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Chair

Mr. James Maloney

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● (1150)

[*English*]

The Chair (Mr. James Maloney (Etobicoke—Lakeshore, Lib.)): Good morning, everybody. We're off to a bit of a late start.

Apologies to our witnesses. We had a vote this morning, which pulled us away to the House of Commons. We're grateful for your hanging in there and displaying the patience to attend today.

Here's what we're going to do. We had two one-hour segments, and we're now going to consolidate them and do all four witnesses consecutively.

Here with us, right now, we have Sheila Hayter and Darryl Boyce from the American Society of Heating, Refrigerating and Air-Conditioning Engineers. We also have Paul Cheliak from the Canadian Gas Association.

We also have two witnesses who will be joining us shortly by video conference.

The process is that each witness group will be given up to 10 minutes to make its presentation, and once all four witnesses have completed....

You know what? I'm going to wait.

Good morning, can you hear us and see us okay? Whom do we have there?

Ms. Jocelyn Bamford (Vice-President of Automatic Coating Limited, Founder, Coalition of Concerned Manufacturers and Businesses of Ontario): I'm Jocelyn Bamford from the Coalition of Concerned Manufacturers and Businesses of Ontario.

Ms. Gabriella Kalapos (Executive Director, Clean Air Partnership): I'm Gabriella Kalapos from the Clean Air Partnership.

The Chair: Okay, thank you very much for joining us. I was just explaining the procedure for the meeting.

We have two groups here, and we have two witnesses by video conference. Each set of witnesses is given up to 10 minutes to make a presentation, and then we'll open the floor to questions from around the table.

Ms. Hayter and Mr. Boyce, why don't you start us off?

Ms. Sheila Hayter (President, American Society of Heating, Refrigerating and Air-Conditioning Engineers): Thank you.

Mr. Chair, vice-chairs and members of the committee, thank you for the opportunity to provide testimony today.

I am Sheila Hayter, President of ASHRAE, which was founded in 1894 and is a global society advancing human well-being through sustainable technology for the built environment. The society and its more than 56,000 members worldwide focus on building systems, energy efficiency, indoor air quality, refrigeration and sustainability. ASHRAE has about 6,000 members in Canada, and over 10% of our board members are Canadian, including Darryl Boyce, whom you will be hearing from later this morning.

ASHRAE is well known for our hundreds of standards and guidelines that improve the performance of building systems. ASHRAE provides training and professional development through in-person and online courses and validates and recognizes professional expertise through six certification programs.

I am excited that this esteemed committee is interested in studying the economic opportunities for energy efficiency in Canada and its contributions to Canada's climate commitments. With about 28% of Canada's greenhouse gas emissions being attributed to residential and commercial building operations, ASHRAE's technical expertise can be useful in meeting your objectives.

I understand that you have already heard from organizations focusing on the economics of energy efficiency, and from utilities and those focused on energy generation and delivery.

As ASHRAE is a society of professionals with technical expertise, ASHRAE's testimony will focus on the technical tools, standards and guidelines that can help government and the private sector deliver on energy efficiency and building performance.

Importantly, ASHRAE's standards are voluntary, accredited by ANSI and developed through a consensus-based process through the participation of any and all interested and affected stakeholders, including manufacturers, users, and representatives of the government and academia. ASHRAE also serves in the role of international secretariat for several ISO technical committees to help ensure that ASHRAE standards are represented on the international stage.

Many of ASHRAE's standards are adopted into building codes, including those concerning energy efficiency and high-performance green buildings. ASHRAE's flagship standard, standard 90.1, which establishes minimum requirements for energy-efficient design of most buildings, is an indispensable reference for engineers and other professionals involved in the design of buildings and building systems. Standard 90.1 has been a benchmark for commercial energy consumption and energy codes in the United States and a key basis for codes and standards around the world for more than 35 years.

For communities wanting to achieve even better energy efficiency levels, ASHRAE has teamed up with the International Code Council, the Illuminating Engineering Society and the U.S. Green Building Council to publish the 2018 International Green Construction Code, powered by ASHRAE 189.1.

We understand that Canada has set even higher standards for itself in establishing a milestone to create a nationwide net-zero energy building code by 2030. ASHRAE is reviewing its existing portfolio of standards to determine the best way to create a net-zero building standard, and we would be happy to share our expertise in this regard.

ASHRAE has also partnered with AIA, IES, and USGBC and, with support from the U.S. Department of Energy, we published a series of advanced energy design guides that provide a cost-effective approach to achieving advanced levels of energy savings using readily available technology. The newest guide in the series provides recommendations needed for achieving zero-energy buildings. We respectfully request that the committee accept copies of these guides as a brief for the committee record.

While building standards and codes can tackle emissions for new construction, most of the building environment already is in place today. Evaluating, assessing and then retrofitting buildings to improve energy performance is where Canada can make even greater progress toward its energy and climate commitments.

Darryl Boyce, president-elect of ASHRAE, knows buildings very well. He knows how to operate them, how to fix them and how to ensure optimal performance. As head of facilities at Carleton University, Darryl was responsible for over 50 buildings encompassing 450,000 square metres of building space, including labs, residential space and administrative operations.

● (1155)

I'm going to let Darryl talk about some of the tools ASHRAE has developed to improve energy performance in a cost-effective manner.

Mr. Darryl Boyce (President-Elect, American Society of Heating, Refrigerating and Air-Conditioning Engineers): Thank you, Sheila.

Optimizing the performance of Canada's existing buildings is key to meeting Canada's energy and climate commitments. Investments in these buildings can also generate solid economic benefits for those who own, operate, live and work in these buildings. The Pembina Institute has found that every $1 million invested in energy efficiency results in $3 million to $4 million in economic growth. That's real return on investment.

Here's how ASHRAE can help.

ASHRAE recently revised standard 100, “Energy Efficiency in Existing Buildings", which sets criteria through reducing energy consumption to improve energy efficiency and performance.

ASHRAE has also recently published standard 211, an energy audit standard, which should be helpful to municipalities that have started to include energy audit requirements in conjunction with their benchmarking regulations.

Another tool ASHRAE has developed to improve the energy performance of existing buildings is ASHRAE's building EQ. Building EQ is a building energy rating program that provides both an operational and an asset rating to assess a building's energy performance. Beyond providing a score, building EQ can help you improve your building's energy performance once you have done the benchmarking. We are using building EQ at Carleton University to improve our energy performance, improve the indoor environment and save money. This has resulted in energy savings of about 20%.

We must also focus on building operations. As buildings have become increasingly complex, we need to ensure that designs respond to effective building operations and that the operator is effectively trained to get real value from energy-efficient design, without compromising the indoor environment.

So-called smart buildings are another area where ASHRAE has developed tools to optimize building performance. ASHRAE's standard 135 defines data communication service protocols for information technology used to monitor building systems and to ensure that all building automation systems can talk to one another. Ensuring that these data protocols are in place will help buildings actually realize the energy savings as designed.

I'm now going to hand the microphone back to Sheila, who will speak on how buildings' integration with the electric grid can help deliver even greater energy efficiency benefits and cost savings.

Ms. Sheila Hayter: As you know, our building and energy infrastructure is rapidly changing. We are moving to smart buildings, smart cars and a smart grid. This integration and communication presents tremendous opportunity for energy cost savings.

As a leader in the buildings industry, ASHRAE wants to ensure that its expertise is employed as policies are developed in defining the relationship between buildings and the smart grid. Building systems will be able to exchange information with electricity providers, other buildings and transportation systems. As well, building systems will receive data to inform system operation and performance. Microgrids, distributed energy resources and energy storage systems will be an important part of this new energy future.

Of course, this interconnected system must be implemented in ways that still ensure the safety, security and privacy of building occupants and their information.

ASHRAE has developed standard 201, “Facility Smart Grid Information Model”, which provides a common basis for electrical energy consumers to describe, manage and communicate about electricity consumption and forecasts.

As Canada moves to a smart grid, ASHRAE welcomes the opportunity to share its technical expertise to ensure that this transition is done effectively and efficiently, and to assist in providing the tools, resources and knowledge to ensure proper operation of buildings in this new paradigm.

Thank you again for giving us the opportunity to testify before this committee. We would be happy to provide more details on any of the issues we have discussed, and we would be happy to take questions.

Thank you.

● (1200)

The Chair: Thank you very much.

Paul, we'll move over to you.

Mr. Paul Cheliak (Vice-President, Public and Regulatory Affairs, Canadian Gas Association): Good morning.

Thank you for the opportunity to present on the role of natural gas utilities in delivering energy efficiency in Canada. My name is Paul Cheliak. I'm the Vice-President of Public and Regulatory Affairs with the Canadian Gas Association.

My remarks today will focus on three areas: the role of Canada's natural gas utilities in delivering energy efficiency programs, the need for enhanced public-private collaboration, and recommendations for the committee to realize Canada's natural gas energy efficiency potential.

By way of background, the Canadian Gas Association is the voice of Canada's natural gas delivery industry. Our members are gas distribution and transmission companies, manufacturers and energy service entities. Today, more than 20 million Canadians rely on and benefit from affordable and clean natural gas for their energy needs. In 2017, natural gas met 34% of Canada's energy needs. This compares to 20% met by electricity, 40% met by oil, and 6% met by other fuels.

The National Energy Board, in its November 2018 supply and demand report, forecasts that by 2030 natural gas will surpass oil as the single largest fuel for the country's energy needs. With this future, while a bright one, the natural gas industry is committed to promoting and advancing the efficient use of our product.

As historical context, for over 20 years natural gas utilities have been delivering energy efficiency programs to Canadians, and the reason for this is simple: A customer who has a lower utility bill is, frankly, a happier customer. Utility programs consist of incentives to support consumer investments in more efficient equipment, home energy audits, building retrofits, and education and awareness.

The results are significant. As of 2017, natural gas utilities invested over $1 billion in their energy efficiency programs, saving consumers $1.5 billion in natural gas costs. At the same time, these same programs have reduced Canada's cumulative greenhouse gas emissions by 60 megatonnes since 1995.

In looking to 2030 and beyond, we know that more can be done on energy efficiency. We trust that the report you're looking at will examine these measures. In fact, over the last 12 months we've been working closely with Natural Resources Canada on developing road maps for long-term space and water heating regulations in Canada. This important work must be done in order to transform energy use markets to higher efficiency.

Further, in 2016 CGA commissioned ICF International to quantify the emissions reduction potential from natural gas efficiency programs across Canada. That study, available on our website, points to an untapped 12 megatonnes of GHG emission reduction potential. We know that in order to realize that 12 megatonnes, we must innovate. We must innovate in the way we heat our homes and our businesses, and in the ways our industries use energy.

In response to this need, CGA and its gas utilities created the natural gas innovation fund in October 2016. NGIF was created to respond to a need by industry to collaborate, co-fund and commit over the long term to support clean tech innovation in natural gas. To date, NGIF has supported 14 projects, approved $8 million in utility funding and leveraged $70 million in outside capital. In many cases, we are collaborating with government in making these investments in Canadian clean tech companies.

Through our experience to date, we can already see that the future of technology development and energy efficiency in Canada will require partnership between public and private entities. Let me share with the committee a brief example of a partnership we're working on right now with Natural Resources Canada. Through our utilities, we've been working on a program called LEEP, local energy efficiency partnerships. What's innovative about LEEP is that it brings together in a room manufacturers, homebuilders, gas utilities and equipment providers to focus on what technologies are needed to meet the homes of the future in Canada. Learnings are shared among the partners and the results are real. From our perspective, it is this collaborative nature that LEEP brings to the table that will increasingly be needed in the future.

If I may, I'll conclude my remarks with some recommendations for the committee.

First, leverage natural gas utility funding and expertise. Currently, Canadian utilities are investing $250 million per year in their energy efficiency programs. These are funds that are on the table and can be leveraged by government. You may recall that one of the most successful energy efficiency programs in Canada was the home energy retrofit program, which brought together government and utility funding to help homeowners improve the way they use energy. Programs like this deserve revisiting. Further, the federal government should expand funding for programs like LEEP to extend it beyond just the residential sector and into the commercial building space.

● (1205)

Second, chart a cost-effective long-term path for energy efficiency in Canada. As we look to implement the pan-Canadian framework, things like long-term road maps for space heating are important measures, just as new equipment regulations and net-zero homes are important things for Canada. However, they must be recognized under their impacts of cost to consumers. Further, to be effective, any road map or strategy must be followed by policy support, including program funding, education and awareness, and codes and standards development.

Third, over the years federal energy funding has been disproportionally weighted toward energy supply and the associated technologies that produce energy: renewable electricity, biofuels, etc. More can and should be done on the demand side, especially with natural gas. We recommend a federal fund to support gas technologies that meet the criteria of our natural gas innovation fund and the federal government alike. Finally, we recommend greater funding support for federal laboratories like CanmetENERGY and the National Research Council to further their important work on natural gas technology.

In conclusion, the natural gas industry is positioned to support Canada's energy efficiency future. We bring to the table knowledge and consumer relationships that can be leveraged to benefit governments, industry and, most importantly, Canadian natural gas consumers.

Thank you.

The Chair: Thanks very much.

Ms. Bamford, why don't we move on to you?

Ms. Jocelyn Bamford: My name is Jocelyn Bamford. I represent the Coalition of Concerned Manufacturers and Businesses of Canada. We represent primarily small and medium-sized businesses in manufacturing and other areas.

We want to thank you for having us here today, because very often the voices of small and medium-sized business get lost in a lot of legislation that comes to pass. We are not competitive in Canada. We're not competitive for business. Our energy cost is not competitive. I pay between 18¢ and 21¢ per kilowatt-hour for my electricity. I could move my business to the United States and pay between four and six cents per kilowatt-hour.

This is just a cascade of effects. It's death by a thousand cuts. We are not competitive because there is going to be a price on carbon; we do not have tax reform; and we don't have accelerated capital depreciation. There are many other components that make us not competitive.

If we want businesses to grow and the economy to thrive, the only way to do that is to have more jobs and more people paying taxes. That's our way through economic prosperity.

Right now the biggest problem in our electricity, especially in Ontario, is the variability of cost. With a global adjustment, you can have a swing of $10,000 in one month. As people come off the grid with some of the technologies they're utilizing, that cost for global adjustment just goes up.

The cap-and-trade pricing that was on in Ontario wasn't borne by large emitters; it was borne by the small and medium-sized companies such as ours. Large emitters got credits. Small emitters couldn't participate in cap and trade. We just got to pay through increased natural gas pricing and diesel costs. This makes it uncompetitive for us to compete in areas where there isn't carbon pricing in place.

The fact of the matter is that Canada contributes 1.6% of greenhouse gases globally. If we burden the small and medium-sized companies with carrying this cost, we see four phenomena. We definitely have seen, in the last couple of years, these four phenomena come to pass. One, companies are going bankrupt. Two, companies are moving outright to the United States or other jurisdictions. Three, companies are staying here as a head office, but moving their growth to the United States, where they don't have the burdens of unaffordable energy. This is just as damaging. Plus, they have a lot of incentives to move there. The fourth phenomenon we're seeing is that companies have had enough and they are selling to large multinational companies. Then we are going to have an economy that's completely controlled by outside forces.

None of these four phenomena are good for Canada and the economy.

It behooves small and medium-sized businesses and manufacturing to reduce their energy cost. For us, it's our third-largest cost. Anything we can do to reduce that, we have done. If you look at our plant, you see that we invest over $1 million every year, most of which goes to trying to address energy efficiencies and run more efficiently to get our costs down.

We went to Queen's University to do a study on what we should do, keep our plant here or move it to the United States. They did a very in-depth study on a number of factors, and they recommended, in fact, that we move our growth to the United States. That's a very telling and concerning study, and one that we should heed.

What should we do about this? We have many solutions. The biggest problem is the Wild West of energy savings. We have people coming to our plant all the time, telling us that they can save $1 million on electricity. What you find is that the consultants also sell things. The gentleman who tells you how to reduce your electricity cost on the one hand, pulls out a card that he's selling solar panels on the other, or that he's selling combined heat and power. There's no support for small and medium-sized businesses on what solutions are actually legitimate.

● (1210)

I've heard a lot of stories about members in our coalition that have invested millions of dollars in the hope of getting out of energy policy, only to have their energy pricing go up. There is no support with regard to this new technology. There are a lot of unscrupulous spenders in this space, and there is no support or help for us to find what is an efficient, cost-effective, long-term solution.

In many cases, if people come off the grid and put in a combined heat and power unit, they will actually increase greenhouse gases. Similarly, if they move their business to the United States, to places that do not have energy as clean as we have in Ontario, they end up raising greenhouse gases. So, by putting in some of these burdens—carbon pricing, cap and trade—you actually drive companies out, and you drive greenhouses gases up.

What do we need to do? We also need better SR and ED credits. The SR and ED credit program is extremely difficult and has wound down in the last five years. We need accelerated depreciation for new capital, as they have in the States, or hyper-depreciation as they have in Germany. These things would allow companies to reinvest in new technology and help us reduce our energy costs.

We need pipelines. We need to get pipelines through this country, and we need to get them now. When a lot of companies were moving offshore, a lot of fabricators in Ontario retrenched into the oil and gas industry, and now that pipelines aren't going through, we have people out of work. We need to get our pipelines through.

You can have your natural resources in an environmentally friendly way. Our company is proof of that. We've developed and patented three pieces of technology that allow you to rehabilitate pipelines in an environmentally friendly way. This is technology that has come from Canada and can be exported globally.

We need to relook at Bill C-69 because we're concerned that there are going to be no major projects going through. That is going to negatively impact manufacturing across this country, but specifically in Ontario. A lot of people don't recognize that in Ontario, since the downturn in the economy, there is almost an equal number of companies in the resource sector as there is in the auto sector. We need to recognize the damage that Bill C-69 could do to some of the manufacturers in this province.

Exports need to be exempt from tariffs if they have carbon pricing on them. We need to make sure that we're playing on an even playing field because right now we can't compete.

● (1215)

The Chair: Thank you.

Now we have our last witness, Ms. Kalapos.

The floor is yours.

Ms. Gabriella Kalapos: Thank you.

Good afternoon, committee members, and thank you for the opportunity to address you today.

My name is Gabriella Kalapos, and I'm the Executive Director of the Clean Air Partnership. We're a charitable environmental organization that works with municipalities and their partners to help them become sustainable, resilient, vibrant communities where resources are used efficiently, the air is clean to breathe and greenhouse gas emissions are minimized. We achieve this mission through research and knowledge transfer, and by fostering collaboration among all orders of government, academia, NGOs and others as well.

The Clean Air Partnership is well positioned to speak to the economic opportunities for energy efficiency in Canada and its contributions to Canada's climate change commitments. While we've been delivering a broad range of programs and research related to greenhouse gas emissions, today I'd like to speak to the importance of a comprehensive home energy efficiency retrofit program to deliver on these commitments.

More specifically, I'd like to speak to the importance of local improvement charges, or LICs, as a possible financing mechanism and what the Government of Canada can do to increase the use of this financing mechanism.

LIC financing is enabled by provincial legislation that is used in Canadian municipalities. It has been used for decades, and mostly it has been used historically for block-level improvements like sidewalks, sewers and other types of infrastructure. More recently, we witnessed provinces enacting enabling legislation allowing for LICs at the single home level for energy efficiency improvements.

The LIC charge is associated with the property and not the owner, so if a home with a LIC is sold before the energy efficiency loan is fully recovered, the next owner continues paying the charge on a property tax bill until the full loan is recovered. This allows the costs and benefits of the energy efficiency improvement to stay and to be shared between current and future owners. Because some families cannot access financing at attractive rates, the LIC program removes up-front capital cost barriers that often impede energy efficiency retrofits. LIC financing also has the advantage of offering longer repayment time frames at fixed rates, making payments more affordable and allowing for greater equity in the home energy efficiency retrofit market.

Possible measures covered by LICs can include thermal envelope upgrades, HVAC systems, water efficiency and water quality upgrades, and renewable energy systems, as well as other measures such as climate change resilience and flood protection measures.

Supporting energy efficiency in all sectors is the cheapest and fastest way to ease energy demand and help offset the need for costly energy infrastructure development. As this committee understands, energy use in homes and buildings accounts for a significant portion of our greenhouse gas emissions. People who invest in home energy upgrades reduce their energy bills and protect against energy price increases. In fact, participating home owners in the federal eco-energy retrofit homes program saw an average energy savings of 20% after upgrades. These savings strengthen the local economy by creating local employment and spending.

Energy efficiency upgrades, especially in older housing, can significantly improve the quality of the local building stock, and LIC financing can fill a gap in public support for energy efficiency upgrades. Over time, the aim is to have program costs supported by the participants, not the general taxpayer, so the program moves towards paying for itself. Regulatory amendments permit the municipality to recover administrative, marketing and other program costs directly from participants on a pro rata basis. However, it does need to be kept in mind that allocating all the administrative costs to initial program set-up and delivery would undermine the business case for early adopters of such a program.

However, efficiencies of scale over time present a financially sustainable model for delivering such a program. Energy efficiency upgrades are labour-intensive and provide a significant economic stimulus when carried out on a large scale. The American Council for an Energy-Efficient Economy notes that in the construction industry there are about 20 jobs created per $1 million spent on energy upgrades, compared to half as many in power generation and distribution.

Many municipalities are considering creating their own energy efficiency programs to fill the gap left by the withdrawal of the provincial and federal governments from incentive-based programs. Building on this desire, since 2012 the Clean Air Partnership has been working with the CHEERIO program—collaboration on home energy efficiency retrofits in Ontario. Through our experience with the CHEERIO program, we have a keen understanding that the greenhouse gas reductions associated with LICs are only achieved when carried out at scale.

● (1220)

However, a number of barriers exist in Canada preventing the scale-up of LIC programs. There are three key areas where the Government of Canada could intervene to facilitate the rapid uptake of residential GHG reduction measures: The first is access to capital; the second is credit enhancements; and the third is addressing mortgage lender and insurer concerns.

With regard to access to capital, a key barrier associated with LIC program scale-up relates to the upfront capital required to finance the actions that will lead to significant energy and greenhouse gas savings over time. Until now, municipalities have largely considered programs that would rely on public funds to provide initial capital, which are limited and compete with other municipal needs. Municipalities must respect provincial requirements concerning debt load, where they can maintain specific maximum debt-to-revenue ratios.

There is a timely opportunity for the Government of Canada to provide capital to initial LIC programs, reducing the need for municipalities to find it in their own budgets or to qualify for third party lender programs. This would address the upfront capital cost barrier and achieve more significant greenhouse gas reduction in a manner that would, over the longer term, enable those public funds to leverage increased private capital.

On the issue of assisting in addressing mortgage lender concerns, not all LIC/PACE programs require mortgage lender consent. However, LIC programs where there is that requirement have found this to be a major stumbling block resulting in massive potential participant dropout. There are two areas of concern, those of the mortgage lenders—the banks themselves—and those of the mortgage insurers, such as CMHC.

Banks have concerns around threats to the liquidity of mortgages in secondary markets, potential for increased losses associated with mortgage defaults, and concerns around consumer protections.

The second area of concern is from mortgage insurers. The vast majority of Canadian mortgages are insured by the CMHC, and the CMHC has yet to issue a formal position on LIC programs, so homeowners with CMHC-insured mortgages are ineligible to participate in LICs where program design requires lender consent. Natural Resources Canada and the Government of Canada can mitigate some of the aspects of this barrier by leveraging their position to engage in discussions with CMHC and financial institutions.

Credit enhancement is another area where the government could play a key role in accelerating energy efficiency retrofit financing programs. For municipalities that are able to access capital for LIC program development, a second issue relates to the credit enhancement to de-risk the LIC. There is a very small but still possible financial risk to municipalities and/or financial entities providing mortgages for the property associated with the LIC mechanism. The financial risk relates to the loan repayments between the time when a property goes into default and the time when that property and the LIC are taken on by the new owner.

To address this unlikely but possible financial risk, loan loss reserves are currently provided to PACE programs in California, Vermont and other jurisdictions. For example, in California, in June 2014, the California Alternative Energy and Advanced Transportation Financing Authority enrolled eight PACE programs for a total of over 56,000 residential PACE financings valued at over $1.2 billion under the PACE loss reserve program. As of December 2017, they have not received any claims on the loss reserve.

The Government of Canada could create a loan loss reserve to backstop municipal LICs in the unlikely case of default. This provision of a loan loss reserve fund would go a long way toward de-risking the LIC for the municipality and would be instrumental in increasing LIC offerings from municipalities. It would also address financial concerns on the part of the financial institutions providing mortgages, as well as the insurers. It would also make securitized/bundled LIC loans appealing and secure investments from private financial institutions, thereby enabling public investments to be shared and transferred to the private sector, and it would provide a mechanism that would be able to recapitalize those public funds to be reinvested in energy efficiency. In addition, it would send the message to municipalities that Canada wants to help and support municipalities to provide LICs for a variety of energy efficiency programs.

While there are many areas where provinces and municipalities must work together to develop comprehensive home energy efficiency retrofit programs, these three key areas represent opportunities for the federal government to facilitate the development and rollout of these programs nationally.

Given how integral this work is to our mandate and to our greenhouse gas reduction goals, we would be happy to work with Canada, the provinces and Canadian municipalities to advance this mechanism and ensure a more sustainable future for all Canadians.

I am happy to answer any questions that you may have at this time.

● (1225)

The Chair: Thank you very much.

Mr. Hehr, you're going to start us off.

Hon. Kent Hehr (Calgary Centre, Lib.): Thank you very much, Mr. Chair.

I'd like to thank all the presenters for the information. It was very well delivered and well received.

I am very interested in hearing a little more about the LIC program and how it could be expanded by the federal government. You indicated three areas where we could play a role. Have you guys done some mapping and tracking to see how much this investment would cost the federal government, as well as how much more we could reduce GHGs? Is that information available?

Ms. Gabriella Kalapos: Yes. There are a number of programs from across the United States, and there's the Toronto home energy loan program. The Halifax Regional Municipality has a LIC out for solar as well. There are a number of examples where we can learn from other jurisdictions.

The financing component of the program isn't a very expensive thing for the government, because these are loans that are provided. The energy savings are what pays back the loans. There is no doubt that any incentives always increase uptake of the home energy retrofit programs. As you can imagine, no one really looks forward to home energy retrofits, or home renovations in the first place, so it often needs to be tacked onto existing renovations that homeowners are going to be doing anyway. At that point, increasing the energy efficiency opportunities through incentives and rebates always increases the uptake of these programs.

The financing component is one area, and it can be delivered in a relatively cost-effective manner because of the fact that it's a loan. Any incentives or rebates that are provided to homeowners will only increase the uptake.

Hon. Kent Hehr: Thank you very much.

I have a question for the American Society of Heating, Refrigerating and Air-Conditioning Engineers. You guys have been in business for a long time—over a hundred years. I thought that was very interesting.

We have looked at a pan-Canadian framework on clean growth and climate change, and acting on climate change will create economic opportunities and good jobs for Canadians.

Are your members on board with the movement towards putting a price on pollution? Do you guys see energy efficiency being promoted through this goal and the like?

Ms. Sheila Hayter: Everything ASHRAE does is focused on how to use energy more wisely in order to create built environments that are healthy, productive, safe and well for the occupants. Most of the time those occupants are people. Energy efficiency is a priority within that context.

Putting a price on emissions and comparing that to the benefits of efficiency is not an area ASHRAE has explored up to this point. ASHRAE is focused on finding solutions on the energy side. That's not to say ASHRAE won't take that up, but at this point it's not an area that ASHRAE has investigated yet.

Hon. Kent Hehr: Mr. Cheliak, you were going through the natural gas cycle. Are there roles the federal government could play to assist in enabling more people to use natural gas?

Mr. Paul Cheliak: Yes. In fact, we're actively working on proposals of that nature, such as the idea of bringing natural gas infrastructure to regions of Canada that don't currently have it, where those end-users might currently be using higher-emitting fuel. That could be heating oil, or it could be propane, or it could be diesel in remote communities. We're actively exploring that.

The federal government played a leadership role through Natural Resources Canada, both in the 1980s and in the 1990s, with various "off-oil" programs for home heating. We recommend the revisiting and resurrection of those types of programs, if appropriate.

Hon. Kent Hehr: We had them in the 1980s. When did they...?

● (1230)

Mr. Paul Cheliak: Most fiscal programs have a cycle of around four years. I believe most of those programs had a four-year duration. There have been subsequent funds through federal regional economic development agencies, principally in Quebec, to bring gas pipelines to regions such as Thetford Mines, Asbestos and other communities. That's been done through regional economic development funding agencies, which are an option. Typically the funding envelopes in those agencies are a little smaller than some of the previous programs the government had, but they are a fiscal lever and an option.

Hon. Kent Hehr: Okay.

My next question is for Darryl. Are there measures that should be considered by the federal, provincial and territorial governments to maximize the impact of energy efficiency for Canadian households and businesses?

Mr. Darryl Boyce: Yes, and it's very similar to what was presented earlier about the home incentives and low-interest or no-interest loans that could drive some activity in this area. I think the same thing applies to the commercial environment. If you want to generate greater activity in energy efficiency, incentives are really good. Actually, no-interest or very low-interest loans would also help in this area to generate interest.

We're at a point in the built environment where the bulk of the buildings that exist today need to be dealt with in some form of renewal. That renewal could actually be a real opportunity to improve the efficiency of the operations of those buildings, particularly in the commercial area.

I think there are some real opportunities to bridge that renewal investment with energy efficiency investments to come up with buildings that will operate more effectively for what's going on in the interior—for the people or the processes inside—while reducing the waste of energy.

Hon. Kent Hehr: Are you finding that consumers are looking more and more for this type of information in looking to create their living spaces, as well as their work environments? Are they really understanding the importance of this?

Mr. Darryl Boyce: I find that, particularly in the commercial and higher education institutional environment, the fact that we have buildings that are at a point where we need to renew major parts of that system gives us an opportunity to really stop and ask how we can make this a better environment and not waste the energy.

I do see that there's a lot more interest in that. It's kind of the one extra thing or the one extra opportunity that happens just on the basis of the age of the built environment that we're dealing with.

The Chair: Thanks. I'm going to have to stop you there.

Mr. Falk, go ahead.

Mr. Ted Falk (Provencher, CPC): Thank you, Mr. Chair.

Thank you to all of our witnesses for their testimony and presentations here this afternoon.

I won't have a chance to ask all of you questions, but I'd like to start with you, Mr. Cheliak. You mentioned in your presentation that, by 2030, you believe that natural gas will be the preferred energy supplier in Canada. Where do you see the biggest opportunities?

Mr. Paul Cheliak: Just to recap, the numbers and the point about its being the largest fuel are taken from the National Energy Board's 2018 forecast from November, so they're not our numbers.

In terms of opportunities, we use almost no natural gas in transportation in Canada today. There's a real opportunity to bring together electricity, natural gas, hydrogen and other fuels in sort of a low-carbon strategy for transportation in Canada.

With regard to heavy duty vehicles, locomotives, marine shipping, that's where the sweet spot for natural gas is; it's with the larger engines. With regard to smaller vehicles—passenger vehicles, etc.—that's really where electricity has a strong role. Both fuels are developing technologies in those alternative spaces, but predominantly the thinking is that the passenger vehicles and the smaller vehicles are electric. The larger-horsepower, higher-end vehicles move to natural gas.

Mr. Ted Falk: Okay.

For your industry to develop and to continue to grow, what do you see as some of the major obstacles that you're facing?

Mr. Paul Cheliak: We're a unique industry. We're a utility industry. We're regulated monopolies. There's only one company that builds the infrastructure down your road, either a wire or a pipeline. Because we're regulated monopolies, we have an important relationship with provincial economic regulators. Those regulators set out the rules by which our companies can make investments. Those rules are, by design, fairly stringent.

The way we've approached our investments, and the way our regulators have approached our investments, in low-emission technologies has been one of caution to ensure that the monopoly is doing things appropriately.

We're working closely with our regulators to kind of redefine what a utility does. What space does the utility play in, and what is the role of the utility in delivering future energy services to Canadians?

● (1235)

Mr. Ted Falk: How do you think Bill C-69 would impact that?

Mr. Paul Cheliak: We're provincial companies. We don't have a tremendous amount of cross-border or cross-province infrastructure. When gas utilities build infrastructure, they don't trigger federal environmental assessment processes, so our companies don't typically find themselves under federal environmental assessment review.

Certainly, the transmission, mining and other industries have a much more pronounced focus on this, and they would have a stronger position on that question.

Mr. Ted Falk: I think it's going to impact your industry more than you suspect. You're going to find that you bump up against that bit of regulation, and it's not going to be positive.

I'd like to ask Ms. Bamford a few questions. Your testimony was very compelling and thorough. You touched on so many things that I'm not even sure where to start. I think I'm going to start with some of the comments you made about the tax regime that small and medium-sized businesses find themselves in under the current government.

The current finance minister would call folks like you "tax cheats". You're probably aware of that.

Ms. Jocelyn Bamford: Absolutely.

Mr. Ted Falk: It makes you feel—

Ms. Jocelyn Bamford: Nothing could be more untrue and completely offensive, because small and medium-sized businesses are the lifeblood of the economy. We are the ones who keep people employed and get people to pay taxes to give to politicians so they can do the program. If you don't have us, you don't have any money to do anything.

A lot of my members right now are negotiating their locations, and Ohio is phenomenal in what they offer. The biggest thing I see in Canada versus the United States is that they welcome you with open arms. They don't treat you like you're a bourgeois sweatshop owner abusing your employees. They treat you like you're the job creator and contributor to society that you are.

If there are none of us, there are no programs and there's nothing, so yes, I find that quite offensive, especially the attack on passive income, because that's what we do either to save up for a piece of equipment so that we can be more efficient, or to save for a rainy day so that we do not have to lay people off during the downturns.

What people don't understand is that 92% of businesses are 100 people or below. We have great relationships with our employees. We want to take our employees, develop them and move them along. In fact, a lot of the managers at our company started by hanging parts on a line. When the government treats us like criminals, I can see why people decide they are going to get out of Dodge.

When you put your life into a company and look after your employees.... The stories of people who support their employees.... We had an employee whose wife had cancer. He came to work for a few hours and then went to look after her for a few hours. Our stories never get told, and there is never any recognition that we do good for employees and for communities and that we contribute charitably.

The negative talk coming out of the federal government is not helpful and serves to drive business out of here.

Mr. Ted Falk: I think that's very well said. We saw those attacks on small and medium-sized enterprises through those tax changes that were proposed in 2017.

Now, with the introduction of the carbon tax, again we're seeing small and medium-sized enterprises as really being the targets and the focus of this government for collecting those taxes. The large emitters, the big corporations and the ones that can afford the high-paid Ottawa lobbyists are getting exemptions of up to 90%.

Ms. Jocelyn Bamford: Absolutely, and we saw—

Mr. Ted Falk: I don't think your business will qualify.

Ms. Jocelyn Bamford: No, absolutely.

When cap and trade first came in, at first there was an information session. I wasn't going to go, because I thought, "I'm a low emitter, and that's none of my business." I went, and I was horrified to find that it's the exact opposite. The large emitters, the large polluters, have the lobbyists and they get exemptions and tax credits. It's the small and medium-sized businesses that are not well organized or well funded and can't afford lobbyists, and all of the cost went on us.

We were the ones who paid for cap and trade, and we're the ones who are going to pay for carbon tax. That is going to lead to more companies moving across to where they don't have to deal with that kind of cost and where they do get incentives. Mississippi will give you a building for free to put your business in.

When you have one country trying to drive you out and one country opening its arms to you, what do we think will happen? Where do we think our kids will work?

● (1240)

The Chair: I'm going to have to stop you there.

Mr. Ted Falk: Thank you, Ms. Bamford. Your testimony was very good. The chairman is cutting me off.

The Chair: It was the clock, not me, Ted.

Mr. Ted Falk: Oh, sorry.

The Chair: Mr. Cannings, it's your turn.

Mr. Richard Cannings (South Okanagan—West Kootenay, NDP): Thanks to all of you for coming before us today. It's been very interesting.

I'm going to start with you, Ms. Hayter and Mr. Boyce. We had a witness here last week from Loblaws, and unfortunately I ran out of time when questioning him. He was talking about the big building/big box environment and how that could play into this energy efficiency world.

You mentioned smart grids and things like that, which could work. I know an electrical engineer, and he has told me that he's done work between American utilities and Walmart, for instance, to help integrate renewable energy into the system. When the sun goes behind a cloud in Tucson, a signal can be sent to Walmart to cut back on their air conditioning. I think he said that Walmart actually got a cheque from the utility for helping them to deal with that sort of situation.

Is that the kind of thing we can look forward to in the future with the large building environment especially?

Ms. Sheila Hayter: Yes. The example you provided is certainly a solution, and it's a solution that's made possible by bidirectional flow of information between the consumers of energy—the buildings—and the providers of energy, such as a natural gas utility, an electricity utility or whatever it is that the energy is coming from.

The opportunities that moving toward a smart grid economy provides are just endless. “Smart grid” is a term, but what it is implying, what it means is greater communication between energy-consuming devices within a system. Within a building, that could be the Internet of things, where you have appliances that already have built into them the ability to talk to one another. We aren't doing that a whole lot yet, but we have products that can.

It's about taking the building systems and all of the different pieces of building systems that are needed in order to provide the right temperature and the right level of humidity—the right kinds of conditions to ensure good thermal comfort and good indoor environmental quality in a space—and having them not only communicate with one another within the building system but across to other systems with the appliances outside of the building, such as the utilities, which may have different needs when they're starting to balance the loads across their entire portfolio and their entire system.

These things are on the horizon, and the horizon isn't that far away. In fact, the changes are happening now. You've given an example. That's a real-life example right now. The models that we will see about how buildings are interacting with these other energy systems are being developed, so I'm not surprised if the utility serving that particular building that you described may be providing an incentive for that building operator or building owner to share their load information in order to control those loads at a larger level and ensure stability across the entire system.

We might be seeing more of that. We might see other ways of encouraging and incentivizing to motivate that interaction between energy systems. Changes are happening, and they're happening right now. That's the exciting thing about it. The important thing is that we recognize that these changes are occurring; that we prepare ourselves to be able to take advantage of the opportunities and to be ready; and that when policy needs to be put in place and regulation needs to be formed and we need to be involved, we do it in a productive way that's helping the small businesses, helping the homeowner and benefiting all the parts that are involved with these changes.

Mr. Richard Cannings: Thank you.

Mr. Cheliak, you touched on a favourite topic of mine—the eco-energy retrofit program and whether the federal government should consider bringing it back. I know there are versions of it in different ways in some provinces. In the pan-Canadian framework, that sort of work was punted over to the provinces. I've been trying to promote the idea of bringing this back in some form so that we can get a standard version of it across Canada.

When I talk to the Canadian Home Builders' Association, they say to bring it back. They say that they really noticed it when it was there and noticed when it was cancelled. It's a program that leverages a lot of money for the government and produces real results.

I wonder if you could expand on that.

● (1245)

Mr. Paul Cheliak: It's important to understand that there's a lot to that program. There's a lot of architecture to bring in—no pun intended—and there are a lot of people you need to train. Once you set up a program like that, it's a heavy lift and it needs a commitment. If the government were to consider bringing back that program, I think we would want to look carefully at how to do it in a way that is cost-effective and is perhaps a bit more targeted. I think that bringing back the same program might not be the best approach. I think the learning from the last one and the million homes that were upgraded would be an important first step.

Another thought, perhaps, is for something in the commercial building space. My colleagues here would probably know more about this, but the commercial building space is really a tough nut to crack on energy efficiency. You have complex ownership structures. Targeted programs that look at the commercial building space—and maybe a commercial retrofit program that mirrors the residential one—would be something worth exploring as well.

Mr. Richard Cannings: In another change of direction but still keeping with natural gas, we talk a lot in this committee about getting northern and remote communities off diesel. We've heard that natural gas might be part of the answer there, combined with.... I've talked to some engineers about combining and instead of having a single generator in the community, having natural gas/heat pumps at each building that generate electricity as well as heat.

Are those the kinds of things that the CGA is looking at?

Mr. Paul Cheliak: Sure. In terms of the remote northern community space, we've been working actively and demonstrating where communities like Inuvik, Whitehorse, Anahim Lake.... These are three communities in Canada that have now made a transition, in part, to liquefied natural gas as their principal form of power generation or as a backup.

There are programs now. Natural Resources Canada has a program. Infrastructure and Communities has a program. The Natural Resources program is limited. It doesn't allow for liquefied natural gas to comply with it. We've asked for that to be reviewed, to open that up to our fuel source as an opportunity for remote communities, but—

The Chair: I'm going to have to stop you there, unless you have a very brief conclusion.

Mr. Paul Cheliak: We'd recommend that the program that's currently available be revisited.

The Chair: Thank you.

Mr. Whalen, go ahead.

Mr. Nick Whalen (St. John's East, Lib.): Thank you very much, Mr. Chair.

Thanks to all of you for coming.

Because we have such a big forum here today, I want to do a couple of yes-or-no questions, and then I have quick questions for each of you.

To start off, Ms. Hayter, has the American Society of Heating, Refrigerating and Air-Conditioning Engineers taken any formal position on whether or not anthropomorphic climate change is real and whether or not energy efficiency is a good way to help achieve goals in reducing carbon output?

Ms. Sheila Hayter: Yes. We do have a policy statement on climate change that's available from our website.

Mr. Nick Whalen: That's wonderful.

Mr. Cheliak, does your organization have a similar position?

Mr. Paul Cheliak: We don't have a public position on climate change. We do believe that energy efficiency is a cost-effective measure to reduce emissions, though, and that we should strive toward more of it.

Mr. Nick Whalen: Do you have a public position against climate change?

Mr. Paul Cheliak: No.

Mr. Nick Whalen: You just have no position whatsoever.

Mr. Paul Cheliak: That's right.

Mr. Nick Whalen: I'd like to ask your organization to come back to us with a position on that.

Mr. Paul Cheliak: Yes, we can take it back. We're a national voice with many members across many provinces, but that's something we can endeavour to do for you.

Mr. Nick Whalen: Thank you.

Ms. Kalapos, does your organization have a position on climate change and whether or not energy efficiency is a way to achieve that?

Ms. Gabriella Kalapos: Yes, on both of them.

● (1250)

Mr. Nick Whalen: Wonderful. Thank you.

Ms. Bamford, for your organization, does it have a position on climate change and whether or not energy efficiency is a way to achieve it?

Ms. Jocelyn Bamford: We—

Mr. Nick Whalen: Just answer with yes or no, thanks.

Ms. Jocelyn Bamford: We do not have a.... We believe efficiency will reduce our costs and will reduce greenhouse gases and—

Mr. Nick Whalen: Wonderful.

Ms. Jocelyn Bamford: We want to do our part, and we have done our part. In fact, manufacturing has driven greenhouse gases down 30.9%—

Mr. Nick Whalen: That's wonderful.

Ms. Bamford, the same as with Mr. Cheliak, can I ask your organization to come back with a position on whether or not they believe climate change is real?

To go back to you, Ms. Hayter and Mr. Boyce, it was really interesting to hear about the EQ score. Do you guys feel that a price on pollution would help drive or affect the use of something like an environmental quotient score for homes? How might a price on pollution drive efficiency in that regard?

Ms. Sheila Hayter: I'm looking at Darryl, because he's the one who spoke on the BEQ activity a little bit, but let me answer your first question. Policy is a powerful tool. Regulation is a powerful tool to impact behaviour. If there is a motivation to not spend money, such as a tax, or some way of pricing a behaviour that you do not want to happen, then yes, people will be more motivated than they are now to look at efficiency.

Mr. Nick Whalen: Mr. Boyce, go ahead.

Mr. Darryl Boyce: Following on from that, you need to measure what's going on to actually manage it. The building EQ program gives you a measurement, but it goes beyond that, because it starts to give you options to actually improve your use of energy. It would really respond to a price on carbon or just wanting to reduce your cost of operations every day.

Mr. Nick Whalen: Great. There's actually cost baked in. As a price on pollution increases the cost of the pollution, your EQ would actually prefer the reduction of whatever we happen to put a price on.

Mr. Darryl Boyce: That's correct.

Mr. Nick Whalen: Are there other chemicals or industrial pollutants that are measured by your organization in providing air conditioning and other engineering services that we should consider pricing in addition to carbon to get the same effect? This is in terms of other environmental damage.

Ms. Sheila Hayter: Right. We're looking at my opinion here, but I think carbon is something that's measurable. We can quantify it. Whether you measure it directly or say that by using this amount of energy from this resource, this is how much is being contributed—

Mr. Nick Whalen: I was thinking of industrial pollution like fluorocarbons. I think there's a cap and trade on those to reduce them. I'm just wondering if there's anything else in the pipeline within your organization in terms of what we need to stamp out.

Ms. Sheila Hayter: If you're looking at refrigerants, the category that fluorocarbons would be in, then yes, ASHRAE is very much focused on investigating alternatives for lower global warming potential refrigerant options. Do we tax them? That would definitely be one way to influence behavioural change and how they're being consumed. There are a lot of active ways to motivate change through countries' commitments to supporting the Kigali agreement through the Montreal protocol. ASHRAE is very much engaged in those activities as well.

Mr. Nick Whalen: Thank you very much.

Mr. Cheliak, one thing we hear when we're talking about global climate change and the fight against carbon pollution is the fact that coal is twice as polluting for the same amount of energy as natural gas. Natural gas seems to be the most carbon-efficient way to get energy out.

Is this a real solution? If Canada exported all of its natural gas, how much coal would that really be able to displace in Asia? Is that a real solution, or is it really such a small part of the pie that it will only be one of a number of measures that we need to take?

Mr. Paul Cheliak: There's a lot there. Look, you're correct that natural gas offers a greenhouse gas emission benefit relative to coal. It offers criteria air contaminant benefits to coal. Exporting our product to nations that use coal should be, and clearly is, a priority for the Government of Canada.

In terms of quantifying the exact amount, that would depend on how much we export. There is one project approved with a final investment decision, as you know. That's a start. We know there are projects on Canada's east coast that are looking to materialize as well. In terms of quantifying the exact amount, we'd have to make some assumptions about exactly how much we anticipate to export, but absolutely, it's part of the global endeavour. We're interested in knowing more about how Canada would earn potential credits through article 6 of the Paris Agreement for those international exports of our energy.

● (1255)

Mr. Nick Whalen: Perfect.

Staying on that same line, I just tried to do some back-of-the-napkin calculations. You'll probably be able to fix these if I'm wrong, but Canada's proven reserves are something on the order of two billion metric tons of oil equivalent now. The U.S. has about five times the reserves we do. Is that because we have less natural gas or we just haven't explored for it? How could Canada encourage exploration for natural gas to displace coal internationally?

Mr. Paul Cheliak: I would have to get you the numbers on that. I do know that over the last decade, we nearly doubled our proven reserves of natural gas in the country. That's fairly tremendous, given that we've been producing gas for over 100 years in Canada. Similarly, in the United States they've doubled their proven reserves in the last 10 years.

As to the quantum of the reserves, I would have to get you those numbers. I believe the latest estimates from Natural Resources Canada point to a 300-year supply in Canada.

Mr. Nick Whalen: Okay.

The Chair: Sorry, that's all the time we have for our witnesses today.

Thank you all very much for coming today. Thank you for your patience in waiting to start a bit late. Your evidence is going to be of great value to our study. You can look forward to reading our report.

We do have a few minutes of committee business as there are a couple of things I want to talk about. Witnesses, you are free to stay or you can be on your way.

There are two things.

There's no appetite for the motion that was on the table, I gather, so we're not going to deal with that.

The second thing is that we are not having a meeting on Thursday now. The minister was scheduled to come. He's now been called out of town. He's no longer available, and because of the short turnaround, we weren't able to get enough witnesses to have a meeting that would be viable. I know that you're all disappointed that you won't be here to see us on Thursday, but there will be no meeting.

I don't think there's anything else.

Mr. Paul Lefebvre (Sudbury, Lib.): Mr. Chair, we're working on another date to bring in the minister, either on a Tuesday or a Thursday. We're trying to bring in the minister before the session ends.

Mrs. Shannon Stubbs (Lakeland, CPC): Or else I'd have to make a big deal....

Mr. Paul Lefebvre: I just wanted to make sure that it's fair.

The Chair: I should have said that. Thank you.

It's not a cancellation. It's a postponement and rescheduling.

Mrs. Shannon Stubbs: Yes, it's a postponement.

The Chair: Okay.

Absent anything else, I think we are done.

Mr. Marc Serré (Nickel Belt, Lib.): Is there any travel?

The Chair: There's no appetite for it. That's what I said. They're going to say no.

The meeting is adjourned.