann.

Thank you very much for being with us today. I know you had an opportunity to see how things work, but you'll be given an opportunity for a 10-minute presentation, followed up by questions from committee members.

We'll start with you, Mr. Schumann, for 10 minutes, please.

Mr. Steven Schumann (Canadian Government Affairs Director, International Union of Operating Engineers): Thank you.

On behalf of the International Union of Operating Engineers, the IUOE, and our nearly 55,000 members across Canada, we thank the committee for allowing us the opportunity to appear today.

My name is Steven Schumann. I am the Canadian government affairs director for the operating engineers. Unfortunately, Lynda Cloutier, who was supposed to be here with me today, had a family emergency, so I am here by myself. She gives her regrets.

The IUOE is a progressive and diversified trade union. We are involved in all facets of natural resource extraction. We work in the oil fields and build pipelines, hydroelectrical facilities, wind turbines, and solar farms, and of course we build and maintain nuclear facilities. As you can see, we build it all. I'm here today to give you a labour perspective on how we see the future of nuclear.

For our members and the members of the Canadian building trades union, who we belong to, the future looks very bright at both the Darlington nuclear facility and the Bruce Power nuclear site. The Darlington nuclear station will invest $12.8 billion over the next 10 years to refurbish all four units. This refurbishment, which began in October, will create jobs for thousands of skilled trades workers in the province of Ontario and provide an opportunity for apprentices to gain valuable work experience. The passing of industry expertise down to our apprentices is something you cannot put a price tag on. It allows future construction workers to work throughout Canada. Bruce Power is also scheduled to begin refurbishment on its fleet of CANDU reactors in 2020, with a targeted completion date of 2033. This massive undertaking again will supply thousands of highly skilled jobs to our members.

Most of this work will be under a project labour agreement, a PLA, and anything not covered by the PLA falls under a collective bargaining agreement, a CBA. Both the PLA and CBA language emphasize that skilled trades workers must be “nuclear ready workers”, and our local unions for each of the crafts are responsible to ensure the training so that their workers meet this threshold. It gives a great opportunity for us to provide the necessary training to our workers.

So we would agree with those who appeared before you that the future looks bright for these two facilities in terms of providing construction and work for our members.

I would now like to discuss the Canadian Nuclear Laboratories Chalk River facility and its subsequent facilities. I believe the committee also has been given a very rosy picture for the future of Chalk River. However, we do not completely agree with that view. Under the previous government, it was decided that Chalk River and its related facilities would be transferred to a GOCO model, government-owned and contractor-operated. This operating model is the first of its kind in Canada. We find it concerning that the nuclear sector would be chosen as the first model for a GOCO model. Proponents of GOCO say it operates well in the U.K. and the United States. I cannot speak on the U.K. experience, but I do believe, from talking to my colleagues in the U.S., that it is not a perfect model. We clearly do not support the GOCO model in Canada's nuclear sector, and believe it may be asking for problems.

Just because it works well in one country does not mean it will work well in other countries. Countries operate under different regulations and are governed differently, and therefore success in one country does not mean it is destined for success in another country. To be clear, we do not oppose change. For example, we are one of the few unions that believe there is a benefit in the P3 model. We're very open to new ideas, we're just very concerned about this model.

Our first concern with this new approach is the fate of the roughly 3,400 employees. Under the GOCO agreement with all employees, all employees will no longer be able to participate currently in the public service pension plan, the PSPP, which they belong to now, and they will no longer be considered government employees, although the facility remains owned by the Government of Canada.

Under this model, all employees are being forced to move into a new pension plan that will be developed in conjunction with the employer and the employees. Negotiations to develop this plan are currently taking place, but they are not progressing very well. If an agreement cannot be made between the employer and the employees by September 2018, the GOCO agreement forces all employees to go into a plan that has already been set in agreements.

The current PSPP is a defined benefit plan; the new plan will be a defined contribution pension plan. We can provide you with more detailed differences between the two plans...to focus on more things on Chalk River.

We are not sure why the employees are being forced out of their current plan. One argument appears to be around savings. However, one thing we know is that we are unaware of any cost analysis done on the GOCO model. Nothing has been shared with us. Neither CNL operators nor AECL have been very forthcoming in sharing any details of the GOCO model to us or any other unions.

● (0955)

The reason this is a problem is that it creates uncertainty, and there has been a lot of uncertainty around the Chalk River facility. The creation of this new plan and the direction of the new operators have greatly affected the morale of the employees. New hires currently are without a pension plan, and this issue is yet to be resolved.

How do you attract new people if there's uncertainty, and if they don't even know if they're going to be part of a pension plan that others have around them?

There's also uncertainty around the numerous upcoming collective bargaining agreements, since bargaining units have no idea what the pension plan will look like in the future. How can you bargain when you have no idea what your pension plan will look like?

One of the biggest clouds hanging around this GOCO model is the fact that the SNC-Lavalin operating consortium, as we understand it, currently has a five-year contract with an option to renew. What happens if they decide after five years not to renew? How do you attract a new suitor in this situation? What if the new suitor doesn't want to come in under the current agreement, i.e. the pension plan? What if there is no new suitor? Does the government take over the facility again? What would this mean for our employees? Do they get back into the pension plan? There's a lot of uncertainty that hangs around this facility, and it has a negative impact on employees and employee morale.

Chalk River once was a shining star for employment in the nuclear sector. However, over the last few years, for various reasons that reputation has greatly diminished. It has been hard to attract and retain new people to work at the facility. Part of the problem is that the location of the Chalk River facility makes it difficult for people who want to move out there.

Beforehand, the public service pension plan was used as a sort of lure to incentivize people to come and work there, but now this lure will no longer exist. Under the current direction of the facility, we're not sure how they're going to attract these new, high-quality people they talk about for the facility.

We do not share the optimism that has been expressed by others who have appeared before you about Chalk River and subsequent facilities. We encourage the government and all parties to re-examine the use of a GOCO operating model. If we want a bright and thriving nuclear sector, a GOCO model may not be the best option for the future.

I'll leave it at that and answer any questions.

The Vice-Chair (Mr. John Barlow): Thank you very much, Mr. Schumann. I appreciate your testimony.

Now we will go to monsieur Lemieux for seven minutes, please.

[*Translation*]

Mr. Denis Lemieux: Thank you, Mr. Chair.

Thank you for your presentation, Mr. Schumann.

This is the first time I have heard of your involvement in the nuclear sector. I certainly did not expect to hear only about pension fund problems this morning. I would like to ask you some questions that are more closely related to the nuclear sector. I do not know if you will feel comfortable answering, but I will ask you all the same.

Groups opposed to nuclear energy have told us that the extraction and processing of uranium puts workers in your industry in danger. What is your opinion on that? Is it dangerous for workers in the nuclear industry in Canada?

[*English*]

Mr. Steven Schumann: I believe those in the unionized sector who work in construction in our nuclear facilities are some of the best trained in the world, so from their end, they will work in the safest environment possible.

I know the speaker before me talked about an incident in Bruce. It's not from our end that there will ever be a danger at a nuclear facility. If there is an accident...it does occur, which is unfortunate. Again, from the construction sector, we are very well trained to work in those environments before we go into them.

That's probably the best I can answer that question for you, at the moment.

● (1000)

[*Translation*]

Mr. Denis Lemieux: Are you involved in the construction of plants only? Are you also involved in the operation of plants, mines and uranium deposits?

[*English*]

Mr. Steven Schumann: When it comes to Pickering and Bruce, we're only involved on the construction sector, but at Chalk River we also work in the HVAC and some of the power plant facilities. We are a small percentage of the roughly 3,200 members who work at Chalk River.

I'm unaware of any of our members who work on the mining side, but when it comes to Chalk River, I know there have been some questions around some safety, because the facility itself is not being given the attention it was given in the past. In the grand scheme of things, it's becoming sort of—I don't want to say “derelict”, but it is not the shining star it once was. It's not only a matter of employees. The facility itself does need some work. I don't know if that could hamper safety.

[*Translation*]

Mr. Denis Lemieux: There is a question that I have always asked myself. If you are involved in operations and there is a major labour conflict, could the safety of the plants be affected?

[*English*]

Mr. Steven Schumann: Under the collective agreements, there is never a work stoppage. We work very hard on that. In every agreement we'll ask for *x* number of years, and we guarantee no work stoppage, unless there would be a great issue involved. But no, from our end, we would not create a work stoppage to create a safety risk; no.

There was a strike at Chalk River in the past, and on the issues around that, I cannot go into great detail. Lynda, who was going to be here, probably could have enlightened you on that. I'm not the expert on old strikes, so I can't comment.

[*Translation*]

Mr. Denis Lemieux: In closing, I would like to go back to Ontario Power Generation, which intends to invest $12.8 billion over 10 years to refurbish the Darlington nuclear station.

What does that represent for your members in terms of job creation and generating wealth for the people in your community?

[*English*]

Mr. Steven Schumann: At the peak, there will be 11,800 construction workers on site. For us, there will be roughly 1,000 of our members, but for the building trades this will have a huge impact, due to the fact that not only will 11,800 members be working, but apprentices also will be working. One aspect about apprentices is to ensure that they have time to actually work, develop, and become journeypersons. In our collective agreements, I believe it's almost a 1:1 ratio in some of the trades that will have apprentices, so we will be training the next generation of construction workers on this site, which is vastly important. You can't put a price on that.

Unfortunately, in the late 1980s and 1990s, the construction sector was not great at training apprentices. If you look at the average age of construction workers now, you can see that, to paraphrase my boss, they're old white men who are past their prime. We really need to reinvigorate the sector. This will be an opportunity to bring a lot of young people—men, women and first nations people—into the jobs and allow them to work in the construction sector in the future.

[*Translation*]

Mr. Denis Lemieux: Could our government do more or do something different to help you train the next generation of workers in the industry?

[*English*]

Mr. Steven Schumann: As you know, I think, the government had a role in Chalk River. At one point, it was a very prominent facility for creating isotopes and other things. Unfortunately, Chalk River has lost its prestige, not just through the government's fault but through the changing world and a changing market. For facilities like this, I believe, putting them into a GOCO model, where the operator obviously wants to make some money, I don't believe.... Is the way it's structured right now the best model? I believe the government needs a bit more control in the transition phase.

Again, I don't think the GOCO model may be the best. I think the government should re-examine it. After the contract is up in five years, the government should re-examine it to see if this model actually is best for these types of facilities, these smaller facilities that exist in Chalk River, Port Hope, and Fredericton, and at Whiteshell in Winnipeg. I believe there is one more, but I don't know it off the top of my head.

● (1005)

[*Translation*]

Mr. Denis Lemieux: Witnesses who have appeared before our committee have said that the future of nuclear energy in Canada will revolve primarily around exporting our technology, to China among other countries, and selling nuclear fuel.

Do you agree with that assessment? Or do you think instead that there will be growth in the nuclear industry in Canada?

[*English*]

Mr. Steven Schumann: As I said earlier, we build it all. We're huge fans of all types of energy. We're big fans of oil and gas, pipelines, wind, solar, and nuclear. We mainly try to focus on building the energy facilities for people. We try to stay away from the commentary side. If there is a will, a desire by government, to continue with nuclear, we'll be there to help ensure the facilities are built to the best standards. We—

The Vice-Chair (Mr. John Barlow): I'm sorry, Mr. Schumann. That's seven minutes. I'm sure you'll have an opportunity to expand on that.

We'll go to Mr. Strahl, please, for seven minutes.

Mr. Mark Strahl: Thank you very much, Mr. Chair.

When we have witnesses that come through, I often wish sometimes the panels would be arranged so that, for instance, in the last panel we could have the Canadian Coalition for Nuclear Responsibility actually appear with the Nuclear Waste Management Organization, so they could deal with some of the comments.

I think it would have been good, as well, to have the International Union of Operating Engineers appear with Greenpeace in the last panel, because I note with interest the IUOE has supported the Trans Mountain pipeline expansion, the Line 3 pipeline expansion, has supported the nuclear facility refurbishment. I met with the BC Building Trades Council, which also supports pipeline development, supports the Site C dam, supports responsible resource development.

I guess I'm looking for your perspective. I know you said you don't like to get into the policy. If it's going to be built, you want to build it. I think on this, certainly from the Conservative side, we're not too concerned about oil companies or pipeline companies or nuclear companies, but we are concerned about the women and men who gain family-supporting jobs and who pay the mortgage and put food on the table because of the projects that are approved by government.

Can you perhaps talk about the tension that sometimes comes up where we have organizations that are actively involved in opposing much of the work that sustains the families that you represent? How do you deal with that? Do you have campaigns to try to educate people on the nature of your work, the important economic benefits that it provides to communities and families? Or is that the job of government?

Mr. Steven Schumann: For a long time in the past we relied on others to do that because we were busy working and building stuff; however, over the recent time and in the previous government's tenure, we saw it more. Certain groups were very loud in protesting development. We ourselves, as operating engineers, and some of the building trades have started to promote the projects we work on and highlight the fact that these are jobs for the women, men, first nations, youth, for the future of Canada.

For example, just quickly, on the pipeline ones, we create some social media campaigns to inform people that we're ready to work, we want to build these pipelines, and here are the benefits. The protests have been very loud on the pipelines, so yes, we've been very active on that.

In terms of promoting nuclear, no, we've not been very active in promoting the benefits of the work that we do, in part because most of the work is in Ontario, at the two facilities, and there has not been a very loud, boisterous protest over these refurbishments like there is on some of these other projects.

But yes, if in the future we see the discourse going against what we build, we will become more active. We want to work with the governments who help put us...employed, and that will be of any political stripe. We both need to get the message out, because I believe that governments haven't done a good job as well of expressing the actual economic impact on the people who build the jobs. I think we all need to take a better role in that as well, but we are actually being more active in taking a role in that.

Mr. Mark Strahl: Okay. I appreciate that, and I think that's a fair criticism of governments of all stripes.

I did want to get an indication in terms of, as you mentioned, the demographics of your workforce. Perhaps some of us started to look at ourselves when you mentioned some of the demographics you're dealing with. Can you indicate for the committee what the average wage is for your members, especially when it comes to, perhaps, the nuclear side? What are we talking about in terms of an hourly wage or an annual wage for the average workers, for the 11,000, I think you mentioned, who are going to participate in refurbishment?

● (1010)

Mr. Steven Schumann: Off the top of my head, I can't give you that, because it is varying. You would be looking at an hourly wage, off the top of my head, in the high $20s, low $30s, to start off, and higher, depending on the experience, apprenticeship, and the role—the piece of equipment or what part of the work the person is doing.

In fact, I believe under the Pickering plant there is actually a document that touches on some more of the economic skills of the workforce, and I can try to get that to the committee and share that with you if you wish. Unfortunately, I don't want to speak on the generalities, but they are very well-paid jobs. We take it very seriously because our members are trained to work in these sectors and work on the equipment. It is not an easy piece of equipment.

Just to let you know, if you look at the three cranes on West Block, you'll see three of our members. It takes anywhere between 4,500 to 6,000 hours to become a journeyperson on a crane. There's lots of training, there's lots of investment, and these people are paid for the work they do.

Mr. Mark Strahl: Thank you very much. That's all I have.

The Vice-Chair (Mr. John Barlow): Thank you very much, Mr. Strahl.

Mr. Cannings.

Mr. Richard Cannings: Thank you, Mr. Schumann, for being here today. I'd like to start off by thanking you and all of organized labour for the role you've played in ensuring that Canadian workers have well-paying jobs—jobs that can support families—and in the great role you mentioned in training. This is one of the things that has been abandoned over the last couple of decades. For various reasons—I don't want to cast aspersions on any governments—there have been attacks on organized labour, to the great detriment, I think, of Canadian workers.

I want to pick up on the training. You said this work in refurbishment would be a great opportunity for young workers to get trained in various trades. I just wondered if you could point out the applicability of these jobs to other sectors. You say you build everything. If these workers are training in building nuclear reactors or refurbishing them, how applicable is that work to pipelines, wind, or solar, those other energy sectors you mentioned?

Mr. Steven Schumann: I'll just speak on behalf of operating engineers. We're heavy equipment. When you deal with a nuclear facility, there are certain things you need to be specifically trained on about how to deal with taking down part of a structure or stuff like that. Our members are trained on the equipment. To be an excavator or crane operator, those skills are applicable anywhere. For example, after focusing on the safety parameters of the job site, a crane operator can go to work at Bruce or at Darlington.

For electricians, they have certain codes and safety protocols they would have to meet to go and work in a facility like this. But they're trained as an electrician and that can be applicable to another job anywhere else, such as to build a wind turbine or something else like that. The key is to get the apprentices trained on the equipment or in their field, and then to get them the actual work time so they get the experience, and then they can move anywhere in that jurisdiction to work in Ontario.

Mr. Richard Cannings: Moving now to the situation at Chalk River around the pension, you said there were 3,400 employees there. I just wanted to get clarification. How many of those employees are yours? Are all those employees affected by this pension situation? If there's a defined pension in the contract agreement that kicks in if they can't make an agreement, I almost wonder what kind of bargaining position you have.

Mr. Steven Schumann: There are over 20 bargaining units in Chalk River, and most of them are fairly small. There would be anywhere between a couple to 20 or 40. There are about three big unions: PIPSC, steel, and I forget the other. They would make up a lot of it, but there are a lot of small bargaining units. We ourselves are about 50 members of that 3,200 at Chalk River, and we have a couple spread out through the other ones.

Yes, it's been very difficult. There has been a lack of willingness on the employer's side to move forward on this pension issue. They have that fallback, so it has caused a lot of angst among the unions out there and among the employees. They think if this is how this new operator wants to operate the facility, what does it mean moving forward on other issues?

Just to let you know, in the time that this announcement was made, we were finding it very difficult to find people to come and work for us in our classifications at the facility. We posted a job three times. It's a very high-paying job, but there's no interest in coming out to Chalk River right now.

● (1015)

Mr. Richard Cannings: Turning to decommissioning, you say you build stuff. But if you work in heavy equipment, we've heard from other witnesses about the opportunities Canada has in decommissioning all the facilities we have, Pickering being one. Is that something your members would benefit from and you would support?

Mr. Steven Schumann: Yes, in Pickering and in Bruce, all that work down there is done under a project labour agreement, so our members would be the ones who would be involved in the decommissioning. The decommissioning of some of the stuff at Chalk River right now is being done by our members.

The Vice-Chair (Mr. John Barlow): Thank you very much, Mr. Cannings.

Mr. Tan for seven minutes, please.

Mr. Geng Tan (Don Valley North, Lib.): Thank you. I'd like to share my time with my colleague.

You just mentioned some changes happened to the employees and the scientists of AECL's department right now called Candu Energy after the privatization of this company. In your opinion, what was the motivation of the government to privatize this company?

Mr. Steven Schumann: From our understanding, there would be some cost savings involved by offloading this facility. Again, we have never seen a study on the cost savings. If there has been one published, it has never been shared with us. Again, we are going on what we hear. No one has explained it to any of the employees or any of the bargaining units at Chalk River.

Mr. Geng Tan: Okay. Your point is that the government tried to reduce the liability or the burden on the AECL.

Then I come to a question about the GOCO model you just mentioned in your presentation. I asked a similar question before to the government about this GOCO model. The nuclear industry is very special because nuclear safety always has a high priority. Before the government can emphasize nuclear safety, no matter how much, and even pay money or put more people working under this GOCO model.... I don't know how the government can judge the performance of the contractors. They can save money, but perhaps they have to sacrifice nuclear safety. If they maintain nuclear safety, probably they have to pay more money, and then it's against the purpose of the government. Maybe there is something that I don't understand. Maybe you can comment more on that.

Mr. Steven Schumann: I would share your concerns. With what Chalk River was in the past, and where it may be going, I don't believe privatization of that facility should occur, particularly in a GOCO model. I believe you would have a great deal of support. There are concerns about the future operations of this facility around safety. No ill will is intended to those who are now responsible, but they're here to make money. This facility, the way it was going, is not a money-maker from any perspective, I think. Where will they get their benefit from? I know they talked about future investment, bringing in stuff, and bringing in 300 people, I think they said, at some point. I don't see how they're going to be doing this with its current structure. I do wonder how they will move forward.

Mr. Geng Tan: Okay.

I need your comments on another question as well. We just heard, and even before from some witnesses, about the use of renewable energy to replace or even phase out nuclear energy and nuclear technology. Yes, we all applaud the use of renewable energy in the future, but I think people have to be realistic. We cannot reach there overnight. It may take 20 or 30 years, but between now and 20 or 30 years, what kind of energy will we have to fill the gap? Right now more than 50% of the electricity in Ontario is from nuclear energy, which means half of the electricity in this room is from nuclear sources. Without nuclear technology, I cannot imagine how we can make a technological breakthrough on renewable energy, because they need electricity as well to do their research. This is something you can probably comment more on.

● (1020)

Mr. Steven Schumann: It's just not nuclear. To go back to an earlier question of oil and gas, those who protest say we have to be off this energy now. Well, it's not possible. We need a long-term plan, which involves honest discussions about where we'll be in 20 or 30 years from now. Like I said, we build it all. We're on the front lines of everything, and we see it. I think it's very important that we have this discussion, not only between governments, but with concerned citizens, including labour and environmentalists, about how you properly phase it out in the next 20, 30 years, or longer. It's something that can't happen overnight. We need to have this bigger discussion and not be so blinded that we're going to turn off the tap right now.

Mr. Geng Tan: My colleague just said something about the role of government and also about the role of industry around the education of the public and knowledge about the nuclear industry. I think this is very critical, and I think a lot more can be done by the industry and by the employees. I agree that the amount of energy stored in the nuclear reactor stations is huge, but if we have safety features, we will likely never see an accident happen.

I'll give you one example. We see an airplane crash almost every week, and we see car accidents every day, but who cares, right? People still take planes, and people still drive cars to work, even though there is a danger. So I guess this is something the industry can do to help themselves to have better public awareness about our safety features. Nuclear energy is not evil; if we have good controls and good safety measures, we don't have much concern about that.

These are the comments I have for you.

Mr. Steven Schumann: I appreciate it. The problem is that especially when we deal with energy, one accident, light or horrific, always seems to linger and be rehashed and rehashed. Just because something happened somewhere else, everyone says it's going to happen here in Canada. Well, our regulations are different. They're stronger, and the standards are higher. Knock on wood, we've been very fortunate, and that will continue. Unfortunately, people take world events and link them to Canada right away on a lot of this stuff.

Mr. Geng Tan: That emphasizes the need for public education.

Mr. Steven Schumann: Agreed.

The Vice-Chair (Mr. John Barlow): Sorry, that's your time, Mr. Tan. Thank you very much.

We'll now go to Ms. Stubbs for five minutes, please.

Mrs. Shannon Stubbs: Thank you, Mr. Chair.

Thanks for being here today and for your comments.

In the same vein as the conversation that we've been having, on November 24 we did have a representative from the Office of the Auditor General here who had conducted an audit on the CNSC. She did express concerns that were outlined in her report about protocols, data management, and follow-ups for the CNSC site inspections and practices. She went on to say, similar to the comments you were making, that it's likely the industry and the workers are well ahead of the regulator on all of these fronts.

She said that like the Canadian energy, oil and gas, and mining sectors, safety is in their DNA. It was echoed again by a representative from Bruce Power on the same day, who said that when looking at the spectrum of energy development or responsible resource development in Canada broadly, we are blessed to have a three-legged stool here, with the first leg being the strong and successful oil and gas sector, the second leg being hydroelectricity, and the third leg being nuclear. He said it's important that all of these sectors are supported, promoted, and acknowledged as world-leading sectors, as well as the performance of workers in Canada, which is second to none on the planet. That seems to align with the comments that you were making.

Another witness said that in particular to nuclear, we punch above our weight as a country, and that Canada's regulatory regime in the post-Fukushima period was one of the first to step up, and it was internationally recognized.

I'd invite you to expand on your comments about whether you agree with the assessment that the nuclear industry and the workers, in their performance and their commitment in Canada, are dedicated to responsible development and to safe operations.

I wonder if you might comment personally, on behalf of the members you represent and you work with, on whether you find it insulting that organizations, sometimes foreign-funded organizations who protest against your way of life, your expertise, and the economic opportunities for the men, women, first nations, young workers, and older expert workers in the sector consistently, it seems to me, are making the argument that the construction and the operation of these facilities are guaranteed to result in failure and in catastrophic risks to your neighbours, to your fellow Canadians, and to the communities neighbouring these operations that provide so many economic benefits to their communities and sustainable energy for all Canadians.

● (1025)

Mr. Steven Schumann: First, we work very closely with our contract partners and those who hire us, to ensure we meet their standards of what they need. For example, with the refurbishment of facilities, as I said, they want nuclear-ready workers. We sat down with our contractors, those who had bid on the work, and the operators and asked them what they meant by nuclear-ready workers. They explained it to us. They showed us what they needed, their concerns. We took that back to our locals who provide the training, saying this is the training they need, and asked if they could meet it.

We ensure that we sit with our contractors, and we train our workers to those higher standards they will need to ensure the safety of things being constructed. I can safely say here that things that are constructed in any energy sector by a unionized Canadian workforce will be by the best-trained workers you'll see, and we will follow the highest standards out there. Again, as you said, for us, worker safety is paramount. We breathe it through and through in our training, on the sites. When we build it, it will be safely built through the requirements that have been laid out to us.

To the second part of your question about the protesters, I'm of two minds. Everyone has a right to protest and express their views. Do I find it insulting? No. That's their point of view. All I ask is that they have an informed point of view. Unfortunately, when we come to a lot of these arguments, they're don't.

Again, I will go back to oil and gas, because I know it better. When we talk about pipelines in B.C., you see the baby duck from the *Exxon Valdez*. That was 30-odd years ago. It's the same baby duck you see over and over again. That's not an argument: the pipelines are the safest thing out there. Let's have a real argument. If you have concerns about nuclear, let's talk about the concerns. Let's not talk about the construction, because it's going to be built to the safest standards. Let's have an honest discussion about your concerns.

The Vice-Chair (Mr. John Barlow): Thank you very much, Mr. Schumann.

Thank you, Ms. Stubbs.

Now we'll go to Mr. Whalen, for five minutes, please.

Mr. Nick Whalen: Thank you very much, Mr. Schumann.

Thank you, Mr. Chair.

Following up on Ms. Stubbs' questioning regarding whether workers feel insulted, I like your answer. It's very to the point. It's important to have a robust public debate on this.

Further to that, earlier we heard from very informed environmental groups, who raised some important issues about the long-term liabilities and long-term obligations Canadians have to protect the environment with respect to nuclear waste. Has your organization been consulted by Ontario about the development of the deep repository?

Mr. Steven Schumann: I can answer that generally. I believe if there were to be discussions, it would be with the Ontario building trades, our umbrella organization. I can't answer if there have been discussions.

But if the government is serious about building it, it likely would have reached out to our Ontario building trades. Again, they'd look for our expertise in creating something like that.

● (1030)

Mr. Nick Whalen: Are there specialized understandings, techniques, and safety requirements in construction within the nuclear industry that your members are experts in that other tradespeople in a similar field but in other industries would not have the same knowledge about?

Mr. Steven Schumann: We have 14 different trades that cover different things. As I said, we're the heavy equipment aspect. I think some of the technical things.... Ours is more applicable to all sectors. Those who work probably more inside the facilities, such as the electricians and the pipefitters so on, may have more expertise particularly around certain aspects of the structure itself, in that, again, they would be trained to have that. Non-union workers wouldn't have that, because they don't get the same training that unionized workers have.

Mr. Nick Whalen: For us to manage the long-term environmental liabilities associated with nuclear waste, do you think we need a critical mass of active nuclear industry so we can generate the new and improved techniques, the higher safety requirements so we can maintain these deep geologic repositories over the long term? Or do you think that over time we can completely phase out nuclear and just focus on the storage, without further development investment in the actual industry?

Mr. Steven Schumann: I'm not the expert on that side. As I said, our workers just like to build things.

In moving forward on any model you have for storage—this is for any energy facility you have out there—don't be afraid to regulate to no end. Safety is huge. Regulation is paramount. Workers abide by the regulations. Those who want to build it...if they regulate it, they will still build it. Let's not skimp on that.

Yes, if we move forward on this let's have that robust discussion about how we build the safest facility and ensure its long-term viability. That is a discussion not only between those who want to build it, the operators, but also those who are going to build it as well.

Mr. Nick Whalen: Are you advocating for a higher standard of regulation in the Canadian nuclear construction industry?

Mr. Steven Schumann: For the construction side, I think we're pretty well regulated, because in Ontario particularly our members are the highest trained. So I would not want to comment on that. I think the trade themselves would have comment on that. But again, we already meet the highest standards, and I've never heard of an issue on the construction side, so I think on the construction side right now we're quite good and the regulations work quite well.

The Vice-Chair (Mr. John Barlow): You can have another 30 seconds.

Mr. Nick Whalen: Great.

In terms of the trades, then, the expertise that your union members get working in the nuclear construction industry is fully transportable to other industries including renewables, including other types of projects. Those workers, if they're going to be displaced, could be displaced into the renewable sector if more investment was put there.

Mr. Steven Schumann: Yes. As I said, if they are given the training and opportunity to get the hours to become a proper journeyperson, yes. It only takes a little bit of training to move them off to another facility.

Mr. Nick Whalen: Thanks for confirming that the environment and development can go hand in hand.

Mr. Steven Schumann: Yes, it does. Yes.

The Vice-Chair (Mr. John Barlow): Thank you very much, Mr. Whalen.

Mr. Cannings may have one more question. We're getting close to the end. Does anybody else have any other questions, or are you guys fine? Okay.

We'll close with you, Mr. Cannings, if you have question left, please.

Mr. Richard Cannings: Okay, thanks.

I have just one quick comment. You mentioned the *Exxon Valdez*. Even though it was thirty or some years ago, there are still more than 20,000 gallons of oil on those beaches in Alaska.

Mr. Steven Schumann: I understand that. That was my—

Mr. Richard Cannings: [*Inaudible—Editor*] those dangers seriously.

Mr. Steven Schumann: Yes.

Mr. Richard Cannings: You mentioned that SNC-Lavalin had a five-year contract with an option to renew. What are your thoughts about what the government could and should do if SNC-Lavalin decides not to renew?

Mr. Steven Schumann: It's hard to say, because who knows what the facility will look like in five years from now? Right now, at the facility we have a lot of issues in retaining and attracting new talent to come out there. So obviously in five years, if there has not been a significant investment into the facility, it's going to look very different.

I don't want to navel-gaze on it, but I'll be very interested in five years from now—again, if that is the length of the contract, from what we understand—to see if they want to continue. Again, I don't believe a facility like Chalk River should be in any way private sector, because I think what's researched before....

I understand the commercialization side. My own personal thing is that I just don't know this was the best model to approach into....but I'll leave it at that.

● (1035)

The Vice-Chair (Mr. John Barlow): Thank you very much, Mr. Cannings and Mr. Schumann.

Mr. Harvey is trying to sneak one last quick question in.

Mr. T.J. Harvey: I have one quick little question for you.

I just wanted to give you the opportunity to elaborate on something. Just a few minutes ago, you were talking about skills and training and you had indicated—at least to me it sounded like you were saying this—that skilled trade workers who are non-unionized wouldn't be as qualified to do trades as workers who were unionized. I recognize that it's your responsibility to represent unionized workers, but I just to give you a quick minute to clarify whether that was your intention or not.

Mr. Steven Schumann: No, because obviously what happens is some of our members who also get training leave the union, and then they're in the non-union sector. So they obviously have the training. I guess it came out the wrong way, in that sense. But our workers are trained. We have training. We're the largest investors in training. So some of those workers out there are former members who have received their training, so yes, non-union workers will be qualified. But there are some companies out there that will bring in non-union workers who do not have the proper training.

Mr. T.J. Harvey: Okay, that's fair enough. Thank you.

The Vice-Chair (Mr. John Barlow): Thank you very much, Mr. Schumann. I appreciate your taking the time to be with us today.

Thank you to the committee for your questions.

The meeting is adjourned.