HOUSE OF COMMONS
CHAMBRE DES COMMUNES
CANADA

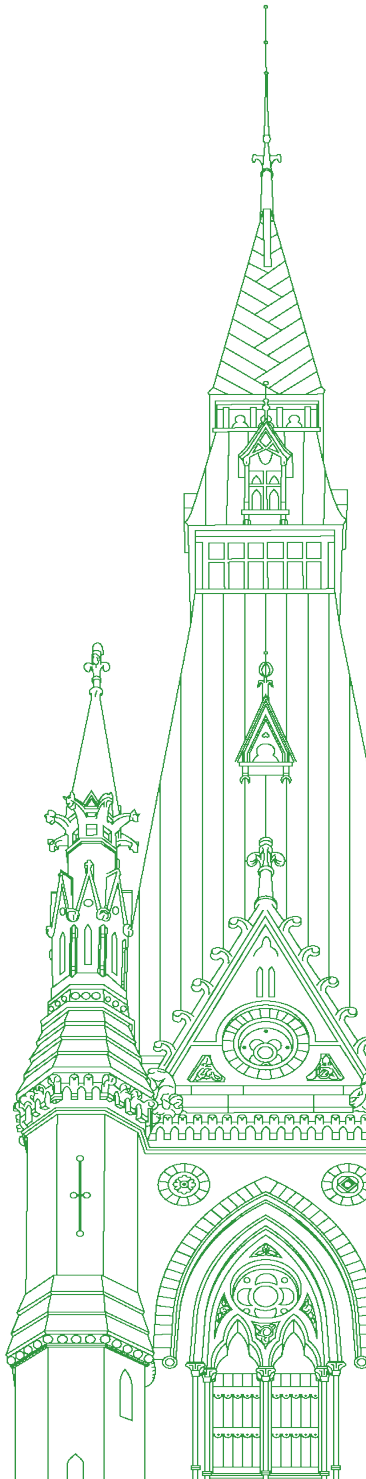
45th PARLIAMENT, 1st SESSION

Standing Committee on Natural Resources

EVIDENCE

NUMBER 040

Tuesday, June 2, 2026



Chair: Terry Duguid

Standing Committee on Natural Resources

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● (1105)

[*English*]

The Chair (Hon. Terry Duguid (Winnipeg South, Lib.)): Colleagues, I call this meeting to order.

I will start, as we always do, by acknowledging that we are meeting on the unceded territory of the Algonquin Anishinabe nation.

Welcome to meeting number 40 of the House of Commons Standing Committee on Natural Resources. Today's meeting is taking place in hybrid format.

I would remind participants of the following points. Before speaking, wait until I recognize you. For those participating by video conference, click on the microphone icon to active your mic, and please mute yourself when you are not speaking.

I would like to remind witnesses that committee members may ask questions in either English or French. If you will need interpretation, please take a moment now to prepare your earpiece and select the listening channel you need in advance, in order to take full advantage of the time allotted for questions and answers.

For members participating in person or via Zoom, please raise your hand if you wish to speak. The committee clerk and I will do the best we can to maintain a consolidated speaking order. As a reminder, all comments should be addressed through the chair.

Pursuant to Standing Order 108(2) and the motion adopted on Thursday, April 23, the committee shall resume its study of Canada's electrification, energy self-sufficiency and domestic energy security.

I would like to welcome our witness. We have one for this first hour and two for the second hour, colleagues. From the Pembina Institute, we have Kevin Lockhart, director of buildings. He's joining us, of course, by video conference. He has conducted the mandatory onboarding test for witnesses.

Mr. Lockhart, you will have five minutes for your opening remarks, after which we will open the floor to questions and comments.

Welcome.

Kevin Lockhart (Director, Buildings, Pembina Institute): Good morning, and thank you for the opportunity to share the Pembina Institute's perspective on Canada's electrification, energy self-sufficiency and domestic energy future.

In 2026, with increasingly turbulent global energy markets and politics, becoming an energy superpower means delivering the cleanest and most cost-effective power to attract investment and drive economic growth and competitiveness. There is an increasingly strong business case for investing in Canada's energy systems through demand-side management and efficiency, grid modernization and expansion, and the continued development of distributed and utility-scale clean electricity.

Canada has a long history of clean electricity generation and a competitive starting point compared to other countries. We can use this as a foundation for growth. Electricity is central to the transformation of our national economy and a sustainable environment. It will help boost affordability, advance economic resilience and address climate change. Today, Canada's energy system consists of energy supply, energy demand and the flow of electrons from production to end use.

Going forward, Canada's ambition as an energy superpower means we must optimize the use of existing system infrastructure but also take advantage of energy efficiency, distributed energy resources, local energy storage and demand-response technologies, all of which help balance load growth requirements and cost-effective system expansion.

It is the federal government that's best suited to creating the market conditions that will encourage investment in an integrated marketplace for energy-efficient buildings, electric vehicles and industrial processes.

The Pembina Institute would like to encourage the Government of Canada to ensure that its electricity strategy recognizes the full scope of Canada's energy system. This starts with a focus on energy efficiency and the effective use of energy resources. Investments in housing, through programs such as Build Canada Homes, the build communities strong fund and the housing design catalogue, can be leveraged to advance ambitious building codes and high levels of energy efficiency that will help cut energy waste and emissions and ensure stable utility costs while providing safer, healthy and more resilient living conditions.

As stated in one of the Canada electricity advisory council's recommendations:

> Link federal investments in housing to the highest energy-saving standards...Both are essential for ensuring that solutions to the housing crisis do not spill over, directly or through power rates, into unaffordable energy bills for new and existing households.

The government can also help build markets through the electrification of core sectors. An electrified Canadian economy can leverage buildings, transportation and industrial processes as a nation-building opportunity for economic growth, affordability and climate action. Doing so will help maintain energy costs while doubling the country's electricity grids to meet rising demand. Together, these sectors can support a made-in-Canada industrial strategy and create supply chain and export opportunities for the building and auto sectors as well as grid technologies and critical minerals.

There is a need to provide stability and flexibility with integrated resources. Programs such as the smart renewables and electrification pathways program, the utility support stream and the green industrial facilities and manufacturing program have already helped identify opportunities to integrate emerging technologies, such as vehicle to grid services in both building and industrial spaces.

Continuing to support these programs can drive similar technology adoptions that can help improve system resilience and provide stability and a flexible bulwark against weather or cyber-related disruptions, allowing utilities to tap into resilient resources when critically needed.

We need to continue to build and support our workforce. Achieving a clean energy system by 2050 could generate up to 10 million job years of construction employment. At the same time, Canada is facing persistent labour shortages. By putting workers at the centre of these plans, we can ensure that the jobs created are high quality, accessible and capable of supporting workers and communities through a period of significant economic change.

Lastly, but importantly, we need to reinforce indigenous leadership. Canada has made great progress in delivering energy stability in remote Canadian communities. Long-term predictable support can ensure that these communities continue to pursue their clean energy futures. We hope to see the federal government continue to advance and accelerate indigenous leadership in clean electricity projects, partnerships and equity opportunities.

With that, thank you for this opportunity. I look forward to your questions.

● (1110)

The Chair: Thank you, Mr. Lockhart, particularly for staying on time. You were right on the money.

Colleagues, we're going to start our first round of questions and comments.

We're going to start with Mr. Malette for six minutes.

Gaétan Malette (Kapuskasing—Timmins—Mushkegowuk, CPC): Thank you, Mr. Chair.

Mr. Lockhart, you mention here that one of your interests is working with existing buildings and new buildings with low energy and low emissions. You've also mentioned that, by 2050, with clean energy, if I heard you correctly, 10 million jobs could be created.

Kevin Lockhart: They would be created between now and 2050, 10 million job years. That's correct.

Gaétan Malette: Would you expand a little bit on what would be the phases of that? Would these be good-paying jobs?

Kevin Lockhart: Absolutely.

As we see—and I'll use buildings as an example, as that's my area of knowledge—in creating this integrated system and having energy resources as part of that system, which is made up of buildings, transportation and industrial processes, the building can act as a host for electrification and as a host for electrification resources. To do so, the first step is to improve the energy efficiency of a building and lower the energy demand, which involves either high-performance new construction or retrofitting buildings. With the state of our buildings—many of the buildings we have in place today will still be standing in 2050—that retrofit work is significant.

We also have the development and implementation of energy resources. That could be a combination of, say, solar or other renewables paired with battery storage. In addition to providing good flexibility and stability, there are jobs associated with that but also with the innovation of those technologies, things like smart controls.

Through our work, we've seen that Canada is well suited to developing innovation pathways and export opportunities.

● (1115)

Gaétan Malette: Thank you.

Mr. Lockhart, the future of this country depends on a very strong economy. You've mentioned that electricity is central to our development. In your experience, what needs to be done to encourage the government to supply—and I put emphasis on this—affordable energy for our future?

Kevin Lockhart: One of the primary roles the government can play in that is in the development of our future electricity system, which is integrated. It's not necessarily just transmission, but it goes beyond to consider the distribution system and the resources or assets within that system, which are, again, buildings, transportation and industrial processes. How can each provide opportunities to balance the energy demands or use the energy excesses of those resources? For example, industrial processes generating heat can help heat buildings, which then takes some of the load off the electrical system. Likewise, distributed energy resources can take advantage of renewables during the day to then be paired with battery storage to help offset or mitigate peak loads in the evening.

The Canadian government can really drive affordability for households and businesses by helping to maintain stable energy rates and then providing new opportunities for revenues for businesses through distributed resources or households through, for example, load management smart controls.

Gaétan Malette: Thank you.

In clean energy, after hydroelectricity, what is the most affordable and which is the least affordable? Which ones should we concentrate on? Another question is this. Do you classify nuclear as clean energy?

Kevin Lockhart: In terms of affordability, if we look at first costs, we see it's typically in renewables. The point that I would really like to make is that the integration of these different systems is how we achieve greater affordability. Nuclear, I think, plays a role, particularly existing resources, in that it provides the base load needed for our economy where, in the future, we can look at renewables paired with storage, with distributed resources to then also play a similar role, as the batteries help distribute that energy output.

In terms of the most affordable, it's also where the assets are. We can look at, say, mega projects or at how the energy resources are distributed across the community. It could be large building owners with, say, commercial buildings with large rooftops, or community-led projects or individual households that can then play a role in our energy future. We can distribute those savings and those revenue opportunities across communities.

The Chair: Thank you, both.

Mr. Hogan, you have six minutes.

Corey Hogan (Calgary Confederation, Lib.): Thank you, Chair, and thank you to our witness for being here.

This study is looking both at energy security and at opportunities in electricity, specifically. We know our energy future is an electric future. Electrification is an important part of energy self-sufficiency. In that vein, we also want it to be an affordable future. I appreciated Mr. Malette's comments in that regard. I think it's something that as a committee we have to keep our eyes on at all times, lest we find ourselves offside of people and people's lives.

You've talked about an integrated system, and you've talked about it being not just about transmission but also distribution and the resources and assets. You mentioned specifically distributed batteries, and those are words that caught my ear. I wonder if you can expand on battery technology, its current state and how you see that distributed future looking.

Kevin Lockhart: You started your question highlighting energy security, and I think that's one role that the distributed system could play, in that it creates local energy security and greater use of domestic resources as a national priority. It also creates resilience in terms of the fact that they tend to be local systems and provide some benefits during power outages or extreme weather events. There is a higher potential for the grid to continue to operate.

In the battery space, looking at the greater systems, we have electrified vehicle batteries, but we also need to collect and store energy within our buildings. The first point I would make is that we have the vehicle-to-grid interconnection, but we also, on a larger scale, can then use our buildings to also provide those services and really take advantage of supply chain opportunities. It's looking beyond just vehicles—the same or similar technologies for those large building batteries or residential-sized batteries. We can broaden our supply chain opportunities and our supply chain resilience, really, by looking at batteries, not just in one aspect of the sector, the auto sector, but going beyond into buildings as well.

● (1120)

Corey Hogan: I want to pull on the resilience thread a bit, because one of the things that come up often when we talk about electricity, of course, and our ambitions to be more self-reliant as a country, is interties. One of the reasons that we don't use the intertie between B.C. and Alberta at its rated capacity, even, is anxiety about resilience. If one intertie goes down, that can create enormous strain on a system operator.

I wonder if I can have your comments on that broadly, but also maybe on the opportunity for the type of resilience you've talked about to be part of a solution that de-risks some of these larger projects you were talking about.

Kevin Lockhart: I think in terms of the two provincial systems, each plays a role in supporting each other and, with progress, can really drive that resilience.

If we look at distributed resources, we see that we're really broadening those nodes from, say, two into the thousands. We create those more local systems that, with the appropriate technology, can continue to operate in isolation while the larger grid is maybe experiencing outages. Really, the resilience comes in the aspect of outages, but it also comes in terms of our security and where we're developing those resources. It's community resilience and national resilience as well.

Corey Hogan: Tying back to Mr. Malette's comments about affordability here, are there opportunities for consumers in this space, too? We've heard often that electricity grids are built for those peaks, and it's expensive to maintain those peaks, so that next megawatt hour is going to be a challenge, occasionally.

Increasingly, people have, in their garages—as you've already alluded to—an EV with a battery. An average EV battery could power my house for three days at this point.

I'm just wondering what opportunities there might be for consumers with these technologies to maybe profit from that and sell back to the grid at peaks. I think in particular about my home province of Alberta, of course, where you can have peak pricing that is pretty alluring.

Kevin Lockhart: At Pembina, we work with our Reframed initiative, which retrofits sick social-housing and affordable-housing buildings. Through that, one part of that work is to look at opportunities to integrate distributed resources into those buildings to then enable the retrofit, which ultimately leads to safer, healthier and more resilient homes for those most in need. Scaling that up, those same opportunities would be available to different aspects of home ownership and businesses as well.

We also look at how we can leverage time-of-use pricing, which isn't necessarily in place in all provinces, to then have homeowners and tenants participate in those load-management programs and see some contribution to affordability come back to the household.

The Chair: Thank you both.

[*Translation*]

Mr. Simard, you have the floor for six minutes.

● (1125)

Mario Simard (Jonquière, BQ): Before I begin my speaking time, I want to make sure that the interpretation is clear.

Mr. Lockhart, can you hear me? Is it working?

[*English*]

Kevin Lockhart: I can hear.

[*Translation*]

Mario Simard: I hadn't planned on asking any questions on this topic. That said, I would like to briefly address the question asked by my colleague, Mr. Hogan.

During a discussion with Hydro-Québec representatives, I learned that industrial clients can feed excess unused energy back into the grid when they reduce their consumption for their activities. However, residential clients are unable to do so owing to technical and safety considerations.

I don't know whether you have this type of information. I would like you to share your point of view, just to shed a different light on the matter.

[*English*]

Kevin Lockhart: I think that is a reflection of the maturity of the market. Large power consumers can achieve the greatest systems, or the utility can achieve the greatest energy savings through programs like that, whereas distribution to many different households can present a challenge in applying those same programs. However, as we look toward this energy future that we're discussing today, the expansion of the programs and policies that would help consumers participate in those and make contributions to the electrical system, and then also achieve either savings or some monetary or financial contribution.... I think those are in place, and they should be part of what we discuss when we talk about an electricity future.

[*Translation*]

Mario Simard: I agree with you. In my opinion, from a technical standpoint, a distinction must be made with regard to the possibility of feeding energy back into the grid. I think that, when it comes to houses and households, we need to look more at forms of energy efficiency.

Hydro-Québec has a fairly well-developed plan to this end. By 2035—this date surprised me, so I asked whether it was really 2035 and received confirmation—the plan is to recover 1,600 to 1,800 megawatts through energy efficiency and peak management programs. This constitutes enormous potential. This potential could be unlocked with the help of more effective equipment and investments in heat pumps to increase efficiency.

I know that the Quebec government already has this plan in place. I know that electrification isn't developing in the same way across the country. Quebec already has a plan, which will be completed by 2035. For your part, you may have a more pan-Canadian vision.

Have other provinces already made projections?

There will be federal legislation on energy efficiency, which I hope won't encroach on the jurisdictions.

Are the other provinces already ready to implement this type of energy efficiency solution?

If you have any data on this topic, it would be useful for the committee.

[*English*]

Kevin Lockhart: I don't have specific information on hand with me today, but I would be happy to provide that in a follow-up.

I think when we look at the various provinces, we see leaders and tomorrow's leaders in place really driving through the different energy fuels. Quebec, as a relatively clean electricity jurisdiction, has been able to leverage different components of the energy system to mitigate some of that system expansion. As we move towards Canada's energy future and look out into the coming decades at the best of those provinces or those provincial programs and policies, we should be looking to those leaders, in Quebec amongst other provinces, for how we can help provinces that haven't moved as quickly leapfrog the various challenges experienced in their journey.

[*Translation*]

Mario Simard: Thank you.

I would like to pick up on this. Hydroelectricity accounts for 40% of Quebec's overall energy mix. If we look at Canada as a whole, we see that 17% of the energy mix is made up of electricity. We aren't just talking about hydroelectricity. We're talking about all types of electricity combined.

Electricity currently accounts for 32% of China's energy mix. So doubling the share of electricity in Canada's energy mix by 2050 would amount to catching up with present-day China.

Do you think that this is an ambitious goal, or could the government have set a more substantial target for 2050 in this situation?

● (1130)

[*English*]

Kevin Lockhart: I will quickly say that I think it is an ambitious goal, but it's well within our capacity. It presents an excellent opportunity to drive economic growth and supply chain opportunities. These are new combinations largely coming from leaders like Quebec. How can we take those and package those as profitable packages?

The Chair: Thank you both.

Mr. Lawton, we'll go to you. Welcome to the committee.

Andrew Lawton (Elgin—St. Thomas—London South, CPC): Thank you, Mr. Chair. It's great to be here and to delve into a very important issue. I appreciate it.

Mr. Lockhart, just to put into context your opening statement, you indicated that Canada's electricity system should have, in your words, “the full scope” of basically options recommended. Did I understand you correctly in that?

Kevin Lockhart: I'm sorry. I don't recall the full scope, but I think—

Andrew Lawton: It was “the full scope of Canada's energy”.

Kevin Lockhart: Absolutely. Yes.

Andrew Lawton: Does that include oil and gas?

Kevin Lockhart: It does. I think there are opportunities to really use electrification to then drive high-value uses or high-value demand for fuels like oil and gas and others. It uses fuel where it's most appropriate, but it also really drives that highest value.

Andrew Lawton: The Prime Minister was head of the Bank of England. He said, “Achieving net zero will require a whole economy transition—every company, every bank, every insurer and every investor will have to adjust their business models.”

Are you seeing that reflected in this Liberal government's policy right now?

Kevin Lockhart: Again, I think the clean electricity strategy is an opportunity to do just that. It represents an opportunity to help Canadians in terms of affordable energy uses. It also helps provide new opportunities through the development of the supply chain.

I can't overstate, if we're talking about doubling the size of the electricity grid at the same time as we're talking about retrofits in the scale of 3% to 5% retrofit rates, that there is a vast economic opportunity. The delivery of that strategy and the integration of the different components will be really key.

Andrew Lawton: People say this, but the problem when you make this argument that there's an economic opportunity is that if that were the case, we'd see this on its own. Companies are actually moving away from a lot of these things that Mark Carney was trying to bludgeon them into for much of the last decade.

I'll go back to his quote, where he said, “a whole economy transition—every company, every bank, every insurer and every investor”. That was a pretty extreme proclamation he was making. Are you seeing that commitment reflected in Liberal policy right now?

Kevin Lockhart: If I understood the question correctly, I can speak to two different sectors: finance and insurance. Particularly in the latter, we are seeing a shift towards recognizing the benefits of, for example, retrofits and more resilient buildings, because they recognize the challenge they have in front of them and—

Andrew Lawton: I would like to ask about the Liberal government's approach to this.

We know 14 Liberal MPs have specifically called out—I'm using the exact words here—“the government's credibility” on climate issues. It's interesting that we have a Prime Minister trying to say both things simultaneously. When he's in one room, he's talking about how he's the net-zero champion and the aggressive accelerator of the transition. Then, in other rooms, he tries to cosplay as someone who develops the oil and gas sector in Canada.

I'm curious. As a group that has a long-standing track record of advocating for things I don't always agree with, are you happy with the Prime Minister's performance right now?

● (1135)

Kevin Lockhart: We're still in a wait-and-see mode, although I'm cautiously optimistic that we'll see progress on the electricity strategy, as well as on Canada's energy future.

Andrew Lawton: We all have to do our part. I think that would be the agreement. I know there are some members of Parliament who are very committed and who want to conserve and use less energy. Mr. Danko, for example, is saving energy by not having a constituency office open. We all serve in different ways.

I wonder if you're seeing the level of leadership from this Liberal government that you would like to see. I have only a few seconds left. It's a very simple yes-or-no question.

Kevin Lockhart: It would be hard for me to say yes or no based on that. As I mentioned, my knowledge area is buildings. We continue to see movement within that space, and we continue to look forward to the future.

The Chair: That's pretty much your time, Mr. Lawton.

Thank you, both.

[*Translation*]

Mr. St-Pierre, you have the floor for five minutes.

[*English*]

Eric St-Pierre (Honoré-Mercier, Lib.): Thank you, Mr. Chair.

Similar to my colleague from Elgin—St. Thomas—London South, I'll focus, singularly, on the one witness today. I appreciate his sense of humour.

Mr. Lockhart, as our economy electrifies and as Canada aims to double its grid by 2050—as announced recently in the electricity strategy—what role can energy efficiency play in helping to add new power capacity while also reducing demand?

Kevin Lockhart: In terms of adding new power capacity, there are two components.

First, we can help offset that needed power capacity through different efficiency programs—building retrofits, energy efficiency or measures outside of that—or through distributed resources. We can then use those to offset the need and really focus on local communities through those actions.

On the other side of the coin, we can add those distributed resources to then add to our generation mix. Again, it's not just about renewables, say. It's also about local generation paired with battery storage. That battery storage helps mitigate the need for additional resources, particularly peak plants that generally have a high emissions rate. In doing so, we offset the need for new infrastructure, lower the cost of the new infrastructure needed and see savings in terms of emissions.

Eric St-Pierre: The Pembina Institute is based in Alberta. There's an interesting organization called Alberta Ecotrust, which has a climate innovation fund. They do a lot of retrofits of multiresidential and commercial buildings.

I'm curious about whether you can talk about financing. What's the role of capital in leveraging energy retrofits? Maybe you can comment quickly on pace financing, if that's relevant.

Kevin Lockhart: The deeper retrofits in particular—which take an envelope-first approach, and so a building's exterior, to help reduce demand and then the size and cost of the mechanical equipment, including operating costs—can help with lowering that....

I'm sorry, but let me just step back a moment. As I mentioned, the deeper those retrofits are, the bigger the upfront costs. They are higher than those of standard non-energy efficiency retrofits. However, in our work and from what we're seeing in the market, insurance is responding by starting to explore rate offerings or insurance offerings that recognize the avoided risk of extreme climate events. We're also seeing financial firms come to the table to look at how they can quantify non-energy benefits—things like greater comfort in the building, which can lead to greater tenant retention and lower turnover, all of which help to increase either the operating income or the revenue of the building and then help offset those upfront costs. The financial and insurance systems are maturing quickly in that respect and really looking at how they can help lower those costs of retrofits and new construction.

● (1140)

Eric St-Pierre: Great. Thanks.

I might slide in one last question.

Earlier in your testimony, you mentioned the green industrial facilities program. Can you comment on the effectiveness of that program? Should it be renewed or continued? I'm curious as to why you mentioned it.

Kevin Lockhart: I mentioned the program because it has been effective at moving some of those larger projects, where the largest savings can often be made. The higher the energy demand, the more opportunity there is for cutting energy waste in sectors and areas that don't always have that opportunity to participate in programs, so it really connects the direct action to the need.

Eric St-Pierre: Efficiency Canada has also released reports that indicate that over half a million jobs are related to energy efficiency. In 15 seconds, can you comment on the importance of Canadian jobs in the retrofit efficiency sector?

Kevin Lockhart: The jobs are local and tend to be well-paying and difficult to move in terms of their location.

The Chair: Thanks to you both.

[*Translation*]

Mr. Simard, you have the floor for two and a half minutes.

Mario Simard: Thank you, Mr. Chair.

Mr. Lockhart, in your opening remarks, you spoke of the potential for job creation in the electrification sector.

At the beginning of this study, our committee met with Normand Mousseau from the Institut de l'énergie Trottier. He spoke to us about the value chain that should be tied to electrification. He emphasized the fact that Canada hasn't focused enough on developing this value chain.

A heat pump purchased today, despite bearing the logo of a Canadian company, was probably made in China. The same applies to storage strategies.

Do you have any data or information on activity sectors that would be worth prioritizing and developing, both in terms of building efficiency and on a broader scale?

[*English*]

Kevin Lockhart: I'll point to demand-side management in terms of job creation and the potential value chain in manufacturing.

Demand-side management is primarily made up of energy efficiency and load management programs—so smart controls—but then also distributed energy resources. Those distributed energy resources do take parts from other countries—and from other parts of our country as well—and some of those parts are distributed into an energy resource system. With a product that's challenging to be cost-competitive on, like solar panels, we can combine those foreign-made solar panels with domestic batteries or components of domestic batteries that are made here. It's really about the innovative technologies that we have an opportunity to create an export market for, as well as the controls and the different equipment needed to regulate the flow of energy between them. Therefore, either we can export our services or our expertise, or we can add value to the unique equipment that we see.

The Chair: Thanks to both of you.

[*Translation*]

Mario Simard: Thank you.

The Chair: Mr. Malette, you have the floor for five minutes.

[*English*]

Gaétan Malette: Mr. Chair, I will be ceding my time to Madam Gazan.

The Chair: Ms. Gazan, welcome to the committee. It's nice to see a fellow Winnipegger.

Leah Gazan (Winnipeg Centre, NDP): Thank you. It's so nice to be a guest at committee. I have to admit that I'm a bit of a committee nerd, and I miss sitting on committee, so I'm in my glory today.

For my question, the federal government has included provisions that would allow natural gas to play a large part in the electrification strategy, which will move us away from our net-zero target. We know, in fact, that the gas lobby has met with the federal government over 1,000 times in 2025. Can Canada meet its 2050 net-zero targets with the inclusion of natural gas in the clean electricity strategy?

● (1145)

Kevin Lockhart: Again, it would be a challenge for me to say definitively, without the information on hand. I would point out that, as mentioned earlier, in how we shift—how we use fuels today to how we use fuels in the future and really focusing on shifting high-emission fuels to the highest value, whether that might be high-temperature industrial processes or similar—we're looking at how we can shape the energy basket so that we have a resilient and affordable system for businesses and homes, but we also continue to ensure we have a strong and well-functioning economy.

Leah Gazan: The permanent peoples' tribunal this week concluded that Canada's ongoing policies amount to genocide against indigenous people. The judge explicitly stated that a primary driver of these composite acts is to covet, value and seize indigenous lands, territories and resources. It's important to note that the tribunal's preliminary statement highlighted that resource exploitation and corporate extraction projects are often undertaken without the free, prior and informed consent of indigenous people, and that has led to significant environmental damage and violations of indigenous sovereignty.

This week, the Liberal government is set to unveil its AI strategy without, by the way, the free, prior and informed consent of impacted indigenous nations. I've heard from many constituents and national organizations that have a concern about how these data centres will have an impact on our energy supply.

My question is, how can the federal government protect indigenous communities with neighbouring data centres to ensure that indigenous people have access to energy over profit-seeking megatech companies?

Kevin Lockhart: In where we see those opportunities, I guess a good example would be remote communities, and reducing diesel dependence through the greater use of renewables provides a good template or model for how we might move forward. That's really working through indigenous-led partnership equity but then indigenous-led projects as well. In doing so, we see it as a community-led and community-based activity and with input as would be expected. How that relates to AI or other technologies would be a challenge for me to respond to.

Leah Gazan: Thank you very much.

We've heard the Liberal government talk a lot about input and partnership. We haven't heard the Liberal government talk about obtaining free, prior and informed consent about resource extraction projects, the right to self-determination and section 35 rights. How is the work of the Liberal government, even in looking at an electricity grid, compromised by failing to meet its constitutional obligations?

Kevin Lockhart: You mentioned that much of the challenge has been associated with resource extraction. In our work, which admittedly has guardrails to the different areas that we explore, we see an opportunity to focus those indigenous-led projects on projects that contribute to the community that might not depend on resource extraction.

The Chair: Thank you, both.

Mr. Danko, the last questions go to you.

John-Paul Danko (Hamilton West—Ancaster—Dundas, Lib.): Thank you, Chair.

I'm going back to the theme of AI and AI data centres.

You mentioned in your opening statement that Canada is going to an electrified economy, that we need to double the Canadian energy grid in both generation and distribution and that, as Canada transitions to this electric economy, there will be significant opportunities in industry, transportation and buildings.

We're talking about energy sovereignty, and part of that energy sovereignty is also our industrial or economic sovereignty. If we consider that Canada is releasing our sovereign AI compute strategy and that AI systems are, and will continue to be, an integral part of Canada's economy—there are significant electricity needs for data centres for that AI compute capacity in Canada—what might be the best practices for the energy needs of data centres? How can we make sure that Canada does transition to the cleanest, most effective energy in the world for the sovereignty of our economy?

● (1150)

Kevin Lockhart: I think that might push the boundaries of my knowledge area. I can say that we are, as an organization—and I'm sure other organizations in our work are doing similar things—looking at exactly how that AI data centre rollout occurs and looking at the costs and benefits of those systems, but then we also look at how energy efficiency can help manage the additional load, and we find opportunities for waste heat to contribute back to the system as one more component of our energy mix.

John-Paul Danko: We've heard, from a number of witnesses, that the transition to that electric economy is accelerating, and we need to be at the forefront of that. For these three segments—transportation, buildings and industry—we've talked about buildings. Maybe we can dig in a bit more to transportation.

Canada is embracing EVs, making new investments in building public transportation and enabling electrified fleets. What opportunities do you see in transportation, particularly, to accelerate that transition to the electric economy?

Kevin Lockhart: As you mentioned, Canada is embracing EVs and electrified transport as the basis of that opportunity. The next step in that would be where the connection is made. We need a broad distribution network to support the development of that sector and the related supply chain opportunities.

Then, look further at the connection to the grid. Is it within buildings, and are we providing cost-effective solutions for Canadians? I'd point out that the building codes in various provinces do not require things like EV-ready charging, which is basically the conduit that would support future EV charging. At the time of construction, the cost is quite low, but it quickly scales to a significant cost to be added later.

John-Paul Danko: Thank you. That's an interesting issue.

When I was at the City of Hamilton, we were attempting to put in requirements for EV-ready construction. There was quite a bit of resistance, mainly from the utilities, surprisingly enough, on the basis that they weren't sure they would be able to supply the amount of energy required.

On that note, we have the Canadian energy plan, which has just come out. What do you see that could be accelerated in that plan to make sure that Canada will be at the forefront and will be able to supply the amount of energy that's going to be needed in the future?

Kevin Lockhart: The largest sources of opportunity I see in all three of these sectors are demand-side management, distributed energy resources and the combination with efficient buildings. What we've noted over the last few years is that utilities are letting go of some of that resistance and really embracing demand-side management, largely through requirements through their provincial utility commissions, which are pointing at demand-side management as being one of the solutions for an expanded and cost-effective grid.

The Chair: Thanks to you both.

Colleagues, that brings our first panel to an end.

May I thank Mr. Lockhart on your behalf?

Mr. Lockhart, you've had a lot of attention from us for the full hour. We normally have more than one witness, so thank you for your testimony. As we always say, we welcome more information, a brief, if you want to convey that to the committee.

With that, colleagues, I am going to suspend. We'll get the other witnesses online shortly. We'll take a five- to seven-minute break.

● (1155)

_____(Pause)_____

● (1200)

The Chair: Colleagues, we will reconvene.

The trip to Scandinavia was obviously a good one. Our three members have nicknames for each other, so that's nice to hear.

Let me welcome new members to the committee. Mr. Strauss, Mr. Au and Mr. Baber, it's good to see you all. Some of you will get a chance at the microphone shortly.

Let me welcome our two witnesses this hour.

From Association québécoise de la production d'énergie renouvelable, we have Mr. Luis Calzado, chief executive officer. From Idea Contrôle, we have Martin Tremblay, business development manager.

All virtual witnesses have conducted a mandatory witness onboarding test.

I'll make a few comments for the benefit of our witnesses. Committee members may ask questions in either English or French. If you need interpretation, please take a moment now to prepare your earpiece and select the listening channel you need in advance in order to take full advantage of the time allocated for questions and answers. I will remind you that all comments should be addressed through the chair.

You will each have five minutes for your opening remarks, after which we'll open the floor to questions and comments.

Mr. Calzado, we'll start with you, and Mr. Tremblay will be next.

Mr. Calzado, you have the floor.

● (1205)

[*Translation*]

Luis Calzado (Chief Executive Officer, Association québécoise de la production d'énergie renouvelable): Thank you, Mr. Chair.

Mr. Chair and members of the House of Commons Standing Committee on Natural Resources, thank you for meeting with me today.

My name is Luis Calzado. I'm the president and chief executive officer of the Association québécoise de la production d'énergie renouvelable, or AQPER.

AQPER represents players in the wind and solar energy sectors, as well as other industrial partners in the energy ecosystem. Our role is to mobilize the sector's expertise and to make a concrete contribution to the energy transition, to decarbonization and to the energy security economy of Quebec and Canada.

In Quebec, despite electricity being almost entirely renewable, fossil fuels still account for 50% of consumption. This highlights the need for electrification. Hydro-Québec forecasts a 35% growth in demand by 2035 and a 50% increase by 2050. We also depend on the external market. As a result of hydrocarbon imports, Quebec runs a large trade deficit in the energy sector to the tune of $3.5 billion, despite electricity exports to the United States. Investing in renewable energies means investing in an economically strong Canada.

Canada's renewable energy potential remains largely untapped. The wind power sector is a case in point. Despite its excellent deposits, the country generates less than other G7 countries. By way of comparison, high-potential regions in the United States, such as the Midwest and Texas, generate around ten times more electricity than Canada.

The renewable energy sector has benefits. Renewable energies provide decisive benefits in a rapidly changing environment. First, their deployment period is relatively short. Projects can be delivered in five or six years. Second, their costs are competitive. Since 2010, the cost of wind power has fallen by 40% and the cost of solar power has dropped by 90%. A further 30% to 50% decrease is expected by 2035.

Moreover, renewable energies deliver considerable economic and industrial benefits. We estimate that the economic activity generated by the industrial use of a single terawatt of electrical energy made possible by wind, solar and hydro generation could contribute over $250 million a year to Quebec's real gross domestic product, or GDP. This equates to the annual output of around 75 wind turbines. The 11,000 megawatts of wind power expected in Quebec by 2035 amount to $35 billion in investments, $18 billion in added value, over 112,000 full-time jobs, $2.6 billion in tax revenue for Quebec and almost $1 billion for the Government of Canada.

With global demand continuing to grow, particularly in wind and solar power, Canada and Quebec have an opportunity to build a strong industrial cluster. For the energy transition and electrification to succeed across the country, public authorities must play a leading role in tackling certain structuring challenges.

The first challenge concerns the capacity of the transmission and distribution grid. The speed of development of renewable energies depends directly on the capacity of the grids to integrate them. Major investments are urgently needed in Quebec and across Canada. Hydro-Québec's decision to invest $10 billion to strengthen its transmission grid by adding substations and high-voltage lines on three key areas is certainly a step in the right direction. Producers need predictability when it comes to the development of the grid so that they can plan and optimize the development of new projects.

The second challenge is regulatory. The length and complexity of approval processes make it extremely difficult to achieve electrification and decarbonization objectives. We're calling on all levels of government to speed up the approval process and to optimize the regulations applicable to the renewable energy project.

The third challenge concerns the need for a sufficiently skilled workforce. Without this capacity and coordination, we'll face delays, higher costs and missed economic opportunities.

In conclusion, the guidelines put forward in the national electricity strategy are a step in the right direction. They will help address a number of the challenges just outlined. In particular, we believe that it's vital to continue supporting investments in electricity generation, transmission and distribution in order to increase the country's energy supply. We also welcome the desire to speed up and simplify the authorization process, a key factor in the timely completion of projects.

● (1210)

Predictable public policies and a stable regulatory framework will play an equally important role in attracting the private investment needed to develop energy infrastructure. Lastly, efforts to train and mobilize the skilled workforce must remain a priority in order to support the required development.

I would like to wrap up my remarks by saying that investing in electricity means investing in the Canadian economy. It's an economically rational choice, and not just an environmental obligation.

Thank you for your attention. I look forward to answering your questions.

The Chair: Thank you, Mr. Calzado.

Mr. Tremblay, you have the floor for five minutes.

Martin Tremblay (Business Development Manager, IDEA Contrôle Inc.): Thank you, Mr. Chair.

Committee members, thank you for this opportunity to appear before you today and to explain our vision for optimal electrical energy management.

IDEA Contrôle is a Canadian manufacturer. We've been working on supporting industrial electrical power management since 2009. We're equipment manufacturers. We help the industrial market with its peak power management needs and with its decarbonization projects. We're also managing its strategy to support the distribution grid during winter periods. In Quebec, we call this power demand management, or PDM. We manufacture electrical energy storage and control systems with artificial intelligence strategies and algorithms to maximize energy management.

My remarks today will focus on three points.

The first point concerns the trend in available grid capacity since our creation in 2009. Clearly, the electrical power demand on the grids of every province is constantly growing. The drive to decarbonize and electrify transportation is significantly affecting grid capacity and adding a great deal of pressure during peak power demand periods. We're even hearing about a shortage of available electrical power for new industrial projects. Technical innovations since 2009 to help the grid have often boiled down to purchasing power from our neighbours during peak periods. Even so, there have been few technical innovations when it comes to managing peak demand on the grid.

The second point that I want to discuss is the need to help the industry manage its daily power demand and to participate in network events. Our networks have ideas for solutions that focus heavily on energy generation. Electricity producers are talking about adding electrical energy generation to solve the power shortage problem. We're talking about adding wind power, solar panels and even batteries.

As you know, the energy storage strategy is a logical solution for grids. For example, in Ontario, a 250-megawatt facility was recently installed to handle the grid's daily peaks. We're convinced that the solution doesn't need to be designed for the grid alone. We need to solve the problem at the source, on the client's side and on the industrial side. The problem really arises on the consumer's side. We need to help consumers get equipped to control electrical power.

In an industry where the recorded power demand results in a consequence billable on a monthly basis, few managers know the mechanics of this billing. This makes it even harder for managers to find solutions to mitigate this effect. An industrial manager has a hard time controlling power demand manually. We must make use of the technology needed to help these industries. This approach to energy storage isn't just for the grid, but also for the industrial client.

Remember that we aren't against adding sources of energy generation to strengthen grids. Quite the contrary. However, in this equation, businesses are being left out in the cold. Another solution is needed. We need to help businesses get equipped for power management. We're convinced that, by strengthening the industrial client's side of the equation, we're also strengthening the grid during daily peak periods.

Third, the electrical energy storage solution together with artificial intelligence in our industries form a strong alliance. Energy storage and management controlled by artificial intelligence create optimum synergy between the grid and its client. Every month, storage helps industrial clients lower their bills. During critical grid peak periods, this alliance must be leveraged within the grid. Instead of purchasing power from neighbours, we need to buy this load shedding or storage power from clients. There's a synergy between the financial aspect and the power.

● (1215)

Our mission at IDEA Contrôle is to speed up the profitability of decarbonization projects for the industry and to secure the electrical grid by using our flexible capacities during periods of peak grid demand.

The Chair: Thank you, Mr. Tremblay.

[*English*]

Colleagues, we're now going to start our rounds of questions and comments.

Thank you to both our witnesses for those presentations.

We're going to start again with you, Mr. Malette, for six minutes.

Gaétan Malette: Thank you.

[*Translation*]

My first question is for Mr. Calzado.

First, I want to make sure that the interpretation is working properly.

[*English*]

Luis Calzado: It's okay. I understand English.

[*Translation*]

Gaétan Malette: Mr. Calzado, you said that renewable energies are underused.

What should we focus on and how could the government help?

Luis Calzado: First, I would like to talk a bit about the development of the wind energy sector. It took us around 20 years to obtain the 4,000 megawatts in use in Quebec. We'll be deploying another 4,000 megawatts between 2025 and 2029. As you can see, we're in the process of doubling the number of megawatts. So, yes, there's a start.

On the solar side, the goal is to reach 3,000 megawatts of solar power by 2035. We just launched a call for bids for 300 megawatts of solar power. It's a start, as you can see. However, we need to become more proactive in deploying solar energy in Quebec in order to ensure that these technologies can contribute to the energy transition and to our economy. This also means that jobs can be created and that other sectors can use the energy generated by these technologies.

Gaétan Malette: Thank you.

I gather that solar energy costs have fallen by 90% in recent years.

Is that what you said?

Luis Calzado: Yes. That's what I said.

● (1220)

Gaétan Malette: Where do we start?

Costs have fallen by 90%, but how does this compare with hydroelectricity costs?

Luis Calzado: Bear in mind that it takes an average of 20 years to deploy a hydroelectric project. Moreover, the prices currently displayed for hydroelectric projects reflect projects built 20 years ago.

Solar technology is currently the most widely deployed technology in the world. I'm talking about huge projects of over 50 megawatts. If we look at the current call for bids, the projects are less than 20 megawatts. So we can't yet achieve economies of scale.

Solar technology hasn't yet been used to its full potential. The idea in Quebec is to take this technology and deploy it on a larger scale.

Gaétan Malette: Thank you.

We hear a great deal about increasing production. As part of this strategy, how do you see the transportation of this production?

Luis Calzado: This is essential for deploying renewable energy. As you know, the areas where our association and the members we represent can deploy projects are areas where there is potential for interconnecting these projects.

For years, there has been a challenge in interconnecting these projects. That is why, in my speech, I said that Hydro-Québec's decision to strengthen its transmission grid and build an additional 5,000 kilometres of transmission lines could help with the deployment of renewable energy in Quebec.

When I speak of renewable energy, I mean, of course, wind and solar power.

Gaétan Malette: Thank you.

Mr. Tremblay, you are a specialist in smart energy management solutions, particularly when it comes to optimizing electricity consumption. What is also important is optimizing electricity production. It is certainly necessary to increase production.

Regarding the industries you assist, can you tell us, without revealing any trade secrets, how much certain factories can save using your products and the solutions you provide them?

Martin Tremblay: As I said, kilowatt management is something that few people know about. We often monitor kilowatt-hours, but rarely the kilowatt—the instantaneous power calculated by our producers over a 15-minute period. Billing is based on the worst 15 minutes of the month. This billed kilowatt amount represents, on average, 50% of an industrial sector's bill.

With installed storage capacity and the use of artificial intelligence for equipment control, I would say we can reduce this billed kilowatt portion by up to 30%. That is the case when we effectively integrate process control and storage into kilowatt management.

[*English*]

The Chair: We'll go to Ms. McKelvie for six minutes.

[*Translation*]

Jennifer McKelvie (Ajax, Lib.): Thank you, Mr. Chair.

Mr. Calzado, is doubling the capacity of Canada's energy grid by 2050 an ambitious goal?

Luis Calzado: It is ambitious, but at the same time, it is necessary. It will allow us to develop more renewable energy projects. As I said in my speech, we are not yet utilizing the full potential of renewable energy in Quebec, whether it be wind or solar energy. We need Quebec's and Canada's transmission and distribution networks to ensure the deployment of these renewable energy sources.

Jennifer McKelvie: In your opinion, which renewable energy source has the greatest potential for ensuring energy sovereignty in Quebec?

[*English*]

Luis Calzado: In Quebec, we have started developing wind energy. It's a renewable energy source that has, as I indicated, 4,000 megawatts already in operation. We're going to double that by 2029. We're starting solar energy. Again, we would like it to be at a faster pace, because it can be deployed faster than wind energy. With wind energy, the average time to deploy it is six years. For solar energy, it is three years, and for hydro it is 20 years. When we look at energy transition, solar energy could be a way to help us deploy renewable energy in Quebec and also to bring new sectors here.

As Mr. Tremblay indicated, there is a lot of demand for energy here in Quebec. The idea is for the members I represent to bring this renewable energy to Quebec.

● (1225)

Jennifer McKelvie: What investments are needed around training and workforce development to really ensure that we're ready for the transition to clean energy? Are there any real shortages in personnel that are out there that we should be actively working on?

Luis Calzado: Of course. As I indicated in my speech, deploying renewable energies will create jobs during the deployment of the technology. We have a study, which we can submit to the committee, where we have listed the number of jobs that will be created, not just for the deployment of renewable energy but also on how this energy will be able to bring in new sectors that will create new jobs here in the province.

[*Translation*]

Jennifer McKelvie: Thank you.

Mr. Tremblay, what are the obstacles to energy storage, and how can we overcome them?

Martin Tremblay: Of course, this is a new technology. Among the obstacles to energy storage are regulations regarding coordination with the grid. Naturally, this technology is considered self-generation, both for wind and solar energy. Even if we draw our energy from the grid, it is considered self-generation. Of course, grid regulations are very strict, and they may still be poorly understood. They are also ill prepared for the arrival of behind-the-metre energy storage for industry.

The fact remains that installing energy storage on the industrial side is a very complicated process. These regulations could be relaxed to ensure that the implementation of energy storage on the industrial side is made easier and faster.

[*English*]

The Chair: Thank you, Ms. McKelvie.

[*Translation*]

Mr. Simard, you have the floor for six minutes.

Mario Simard: Thank you very much, Mr. Chair.

Mr. Tremblay, you know that I have been an admirer of yours ever since I visited your facilities. Every member here has met someone who wants to propose an industrial project and who is inevitably told, particularly in Quebec, that without a power supply, it will be difficult to receive government support because the project will be undermined. You therefore offer a solution to this kind of problem. Furthermore, you are part of an industrial cluster, a value chain, that is taking shape and that we want to see established in the hydroelectric sector.

I'll stop showering you with praise and start asking you questions. It would be important for us to understand the principle—or the challenge—of managing electrical power. You won't be able to answer me in five minutes, but it would be important to provide documents to our analysts so that we can include a section in our report addressing this challenge—one we too often overlook—in order to explain what the challenge of managing electrical power entails.

I'll give an example you've already provided me with: an industrial project in Quebec that required more than five megawatts, for which you managed to reduce consumption below the established level. Consequently, there was no need to request the purchase of a power block from Hydro-Québec, and the project was able to move forward thanks to the storage system you provided to the project developer.

I'd like you to tell us about some specific applications that can work in the industrial sector, but that I believe can also work in the military sector. You also participated in the CANSEC 2026 trade show last week.

As for the mining sector in the north, you may offer applications that could meet the needs of remote northern communities. Can you tell us about the systems you sell that could address such needs?

● (1230)

Martin Tremblay: Thank you for the flowers, Mr. Simard. I was hoping the pot would not follow. Thank you.

Mario Simard: [*Inaudible*]

Martin Tremblay: You are quite right; IDEA Contrôle worked on a new plant project that initially required a power capacity of over five megawatts. The project developer therefore had to automatically respond to a government call for bids in order to be granted this power capacity.

Often, the utility limits us to the substation. It is therefore important to control the power at this substation.

Today, we are in the process of building the plant, which has energy storage that limits power demand to less than five megawatts. The power initially requested was, however, greater than this amount of energy. We therefore shortened the construction timeline for this plant by providing it with the power capacity it needed within six months. Otherwise, it would have had to wait two years before receiving authorization to acquire the Hydro-Québec power block.

Off grid, energy storage effectively stabilizes stand-alone grids through better generator management. Fuel oil consumption for a generator in an isolated grid in the north can be reduced by 20% to 25% simply by implementing a strategy to optimize the generator's production capacity. Therefore, if diesel consumption decreases by 20% to 25%, this reduces the frequency of transport by 25 times, among other benefits. The logistics required to transport this energy to the north are also reduced.

Batteries are a very good complement to all technologies, even those Mr. Calzado mentioned in the wind and solar energy sectors. For solar energy, we must not forget that, due to clouds, the weather is not always sunny. Of all the renewable energy sources that provide stability, batteries come out on top, both for the power grid and in the industrial sector.

Mario Simard: Regarding government support, the products you offer are eligible for the federal government's 30% tax credit.

Are there any other measures that would be beneficial and that the federal government could implement to facilitate the deployment of the type of solutions you offer?

Martin Tremblay: When we receive a response to a grant application, one of the key concerns is often whether the client is aware of energy-related issues. Federal grant programs allow us to receive a 30% tax credit for an electrical energy storage project, but we believe this percentage is insufficient.

We agree that the client benefits significantly from the energy storage strategy and that the client should pay a portion of the cost. However, if I compare this to the 250-megawatt battery storage system installation project in Ontario that I mentioned earlier, we're talking about a cost of $2,400 per kilowatt installed for daily peak management. This covers a four-hour period each day. The subsidy we currently receive is approximately $500 per kilowatt. That leaves $1,500, which the customer must pay to install a battery on the customer side of the meter. What I am suggesting is to increase the subsidy to $1,000 per kilowatt on the industrial side, which is 50%.

The Chair: Thank you, Mr. Simard.

[*English*]

We will now move on to our second round, colleagues.

We're going to start with Mr. Baber for five minutes.

Roman Baber (York Centre, CPC): Thank you, Chair.

Welcome, Mr. Tremblay.

[*Translation*]

Martin Tremblay: Thank you.

[*English*]

Roman Baber: I have a basic question for you.

Do you think that the Liberal industrial carbon tax increases or decreases the price of electricity?

[*Translation*]

Martin Tremblay: It is true that in Quebec, we have hydroelectricity, which means that the cost of electricity does not necessarily change. However, when the strategy is to promote the use of fossil fuels, of course, I expect the price of electricity to rise.

● (1235)

[*English*]

Roman Baber: Mr. Tremblay, you're in the energy business. I'm not just talking about Quebec manufacturers, but manufacturers that rely on, for instance, natural gas to provide electricity.

Would their price of production be increased or decreased by virtue of the industrial carbon tax?

[*Translation*]

Martin Tremblay: I hope I understood your question correctly, Mr. Baber.

If the cost of electricity is well balanced with fossil fuel consumption, I don't think the cost of electricity would increase.

[*English*]

Roman Baber: I'm not sure I understood your answer, but my clear question was—

[*Translation*]

Martin Tremblay: Could you repeat your question?

[*English*]

Roman Baber: Does the industrial carbon tax, generally applied, increase or decrease the price of electricity?

[*Translation*]

Martin Tremblay: As I said, I do not believe that the cost of electricity associated with hydroelectric dam systems will increase.

However, if we have power generation from fossil fuels, as in other provinces, this tax will apply to the use of fossil fuels for electricity generation. I therefore expect the tax to increase the cost of electricity.

[*English*]

Roman Baber: That's, for instance, for natural gas power producers. Is that right?

[*Translation*]

Martin Tremblay: Currently, yes.

[*English*]

Roman Baber: Over the last decade, electricity prices have gone up 35% under the Liberals.

Could you please give us an idea as to why you think that is?

[*Translation*]

Martin Tremblay: I would say that in Quebec, at present, our legacy of hydroelectric dams built in the 1960s and 1970s has always allowed us to have very low electricity costs. Of course, these dams need to be renovated and optimized. I don't think this is a political issue. It's a matter of maintaining our dams.

Of course, all electricity is now produced at a higher cost than it was with our first dams built in James Bay. There has been an adjustment to keep the system efficient in Quebec. I do not believe that political factors have led to an increase in the cost of electricity in Quebec.

[*English*]

Roman Baber: I submit to you respectfully that the industrial carbon tax factors into this. The Liberal government made history in that it's now the first government ever to preside over a Canadian electricity shortfall. In 2024, for the first time on record, Canada could not produce enough electricity for its own.... Instead, we had to import electricity from the United States just to keep the lights on.

Could you please talk about government policy that could contribute to the fact that we now have a shortfall?

[*Translation*]

Martin Tremblay: It is important to understand that this peak in electricity consumption on the grid occurs over a two-hour period. Therefore, this peak does not represent regular electricity usage.

Let me give you an example. In Quebec, we are talking about an average power usage of 22 megawatts during the summer in terms of consumption. We have a production level of 43 megawatts. In winter, we're talking about power usage of about 35 megawatts. I remind you that we have a production level of 43 megawatts. I believe we really need to manage instantaneous power demands in order to free up this power for use.

● (1240)

The Chair: Thank you, Mr. Tremblay.

[*English*]

We move on to Mr. Saini for five minutes.

Gurbux Saini (Fleetwood—Port Kells, Lib.): Thank you, Mr. Chair. Thank you to the witnesses.

On the question that my colleague, Roman Baber, put about importing electricity from the U.S., I thought we were exporting more through Quebec and Ontario. Could you tell me, on a net basis, if we are importers or exporters of energy from the U.S.?

[*Translation*]

Martin Tremblay: Is the question for me, Mr. Saini?

[*English*]

Gurbux Saini: Yes, it's for you.

[*Translation*]

Martin Tremblay: As I mentioned earlier, we have a production capacity of 40,000 megawatts in Quebec. In the summer, we use approximately 22,000 megawatts of that capacity. So, yes, there is room for exports during the summer months and between seasons.

During the winter, we occasionally approach the production ceiling. So, to meet power demand in Quebec, we purchase electricity. To answer your question, we buy, but we also sell electricity to our neighbours.

[*English*]

Gurbux Saini: Mr. Calzado, currently, under major projects, there is a transmission line, the northwest transmission line, which is going to link British Columbia and Alberta.

Could those types of interties and interprovincial transmission lines strengthen Canada's renewal energy development?

Luis Calzado: The jurisdiction where the association, AQPER, works is Quebec. To your question, yes, as I said in my opening speech, the additional transmission lines will help us to deploy more renewable energies. It will provide new points of interconnection where we can deploy renewable energies—maybe solar and maybe wind.

Gurbux Saini: Do you view the clean technology investment tax credit as helpful for the development of renewable energy? Also, do you support this expansion to high-voltage interprovincial lines?

Luis Calzado: The idea is to have all the tools to be able to deploy renewable energies, so if you will help us to deploy or interconnect the projects, then why not? Again, it's a decision that should be taken from the government side. From the side of the producers, what we want to have is additional points of interconnection, and if these points can be deployed as fast as possible, then it will give us additional possibilities to be able to deploy renewables.

Gurbux Saini: Can you describe the economics of the renewable energy opportunity in Canada and Quebec?

Luis Calzado: As Mr. Tremblay was indicating, here in Quebec we've been deploying hydro power potential for several years. We haven't used the full potential of wind energy. We started 20 years ago with it. So far, we only have 4,000 megawatts. Now we have ambitious targets to deploy additional wind energy. That's one start.

Regarding solar energy, we have targets. We're starting slowly. I think we should be more ambitious. There are a lot of energy resources that can be used in the energy transition, but we shouldn't just look at it as an energy transition. It could also help our economy.

As I indicated, we developed a study that estimates how many jobs have been created from the 4,000 megawatts in operation, and how many jobs will be created from the 4,000 megawatts that will have to be deployed by 2029 and the 11,000 megawatts that we have in our timeline here in Quebec for 2035.

Hence, it's also an economic option and incentive for the province, and it can help us bring new sectors here to Quebec and to Canada.

● (1245)

The Chair: Thank you both.

Now we have Monsieur Simard for two and a half minutes.

[*Translation*]

Mario Simard: Thank you very much, Mr. Chair.

Mr. Tremblay, we'll need to clarify the issue of electrical power management. With the analysts' support, we may send you a few questions, because I'd like to see this included in the report. It's a blind spot that isn't usually addressed when we talk about electrification.

I'm addressing both you, Mr. Calzado, and you, Mr. Tremblay. In response to one of my questions, you mentioned the possibility of extending the tax credit to 50%. There is another tool that might be worth considering.

In the latest budget, the federal government provided for accelerated depreciation for gas infrastructure. This means that, in the first three years, you can already depreciate 100% of the costs of the infrastructure you purchase.

If this measure were extended to electricity generation and related technologies, would that, in your view, Mr. Tremblay, allow you to sell your technology and, in the case of AQPER, enable your members to develop more projects?

What if we had the same structure as the gas sector in terms of accelerated depreciation?

Martin Tremblay: I can begin, Mr. Calzado.

Of course, yes, that could be an incentive for certain companies, which could benefit from this tax break in the first year. I believe that would be a step in the right direction for the industrial market.

Luis Calzado: It's the same for us.

You know, developing projects means making investments that must pay off for independent producers. This measure would allow those investments to be used for other projects that utilize different technologies.

The Chair: Thank you.

Mr. Malette, you have the floor for five minutes.

Gaétan Malette: Thank you.

Mr. Calzado, your expertise covers initiatives in clean energy, energy storage, sustainable production and electrification. Energy transmission is part of your areas of expertise.

Based on your experience, can you tell me whether, when electricity is transmitted to regions such as Quebec or northern Ontario—where it travels 300, 400 or even 500 km—there is an energy loss during that transmission? Can you give us the percentage of megawatts lost?

Luis Calzado: Yes, there are losses. However, certain technologies will allow us to get closer to the load. Solar power, for example, is a technology that can be installed near a point of consumption. So, if there is less distance to travel, there are fewer losses. That is why, in my speech, I said that we must use all technologies—that is, technologies that can also reduce these losses, including solar power.

Gaétan Malette: In the case of hydroelectricity, what would the loss be, as a percentage?

There is a way to improve this. Often, trying to save energy is even easier than creating new production capacity.

● (1250)

Luis Calzado: I can't give you an exact figure, but I could look it up in my files. As I said, the idea for us, as producers, is to ensure we can roll out projects where interconnection points will allow us to do so. To do that, we need networks that are either expanded or reinforced. If they are reinforced near the load, then we will be able to develop these projects.

However, there is one important point here: all projects must be developed in collaboration with the host communities. These partnerships are formed between producers and host communities. The goal here is not only to develop production projects; the communities hosting these projects must also be able to benefit from them through financial compensation.

Gaétan Malette: Thank you.

Regarding the transmission of hydroelectricity, are there any studies on ways to conserve this energy?

If you cannot answer now, could you provide the committee with information on the transmission of hydroelectricity over long distances?

Luis Calzado: Of course, I will send that to you.

Gaétan Malette: Thank you.

They say we need to increase production. I come from a region in northern Ontario, home to cities like Cochrane, Hearst, Chapleau and Timmins. We are major energy consumers due to our world-class sawmills, plywood mills and mines.

How can we adapt our energy management strategies to better serve these energy-dependent communities?

What can we do for the future?

Several mines are set to open in the next four or five years.

Martin Tremblay: I'll give you an example.

Of course, peak load management is always an asset for reducing the impact of these industries on your region's power grid. Let me give you an example, specifically, in a region of Quebec where there were two decarbonization projects. However, the substation lacked the capacity at that time to handle both projects simultaneously. So, we proposed strategies to the utilities, including energy storage. We were able to carry out both decarbonization projects, even though they added to the electrical load. It exceeded the power the substation could supply. By installing a battery inside one of the plants to balance its power demand and to coordinate the two plants with a substation that had limited capacity, we still managed to get the project approved.

So, peak power demand doesn't occur over long periods. It occurs during short periods. I would even say that there could be a meeting of these industries to protect the substation, rather than the industry itself.

Some mining regions are actually considering helping the grid by installing a storage system so that their plants have less impact on the local substation.

The Chair: Thank you, Mr. Malette.

[*English*]

Mr. Gasparro will wrap up the second panel for five minutes, please.

Vince Gasparro (Eglinton—Lawrence, Lib.): Thank you, Mr. Chair.

Thank you, Mr. Calzado and Mr. Tremblay, for joining us today.

I'd like to focus on the investment tax credit regime here in Canada.

Mr. Calzado, specifically for you—and you know this quite well—Canada's clean energy investment tax credit regime is one of the most robust in the G7.

For people watching at home, the investment tax credit regime is a refundable tax credit ranging from 15% to 60% of all capital costs when it comes to renewable energy projects as well as for cleantech manufacturing. The purpose is to rapidly accelerate the deployment of private sector capital to try to build out renewable energy projects by lowering the upfront capital costs for developers and manufacturers.

Mr. Calzado, can you please talk about how important the investment tax credit regime is to try to accelerate that private sector deployment of capital to build out renewable energy projects?

● (1255)

Luis Calzado: It is important, because it facilitates finding the capital that will help us deploy renewable energy. As I indicated, projects here in Quebec are developing partnerships not just with the companies that will bring the technology but also with the local communities.

Here in Quebec, we would like the full tax credits to be given to the companies that deploy these projects. It would facilitate our finding financing.

At the end of the day, the idea is to be able to deploy energy as fast as possible. It's a good initiative from the government, but as I indicated, it would be ideal if it were to fully go to the independent power producers that are bringing the technology. Then they would be able, later on, to invest the remaining capital they may have into other renewable energy projects and help us with the energy transition.

Vince Gasparro: I'm a recovering investment banker. This might be outside your area of expertise, but I know you spent a lot of time in public-private partnerships.

When I was competing for business to finance renewable energy projects, my counterparts in the United States were financing the investment tax credits specifically, whereas here in Canada, I think, financial institutions at the time were more reluctant to do so.

Do you want to comment on the need for greater financial innovation and for pushing the envelope a little further within our financial institutions?

Luis Calzado: The idea is for us, as much as possible, to find ways to help with financing, not just for companies that will bring the technology but also for local communities that will come into partnerships with technology providers. At the end of the day, these models are the ones we want to replicate, where there's involvement from local communities.

Again, from their side, if they're able to find ways to finance their entering into these partnerships, then it facilitates not just the deployment of the project but also the ownership by these communities in being able to support the technology and provide good stories that can be replicated in other locations. It helps a lot with social acceptability.

Vince Gasparro: I want to focus one final question around your experience with public-private partnerships. I'm assuming you're a believer in that model.

What else do you think we can do as a government to encourage that public-private partnership model?

Luis Calzado: We have great examples of public-private partnerships that have been deployed here in Quebec. As indicated, we have new tenders that have come into play, where Hydro-Québec is entering into partnerships to deploy, for example, wind energy projects like Des Neiges, and where Hydro-Quebec is getting into partnerships with some of the members I represent, such as Innergex and Boralex.

The idea is that the private and public sectors get involved. It also helps Hydro-Québec to achieve its objectives of deploying renewable energy here in Quebec. How does this help our economy? It will create jobs, and it will eventually bring in new sectors that will consume this clean energy.

The Chair: Thank you both. That is a good place to end.

Colleagues, let me, on your behalf, thank our witnesses.

You made great presentations, and we had good exchanges with you.

We've heard some different perspectives from the east and the west, but it's been a very productive meeting.

Again, on your behalf, I will thank our witnesses and let them know that we're happy to receive additional information or briefs, as was suggested by a number of my colleagues. We benefit from receiving those. Do send us additional material.

With that, colleagues, we are adjourned.