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• (1100)

[English]

The Chair (Mr. Francis Scarpaleggia (Lac-Saint-Louis, Lib.)): Good morning, everyone, and welcome.

Welcome, Ms. May. It's nice to see you with us. You were, of course, with us for Bill C-12 and contributed to the discussion on Bill C-12, so in a sense, it's your return to our committee.

Welcome to the witnesses for today's hearing. I just want to go over a few rules of procedure, more for the benefit of the witnesses than anyone else, since we're all used to the rules of procedure here during COVID-19.

For those who are in the room, please maintain a two-metre physical distancing. Please wear a non-medical mask when circulating in the room. It is highly recommended that the mask be worn at all times, including when seated. There's hand sanitizer, if needed.

As for the witnesses, you can speak in the official language of your choice. When you are not speaking, please put your mike on mute, which would help in terms of avoiding ambient noise. Before speaking, and this goes for the members of the committee as well as the witnesses, please wait for me to call you by name.

Before we begin, I would like to ask for unanimous consent, if possible, for the steering committee report.

Mr. Longfield.

Mr. Lloyd Longfield (Guelph, Lib.): Thanks, Mr. Chair.

I just want to clarify that we're creating a placeholder for the Conservatives on the third report. They'll submit something to the committee. The committee process will then take over from there once they've given something for us to consider as a study.

The Chair: Yes, it's a placeholder. As I understand it, there's no specific study in mind at the moment, but there's a placeholder, so when we get to it—perhaps in a year's time, because we may be receiving legislation—we'll be discussing ideas from Mr. Albas.

Mr. Albas.

Mr. Dan Albas (Central Okanagan—Similkameen—Nicola, CPC): Just a quick question. When you say a year's time—

The Chair: It's conjecture; it's not a ruling.

Mr. Dan Albas: Okay, I was just wondering if you knew something you would want to share with the committee.

The Chair: No, I don't, actually. I don't know very much, Mr. Albas. I'm assuming.

Mr. Dan Albas: You and I can agree, because I don't know very much either, so I feel better.

The Chair: Exactly. Maybe it'll be less than a year's time. Whenever we do a study, we have to review the report. That's usually three or four meetings, and then it's summer break. Hopefully, we'll get to your study as soon as possible. I don't have a timeline. It's all conjecture, Mr. Albas.

Mr. Dan Albas: Perfect.

The Chair: We could receive legislation. It's always a possibility, because we're a legislative committee.

Thank you for that, colleagues.

We can now proceed to the nuclear study. It's our first study of the 44th Parliament.

[Translation]

I would like to thank Ms. Pauzé for suggesting such a worthwhile study. This is an increasingly timely issue.

Today, we will be hearing from five witnesses. They will each have five minutes for their presentations. After that, we will have three rounds of questions. Since we don't have a new panel for the second hour, we'll keep going until the end of the rounds.

[English]

We have with us today Gordon Edwards, president of the Canadian Coalition for Nuclear Responsibility; and John Gorman, president and chief executive officer of the Canadian Nuclear Association. From Concerned Citizens of Renfrew County and Area, we have Ole Hendrickson, who is a researcher. From Ontario Power Generation, we have Jason Van Wart, VP nuclear sustainability services. We also have Laurie Swami, president and chief executive officer of the Nuclear Waste Management Organization.

Welcome to all the witnesses.

We won't waste any time, and we'll begin—

• (1105)

[*Translation*]

Ms. Monique Pauzé (Repentigny, BQ): May I have the floor, Mr. Chair?

The Chair: Yes. Go ahead, Ms. Pauzé.

Ms. Monique Pauzé: Sorry, I had my hand raised.

Just so I'm clear on how we'll be proceeding, I have a question about the first, second and third rounds. Do you mean that, during the first round, we'll have six minutes, and for each subsequent round, Ms. Collins and I will have just two and a half minutes each? Is that correct?

The Chair: That's correct, since we aren't switching panels halfway through.

Ms. Monique Pauzé: Very well.

The Chair: I have no doubt you will have compelling questions that will help the committee gain insight. That is for sure.

Ms. Monique Pauzé: You are too kind.

The Chair: Starting things off will be Mr. Edwards for five minutes.

[*English*]

We can't hear him. We'll come back to Mr. Edwards.

We'll go straight to you now, Mr. Gorman. You have five minutes.

Mr. John Gorman (President and Chief Executive Officer, Canadian Nuclear Association): Thank you, Mr. Chair and members of the environment committee, for the opportunity to participate today. It's truly a privilege.

In the spirit of reconciliation, I would like to acknowledge that while I'm coming to you virtually today, I am physically on the unceded territory of the Algonquin Anishinabe people.

I'm John Gorman, president and CEO of the Canadian Nuclear Association. I'm also former president and CEO of the Canadian Solar Industries Association.

The Canadian Nuclear Association represents the entire spectrum of the nuclear industry. That includes the mining sector, nuclear utilities, engineering, manufacturing and supply chain companies. We account for 76,000 direct and indirect jobs. It's a cornerstone of Canada's innovation system.

One of the reasons we're doing so much innovation in this very healthy nuclear ecosystem is the \$26-billion refurbishment that is currently under way in Ontario, of the Ontario Power Generation and Bruce Power units, proceeding on time and on budget and allowing for this extraordinary innovation in the areas of small modular reactors and life-saving medical isotopes and nuclear medicine generally. As I'm sure all of you are aware, we're also the second-largest exporter of uranium in the world. Cameco is a key global player in our nuclear ecosystem.

Before I speak to the nuclear waste and by-product aspects of our industry, I would like to provide a little bit of context on how the nuclear industry contributes to Canada's key goals and priorities. As you know, Canada, along with the rest of the world, has been

dealing with the COVID-19 pandemic, but we're also witnessing the long-term impacts of climate change. We saw in 2020-21 the acceleration of fires, floods and heat waves worldwide, and we experienced it here at home, all validating the UN IPCC's warning that this is a "code red for humanity". In fact, as this government and all of us have noted, this is a climate crisis that we're experiencing here and around the world.

As world leaders concluded at COP26, there is an urgent need for an all-out effort to address the climate crisis. As part of that effort, all the tools at our disposal, all non-emitting and clean energy technologies, including nuclear, are needed to play a role in dramatically reducing emissions. This view is reflected internationally. The governments of the United States, the United Kingdom, France, Finland and others have indicated that nuclear technologies, both large and small, will need to be part of the clean energy solution to address climate change. We saw that earlier this week as well, with the EU commission reinforcing this position when it issued its decision to include nuclear as a sustainable technology required for a net-zero future.

Emissions targets agreed to at COP26 will require a significant amount of new electricity, as we all know, an amount two to three times the amount of electricity generation we have here in Canada. Provinces like Ontario, which were able to transition away from coal due to nuclear, will also need significant amounts of new non-emitting electricity as we fuel-switch from fossil fuels.

We also see this interest growing provincially in a pan-Canadian way, with other provinces recognizing that they need small modular reactors. The premiers of Alberta, Saskatchewan, Ontario and New Brunswick have all identified new nuclear as needed to meet their low-emissions targets. They have signed a memorandum of understanding on this.

Some have raised issues associated with nuclear waste. I think this study provides an opportunity to give an overview about how robustly the nuclear industry and its products are regulated. Canadian nuclear waste is the most highly regulated and managed waste possible from an energy waste perspective. All energy sources, including renewables, generate waste. Nuclear is the only industry that can account for all of the waste, and of course we don't emit any pollution. Nuclear waste is regulated by our regulator, the Canadian Nuclear Safety Commission, and we're monitored by the International Atomic Energy Agency.

It's important to note that not all waste is high-level. We tend to think of waste as spent fuel, but nuclear waste includes low-, medium- and high-level waste by-products in uranium mine and mill tailings waste forms. It's important to distinguish what we're talking about.

Canada has led the way in creating and supporting the efforts by the Nuclear Waste Management Organization to identify a suitable site for a deep geological repository, a DGR, for a permanent storage solution for our waste.

- (1110)

DGRs are recognized worldwide. I'd like to add that France, Finland and Sweden have all taken similar paths.

The Chair: Thank you, Mr. Gorman. We've passed the five minutes, but there will be many rounds of questions, so you'll be able to speak about those during the meeting.

We'll go now to Mr. Hendrickson from the Concerned Citizens of Renfrew County and Area.

Mr. Ole Hendrickson (Researcher, Concerned Citizens of Renfrew County and Area): Thank you, Chair.

Thanks to the committee for instituting this important study. I'll make eight points.

Number one, permanent disposal facilities for nuclear reactor waste have never been approved in Canada. Such facilities will impact many future generations and we must get them right.

Number two, prior to 2015, the nuclear legacy liabilities program was under the management of Natural Resources Canada. In fall 2015, the government transferred responsibility for oversight of public expenditures for decommissioning of its nuclear facilities and reduction of its nuclear waste liabilities from NRCan to Atomic Energy of Canada Limited. AECL issued a 10-year, multi-billion dollar contract to a multinational consortium under a government-owned, contractor-operated—or GOCO—model.

The GOCO contract was based on similar arrangements in the U.K. and U.S., but in April of 2016, the U.K.'s Nuclear Decommissioning Authority terminated its GOCO contract with the consortium operating the Sellafield nuclear site. Problems included escalating GOCO costs, increased liability amounts, large GOCO executive turnover and questionable contractor expenses.

Then, in March 2017, the NDA announced that its GOCO contract with the nuclear Cavendish Fluor partnership would be terminated after five years instead of 14 years. Texas-based Fluor was a partner in that partnership and is a partner in the Canadian National Energy Alliance, which is AECL's GOCO contractor, so does AECL, which now has 40 staff, have sufficient capacity for oversight of the GOCO contract and associated subcontracts?

This raises concerns about government accountability, fiscal responsibility, public oversight of Canada's nuclear waste liabilities and our ability to meet international obligations related to nuclear waste and nuclear safety. Intervention by Parliament is recommended to restore public control and oversight of federal nuclear facilities and their radioactive wastes and to ensure public funds are spent wisely to contain and isolate these wastes.

The third point is that AECL's discounted \$7.4-billion liability for federally owned nuclear sites, which is an "asset retirement obligation" in the Public Accounts of Canada, exceeds the \$7.1-billion federal liability for over 2,500 contaminated sites. AECL's undiscounted liabilities are estimated at \$16 billion.

Deloitte recommends discounting of asset retirement obligations only if the "aggregate amount of the liability" is "fixed or reliably determinable" and "the amount and timing of cash payments are fixed or reliably determinable". However, future liability amounts and payments are uncertain. The 2021-22 main estimates include \$808 million for AECL's nuclear decommissioning and radioactive waste management expenses. As of September 2021, AECL had \$59 million in a trust fund reserved for disposal of federal high-level spent fuel and \$47 million in a long-term disposal of waste fund to manage commercial wastes.

The fourth point is that commercial wastes, some imported from foreign countries, are transferred from private to government ownership and stored at AECL's Chalk River Laboratories. This has potential to increase the government's nuclear liability. Proposals to build small modular reactors on AECL's properties could also increase the liability.

The fifth point is that Canadian Nuclear Laboratories, owned by the GOCO consortium, is proposing three permanent radioactive waste disposal projects on AECL's properties. The Canadian Nuclear Safety Commission is assessing these proposals under the former Canadian Environmental Assessment Act. An environmental assessment expert panel noted an apprehension of bias regarding CNSC's role as the responsible authority for nuclear projects. The panel recommended that CNSC not retain this role, and the new Impact Assessment Act reflects that for future projects, but proposals continue under the old regime.

- (1115)

The CNSC recently announced a licensing hearing for the near surface disposal facility, or NSDF, which involves the permanent disposal of a million tonnes of federal and commercial radioactive waste in a landfill-type facility at Chalk River.

The Chair: Thank you, Mr. Hendrickson. I'll have to stop you there, but as I said before to Mr. Gorman, there will be plenty of time to delve into these issues. Thank you for your opening words. They were very interesting.

We'll go to Ontario Power Generation with Mr. Van Wart, VP, nuclear sustainability services.

Mr. Van Wart, please go ahead.

Mr. Jason Van Wart (Vice-President, Nuclear Sustainability Services, Ontario Power Generation Inc.): Thank you, Mr. Chair and members of the committee, for inviting OPG here today.

I am the vice-president of Ontario Power Generation's nuclear sustainability services division. Nuclear sustainability services handles all of the by-products of nuclear power generation from OPG-owned nuclear stations in Ontario, including the Pickering, Darlington and Bruce power plants.

First, I'd like to take a bit of time to talk about our company and what we do for Ontario and Canada. OPG is Ontario's largest clean energy producer. We generate 50% of the electricity consumed in Ontario, and 60% of that total energy in Ontario comes from nuclear power.

Thanks to the reliability of nuclear energy, Ontario was able to stop burning coal in 2014. As a result of this transition from coal to nuclear, Ontario now has the cleanest electricity grid in North America.

OPG's climate change plan, which we released in 2020, commits the company to being net zero by 2040 and will help the Canadian economy reach net zero by 2050. Last year, OPG released our first ever reconciliation action plan to support reconciliation with indigenous peoples. It makes a series of specific commitments, including achieving \$1 billion in economic benefits for indigenous peoples over the next 10 years.

On the urgent issue of climate change, as has been stated by Natural Resources Canada, no credible path exists to net zero by 2050 without nuclear. As we move off fossil fuels, Canada needs a lot more electricity to meet future demand. In a scenario of high electrification, including in the transportation sector, Ontario electricity demand may increase by 40% by 2040. Globally, the International Energy Agency has forecasted a near doubling of electricity demand by 2050.

In this context, we must remember that nuclear is the lowest carbon form of energy measured by its entire life cycle, as reported by the United Nations Economic Commission for Europe. Renewables such as wind and solar cannot do the job alone. They're part of the clean energy mix, but they only work when the wind blows and the sun shines. We need a reliable baseload of electricity. We need nuclear energy. It helps keep our hospitals, businesses and homes running 24-7.

As for nuclear by-products, or waste, it is all tracked and safely stored, which no other form of energy can claim. By-products of fossil fuels go into the environment as air pollution, releasing CO2 emissions and contributing to global warming. Solar panels go to landfills and they contain toxins, such as cadmium, chromium and lead.

It's important that I note that some of the by-products of nuclear energy are, in fact, extremely valuable assets to Canada. For example, medical isotopes produced in nuclear power plants are helping to save millions of lives every year. These include cobalt-60, which has been produced at the Pickering nuclear station for over 50 years, and molybdenum-99, which will be soon produced at the

Darlington nuclear station. These isotopes are used in sterilizing medical equipment, diagnosing disease and treating cancer. I think we all know someone whose life has been touched by these medical isotopes.

Even by-products once thought of as nuclear waste are proving to be strategic assets for Canada. For example, tritium, which is produced in a nuclear reactor as a by-product of generating electricity, is used in emergency lighting, as a biomedical tracer and in international research on fusion power. Tritium, in turn, is a source of helium-3, which is an extremely rare isotope. It doesn't occur on earth. It's used in quantum computing, border security, neutron research and medical imaging.

Our nuclear governance in Canada is strong, with the Canadian Nuclear Safety Commission regulating the industry under the Nuclear Safety and Control Act. Canada's regulatory regime is aligned with international best practices guided by the International Atomic Energy Agency.

All nuclear waste is well regulated in Canada by the CNSC and managed safely by owners, with an excellent safety record at OPG and across Canada. In my division, good stewardship of the waste is our mission. We embrace the three Rs—reuse, reduce and recycle—to minimize the volumes that we store. We're continually researching, investing, innovating and applying new technologies to reduce the volumes. All of the waste is currently in interim storage. While this is safe in the short and medium term, it's not a plan for the long term. Interim storage cannot be maintained in perpetuity for thousands of years. Buildings and packages degrade over time and need to be continually maintained. What is needed is permanent disposal. It's the right thing to do for our future.

On the subject of permanent disposal, OPG supports the Nuclear Waste Management Organization's, NWMO, process to see a deep repository for permanent disposal of used fuel, and we'd like to see it in service by 2043. We thank the Government of Canada for its foresight in creating the Nuclear Fuel Waste Act 2002, which set the stage for the NWMO to develop a solution for all of Canada. Canada's on the same path as Sweden and Finland, which have already approved construction of DGRs for their used fuel.

• (1120)

For the disposal of lower levels of waste, OPG notes that NRCan released its draft of a modernized policy framework this week, following a period of public engagement that began in 2020. We participated in that public process and will be providing comments on the new draft.

The Chair: Great. Thank you so much, Mr. Van Wart.

We will come back to you during the round of questions.

We now have Ms. Swami from the Nuclear Waste Management Organization for five minutes, please.

Ms. Laurie Swami (President and Chief Executive Officer, Nuclear Waste Management Organization): Good morning, Mr. Chair, vice-chairs and members of the committee.

My name is Laurie Swami. I am the president and CEO of the Nuclear Waste Management Organization, or the NWMO. It's an honour to appear before you today to discuss the work of the NWMO. I would like to begin by acknowledging that the study we are participating in today is being conducted on the traditional and unceded territory of the Algonquin people.

Today I am here to talk about the NWMO and our mandate to implement Canada's plan for the long-term management of used nuclear fuel in a manner that protects both people and the environment.

The need for a permanent solution for Canada's used nuclear fuel has been studied and discussed for more than 50 years. The overwhelming result of this work—and work done over the same period internationally—was that over the long term, used nuclear fuel should be managed in a deep geological repository and in a location that is socially acceptable. Further, to be successful, there must be political fortitude to move waste projects forward. We have seen this fortitude in Canada as government direction has steered policy forward, starting with the creation of the NWMO by federal legislation in 2002 and the selection of Canada's plan in 2007.

We are an independent, not-for-profit organization and are fully funded by Canada's nuclear electricity producers. By funding us, the waste producers demonstrate responsibility for implementing a long-term disposal plan.

The federal government has oversight of our work. We submit annual reports, which are tabled in Parliament by the Minister of Natural Resources. We are also accountable to Canadians. Starting at the very outset, we engaged Canadians from coast to coast to coast, including first nations, Métis and Inuit.

Based on the values and priorities that Canadians and indigenous people said were important, we proposed a plan for managing used nuclear fuel in a purpose-built, deep geological repository, using both engineering systems and the rock itself to protect people and the environment. We also heard that we must locate our repository in an area with informed and willing hosts.

I cannot emphasize enough that Canadians have made it clear that we must take responsible action now rather than leaving waste for the next generation.

While utilities are accountable and continue to safely manage used nuclear fuel on site at reactor facilities, the current approach is temporary and not suitable for the long term. As we have implemented our plan, we have heard repeatedly that purpose-built, deep geological repositories represent the best way to protect people, the environment and our precious water resources over the very long term. Canada can be proud to be among the leading countries advancing repository projects and doing our part to set a safe, science-based global standard.

I would like to provide a few recent examples of the international consensus and support for deep geological repositories.

Last year, the OECD's Nuclear Energy Agency issued a report on the management and disposal of high-level radioactive waste, which confirmed that geological repositories are the best approach.

This year, the International Energy Agency's review of Canada's energy policy recommended that the Canadian government support NWMO's mandate in selecting a site for a deep geological repository.

Finally, last week Sweden announced its approval of a deep geological repository for its spent fuel, just a few weeks after Finland applied for an operating licence for its repository.

Today we are well into a voluntary site selection process and are on track to identify a safe site for our country's repository, with informed and willing hosts, by the end of 2023.

I am proud of the work this country has done and continues to do to ensure that radioactive waste management remains a strength of the nuclear sector, keeping people and the environment safe now and for the future.

As I conclude my remarks, I want to leave the committee with the following quote from the Swedish Minister for Climate and the Environment regarding the approval of the Swedish repository:

• (1125)

The technology and the capacity are available. It is irresponsible to leave nuclear waste in water tanks year after year without taking a decision. We must not pass on this responsibility to our children and grandchildren. Our generation must take responsibility for our waste.

The Chair: Thank you, Ms. Swami.

I believe we're having technical problems with Mr. Edwards' equipment, and they're not resolved yet, as far as I know.

We'll proceed to the first round of questions. Hopefully Mr. Edwards' equipment starts working and we'll hear from him after the first round. If that's not the case, we'll invite him back for the next meeting.

[Translation]

Did you have a point of order, Ms. Pauzé?

• (1130)

Ms. Monique Pauzé: Yes, Mr. Chair.

I don't understand something. Aren't checks supposed to be done before the meeting?

The Chair: That's true, but in Mr. Edwards's case, the checks weren't done. That's one of the reasons for the equipment trouble, but we aren't forgetting about him. If the problem isn't fixed by the end of the first round, we will invite him back for the next meeting.

Obviously, a technician will make sure his equipment is working.

Ms. Monique Pauzé: If the technical issues prevent us from hearing from him today, are we going to have to add another meeting?

The Chair: Hopefully, we'll have time to hear from him. If not, the steering committee can discuss it.

We will start with Mr. Albas.

Mr. Albas, you have six minutes. Go ahead.

[English]

Mr. Dan Albas: Thank you, Mr. Chair.

Let me first thank Madame Pauzé for proposing this study. This gives us a chance to talk about issues that are important to not only her voters but those right across the country.

I appreciate the attendance of everyone here today, and I hope that Mr. Edwards can be accommodated somehow, whether it be through a written statement or at a follow-up meeting.

Mr. Chair, I'd like to start by asking questions of Mr. Gorman from the Canadian Nuclear Association.

Thank you for being here today, sir.

You have stated unambiguously that nuclear energy is necessary on the road to achieving net zero. I assume that means that the rehabilitation of our existing CANDU reactors and other facilities here in Canada. I think that's supporting the development of small modular reactors here in Canada. I believe that the commercialization of that technology to sell around the world is so we can not only lower not only greenhouse gas emissions here at home to power the electric vehicles that we know consumers are looking for, but also ensure our energy security and tackle domestic and international greenhouse gas emissions.

Could you tell me, to start with, what things the government is doing right when it comes to nuclear? What things do we need to take our own policies domestically and our own technology commercially to really tackle the issue of climate change?

Mr. John Gorman: First of all, Canada is doing everything right when it comes to the generation, safe management and operation of nuclear. We're a tier one, globally respected nation in terms of our assets, our facilities and our regulator. We have over 50 years of providing almost 16% of Canada's non-emitting electricity in an enviable fashion.

The international community is watching us very closely, because we're doing other things right. We're taking our existing assets and we're refurbishing them on time and on budget. We're using the very healthy ecosystem that we created here on this large infrastructure project to be a world leader in the development of small modular reactors and in nuclear medicine.

In terms of what we need to do going forward and what we can't get wrong comes back to this decision around what we do with our spent fuel and other forms of nuclear by-products and waste. As my colleague Laurie Swami said so eloquently in the quote that she used to wrap up her remarks, the onus is on our generation to ensure that we take that spent fuel and find a permanent solution for it.

It's clear that nuclear is providing a very important solution in Canada now and has for 50 years and it will in the future as we head towards a net-zero future and as new nuclear is required. The onus is on us to ensure that spent fuel has a permanent storage solution.

Mr. Dan Albas: Have you seen the government's support and funding for the development of new technology, such as small modular reactors?

Can you tell us a bit about that right now, because obviously, small modular reactors are a different technology altogether from what we traditionally view as nuclear?

• (1135)

Mr. John Gorman: Small modular reactors are particularly relevant to Canada's challenge around decarbonizing our economy.

Mr. Albas, it's true that we have a challenge ahead of us in terms of doubling or tripling the amount of electricity generation that we need in this country, so we can fuel-switch away from fossil fuels and support electric vehicles, etc.

Canada's challenge has a lot to do with how we are going to decarbonize our heavy industry; the way we create cement, steel, fertilizer. It will affect our mining operations, and the way we extract and process oil and gas. Small modular reactors are very scalable, high temperature, clean-heat machines. They can be scaled, and used in those settings to use the high temperature heat to create electricity and heat, and produce hydrogen, all at the same time, and help us decarbonize our heavy industry.

The support that the federal government has been giving toward new, small modular reactors is being used to make Canada a leader on this front. The coordinated plan that we have to continue on that pathway is going to serve Canada well, and help nations around the world with new nuclear to decarbonize.

Mr. Dan Albas: We know that the current Minister of the Environment has been no fan of your industry.

I would really like to talk about the future, because I believe it's quite bright.

Have you seen funding from government to support new technologies, like SMRs, that are fundamental toward meeting our own domestic targets, as well as helping the world to reduce its greenhouse gases?

Mr. John Gorman: We have begun to see some support from the federal government, in particular through the SIF, the strategic innovation fund. Some monies have gone toward technologies that are being developed in New Brunswick, as well as other technologies in Canada.

It is just the start of what is needed for Canada to fully capitalize on the innovation, and the first-of-a-kind cost that is required to roll out these small modular reactors into these industries that need to be decarbonized.

We have a very fulsome plan, as an industry, with utilities that are working together, and a regulator that is well equipped to be able to take a hard look at these technologies—

The Chair: I'm sorry, we're out of time.

Mr. John Gorman: —and support provinces that have signalled their desire to do these, as well.

The Chair: We can come back to the issue.

Madame Pauzé, please go ahead.

[*Translation*]

Ms. Monique Pauzé: Mr. Chair, I have a point of order.

Mr. Gorman spent all his time singing the praises of small modular reactors. The Standing Committee on Natural Resources, however, conducted a study on that topic.

Today's meeting is about nuclear waste.

The Chair: That's not really a point of order, Ms. Pauzé. I don't think we can avoid talking about nuclear energy and where it's headed. Your point has nevertheless been duly noted.

Our next questioner is Mr. Weiler, out on the west coast. It's still pretty early there, so we appreciate him being with us.

Go ahead, Mr. Weiler.

[*English*]

Mr. Patrick Weiler (West Vancouver—Sunshine Coast—Sea to Sky Country, Lib.): Thank you, Mr. Chair. I also want to thank all the witnesses for joining our committee meeting today.

My first question is also to Mr. Gorman.

I'm very intrigued with your career path in moving from the business side of one non-emitting form of electricity in solar to another in nuclear. It puts you in a unique position to answer my first question.

As you know, much of Canada benefits from access to cheap, non-emitting, baseload electricity in the form of hydro that's been built over the course of many decades, but you've identified some provinces that don't.

How do you see the full life-cycle costs of nuclear in provinces like Alberta and Saskatchewan, compared to solar energy, where we also have a lot of unrealized potential when combined with electricity storage?

Mr. John Gorman: This is a question fundamentally about cost, and I'm glad, Mr. Weiler, that you've pulled something to the forefront that is often overlooked when we talk about cost.

Nuclear is a non-emitting electricity source with the lowest full-life carbon cycle footprint, and it produces electricity 24-7, 365 days a year. With small modular reactors, of course, this promises the ability to make this source of electricity and clean heat very scalable. When we look at the cost of intermittent or weather-based technologies like solar, as you mentioned, and wind, we have to acknowledge that the cost of making solar and wind a reliable source of electricity requires storage or some other form of partnership.

That being said, nuclear has a very good track record of being a low-cost electricity provider in Canada. In Ontario, as a matter of fact, it is a lower cost than wind, solar and gas. The prospect of small modular reactors is that they are very responsive and scalable and can support more solar and wind. It is true that the cost has to be proven out. These are first-of-a-kind deployments, but our studies show that they are going to be competitive when you look at them from an entire cost perspective with solar and wind.

• (1140)

Mr. Patrick Weiler: Thank you, Mr. Gorman.

The next question I have is for Ms. Swami.

When we're talking about nuclear we also have to consider waste, which is the topic of the study. How did the financial securities required from nuclear waste producers and owners compare to the likely cost of storing the waste for millennia in a way that will prevent damage to human health and the environment for that time period?

What type of bonding is required up front to ensure that this cost isn't borne by the public?

Ms. Laurie Swami: You started this with Mr. Gorman around the cost of electricity generation with nuclear. I think one thing that's fundamentally important for the nuclear sector is that the generation of electricity from nuclear is full life cycle. It includes the disposal cost as well as the generating cost as well as the construction cost, so it's all in.

What's important about that is the funds are set aside now to implement disposal projects for the waste that exists. As we sit today, there are funds held by each of the electricity producers that will cover the full costs of disposal projects. For my project in particular, we are funded by the electricity sector to cover the costs of siting, moving through the regulatory process, and there are funds set aside now for the construction and operation of the facility for the 150 years that we will require that. That money was set aside a number of years ago, and as a generation of electricity proceeds, new used fuel bundles are created in Canada. The money is again set aside so that as future bundles are created the money is always there.

Trust funds are set aside and specifically paid into, but can only be accessed once the APM or the project—the deep geological repository for used fuel—moves into the construction phase. Once we have a construction licence, NWMO will be able to access that fund and use it for deployment of our project.

Mr. Patrick Weiler: After the 150-year mark, how are the securities accounted for after that?

Ms. Laurie Swami: With respect to our project, we will be in operation for a number of years. For about 30 years after operation we will be in a monitoring phase to understand what is happening with our project. We'll monitor and understand the environmental impacts, and eventually we will close our project. That will remain a known fact around the site, and we will be able to manage that going forward.

The Chair: You have time for a quick comment, Mr. Weiler.

Mr. Patrick Weiler: How do we ensure—

The Chair: You have time for a comment, as opposed to a question.

Mr. Patrick Weiler: I'll just thank the witnesses.

The Chair: Thanks very much.

[Translation]

We now go to Ms. Pauzé for six minutes.

Ms. Monique Pauzé: Mr. Chair, I want to start by saying how regrettable it is that the motion behind today's study is being hijacked, so I urge committee members to stick to the study in hand, nuclear waste.

My question is for Mr. Hendrickson. It has to do with waste classification.

Mr. Hendrickson, we've seen the Department of Natural Resources minimize the importance of a robust and consistent system aligned with the standards of the International Atomic Energy Agency.

I'd like to hear your comments on the situation, especially in light of the regulation made by the Canadian Nuclear Safety Commission in the summer of 2020. It reclassified the level of radioactivity for waste.

Isn't that the real reason behind the reduction in intermediate-level radioactive waste in Canada's inventory, which Canada likes to boast about?

• (1145)

[English]

Mr. Ole Hendrickson: Thank you, Madame Pauzé. That's an important question.

We need to be talking about nuclear waste, not nuclear energy. High-level spent fuel waste is only the tip of the iceberg. Federal nuclear research and development has generated a \$16-billion waste and decommissioning liability.

The Auditor General is anticipating the publication of an environment and sustainable development audit of nuclear waste management this year. Parliament should consider its findings before any permanent nuclear waste disposal facilities are approved. I mentioned earlier the project to dispose of a million tonnes of commercial and federal waste at Chalk River. That project has been widely criticized as not meeting international safety standards, but the CNSC has recommended its approval.

I ask that the committee consider the merits of creating an independent, publicly owned nuclear waste management and decommissioning agency, which is independent of the industry and government industries that promote the industry. It could draw upon governance models in other countries that have more advanced nuclear waste management programs.

[Translation]

Ms. Monique Pauzé: Mr. Hendrickson, sorry to cut you off, but I have a lot of questions for you and little time to ask them.

The City of Ottawa asked the Impact Assessment Agency of Canada to conduct a regional assessment of past, present and future radioactive disposal projects in the Ottawa Valley.

How do you respond to the concerns raised by the city?

[English]

Mr. Ole Hendrickson: It's a very important objection to bringing nuclear waste into Chalk River. That is in the resolution. We have no place at Chalk River. It is not a suitable place for the long-term storage or disposal of waste. We need a broader look at where nuclear waste could go. I'm pleased with that resolution.

[Translation]

The Chair: Ms. Pauzé, could you please put your mike on mute?

Ms. Monique Pauzé: Yes.

[English]

The Chair: Go ahead, Mr. Hendrickson.

Mr. Ole Hendrickson: I was finishing up, saying it was an important request to the Minister of Environment to have a regional study. There are other nuclear waste facilities in the Ottawa Valley, but, unfortunately, that regional assessment did not go forward.

[*Translation*]

The Chair: Back to you, Ms. Pauzé.

Ms. Monique Pauzé: I want to follow up on the reclassification of waste.

The amount of radioactive waste at Chalk River has increased, and people are understandably worried.

Does the pace at which things are moving have anything to do with the new regulations?

Has the reclassification resulted in even more waste being sent to Chalk River?

[*English*]

Mr. Ole Hendrickson: Yes, Canada currently lacks a national radioactive waste inventory with consistent classification standards that have data on individual radionuclides. We are not fulfilling our reporting obligations under the Joint Convention on the Safety of Spent Fuel Management and on the Safety of Radioactive Waste Management.

We just don't have a good enough inventory to make long-term plans for radioactive waste disposal. We need an independent agency that can develop such a proper inventory. We don't want to see this reclassification of intermediate-level waste as low-level waste, which is, unfortunately, what's been happening at Chalk River.

• (1150)

[*Translation*]

Ms. Monique Pauzé: Thank you, Mr. Hendrickson. I appreciate your being here today.

In light of what the witness just said, my next question is for Mr. Gorman.

Mr. Gorman, I gather that you are here to promote small modular reactors. What does your association do to prevent radioactive pollution and reduce radioactive waste, which is on the rise in Canada?

[*English*]

The Chair: You have 30 seconds, Mr. Gorman.

Mr. John Gorman: Through you, Mr. Chair, to Madam Pauzé, just to clarify, I'm not here to lobby. I've been asked to appear before this committee to offer information on the nuclear industry.

When it comes to the issue of what we're doing to minimize waste, I would like to pass that question over to my co-panellist, Jason Van Wart, because he's an expert in that area. I'm not a technician.

The Chair: We'll have to address it later because we're out of time. Madam Pauzé can come back to it, and Mr. Van Wart can address it when he answers questions.

Ms. Collins, you have six minutes.

Ms. Laurel Collins (Victoria, NDP): Thank you, Mr. Chair.

My first question is for Mr. Hendrickson.

Last year, when the government was approving new rules for the disposal of nuclear waste in Canada, you wrote a little bit about those new rules. Can you tell our committee a bit more about the radioactive disposal rules in Canada, how strong they are and whether they're designed to protect the environment, human health and future generations?

Mr. Ole Hendrickson: The new rules were developed by the Canadian Nuclear Safety Commission. They are what the commission calls regulatory documents. They're not formal regulations. They are, in my view, watered-down versions of the IAEA safety standards, which do not necessarily have legal effect unless they're incorporated into licences.

One of my concerns was the new regulatory document for decommissioning, which still could be interpreted as allowing disposal of small modular reactors in place without dismantling them and moving them to a repository such as the one that Ms. Swami is talking about. The process of developing those regulatory documents was not fully transparent, in my view. There were probably meetings with the industry. When you look at how those were modified from the original drafts, you can see that virtually all the industry comments were incorporated and that fairly extensive comments from public intervenors were not.

Thank you.

Ms. Laurel Collins: Thanks so much.

I want to follow up on a couple of questions from my colleagues Mr. Weiler and Madam Pauzé.

In your opening statement, you talked about liabilities. As Mr. Weiler already highlighted, nuclear waste producers are supposed to be responsible for this radioactive waste as a "polluter pays" principle. We talked a little bit about a million years being the life cycle. I heard from Ms. Swami that it is 150 years for her trust.

Can you talk a bit about how these future costs, which go beyond that 150 years, are factored into the decisions about nuclear projects?

Mr. Ole Hendrickson: If I may use the example again of this proposed near-surface disposal facility at Chalk River, the proposal is for a 300-year institutional control period. In other words, there would have to be some kind of licence and regulatory oversight for 300 years. Unfortunately the packages that would go into that facility could have hazardous lifetimes of thousands to hundreds of thousands of years. The result is that it would essentially never be possible to abandon or unlicense a facility that's above ground and that still has significant quantities of radioactive and non-radioactive hazards in it. You essentially need a perpetual licence. This would represent a perpetual liability for the people of Canada and for our governments and taxpayers.

• (1155)

Ms. Laurel Collins: Thanks so much.

You mentioned the connection to small modular reactors and their life cycle. Can you talk a little bit about liabilities and how they might be the same or different for these new small modular reactors?

Mr. Ole Hendrickson: These reactors are mostly designs on paper. Earlier experiments in other countries have revealed some pretty significant problems with many of these designs. There have been attempts to make molten salt reactors and high-temperature gas-cooled reactors.

I'm not the expert on this, but because of the experimental nature, it's very difficult to assign a proper liability amount for potential accidents for those reactors.

Ms. Laurel Collins: My next question was going to be for Mr. Edwards, but maybe, Mr. Hendrickson, I'll see if you can take a stab at it. It connects to something you mentioned about publicly owned regulators and independent agencies.

The International Atomic Energy Agency publishes safety standards to make sure that nuclear is safe, that it's protecting people and the environment. It outlined the need for regulatory bodies to be credible, so not to have conflicts of interest and to be independent from the organizations it regulates.

In Canada we're currently regulated by the Department of Natural Resources, which is also overseeing the production of nuclear energy.

Would it make more sense for the Canadian Nuclear Safety Commission to report to the Minister of Environment to mitigate some of these potential risks of conflict of interest?

The Chair: Mr. Hendrickson, you have 30 seconds.

Mr. Ole Hendrickson: Yes, there is a definite conflict of interest in having the Minister of Natural Resources responsible for promoting nuclear energy under the Nuclear Energy Act, but also having Atomic Energy of Canada Limited and the Canadian Nuclear Safety Commission, the regulator, report to a minister who is promoting nuclear energy. That's a problem. It should be the Minister of Environment.

Thanks.

The Chair: We're out of time.

[*Translation*]

We will now begin the second round.

Mr. Dreeshen, you may start. You have five minutes.

[*English*]

Mr. Earl Dreeshen (Red Deer—Mountain View, CPC): Thank you very much, Mr. Chair; and thanks to all the witnesses.

First of all, as a proud Canadian, I champion all energy sources we have, whether it be hydro, solar, wind or natural gas, and especially coming from Alberta, I think we have a great renewable industry there that has everything other than a lot of hydro. Certainly championing those things is important.

Of course, the one concern I have, and I'm sure we'll talk about it in future discussions, is the requirements for mining so that we can actually develop energy storage systems so that they're going to be able to work with all these new technologies.

Mr. Gorman, I'd like to talk to you a bit about SMRs, as they've increasingly been seen as a solution to help us achieve net zero. However, as has been coming from some of the discussions we've had here, how about the need for research on this technology for minimizing waste?

We know that on the Moltex stable salt reactor, there's research being done there, the waste-burning SSR-W. We also have Purex, on the processing of used nuclear fuel.

Could you give us an idea how we can discuss that as we talk about nuclear fuel waste and its management?

Mr. John Gorman: Again, I'm not going to comment on the technical matters behind how we're minimizing waste and will leave that to Mr. Van Wart and Ms. Swami, but I will say that you're right to comment on the application of small modular reactors and their importance to regions like Alberta.

As Alberta phases away from coal and natural gas, and as you noted, does not have easy access to water power, small modular reactors are going to be able to play a very important role in decarbonizing the electricity grid but also potentially in the application of its high-temperature heat to create steam for use in SAGD and the extraction and processing of oil and gas so that we create low-carbon competitive products in this more carbon-constrained future.

• (1200)

Mr. Earl Dreeshen: Thank you.

Mr. Van Wart, could you fill in some of those places, as far as the reusing of nuclear fuel is concerned?

Mr. Jason Van Wart: Certainly at OPG, we're interested in the opportunity to recycle used fuel. We have partly funded operations at Moltex, the venture in New Brunswick, but we see it as something that needs development. It's down the road and certainly doesn't negate the need for permanent disposal.

One of the areas we are very active in at OPG is waste minimization of our lower-level waste. We currently have a number of initiatives ongoing. We're funding a specific project with McMaster University that's investigating techniques and opportunities to reduce the volumes by recycling, reusing and ultimately compacting the amount of waste we have so we can reduce our environmental footprint and reduce the number of storage buildings we need.

Those are our thoughts. Certainly, recycling fuel is a very interesting area that requires research and development, but it won't negate our need for current disposal.

Mr. Earl Dreeshen: Certainly, and I respect that.

The reason I ask is that a number of years ago I had an opportunity to speak with some physicists from Atomic Energy of Canada. They had indicated that one of the easiest ways of handling this problem is to be able to reuse it and to take it down so we don't have to worry as much about the half-life aspect of it.

If we could go back to the concept of the small modular reactor so that people understand the footprint that they have—

The Chair: You have 10 seconds, Mr. Dreeshen.

Mr. Earl Dreeshen: I will leave it at that. Thank you very much.

The Chair: Go ahead, Mr. Duguid.

Mr. Terry Duguid (Winnipeg South, Lib.): Thank you, Mr. Chair.

Thanks to all of our witnesses today. I hope we will get Mr. Edwards back.

The Chair: We will, I assure you.

Mr. Terry Duguid: That's great. I was a student in the 1980s at Carleton, and I remember going to some of the lectures and sessions he held.

My first question—and I may have time for one more—is around the expansion of nuclear energy, which, of course, would result in more nuclear waste.

Just to put this on the record, Mr. Chair, I'm open to all technologies that will help us meet our very ambitious emission reduction targets.

I will point out, on the topic of the small modular reactors, that it's not going to help us with our 2030 targets, and, hopefully, there's a promise to assist us with our 2050 targets.

I'm particularly interested in the application of SMRs in our remote communities. The west side of Hudson Bay is very connected to Manitoba, and we're looking at extending our power lines to Rankin Inlet, Arviat and other communities, and it is in the billions with disruptions to wildlife and various environmental impacts.

It's probably Mr. Van Wart who can speak to this. What are the waste storage issues that we might encounter in sensitive remote environments like this?

Could you also talk about the issue of subsidization? We're going to be looking at oil and gas subsidies in our next study.

Thanks, Ms. Collins, for that.

Shouldn't technologies be able to stand on their own two feet without subsidization?

Maybe I will ask Mr. Van Wart or any of our other speakers to comment.

• (1205)

Mr. Jason Van Wart: I'm happy to speak about the waste handling and storage, but the subsidization is beyond my area of expertise.

In terms of waste storage and handling, as has been noted in the discussion, most SMR designs are just entering into their detailed design phase. I can speak specifically about OPG. We're working with GE and Hitachi. That's out in the public space.

We are working directly with GE and Hitachi as they work on their detailed design to understand the waste streams, the kind of waste that would be produced at the SMR. Then, as we have done with all of our waste produced from our CANDU reactors, develop safe containers, safe transportation methods and safe interim storage. Then we would look, obviously, to optimize those streams of waste as time goes on and we understand exactly what would be coming up in the design.

It's a little bit preliminary to try to forecast exactly how you would transport and have interim storage, but we're actively working with our SMR developer at OPG.

Mr. Terry Duguid: I think Mr. Gorman wants to make a comment.

Mr. John Gorman: I do. Thank you. I just wanted to offer to respond to the second part of Mr. Duguid's question, if I may, about subsidies.

The Chair: If we have time, sure.

Mr. John Gorman: Yes, and the question of whether technologies should—

The Chair: Well, I'll leave it to Mr. Duguid as to who—

Mr. Terry Duguid: No, no. That's okay. That's fine.

I'm anxious to hear about the issue of subsidies.

Mr. John Gorman: Thank you, Mr. Duguid.

The nuclear industry is not looking for subsidies as it comes to the development and deployment of the first-of-a-kind small modular reactors. We have an integrated ask that is matched in funding and resources by four utilities across Canada—a truly pan-Canadian integrated ask—and is requesting that the federal government contribute financing to the first-of-a-kind related costs for three different streams of small modular reactors, so it's not subsidies.

But what I would say is that at this time the government does provide tax credit and preferable amortization treatment to green technology manufacturers and owners, and the nuclear industry should benefit from those tax credits as well, including any investment tax credit that might be extended to other forms of green technology. I think it's important that this committee consider, as we go forward and deploy more green technologies of all sorts, that small modular reactors be part of this.

The Chair: Thank you.

We have Madame Paupé.

[*Translation*]

Ms. Monique Pauzé: Thank you, Mr. Chair.

First, I would like to have the clerk follow up on this request.

Mr. Gorman, you made a number of claims regarding the cost of hydroelectricity produced in Quebec versus the cost of nuclear energy. Something you seem to disregard in singing the praises of nuclear energy is the cost associated with the waste generated by small modular reactors. You also made a claim in relation to the phase-out of natural gas in western Canada.

I would like to have Mr. Gorman provide the committee members with the documentation to back up his claims.

My next question is for Ms. Swami.

Ms. Swami, please know that I do not doubt your good intentions.

Your organization's mandate is to oversee the long-term management of high-level radioactive waste. However, your leaders, the owners, are the organizations that you report to, in other words, the polluters.

How can you fully carry out your mandate when the polluters are the ones calling the shots regarding their own pollution? The fox isn't usually in charge of the henhouse.

[*English*]

The Chair: Go ahead, Ms. Swami.

Ms. Laurie Swami: While we are funded by the nuclear energy companies and the owners of the waste, we have an obligation to meet the requirements of the Nuclear Fuel Waste Act. We also are required to report to government on the progress of our work. Our work in the early days was proposed to the federal minister, who approved the plan, and we are moving forward with that.

All of our work is based on our communication and engagement with Canadians to understand the values that are important to Canadians, and that is how we developed our plan. We've gone back many times to confirm—

• (1210)

[*Translation*]

Ms. Monique Pauzé: Ms. Swami, sorry to cut you off, but my time is limited.

Strategic consultations are currently under way in relation to the conflicts at the NWMO, addressing only a small fraction of the discussions around waste. At the same time, Canada's policy framework is under review. As I see it, assuming that the agenda hasn't already been set, things should be done in the proper order: establish the policy and, then, develop the strategy.

Why did the NWMO prematurely agree to implement measures related to the strategy? Does the NWMO have something to hide?

The Chair: Unfortunately, Ms. Swami, the member's two and a half minutes are up. You'll have to provide us with your answer later. You may have a chance to follow up on Ms. Pauzé's question in responding to another member's question.

Go ahead, Ms. Collins. You have two and a half minutes.

[*English*]

Ms. Laurel Collins: I'm happy to make space in my time, Ms. Swami, if you would like to answer Madam Pauzé's question.

Ms. Laurie Swami: Yes. Thank you very much for giving me the time to answer this important question.

The NWMO has nothing to hide in terms of the work that we're doing. In fact, the whole point of engagement with Canadians is to be open and transparent, to share information and to seek input to the process that we have under way.

The federal Minister of Natural Resources invited us to begin looking at the strategy for implementing a pan-Canadian and all-encompassing waste strategy for Canada. In order to do that, the first step that we always take is to go back to Canadians to ask what's important to them, so that we make sure our strategy is effective. Policy is separate and distinct, and that is absolutely the responsibility for the government. Our work is to develop what we should do to make sure that all waste is safely managed in the disposal pathway. That's the critical step that we're doing.

As I said earlier, we have nothing to hide, and we would be happy to share the “What we heard” reports that we have just published.

Ms. Laurel Collins: My next question is around climate change.

In my province of B.C., we've been experiencing the impacts of atmospheric rivers, extreme flooding and climate fires. These events are becoming more and more common across Canada with the climate crisis.

To both Mr. Hendrickson and Ms. Swami, how will these climate impacts affect the management of nuclear waste?

Ms. Laurie Swami: Perhaps I can start with that. It's a very important concept as we consider implementing a project that's for such a long period of time.

Part of our work is to consider the differences that will come through climate change over multiple decades and generations. For instance, right now when we consider deployment of a deep geological repository, we consider that there is likely to be glaciation during the period of time when that facility would be in service. We look at and consider that, and we design it to make sure that it can withstand glaciation. We consider increased weather and those types of things as well.

The Chair: Thanks.

Your time's up, but it was an interesting question and a good answer.

Go ahead, Mr. Mazier, for five minutes, please.

Mr. Dan Mazier (Dauphin—Swan River—Neepawa, CPC): Thank you, Mr. Chair.

Thank you to the witnesses for coming out today.

Mr. Gorman, can you think of any other industry that understands and manages its waste to the same standard as the nuclear industry?

Mr. John Gorman: No. Having been involved in several of the energy industries, as you know, nuclear really has a very positive story to tell and, in my view, is an important example to set for other energy industries.

In addition to having the lowest life-cycle carbon footprint of any energy technology, we are also, as you've heard, accountable for every bit of the waste that we produce—from the mining of the uranium right through to the decommissioning of a site. We prepay for it and we do all of those functions very responsibly.

I'd like to point out that spent fuel has never injured, let alone killed, anybody here in Canada or around the world. That's because it's a straightforward thing to do and it's regulated internationally. It's regulated well in the various nations, especially here in Canada, but it doesn't remove the need that we have here to find a permanent storage solution, which is what we're talking about today.

If other technologies—not only the ones that are emitting pollution in the air, which nuclear doesn't—like wind and solar could follow the example of the nuclear industry in terms of prepaying and being regulated to manage their waste, it would be a very positive thing for the environment and the world.

● (1215)

Mr. Dan Mazier: Excellent. Thank you very much.

Mr. Van Wart, do you believe that the current classification of low-level waste is appropriate right now? How could reclassification reduce nuclear waste?

Mr. Jason Van Wart: We are satisfied with the current classifications of nuclear waste.

We believe that in working with our nuclear regulator, we can move forward with things like free release. As we work through our low-level release minimization storing program, we find things like metals, steel and items that are able to be decontaminated, cleaned, free-released and put back into society to be used. We all know that there are a number of resource crunches.

That is what we would like to continue to look at; using the existing regulatory framework to increase our ability to recycle things, like metals found in our waste streams.

Mr. Dan Mazier: I think it was you who talked about McMaster University and the work you're doing down there. Could you maybe expand on that a bit?

Mr. Jason Van Wart: Sure. We have opened a clean energy sorting and recycling centre with the support of McMaster University. It's something we're very proud of at OPG. During the pan-

demie we were able to open the facility, which is fully licensed and audited by the Canadian Nuclear Safety Commission. We bring our low-level waste to the facility where we sort and recycle.

Some of the very interesting preliminary findings we've had are that approximately 60% of the low-level waste that we store up at the Bruce site is actually medium free release targets. This means that we can eventually release it out from underneath the management of the low-level waste category.

We've also identified that the radioactivity that was originally measured and assigned with the waste has reduced significantly with time and the natural decay of the radioisotopes. On average, it's approximately 10% of the radioactivity that was originally there when we stored the waste. Over the period of 30 to 40 years, the waste has significantly decayed in terms of radioactivity.

The preliminary findings at McMaster will be finalized for us later this year, but it's quite interesting and applicable to our business.

Mr. Dan Mazier: Mr. Gorman, how important is certainty from government to ensuring that there's a strong nuclear industry into the future?

The Chair: You have 30 seconds, please.

Mr. John Gorman: Certainty is extraordinarily important not only to the nuclear industry, but to all of the other clean energy technologies we're going to need—solar, wind, water, etc. It's terrific that we have some very aggressive targets in place, but right now what the electricity industry needs is a plan, a pathway, a signal from each of the systems' operators that we are going to have to double the amount of electricity we have so that we can start going through the regulatory approvals and planning processes and getting the go-ahead to build out this infrastructure. We're going to need all of the technologies.

That being said, having a permanent solution for nuclear waste and spent fuel, especially because we have to deal with the existing waste, but we're going to have more nuclear, is completely essential.

The Chair: Good. Thanks.

Mr. Hendrickson, you have your hand up.

Mr. Ole Hendrickson: Yes, if I might...?

The Chair: Actually, if it's to provide a response, I'll have to leave it to other members to invite you to do so, and I'm sure some will oblige.

Mr. Longfield.

Mr. Lloyd Longfield: Thank you, Mr. Chair.

Thank you to Madam Pauzé for this study, and to the witnesses for a very good discussion this morning.

I wanted to start off with OPG, with Mr. Van Wart.

Recently I met with the Canadian medical isotope innovation ecosystem.... You mentioned McMaster's involvement. It also involves the Saugeen Ojibway Nation, TRIUMF and Bruce Power, which were all on the call with me. I had planned to go to the site and also to the Saugeen Ojibway Nation to meet with the chief last week, but COVID got in the way. They're looking at how to expand the medical isotope production in Canada and at ways to work with the Government of Canada.

In the Government of Canada, we have NRCan and ECCC. ECCC is involved with the Impact Assessment Agency of Canada and, of course, NRCan is responsible for the radioactive waste policy.

How would you work with ECCC, which is the department that is most closely tied with this committee?

● (1220)

Mr. Jason Van Wart: Mr. Longfield, I'm not familiar with the ECCC—

Mr. Lloyd Longfield: Oh, I'm sorry, it's Environment and Climate Change Canada. We're in the government, and we have acronyms for everything.

Mr. Jason Van Wart: We're very proud of our medical isotope program at OPG. We are very open to working with any government agencies. The Canadian Nuclear Safety Commission has reviewed our application to produce molybdenum at Darlington. They've approved that amendment, which will allow us to fill the shortage. It's technetium-99 generators that are used in 50 million bone and long heart scans each year in North America.

We are actively working with the Nuclear Innovation Institute at Bruce Power and our friends in the isotope coalition led by Bruce Power, which you recently met with.

We are open to working with any of the government committees. We are very serious about our development of molybdenum. We recently harnessed the ability to extract helium-3 from the Darlington detritiation facility.

Mr. Lloyd Longfield: There were a few isotopes they were discussing that were new to me, as well. I had worked in a previous life with cobalt-60 at Nordion. It was looking at a medical application which was of great interest to me.

I know Canada has lost a bit of position globally, but hopefully, we can regain our position in medical isotope production.

Mr. Jason Van Wart: Bruce Power and OPG have done a wonderful job. Lutetium is about to be produced at Bruce Power, which is fantastic for cancer treatment.

Mr. Lloyd Longfield: Thank you very much for putting that on the record.

At the end of 2016, Canada had an inventory of about 33,000 metric tonnes of intermediate level radioactive waste. I hope I have the units right. In 2019, that inventory had gone down to 15,000 metric tonnes of waste. The inventory dropped from what we had on file. The low-level radioactive waste made up about 98.9% of this total.

Ms. Swami, what caused the drop?

We heard a few hints of that today that some of the waste is getting repurposed. Could you comment on the decrease in our inventory?

Ms. Laurie Swami: I can't speak specifically to those numbers off the top of my head.

Radioactive waste, by its very nature, decays over time. As it decays, it becomes less radioactive, if you will. During that process...So some of these wastes, that we have in our inventory today, have been with us for many, many years. When you go back to re-assess what the waste is, and what its characteristics are, you will find that it's not as radioactive as it once was.

Mr. Lloyd Longfield: Okay, but a three-year period was shocking to me.

Ms. Laurie Swami: Well, it depends on when you go about doing that study. The waste may be sitting in storage for over 20-25 years or more. If you don't look at it every day to see what the radioactive content is, when you go back to do that study, you would find that it has reduced in its radioactive content.

That could lead to a change in the inventories that are available. That's what's really important. The radioactive waste does not stay stable in the way it is today. It will decay over time. It will be less as you go forward.

The Chair: Unfortunately, we are out of time. Maybe a quick comment, Mr. Longfield.

● (1225)

Mr. Lloyd Longfield: I was just commenting on the new technologies that might contribute to that.

Thank you, Mr. Chair.

The Chair: We'll go to Mr. Davidson, for five minutes.

Mr. Scot Davidson (York—Simcoe, CPC): Thank you, Mr. Chair, and thanks to all the witnesses today. I get really excited when I'm sitting here, and we're talking about Canada again as a world leader.

My question is for Mr. Van Wart. How are you doing, Jason?

York—Simcoe is about an hour north of Pickering. I like to call it the soup and salad bowl of Canada. It's home to Lake Simcoe. Many Canadians want to hear more about the benefits of nuclear energy, and how it's relevant to their lives.

We've heard about helium-3, cobalt-60 and reactors. Some of the words are scary. How does that help Canadians in their lives? Could you speak more about that?

Mr. Jason Van Wart: I think the most primary thing that nuclear power brings is the electricity that we're using today. As I said in my opening comments, it provides half of the electricity in the province. It's stable. It's reliable. It's cost-effective. At times, I think, in the discussion about nuclear, we forget about that absolutely core piece that we all need in our lives, which is electricity.

So I would start there. As you said, it promotes a number of jobs. Mr. Gorman could probably provide the exact number in the province.

As I talked about in my opening remarks, there is an entire by-product stream providing cobalt-60, which sterilizes medical equipment and food. When you think about the pandemic, over the last two years cobalt-60 consumption has skyrocketed to produce the PPE required for fighting the pandemic.

Molybdenum-99, which we're going to produce at Darlington, will immediately create a North American supply of tech-99 generators to allow people with lung cancer or heart disease to have the diagnostic treatments they need in order to understand their symptoms and to then have them subsequently addressed.

Mr. Longfield mentioned lutetium, which is a cancer treatment. We are working with our partners at OPG to also produce helium-3. For anyone who is interested in quantum computing, the next generation of really advanced computation requires helium-3. It's not naturally occurring on earth. It's a by-product of our tritium that we store safely at the Darlington tritium removal facility. We have innovated and invested in ways to produce a reliable source of helium-3 for Canada and for North America for the development of these technologies. It's used in 5G electronics.

We're also looking at products to help remediate the back end of our decommissioning projects. For our Pickering decommissioning, which will occur in the back half of the decade, one of the major things we need to look at is the heavy water that's left over at our facility. We are working with a number of partners on remediation of that heavy water. Virgin-grade heavy water is a strategic asset. It's not readily available anywhere. Chalk River Laboratories has a certain amount of inventory, but that is a declining inventory. We're looking at investing in remediation of that water to bring a strategic asset like virgin-grade heavy water to Canada as part of the development of diagnostic technologies.

I think those are the things I would add.

Mr. Scot Davidson: Thanks very much. That is very interesting.

One thing I didn't tell you, Jason, is that York—Simcoe is also home to the Chippewas of Georgina Island; it's my family....

The proposed repository in Kincardine is within the traditional territories of the Chippewas of Saugeen First Nation and the Chippewas of Nawash Unceded First Nation. Can you tell the committee more about your company's commitment to your dialogue and relationships with local first nations with regard to this project?

Mr. Jason Van Wart: Sure. To start, we respect the rights of all indigenous peoples. Our reconciliation action plan that we released this past year commits over \$1 million over the next 10 years in economic benefits to try to work with indigenous nations.

Locally here, we meet routinely with the Saugeen Ojibway Nation. We routinely discuss their concerns and their issues related to the waste that's stored at facilities up here.

If you were specifically speaking to the DGR project, the low-level waste repository project that OPG had intended to start here, that project was conceived of in approximately 2005, I believe. In 2013, OPG made a commitment to the Saugeen Ojibway Nation that we wouldn't move forward with that project without their consent. We went through a process with them over nearly a decade—

• (1230)

The Chair: Unfortunately, we are out of time. I am interested in that project, though, because I've been approached by....

Mr. Scot Davidson: Thanks very much.

The Chair: Okay.

Go ahead, Ms. Taylor Roy.

Ms. Leah Taylor Roy (Aurora—Oak Ridges—Richmond Hill, Lib.): Thank you very much, Mr. Chair.

I'd like to start by saying I'm going to be sharing my time with Elizabeth May. I'd like to give her two minutes at the end, if you can let me know when my time is out.

The Chair: Sure.

Ms. Leah Taylor Roy: I'd like to thank you, Madam Paupé, for suggesting this study on the disposal of nuclear waste. We seem to have strayed quite far from the topic you suggested. It's good to know about all of these great by-products and the isotopes and all of the other things that are benefiting us, and I think that's wonderful. Like Mr. Duguid, I'm not opposed to any type of power that could help us reach our goals. However, I do have some real concerns about the disposal of nuclear waste, not only in Canada but worldwide, as there is still no long-term operational disposal project for high-level radioactive waste. That's really what we're talking about, I think.

I appreciate that Mr. Mazier asked about the requirements of the nuclear industry when you're talking about waste, and how much more rigorous they are, but I do believe that we all would acknowledge how much more dangerous this waste is as well.

When we're looking right now at the adaptive phased management program that's in place, the costs were estimated to be \$23 billion in 2015 dollars. We still haven't found a site for that. In fact, there's a lot of opposition. We were just talking about relations with first nations, and we saw that the Kincardine site was rejected by the Ojibway Nation.

What is the realistic expectation of finding one of these sites for our waste? If we're not able to do that, what is the alternative?

Ms. Laurie Swami: There are a few things in your comments. First of all, facilities for low- and intermediate-level waste worldwide are operating and have been in service for some time. Certainly they vary in terms of depth and that type of thing, but essentially they will be using the same concept and the same process for used fuel that we would use for low- and intermediate-level waste, particularly intermediate-level waste. Those do exist. So we have proof of concept.

Finland's facility is under construction. As I mentioned in my opening remarks, they have applied for an operating licence and they anticipate placing their spent fuel in their repository in the next two to three years. Sweden has just approved a site. I would say that, as are all of the tier 1 nuclear nations, Canada is on the cusp of doing that.

We are working very closely with communities in two particular areas. In the northwestern part of Ontario, there is Ignace municipality, but we're also working very closely with Wabigoon Lake Ojibway Nation. In the south we have South Bruce and the Saugeen Ojibway Nation that was just talked about. In both of those cases, we have made a commitment to indigenous communities that we will not proceed without their free, prior and informed consent. This is fundamental to our work.

As to whether I think we will be successful, I believe we will be. We have been working with these communities for many, many years, and they are beginning to understand—

Ms. Leah Taylor Roy: Could I just interject for a minute? My time is short, and I appreciate what you're saying. Could you also address the cost part of that? We were told these costs are prefunded. Cost estimates, as you know, have a way of increasing, and those estimates were in 2015 dollars. Has that all been prefunded, and how? Is that money sitting someplace right now?

• (1235)

Ms. Laurie Swami: Yes. The money is prefunded—

The Chair: You have 45 seconds.

Ms. Laurie Swami: —for the existing fuel bundles. It's sitting in trust funds that are held for the NWMO to access when we have our construction licence, and those funds continue. We look at these funds every five years to re-estimate what the costs could be. Of course, we look for cost savings because we recognize there could be a cost push, so we are always looking for efficiencies and better ways of doing it. We found one that is unique to Canada, in terms of our used fuel packaging, which is a very important part of the work we do. Our engineering team does a great job around these things.

Ms. Leah Taylor Roy: Thank you.

I have one quick question. Could you please send—

The Chair: Ms. Taylor Roy, I'm afraid we've actually bumped up against your five minutes. I'm going to make an executive decision. Hopefully it won't meet with protests. I will have a question at the end. We do have a very small buffer at the end. I have a very short question and I would also like to provide Ms. May with an opportunity to ask a question at the end. I think it's in order.

We'll go to Madam Pauzé now, please.

[Translation]

Ms. Monique Pauzé: Thank you, Mr. Chair.

Ms. Swami, I have two questions for you, and a yes or no answer will do. Should you have more to say, please send the committee your answer in writing.

Can you commit to including radioactive waste from future small modular reactors in the waste management strategy, yes or no?

[English]

Ms. Laurie Swami: I'm not sure I understood the question.

We are required on the APM to take in all small modular reactor waste, and it is part of our study for the integrated radioactive waste strategy.

[Translation]

Ms. Monique Pauzé: Very good.

As you know, we import nuclear waste, but in December, your organization reiterated the fact that it manages only waste generated in Canada.

Should there be a law that prohibits waste from being imported, yes or no?

[English]

Ms. Laurie Swami: Again, we don't import waste from other jurisdictions. The waste that we are responsible for is Canadian waste—

[Translation]

Ms. Monique Pauzé: I don't mean your organization, Ms. Swami. I'm referring to other organizations.

Would you support a law prohibiting the import of radioactive waste, yes or no?

[English]

Ms. Laurie Swami: I cannot comment on a bill—

[Translation]

Ms. Monique Pauzé: Very well. Thank you.

Mr. Hendrickson, as we discussed earlier, radioactive waste levels have been reclassified. Mr. Longfield said that the amount of radioactive waste had decreased, but that is due to the fact that intermediate-level radioactive waste has now been reclassified as low-level radioactive waste.

Do you see a connection between how quickly radioactive waste is being sent to Chalk River and the new regulations? Many argue the regulations go against the most basic principles of the physical sciences.

[English]

Mr. Ole Hendrickson: It is very challenging to actually measure many of the radionuclides in radioactive waste. It's difficult. It's easy to measure something like cobalt-60, which is a powerful gamma emitter, but for many of the beta and even alpha emitters, it takes pretty specialized equipment.

When waste is mixed—potentially low- and intermediate-level waste—it's difficult to know whether it should be classified as low or intermediate. Our concern is that a lot of intermediate-level waste that's mixed is now being categorized as low-level at Chalk River so that it can go into an above ground mound.

The Chair: Thank you very much.

[*Translation*]

Ms. Monique Pauzé: Mr. Chair, I have one last question.

The Chair: You've had three minutes, Ms. Pauzé.

Ms. Monique Pauzé: I see two minutes and 42 seconds on my end.

The Chair: Either way, you're over your two and a half minutes. Sorry.

[*English*]

I have Madam Collins.

Thank you, Mr. Chair.

Maybe I can ask a quick yes-or-no question of Ms. Swami, Mr. Van Wart and Mr. Gorman. I got the answer already from Mr. Hendrickson on mitigating the risk of a potential conflict of interest around who is regulating and who the Canadian Nuclear Safety Commission reports to.

I'm just wondering if each of you would welcome a change in who the Canadian Nuclear Safety Commission reports to and changing it from the Minister of Natural Resources to the Minister of the Environment.

• (1240)

Ms. Laurie Swami: For clarity, the CNSC actually reports to Parliament and does not report to the Minister of Natural Resources, so I don't see a need for a change.

Mr. John Gorman: I would echo Ms. Swami's comment.

Mr. Jason Van Wart: Canada's current regulatory regime aligns with international best practices from our perspective, so I agree with Mr. Gorman and Ms. Swami.

Ms. Laurel Collins: I know that Mr. Hendrickson had his hand up earlier and wanted to respond, so I just wanted to open up space, Mr. Hendrickson, for you to make your comments.

Mr. Ole Hendrickson: Yes. Thanks.

You asked about climate change impacts. I think that's very important, and that's why the siting of nuclear waste facilities is so important. There is a lot of high-level waste right on the shores of Lake Ontario. We don't know what the lake levels will do in the future. It's fairly imperative to move that away.

At Chalk River, for the proposed mound, we don't know what extreme rainfall and snowfall amounts might do in terms of washing the waste off that mound and leaching waste out. That's why the IAEA says that siting is an extremely critical part of radioactive waste management.

Ms. Laurel Collins: Thank you so much, Mr. Hendrickson.

Just going back, Ms. Swami, Mr. Gorman and Mr. Van Wart, the Canadian Nuclear Safety Commission reports to Parliament through the Minister of Natural Resources, who is also responsible for overseeing the production of nuclear energy, so there is a potential for at least the appearance of a conflict of interest, given that the International Atomic Energy Agency says that, in order to be

credible and to have public trust, regulators need to mitigate those potential risks—

The Chair: We'll take that as a comment, an insightful comment, but we'll have to now move to Mr. Albas.

Mr. Dan Albas: Thank you, Mr. Chair.

Again, thank you to all the witnesses who are here.

I'd like to start with Mr. Van Wart. In regard to SMR development, obviously the Darlington site is going to be Canada's first shot at trying this out. It's my understanding that this particular Hitachi project is a third-generation modular reactor versus a fourth generation.

Could you just explain what the difference is in the technology? Also, what are their results for waste? I understand if you can't say, because fourth generation is still being tested, but could you just give us an idea? Is there going to be more waste? What kind of waste? Will it fit well into the current regime we have here in Canada? Let's start with that.

Mr. Jason Van Wart: I think the way I would like to address that question, because I am certainly not an expert in the SMR technology, is that we have a team here at OPG, a large team, working with that project. If I could, I would provide a written response to your question as opposed to my trying to give you my less than—

Mr. Dan Albas: That's fine. I would appreciate a written response, because I do think the public needs to know that there is a difference between what we've traditionally used in Canada and some of the new approaches that will be used for some of the things Mr. Dreeshen has called in support of.

I'll go back to Mr. Gorman. I asked earlier about this level of support, and you said the government had given some. Now, that's despite the lack of endorsement for anything nuclear by Minister Guilbeault.

Could you tell us what the gap is right now? How can members of Parliament best encourage this government? Is it in money, encouragement or championing the work that has been done, the work that the nuclear sector will do with this technology? Could you give us an idea of money, and can you give us an idea of best ways to support?

Mr. John Gorman: I think all of those things are needed. I'll start with clear support from all government policy-makers, clear and ongoing repeated acknowledgement that nuclear is not only clean but needed for a net-zero future. That's extremely important for all sorts of different reasons.

In terms of financial support, I think there are a couple of important things to recognize here. One is that the industry, including four utilities and four provinces, has come together with an integrated pan-Canadian plan for the development and deployment of small modular reactors. It was developed with Natural Resources Canada over a number of years through wide consultation and followed up with an action plan from the Liberal government.

The utilities are not only forging ahead but bringing matching financing, so that financing request should be met. I think, as I remarked earlier, the tax credits and accelerated capital cost allowances that are being extended to other clean energy sources like wind and solar must be extended to the nuclear industry, and that includes the contemplated investment tax credit.

All of those things, leadership in terms of recognizing that nuclear is clean and matching financing for the first-of-a-kind rollout of these small modular reactors, are essential.

• (1245)

Mr. Dan Albas: Send the committee what that would look like. Quite honestly, at this point, I would love Minister Guilbeault....

A tweet, Minister, doesn't cost very much, and chances are that tweet has been provided by no-carbon energy here in Ontario, so that would be a good start, but I'd also like to have that recognition in the House of Commons.

How can we best advance this? Is it through writing letters to Minister Guilbeault and Minister Wilkinson?

Mr. John Gorman: In terms of the request that's been put into the budget process, we've submitted the letter to Finance Canada, and I'd be happy to provide a copy to this panel. It talks about the need for a level playing field here with respect to existing tax credits and future investment tax credits.

Mr. Dan Albas: I have about 30 seconds left, so I just want to thank all our panellists for being here today. Thank you for your expertise on this very important subject.

Again, my thanks to Madame Pauzé for suggesting that we have this conversation about nuclear waste and our regime here in Canada.

The Chair: Thank you, Mr. Albas.

Ms. Thompson.

Ms. Joanne Thompson (St. John's East, Lib.): Ms. Swami, I'd like to go back to something you had said in the very beginning. I believe it was in your opening remarks. It is around the voluntary site selection.

Would you mind going into a bit more detail around what that looks like?

Ms. Laurie Swami: Thanks very much. I think this is a really important part of the work we did many years ago now.

We established a process for reaching out to communities to understand who might be interested in learning more about the potential to host a used fuel repository in their community. It was 2010. At the time, we had 22 communities come forward, from Saskatchewan as well as from Ontario.

Over the last number of years, we have been looking at the community, understanding their interest in this project. We've also looked at the geosphere or the rock that would be available in the communities to really understand interest. During that period of time, we've learned much about those communities, their interest in the project, as well as the indigenous communities where the traditional territory or the unceded territory might be.

Therefore, we've worked with many people to understand interest and the safety around deploying in that particular area. We are now working only in two communities, which I referenced earlier.

A very important part of our work is that we must have a willing and informed community, and communities, where we will deploy our project.

Ms. Joanne Thompson: Thank you.

As a link to that, would you mind speaking about the security aspects when you're actually transporting the waste to perhaps one of those two selected sites?

Are there any potential security concerns? How do you envision being able to deal with that?

Ms. Laurie Swami: Certainly. The transportation of the used fuel must move from the existing facilities where the used fuel is stored today, so the operating facilities in New Brunswick, Quebec and Ontario. We have been working on a transportation program and framework where we're going out to Canadians to understand what's of interest to them with respect to that transportation program.

Of course, security and safety are quite important for Canadians, to understand what that would look like. We will be implementing programs with knowing where our trucks are at all times, understanding the areas they're driving through, and we will probably have escort cars and things like that for protection of the used fuel and do this in a very safe manner.

I will add that today used fuel is moved in Canada, not as frequently as it might be in the future, but right now it is moved and we have never had an incident or accident with used nuclear fuel transportation in Canada.

• (1250)

Ms. Joanne Thompson: Thank you.

As a link to that and around transparency, I realize this has to also be viewed through the realities of security, but do you envision a site where the general public will be able to access information in terms of processes?

I look at this through the lens of public safety, and not only the perception but the depth of information that really strengthens faith that indeed systems are secure and that reasonable protections and supports are in place.

Ms. Laurie Swami: I think there are a number of things where, of course—

The Chair: You have 45 seconds about now.

Ms. Laurie Swami: We will be open and transparent about our work. We will have what we'll call a "centre of expertise" where members of the public can come and observe our work, observe the processes we have in place. Of course, we have very robust regulation around transportation in particular, but also around our facility, both through the Canadian Nuclear Safety Commission as well as Transport Canada.

There are many regulators involved with nuclear facilities. One of them is the Canadian Nuclear Safety Commission, the primary one, but there are many others, including ECCC, that will be involved.

The Chair: Thank you.

You have about 10 seconds, Ms. Thompson, to make a brief comment, but we don't have time for a question.

Ms. Joanne Thompson: I'll just say thank you.

The transparency is incredibly important.

The Chair: Go ahead, Ms. May.

Ms. Elizabeth May (Saanich—Gulf Islands, GP): Thank you, Mr. Chair.

Thanks to Leah for trying.

Directly to Ole Hendrickson, because I don't have much time, I want to drill down on some of the conflicts of interest that are inherent in the way nuclear waste is managed in Canada. Another aspect of it is the Nuclear Waste Management Organization, which was created in 2002 by an Act of Parliament. It only allows nuclear reactor owners to sit on the organization.

Does that create a conflict of interest in your mind, Mr. Hendrickson?

Mr. Ole Hendrickson: Yes, unfortunately.

The Seaborn panel...and our organization participated in it and recommended an independent body to manage nuclear waste. That did not transpire with the Nuclear Fuel Waste Act. What we have is an organization that is owned and operated by only the nuclear waste generators.

Ms. Elizabeth May: The next one is that the first of these so-called small modular reactors which, as you say, exist on paper, is going ahead at Point Lepreau with \$50 million. Another witness said there were no subsidies, but the federal government, between ACOA and other innovation fund, has put \$50 million into it. The company that's building it has never built one. It requires going into the fuel repository of waste at Point Lepreau.

Could you comment on that?

Mr. Ole Hendrickson: Yes. Mr. Van Wart mentioned that there's interest in extracting plutonium and that's what the Moltex proposal is. It creates huge concerns about nuclear weapons proliferation when plutonium is put into commerce. Several eminent scientists have written to the federal government to say we should not engage in that type of activity—

Ms. Elizabeth May: Can I jump in and ask one quick thing?

AECL used to be a purely governmental Crown corporation, and SNC-Lavalin bought it for a song. SNC-Lavalin has some unsavoury partners that are involved in the nuclear weapons business.

Could you comment on that?

Mr. Ole Hendrickson: The three members of the coalition that are operating all federal nuclear sites are Fluor, Jacobs and SNC-Lavalin. Fluor and Jacobs have both had to pay large sums of money for legal problems in the United States.

• (1255)

The Chair: Thank you, Ms. May and Mr. Hendrickson.

I have a very quick question for Ms. Swami. Is the Kincardine site the one near Lake Huron?

Ms. Laurie Swami: I can answer that.

There was a DGR that was proposed by OPG near Kincardine on its existing facility. Our project is looking at a deep geological repository for used fuel in South Bruce, which is inland.

The Chair: What happened with the first site, the one by Bruce Power? There was some back and forth with the Minister of the Environment at the time. Did you report on it? Was it rejected?

I'm a little fuzzy on the history.

Ms. Laurie Swami: I can speak to that, but Jason may be in a better position.

The Chair: Sure. Go ahead, Mr. Van Wart.

Mr. Jason Van Wart: Thanks, Laurie.

The project was cancelled after the Saugeen Ojibway Nation did not vote to support it.

The Chair: Thank you so much. That's all I really wanted to know.

This has been a fascinating discussion. We've gathered a lot of fodder for a report.

Thank you, Madame Paupé. This brings us to the conclusion.

We will have Mr. Edwards back, for sure, and we'll be working with him on the technology.

[*Translation*]

Ms. Paupé, did you have something to raise?

Ms. Monique Paupé: Yes, Mr. Chair.

First, I'd like to know when we'll find out which witnesses we'll be hearing from at the next meeting. I know some people are waiting for an invitation.

Second, I'm wondering whether we will be hearing from one panel during the first hour and another panel during the second hour.

The Chair: I'll be setting up a steering committee meeting, and we can discuss the witness list at that point.

We contacted a lot of people to have five witnesses here today. The proposed witness lists were received, and we are working on it.

As for your question about the panels, we'll be proceeding the same way we did for the plastics study. The witnesses will be with us for two hours, so we'll be doing a number of rounds.

Ms. Monique Pauzé: Will the steering committee be discussing that?

The Chair: Yes, it's possible. We can discuss it all.

Go ahead, Mr. Longfield.

[*English*]

Mr. Lloyd Longfield: Thank you, Mr. Chair.

It might be helpful for the clerk to give us a work plan.

The Chair: That's what we're going to do. We're ahead of you. We're going to have a meeting of the steering committee.

Thank you to the witnesses and thank you to the members for your excellent questions.

Mr. Terry Duguid: I move for adjournment.

(Motion agreed to)

The Chair: The meeting is adjourned.

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