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Chair

Mr. James Maloney

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● (1140)

[*English*]

The Chair (Mr. James Maloney (Etobicoke—Lakeshore, Lib.)): Good morning, everybody.

Apologies for the slow start, but we had some votes in the House somewhat unexpectedly.

Mr. Ted Falk (Provencher, CPC): The Liberals did it.

The Chair: I don't want to rule you out of order this early, Ted. Come on.

A voice: At least Ted's still mild-mannered.

The Chair: No comment.

Originally our plan was to have your two groups go in the first hour. We had two witnesses scheduled for the second hour. The witness from Loblaw is not going to make it because of a flight cancellation, unfortunately. Canada Green Building Council will join us by video conference shortly, so we'll roll everything into one. We'll hear from all three parties and then go to questions, so the question rounds will be a little longer than would otherwise have been the case.

All four of you have been here before. You know the procedure, so I'm not going to go on at length about how we do it. You each have up to 10 minutes to make your presentation.

Based on my conversation, Tonja, I'm going to let you go first.

Ms. Tonja Leach (Executive Director, Quality Urban Energy Systems of Tomorrow): Thanks very much.

It's a pleasure to be here with you today.

My name is Tonja Leach and I'm the executive director of QUEST.

For those of you who don't know us, we're a neutral, non-partisan, business-friendly non-profit service organization, and we have a vision that's local. In fact, it's about as local as it can get. While large energy infrastructure projects still steal the headlines, the really exciting story is unfolding on “main streets” across Canada.

The efforts of communities—local governments, their utilities and energy service providers, builders and developers—are yielding stronger local economies, lower energy costs for citizens and corporations, improved resiliency and security, and, almost as a happy accident, cleaner air, land and water. I am of course talking about smart energy communities, a concept that grounds QUEST and is the ideal end state of our work.

Recognizing that we all likely have a different understanding of what makes up a smart energy community, let me give you our description. A smart energy community seamlessly integrates local, renewable and conventional energy sources to efficiently, cleanly and affordably meet its energy needs. It's a coveted, highly livable place to live, work, learn and play.

We envision that eventually all the requirements of daily life, all of the services that energy provides and the things that make neighbourhoods function—transportation; building heating, cooling and hot water; lighting; wireless data networks; resource recovery operations—will be working together in an invisible symphony.

Let's bring this to the context of energy efficiency and the topic of your study.

We know that many of the measures put in place by federal and provincial governments to enhance energy efficiency have to date yielded great results compared with those from the 1990-2015 period, when demand for energy grew by an average of 1.2% per year. End-use energy demand has slowed, and according to the National Energy Board, it's predicted to continue to do so in the business-as-usual scenario, averaging growth of 0.3% per year. Reasons for this include slower economic and population growth than we have seen historically; improving energy efficiency; the impact of the pan-Canadian approach for pricing carbon; and other policies, programs and regulations.

The energy efficiency industry was estimated to have produced $54 billion in 2013, or approximately 3% of Canada's GDP, and it has likely only increased since that time. Additionally, energy efficiency measures save Canadian households and businesses around $38 billion annually. This, in turn, frees up capital that is spent elsewhere, further enhancing growth and jobs in the Canadian economy. Energy efficiency measures also feature strong returns on investment, often higher than 10% and sometimes even at 20% to 30%. It's estimated that this multiplier effect can result in a sevenfold generation in GDP for every dollar spent on energy efficiency and create between 30 and 57 jobs for every million.

What is the role of communities? While the economics of energy efficiency are very positive, the results to date have largely been a result of building, technology or appliance-scale efficiency advancements, and there's still much more opportunity to capitalize on. Communities influence over half of energy use and greenhouse gas emissions in Canada—nearly 250 megatons of carbon dioxide—primarily in residential, commercial and personal transportation sectors.

If we look at them independently, the energy waste from these sectors is 25%, 29%, and 75% respectively, and herein lies the opportunity. An opportunity exists for increased system-wide energy efficiencies, by focusing not only on each of the sectors independently but also on the integration and planning at the community level.

Thousands of Canadian communities are struggling with a complex combination of priorities—think affordability, poor air quality, gridlock and shuttered storefronts. These issues are the unfortunate legacy of outdated planning, design and building practices. Those who laid the groundwork for our cities and towns typically did so in an ad hoc, piecemeal manner, and under the assumption that energy would be forever cheap, abundant and free of consequences.

Today residents of these cities and towns pay more for energy than they need to, to heat and cool homes and businesses, and to get them where they need to go.

● (1145)

On average, community per capita spending on energy ranges from $3,000 to $4,000, equivalent to $1 billion per year in total for an average-size Canadian community.

Add to this complex challenge the fact that, while we have good documentation on energy production, our documentation on energy use is fragmented and incomplete, and the data systems we do have cannot talk to each other. So in addition to struggling with a complex set of priorities and legacy systems contributing to energy waste, communities also don't have the information, tools or resources needed to make educated and effective decisions on how to solve our community-scale energy efficiency challenges.

Take this analysis from the city of London, Ontario, which has a population of 370,000 people. The community spent $1.6 billion on energy in 2014—on gasoline, natural gas, electricity, diesel, etc. Of this amount, only 12% stayed in the local economy and 59% stayed in the province. While developing their community energy plan and undertaking an economic analysis, London calculated that for every dollar of reduction in energy use they would keep $14 million in the local economy, resulting in a compounded energy cost avoidance of $250 million per year by 2018.

The opportunity to keep energy dollars local and circulating within the local economy can be enhanced through the use of conservation and local generation such as district energy or combined heat and power. This can also help utility-demand reduction, smart load integration, renewable content, and cost avoidance.

This profile will of course vary widely between communities, but it's clear that the opportunity to keep energy dollars local and circulating within the local economy can be enhanced through a systems approach to community-scale energy efficiency.

We know there's a significant opportunity to reduce greenhouse gas emissions and boost local economies through the integration of local, renewable and conventional energy sources to efficiently, cleanly, and affordably meet energy needs. We also know that there is a shortage of research to fully quantify the potential.

In 2009, QUEST conducted a study to assess the potential of integrated systems in meeting climate change targets. The results suggested that by doing things like integrating community energy systems, updating land use policy, improving transit, and opening up opportunities for energy through policy changes, we could reduce direct and indirect urban emissions by approximately 40% to 50% in the long run.

Subsequent studies, such as our “Community Energy Planning: Getting to Implementation in Canada!” research, have shown that smart energy communities have a multitude of direct economic benefits such as cost savings and jobs, and indirect benefits such as reduced congestion, improved air quality, improved community health, and increased social interaction as a result of active transportation.

So what is the federal role in all of this?

We would like to see continued support for existing agencies such as those in Yukon, B.C., Alberta, Saskatchewan, Manitoba, Ontario, Quebec, Newfoundland, New Brunswick, and Nova Scotia. The country is well covered by energy efficiency agencies, but there's more that many of them can do. We could also use some federal support to establish and realize the full potential of those programs.

While QUEST has undertaken research to build understanding of the potential for smart energy communities to stimulate the economy and reduce greenhouse gas emissions, and NRCan recently undertook some further research on that, I believe that more research with newer modelling that includes all sectors would be extremely beneficial, not just for understanding the potential but also to enable us to measure our success.

We need to focus on supportive policy that enables smart energy communities but doesn't prescribe the integration of systems. Every community is different and requires a unique suite of solutions to maximize their efficiency. Therefore, policy needs to enable while appreciating the differences in opportunities.

Last, support for accessible energy data via the establishment of a pan-Canadian energy information agency or similar data trust would be very well received by our network across Canada, and I think it would be useful to a multitude of utilities and communities.

Thank you.

● (1150)

The Chair: Thank you very much.

Mr. Bradley.

[*Translation*]

Mr. Francis Bradley (Chief Operating Officer, Canadian Electricity Association): Thank you, Mr. Chair.

Thank you to the members of the committee for inviting CEA to appear before you this afternoon.

I am Francis Bradley, the chief operating officer of CEA.

[*English*]

I am joined this morning by my colleague Sarah Nolan, and I am also delighted to be appearing along with my colleagues from QUEST. CEA was one of the organizations that created QUEST close to a dozen years ago, and I have been a participant in it since its founding.

[*Translation*]

I first want to take a moment to talk about our association. The Canadian Electricity Association, or CEA, is the national voice and forum for the Canadian electricity sector. Our membership is comprised of generation, transmission and distribution companies from across Canada, as well as manufacturers, technology companies and consulting firms representing the full spectrum of electricity suppliers.

[*English*]

A safe, secure, reliable, sustainable and competitively priced electricity supply is essential to Canada's prosperity. Providing Canadians with the means to use electricity efficiently is necessary to maximize the potential of the Canadian electricity system, to minimize environmental impacts and to reduce electricity costs. Our members are committed to improving energy efficiency. We believe it is critical to reaching climate change targets as clear benefits for the economy and that it helps reduce Canadians' electricity bills.

Research by CEA has shown that the vast majority of consumers expect their electric utility to provide energy efficiency programs and information. Customers continue to look to their electric utility to help them manage their electricity consumption and their bills. Canadian electric utilities have been delivering energy efficiency programs for three decades. From 2014 to 2017, CEA member electric utilities saved almost 14,000 gigawatt hours of energy through external energy conservation programs. These energy efficiency programs have also resulted in avoiding greenhouse gas emissions equivalent to 7.4 megatonnes of CO2 across Canada. To put this in perspective, this is comparable to taking two million vehicles off the road.

As you know, governments play a crucial role in creating policy, implementing product regulation, developing industry standards and building codes, and providing incentives to help manage demand. It is critical that governments support energy efficiency. As an example, through the Ontario energy manager program, Toronto Hydro has been able to fund 20 energy managers who cover a wide range of business types, lead awareness programs and identify opportunities for energy conservation improvement. For these businesses, energy conservation has become a part of their general practice.

CEA offers three recommendations to the committee which the government should consider implementing. The first is to partner with electric utilities to achieve maximum results from energy efficiency initiatives. Utilities have the expertise, program design, delivery capability, and customer and supplier relationships that are needed when implementing energy efficiency programs.

SaskPower has partnered with local retailers to offer point-of-purchase discounts on a variety of energy efficiency lighting products, ENERGY STAR technologies and smart technologies. The program is offered in approximately 300 retail locations across 125 communities in the province. The program also features in-store education with representatives at locations across the province.

Utilities have consumption data and an understanding of local conditions of energy demand, as well as pre-existing brand recognition and well-established long-standing relationships with the customers.

● (1155)

[*Translation*]

Utilities have a unique ability to respond to demand and manage it.

[*English*]

Second, the federal government should prioritize demand-side opportunities such as energy efficiency as a cost-effective option to meet climate change goals. A balanced approach to energy policy that includes a balanced emphasis on and attention to supply and demand is needed. An emphasis on only supply-side options overlooks benefits that accrue from demand-side programs, which, in an era of rising costs, can reduce energy input costs for businesses and help consumers better manage their energy consumption and, consequently, their bill.

In British Columbia, FortisBC's gas programs began over 20 years ago, and its electricity programs have been offered for almost 30 years. Between 1989 and 2017, FortisBC invested almost $76 million in energy efficiency programs for its more than 172,000 electricity customers. This is expected to grow to almost $84 million in 2018, and it has saved enough electricity to power nearly 50,000 homes.

Finally, encouraging energy efficiency and conservation demand management is good for the utility business and the economy. Investments in energy efficiency can help bridge and/or pace needed electricity infrastructure investments. Economic benefits accrue locally, regionally, provincially and nationally from energy efficiency programs. Direct, induced and indirect benefits include customer savings, improved competitiveness for industry and businesses, jobs and economic growth.

[*Translation*]

Improvements in energy efficiency are a long-term and sustained benefit to the economy as energy savings are generated every year over the lifespan of a product.

[*English*]

As an example, one utility estimates that their spend of $730 million on conservation demand management between 2005 and 2020 will result in $2.5 billion in economic spinoffs and customer savings.

In closing, there are many benefits that energy efficiency delivers to Canadians: reduced energy expenditures, employment opportunities, increased economic competitiveness, improved energy security, and a cleaner environment through the reduction of GHG and air emissions across Canada.

[*Translation*]

Energy efficiency is sustainable. It can be a more cost-effective means to meeting electricity demand than traditional or renewable supply options. Increased energy efficiency is a major strategic objective of the electricity sector, and it is imperative for Canada's future prosperity.

● (1200)

[*English*]

The Chair: Thanks very much, Mr. Bradley.

I understand that we have Mr. Mueller and that he is almost connected.

Why don't we suspend for a minute to let him get the technical stuff sorted out?

● _____ (Pause) _____ ●

The Chair: Welcome back, everybody.

Mr. Mueller, you have the floor for up to 10 minutes to deliver your remarks, and then I'm going to open the floor to questions from around this table to all three panels.

The floor is yours.

Mr. Thomas Mueller (President and Chief Executive Officer, Canada Green Building Council): Thank you.

I'm going to cover five areas when it comes to energy efficiency and economic benefits: voluntary standards, zero-carbon innovation, building retrofit, capacity building of the workforce, and then a few recommendations at the end.

At the Canada Green Building Council, we believe that green buildings can help achieve Canada's greenhouse gas emission reduction commitments, and significantly improve the energy efficiency of the building sector in the Canadian economy.

Over the last up to 15 years, voluntary standards have driven energy efficiency in the building sector. You can see that voluntary systems such as the LEED rating system had significant penetration rates in the building sector; up to 30% in the institutional sector, and 22% in the commercial sector. Overall, there are currently 1.2 billion square feet of LEED projects in Canada, but 3,700 projects have been certified.

Those 3,700 projects save 12,900,000 megawatt hours of energy through energy efficiency measures. That's enough to power 435,000 homes in Canada for a year. So you can see that voluntary programs have already had a significant impact on the building sector, on energy efficiency in the building sector.

You can also see how voluntary programs also have an impact on how buildings perform at a per-square-foot level. The example here is that the average Canadian office building uses about 350 kilowatt hours per square metre per year. The average LEED building uses about 162, and there are some other buildings, which you see here, that have significantly lower and better energy performance than conventional buildings, which have been brought about through voluntary programs, like LEED and others, in the Canadian marketplace.

Not only do they improve the energy efficiency; they also create jobs and contribute to economic growth. You can see that in 2014 Canada's green building industry contributed $23 billion to the GDP, and almost 300,000 direct jobs, for people employed in constructing these buildings in Canada in 2014.

One very interesting fact is not only that the green building industry employed 297,000—or 300,000—full-time workers but also that this represents more than forestry, oil and gas, and the mining industry combined. Green building construction and renovation is a significant energy efficiency opportunity as well as an economic opportunity.

On slide 5, you can see how these jobs are distributed in Canada by sector, with construction and trades making up the largest proportion, followed by materials and manufacturing, and then professional services.

But energy efficiency measures also result in net savings. The life cycle savings from LEED-certified green buildings in Canada are significant. This is based on a number.... At the time the report was prepared, we had 2,275 certified projects in Canada, representing 24,000,000 square metres. These buildings, on an annual basis, save about half a billion dollars in energy costs. If you aggregate that over the life cycle, estimated at 33 years, it goes up to $6.8 billion dollars in energy savings that have been achieved through readily available energy efficiencies, technologies, equipment and practices.

The next innovation is what we call the zero-carbon building. Zero carbon is the new performance benchmark. In order to get a zero-carbon building, high levels of energy efficiency are required. As you saw in the previous slide, we can drive energy efficiency to very high levels, and then supply the rest of the energy in those buildings through renewable clean energy sources, such as hydro in certain areas of Canada, but also through onsite and offsite renewable energy resources. Canada is actually a global leader in this space.

● (1205)

It builds on the learning curve the industry has gone through with regard to LEED, and we can actually do this right now with the technology, the know-how and equipment available. This is the next phase of innovation, and it will yield significant benefits not only with carbon but also in terms of energy benefits if this is rolled out across the building sector in Canada.

I would like now to go to the second half of my presentation, just finishing off and focusing your attention on building retrofits. Fifty per cent of the building stock that exists today will still be in use by 2050, and there are significant energy savings available from this building stock, between 20% and 40%. These savings can be realized through a number of very accepted industry practices like building commissioning and recommissioning, along with the retrofits of about 60% of larger buildings in Canada.

The council has done a lot of work in this space with various federal and provincial government departments, and the focus here is really the idea of the retrofit economy; to establish a retrofit economy in Canada that would support large-scale retrofitting of larger buildings. If we retrofit about 100,000 buildings in Canada over the next 10 to 20 years, at the end of that process, we'll not only save 21 million tonnes of carbon in associated energy use, but we would save $6.2 billion in energy costs every year by the end of the process.

The federal government, including the Canadian Infrastructure Bank, plays a very important role in leveraging investment for retrofits for commercial, institutional and multi-residential buildings and can leverage funds from the private sector. The federal government also needs to play a role in building confidence in deep retrofit by providing and supporting standardized frameworks that support retrofit performance outcomes. What I mean is that, after the retrofit, we want the buildings to perform in a way that realizes the energy efficiency benefits.

There are of course, as always, a number of barriers in order to realize these benefits. You can see that there are barriers to a strong retrofit economy, but there are also solutions as shown with the investor confidence project, which represents a standardized process to assess retrofit projects and performance outcomes across the country.

The other barrier we have is really capacity. We have enough capacity already in Canada to get this started, with both LEED and zero-carbon buildings with retrofit, but we need to train our workforce to deliver at this scale. There are also new technologies and services that are not well understood, which require new skill development. We also need to scale up: we need a larger trained workforce to deliver the results. We are currently doing some work around the skills gap in Canada, and particularly in Ontario. The skills gap is a real risk for scaling up energy efficiency. For Canada to succeed in this space, the federal government must invest in a changing workforce that designs, constructs and maintains buildings, or in this case, also retrofits buildings across the country.

Our recommendations for this committee are as follows.

Continue to support existing voluntary industry standards. This could be in government-owned and -leased buildings. After all, the federal government is the largest building owner in Canada.

Support and de-risk new voluntary standards like zero carbon through incentives and through research and development, but also in the procurement of government buildings. Again, it's another opportunity for the government to lead in this space.

Create a retrofit economy by either investing in or incentivizing large building retrofits, and at the same time support the training of the construction workforce. This is a really critical link in not only realizing the energy efficiency benefits but also realizing the economic benefits. We would also encourage the government to develop a multi-year retrofit strategy for government-owned buildings. In some cases it might also be possible to encourage the private sector to retrofit buildings to meet government standards.

● (1210)

Thank you for your time. I'll stop here. I'm looking forward to your questions.

The Chair: Thank you, Mr. Mueller.

Mr. Whalen, you're first.

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

I guess I'll start with you, Ms. Leach, with QUEST.

In terms of new builds or small local towns that might issue building permits with respect to a home renovation, should there be some type of a disclosure requirement as part of that process to ensure that homeowners or renovators have at least considered building or applying the latest technologies in their building and in renovating their homes?

Ms. Tonja Leach: I think there's definitely an opportunity to do so. Whether it should be mandated, I think, would not be something for QUEST to answer. I do think if we look to the U.K., for instance —and this is perhaps more on the retrofit side than on the new-build side—we see they have a requirement whereby they actually have to document what the efficiency of that building is before it is sold. It actually incents this position when new homeowners actually know the status of that building. It also helps to encourage the retrofit economy to take place.

There are lots of great examples outside of Canada that we could draw on.

● (1215)

Mr. Nick Whalen: Are there any examples, maybe from the U.K., about what the benefits were in making that system mandatory versus leaving it as voluntary? Do you have examples of other jurisdictions where such a disclosure is encouraged but is not required so we can get a comparative on how good or bad the U.K. system is at encouraging good behaviour?

Ms. Tonja Leach: I don't have those details at my fingertips today. I could certainly do a little digging and try to find those answers for you. Potentially some of the other people here today may be able to answer that question.

Mr. Nick Whalen: Mr. Mueller, do you have a comment on other jurisdictions in which disclosure versus voluntary requirements of what you plan to do from an energy-efficiency standpoint has been shown to have a better or worse net impact on the efficiency of new builds?

Mr. Thomas Mueller: I would say generally that we observed that they actually do label homes in Europe in some of the economies like the U.K. and Germany. Buildings are labelled at the point of sale. This has a significant impact on the energy improvements made to homes and the standard they are built to.

We also see that on a building scale. Energy benchmarking and disclosure have been adopted by a number of jurisdictions in North America. Cities like New York, Chicago, Seattle, San Francisco and so on have adopted it on a mandatory scale for building owners who have to report on buildings over a certain size.

As you know, the Ontario government has adopted it as well, provincially, starting I think at 250,000 square feet and stepping it down every year—to 100,000 square feet, and I think the lowest level is 50,000, if I recall. We believe that mandatory benchmarking disclosure programs are really important to move the industry forward. I'm saying this because the large buildings, the large commercial owners and so on, are already doing it, but in order to bring about change, we need the other 90% of the buildings. They need to be engaged in a standard performance and disclose their performance, and then that will help them and policy-makers to target their investments to make improvements to the energy-efficiency area.

Mr. Nick Whalen: Thank you very much.

Mr. Bradley, you used a phrase a little earlier. It's a bit of a pet peeve of mine, taking cars off the road. I think we all want to see people transition to low-carbon vehicles, but nobody really expects that there are going to be, in any statistical way, fewer miles travelled by people in a country like Canada or significant change in the number of cars on the road.

Can you explain why it's important to reduce electricity demand in the housing sector, in the built infrastructure, so that electricity can be available for use in vehicles?

Mr. Francis Bradley: Absolutely, and thank you for that.

We tend to use shorthand to try to explain sometimes what some of these efficiencies translate to. Perhaps that's one of the ones we might want to suggest be used a little differently.

As you point out, this is something that is clearly evolving. We're certainly looking at greater energy efficiency because there's going to be a requirement for electricity in so many other applications. If we are going to meet some of the commitments we've made with respect to reducing greenhouse gas emissions and climate change, that's in fact going to result in much greater demand for electricity as opposed to lesser demand so that we'll be able to aggressively decarbonize by moving forward on electrification of transportation, heating, ventilation, air conditioning, industrial processes and so on.

Part of that calculus is the electricity that we're using today and that we will use tomorrow. We want to use it as efficiently as possible because the requirement for it is only going to increase into the future.

Mr. Nick Whalen: My last question I'm going to open up to all three groups. I struggle to try to figure out from a policy perspective whether we should have a system that incents good behaviour in home analysis or built infrastructure analysis and energy efficiency audits through tax incentives, and then also energy retrofits in homes and the built infrastructure through some types of tax rebate associated with that capital investment, or whether we should just have these regulatory constraints that require people to do these things with new activity.

I'm wondering if any of you has information on the net effect, on which system is better or worse than the other, and on whether or not we have some statistical information that might allow us to make an evidence-based decision regarding how much each of these measures would contribute. There might be a bit of a Venn diagram there, an overlapping of the benefits. What's your general sense on the best way to go: voluntary, mandatory, regulation, or tax-based incentives to encourage the good behaviour?

I'll start with you, Mr. Mueller.

● (1220)

The Chair: If all of you could provide short answers, that would be very good.

Mr. Thomas Mueller: I think it has to be a combination. On homeowners and homes, I think you need to increase regulation consistently so that homes are being built to higher levels of performance. I think it's really important in the residential sectors.

In the private sector, I think you're better off with tax rebates, with financial-type incentives, because they're looking for return on their investment, whereas the homeowner looks for other things. It's a combination, depending on the sector you're targeting.

Mr. Nick Whalen: Mr. Bradley.

Mr. Francis Bradley: I would agree entirely. Both types of tools are going to be needed and for different things. Clearly, there's a very significant role that standards and regulations can play on the one hand, but we also know that in some circumstances incentives are also very effective.

I don't want to keep harking back to our climate change commitments, but let me hark back to our climate change commitments just for a moment. If we're going to start meeting those things, it's going to have to be all of the above to be able to get us to move effectively in that direction.

Mr. Nick Whalen: I know, Ms. Leach, I stick you with the very statistical questions. Do you know where we could get the information, some hard numbers, to help rationalize the decision?

The Chair: Ted, we're going to have to move on to you.

Mr. Ted Falk: Thank you, Mr. Chair.

Thank you to all our witnesses. Your presentations have been very interesting and informative.

I wasn't making too big a deal about Mr. Whalen asking questions, because I wanted to know the answers. However, I do have a few questions—

The Chair: It's good that he's sharing his time with you, then.

Mr. Ted Falk: It seemed as though he was trying to share my time, yes. I'm not quite that generous.

Mr. Bradley, you talked about a lot of different energy saving programs and initiatives. Which one of those programs has saved the most energy or produced the most efficiencies?

Mr. Francis Bradley: That's an excellent question. The ones that have the most bang for the buck—

Mr. Ted Falk: That's my next question, and we're going to get there, thank you. I want to know which ones have saved the most energy or been most efficient?

Mr. Francis Bradley: The industrial programs for specific initiatives result in the greatest energy savings for individual actions that are taken, because you're talking about the largest loads around, on the one hand.

On the other hand, if the second question is where are you going to get the most bang for your buck—

Mr. Ted Falk: Where's your biggest cost benefit?

Mr. Francis Bradley: I don't have numbers on it, but my guess, based on talking to our members, is that it's likely in the consumer space. It means reaching out to a greater number of people, but the ability to get people on board is also an additional benefit.

Mr. Ted Falk: That's good.

Ms. Leach and Ms. Wicks, I'd like you to answer the same question. Where do you think we've been able to realize the biggest energy savings or efficiencies? Then there's the follow-up question —and you know what it is: what has been the biggest cost benefit? It may not be the biggest overall saver, but the most bang for the buck.

Ms. Ericka Wicks (Director, Projects and Advisory Services, Quality Urban Energy Systems of Tomorrow): I would echo what we already heard from Francis. In the industrial sector those savings tend to be large on a one-off project basis. The return on investment or cost benefit is fairly strong. I've worked with industrials before. They like to see things in two years or less, so there's a good business case to be made for investment there.

Mr. Ted Falk: Would it make any sense that exactly those industrial emitters are getting the biggest break when it comes to the carbon tax?

● (1225)

Ms. Tonja Leach: I don't know if we have the answer to that question.

Mr. Ted Falk: That's a smart answer. Thank you.

Mr. Mueller, I would like to ask you the same question. From your observations, where do you see programs that have been generating the most energy efficiencies?

Mr. Thomas Mueller: I think where we see the biggest benefit is for larger buildings, of over 25,000 square feet. We have about 100,000 buildings like that in Canada, and there are huge gains to be made in terms of energy efficiency with those buildings.

There are three sectors: the real estate sector, the transportation sector, and the industrial sector. Typically the transportation sector makes changes, and there's a cost. It's the same in the industrial sector as well. The good thing is that in the real estate sector, there is not only a cost but a real return on the investment.

The real estate sector is starting to think a bit longer term, because these assets last for a long time so they are not for two years; they are more like for five to seven, and some of them are thinking about 10 and over 10 years now in terms of investing in their real estate portfolios, both from a carbon perspective and from an energy-efficiency perspective.

Mr. Ted Falk: All three of you are pretty much on the same page that the biggest energy savings can be found in the industrial sector, and it seems as though there's also quite a bit of cost benefit in looking for savings in those sectors. Okay. Good.

Now I would like to apologize to all of our witnesses, because I'm going to steal a little bit of your time here at committee, and to you, Richard.

I presented the clerk with a notice of motion on October 19. I feel it's important that I move forward with making that motion today, for lots of good reasons.

Right now we know that Bill C-69, which is an environmental bill that will impact far more than our environment, is before the Senate, and it's finding its way into committee there. This particular bill will have very long-term negative consequences for our natural resource and energy development sectors.

The Chair: I'm sorry, Ted. Can I interrupt for one second so everybody has it in front of them and so we know which one it is?

Mr. Ted Falk: Yes. I did three. It's the last one, if it matters.

The Chair: Mr. Falk, the floor is yours. Go ahead.

Mr. Ted Falk: Thank you, Mr. Chair.

The motion will deal with Bill C-69 and how it's going to affect specifically the Trans Mountain Expansion Project.

As I think we all know, Mr. Chair, our current government has committed Canadians to buying a project from Kinder Morgan, to buying an existing pipeline that Kinder Morgan owned here in Canada and also buying the opportunity to expand its existing pipeline from a Texas-based company known as Kinder Morgan. The project is the Trans Mountain Expansion Project otherwise known as the TMX.

The government bought that thing for $4.5 billion. We have concluded from the data we've collected that the existing pipeline, depending on which resources you reference, is 50 years old. It's worth somewhere between $800 million and $1.6 billion, which means that there's over $2 billion worth of opportunity cost fixed into that deal that the Liberal government made with Kinder Morgan.

For whatever reason, the Liberal government was under the impression that they didn't have to follow their own rules, and they would be able to proceed with the expansion of that pipeline without the proper due diligence. The courts have since determined that they failed with regard to environmental considerations and also in their consultations with indigenous communities.

That particular project is on hold right now, and we don't know how long it will be on hold. We know that Bill C-69 is currently in the Senate. It's finding its way into committee, or has found its way into committee. We don't know how long it will be there, but if that bill receives royal assent prior to the expansion project being approved, it will create other very strong and significant roadblocks to completing this project.

● (1230)

Mr. Marc Serré (Nickel Belt, Lib.): Mr. Chair, on a point of order, since we have witnesses here who have prepared testimonies and travelled to come here, is this motion going to take long, so that we could ask questions of the witnesses? How long will this continue?

The Chair: We have half an hour left.

Mr. Ted Falk: I don't expect to use the whole half hour.

The Chair: We should keep them here.

Mr. Marc Serré: Keep them here.

The Chair: Thank you.

Mr. Ted Falk: Bill C-69 is going to create quite a bit of uncertainty. It's not only with the pipeline. It's going to create uncertainty right across the energy-resource sector. It's going to create uncertainty at municipal levels for things as simple as municipal drainage projects.

Bill C-69 is supposed to be an environmental bill. While I applaud the intent of it, it misses the mark in a bunch of areas. I want to highlight five different areas where there's definitely going to be uncertainty.

It allows for uncertainty in the area of political interference. It allows room for the Minister of the Environment and also the Prime Minister and his cabinet to directly impact the consultation process. That kind of political interference is something I thought we as a government were moving away from. It seems as though this bill will actually move even more in a direction of political interference than what we currently have.

Another important aspect is that it removes the standing test for participation in public hearings. In other words, right now people actually have to prove that they have a legitimate reason to make a presentation at a hearing when a project like this is being considered. They have to show that they are going to be directly impacted or that they represent a group that will be directly impacted by the proposed expansion.

Removing that test from the public hearing process, which is what Bill C-69 does, allows groups that could be from Sweden—it could allow activists from Sweden—to come to these committee meetings and make presentations. I don't know why we would allow for that kind of situation. It should be the individuals who will be impacted. It should be Canadians who make presentations on projects.

A Voice: We're not letting [*Inaudible—Editor*] It's not about the Swedes.

Mr. Ted Falk: Well, the project is so far open that we're not sure who is going to be able to communicate on its impact here.

It also allows for endless, limitless extensions on timelines. What does that mean? That means that they could just increase the number of hearings, increase the number of witnesses and allow people who don't have any remotely close interest in the project to testify at these hearings, impacting the decision and delaying the process.

I'm a business guy. I wouldn't make an investment in a piece of equipment if I didn't know when I could put it to work, and have it sit on my yard and collect dust, cost interest, and absorb capital depreciation costs while it hasn't produced one hour's worth of value to anybody.

That's what we're asking our energy resource development companies to do. We're asking them to make an investment in the process. We know that Kinder Morgan spent over a billion dollars already, looking for approvals for the TMX project, and that that billion dollars hasn't generated any income. In fact, it has cost them lots of money. They've lost the ability to use that capital for other projects, because that money was sitting there completely unemployed, other than the fact that it had been spent on all kinds of consultants trying to meet the regulations in place so they could proceed with this project.

We know that lots of other companies have had the same experience. We know that whether it's Energy East or Northern Gateway, these projects have experienced the same amount of frustration and delay. Bill C-69 will exacerbate that, with limitless numbers of hearings and consultations. That's one area that is going to be very problematic if this bill actually sees royal assent.

Another thing it does is establish a new set of vague and ill-defined criteria against which projects will be assessed, and that's including social impact. Social impact hasn't been properly defined. In the absence of that, we could see a host and variety of concerns that really have nothing to do with building a safe, environmentally economical pipeline, because somebody has some kind of social issue they think is going to be impacted or that they may want to present.

● (1235)

There are some definitions there that really need to be tightened up and defined properly, regarding what those criteria will be when considering a resource development project like this.

The other aspect that concerns me is that there are major implications, as a result of what is going to be written into the regulations that have yet to be developed. We don't have a full and comprehensive set of regulations that are accompanying this bill. Those could be written in after the fact, which will make it virtually impossible for resource development companies to meet the threshold of those criteria. Without the ability to know what those regulations are ahead of time, I think it's ill-advised to pass this bill. However, it did go through the House and it did find its way to the Senate, but hopefully, the Senate will have the light turned on and will see some of the very problematic areas of this bill, as it relates only, in this particular situation, to the Trans Mountain Expansion Project. There are lots of other areas where this bill will have very negative impacts, especially in my home province of Manitoba, where I know that municipal drainage is a problem. Bill C-69 will even affect simple things like municipal drainage projects. They're going to have to go through all kinds of consultations and hearings, and it's going to take years, if it is at all possible, for some of these projects to happen, even simple projects that benefit agriculture and that benefit employment. It's going to actually create a situation where nothing happens. There are lots of concerns.

Yesterday, I was reading Bloomberg and I was really intrigued with what Robert Tuttle reported there.

Mr. Jamie Schmale (Haliburton—Kawartha Lakes—Brock, CPC): You should read the whole article.

Mr. Ted Falk: It's very interesting.

Mr. Jamie Schmale: It's very interesting.

Mr. Ted Falk: He talked about the highways of Saskatchewan being clogged up with oil tanker trucks, and he said that shows the desperation of Canadian oil producers trying to get their crude to market.

We're stewards of our resources here. We're nothing more than that; we're stewards. We've been given these resources by our creator, and we've been entrusted to use them responsibly, to look after the environment. We've been entrusted with that responsibility as well, to make sure that we look after the earth. We also have this resource that we've been blessed with as a country.

We need to make sure that we allow companies—in a responsible, environmentally friendly way—to develop these resources, and then we need to provide them with the ability to get these resources to market. That's something I take very seriously. I'm a steward of the land, but I'm also a steward of the resources. These resources are something that we need to make sure are developed in an environmentally friendly way, but also in an economically viable way.

Today, tanker trucks are journeying 500 miles from the pipeline and rail terminals. It says here:

> It's a phenomenon that Ken Boettcher, president of Three Star Trucking Ltd. in Alida, Saskatchewan, started to see three or four months ago when oil shippers around Kindersley, near the Alberta border, began requesting trucks to move their crude, in some cases, as far as North Dakota.

He said it's "never been a common practice before. They can probably buy it cheaper and bring it down here and blend it." He's referring to the Americans. The trucker traffic during 2018 has spiked to over 200,000 barrels of crude oil per month being moved by tanker truck.

You know, Bill C-69 is supposed to be an environmental bill. However, if it's going to prevent us from safely building pipelines to get our resources to market, there's nothing environmentally friendly about having to then turn around and use tanker trucks to uneconomically, with huge environmental liability, move our crude to market by hauling it down the highway. It doesn't even make sense that we would want to consider that.

In addition, the cost of doing that 500-mile trip is about $15 a barrel one way. If they have to come back empty—I don't know what you would haul in a tanker truck on a return route—it doubles. It's $30 a barrel cost to move that oil by tanker truck, as opposed to what it would cost by pipeline. That's very significant. I think the environmental liability and risk are much more significant in hauling it, and there's also the danger that is posed to traffic on the highway with increased loads. I think it's something that needs to be considered.

Without the Trans Mountain expansion project going ahead, I think we're going to see a continued exploitation of our producers by the Americans, by Donald Trump's oil companies. I think we're going to see more of that. It actually peaked in August, when there was a $52.40 discount for our oil over world price. That is significant. That's happening because our current structure allows us to have one customer, and that's the Americans.

As long as we're going to be in that kind of situation—

An hon. member: Roughly.

Mr. Ted Falk: Well, we have a few on the west coast there, but they're insignificant to the volume.

We're willing to pay $70 a barrel for unfriendly oil coming from Saudi Arabia on our east coast, down our Saint Lawrence River to ports along the river there that are virtually unregulated, and then we're willing to sell our oil for $20 a barrel to the Americans. That doesn't even makes sense that we're leaving $50 a barrel on the table.

This is not only hurting our oil producers, it's hurting all Canadians, because this is money that could be left in the country. It is money that could be used to fund social projects. It's money that could be used to build schools, houses. I think we heard that every single day that we allow this kind of scenario to persist, we are giving up the equivalent of one brand new school per day, or one municipal hospital a week.

That's significant, committee members. We have to make sure that can't happen. That's why I think we need to have this study.

● (1240)

I think it's very important that we go ahead with the study to find out what the industry thinks about Bill C-69 in relation to the TMX, but not only just TMX. What does industry think going forward? Is it going to be willing to invest money here?

Mr. Chair, I could talk a lot further on the financial implication of buying a $4.5-billion project that has limited revenue opportunity at this point, on that money being sent down to Texas to the Americans instead of remaining in our economy here in Canada, and on putting taxpayers on the hook for $4.5 billion, and now the expansion project has been estimated to cost another $9 billion.

We could have seen that money coming into our country as an investment, and now it's going to have to be funded by Canadians. That's another $9 billion out of our economy, and that's not even part of the $4.5 billion yet. This is money that Canadians are going to have to be responsible for. It's going to come out of their pockets, and we as taxpayers are guaranteeing it. We're on the hook for it.

I just don't think that's a very responsible thing to do, and it's not just me. I would like to also quote some other people who feel the same way I do.

The Chair: Can I interrupt you for just one second?

You have the floor, but we do have these people who have taken time out of their lives to join us. If you are going to consume the balance of our meeting time, I'll just let them go and apologize.

A voice: Do you know what?

The Chair: Hold on, hold on.

A voice: If he goes five more minutes....

The Chair: I'm just asking how much longer he is going to be.

Mr. Jamie Schmale: He's just going to reinforce our record.

The Chair: So five more minutes, do you think?

Mr. Ted Falk: Yes, five.

William Lacey, the chief financial officer of Steelhead Petroleum says, “The implementation of Bill C-69 does not create the stability that investors are seeking.” That's something I've already spoken to.

He continues by saying,

> Rather than having a framework that is clear and transparent, it introduces tremendous uncertainty into the approval process....Further, though the discussion today may be about the approval of pipelines, this is about whether Canada is somewhere where capital can be deployed....and whether that investment is competitive versus other jurisdictions around the globe. Capital is mobile, and today it is choosing to leave.

We've seen $80 billion already leave the economy in the last year in the energy sector.

Rachel Notley, NDP premier of Alberta says, “Bill C-69 in its current form stands to hurt our competitive position”. She says that capital is already fleeing to the United States due to the challenges.

RBC president and CEO Dave McKay says,

> We would certainly encourage the federal government to look at these issues because, in real time, we’re seeing capital flow out of the country.
>
> We see our government going around the world saying what a great place Canada is to invest—yes, it is a great country, it’s an inclusive country, it’s a diverse country, it’s got great people....
>
> But if we don’t keep the capital here, we can’t keep the people here—and these changes are important to bring human capital and financial capital together in one place.

The Quebec Mining Association..... Mr. Chair, you know I have a fondness for mining. I didn't even talk about the impact this is going to have on future exploration in the mining industry, and I'll refrain from doing so in the interest of time, but I will quote the Quebec Mining Association here: “The time limits introduced by the bill will be enough to discourage mining companies and weaken Quebec and Canada in relation to other more attractive jurisdictions.” That statement was made earlier this year.

Certainty and simplicity should be at the core of any sort of government policy. Bill C-69 provides no certainty and no clarity in actuality. Industry has no way forward with Bill C-69. The bill only seeks to add more uncertainty, as Bill C-69 does not demonstrate a Government of Canada commitment to project development.

The Trans Mountain pipeline expansion was cancelled. Bill C-69 will not add any more clarity to future projects in the energy sector or any other sector. The consequence is that the economy will suffer, as investment will continue to decline. Jobs are created and lost, but business investment shows what companies and people think about the future of our country. What people and companies believe of a country is reflected in the amount of capital investment for the future. Without wise and bold investment made for the future, the pool of jobs created today will wither away in times of economic stress. Bill C-69 will not help our economy weather hard times. Bill C-69 will only help our economy to get into hard times.

I urge the Standing Committee on Natural Resources to adopt my motion. I think it's important that the committee do so.

● (1245)

Mr. Jamie Schmale: Maybe we should just reinforce the Conservative record here.

Mr. Ted Falk: That's a very good time to do that. Thank you.

Our Conservative record, when we were in government, was that we built four new pipelines.

An hon. member: Hear, hear!

Mr. Ted Falk: I think it's important, Mr. Chair, that be on the record. We built four new pipelines, and all of those pipelines expanded.

The Chair: One person has the floor. Everybody else, please be quiet.

Shannon, Kent, come on, please. Ted has the floor.

Mr. Ted Falk: We built four new pipelines, Kent.

I want to reiterate something I said before. That was that the Liberal government killed Energy East, Northern Gateway and an LNG project, but now they've kind of approved one. We'll see how that goes. We'll see if they can actually bring it to fruition.

Mr. Chair, it is very important—and I'm going to move now—that this committee dedicate six meetings to study the Trans Mountain expansion cancellation with regard to Bill C-69 and that this study be completed before December 31, 2018; that the committee report its findings to the House, a government response be requested, these meetings be televised; and that pursuant to Standing Order 109 the committee request that the government table a comprehensive response to that report.

I so move.

The Chair: Thank you, Mr. Falk.

Mr. Serré, you're next.

[*Translation*]

Mr. Marc Serré: Mr. Chair, I move that debate be now adjourned.

[*English*]

The Chair: All in favour of Mr. Serré's motion? We will have a recorded vote.

(Motion agreed to: yeas 6; nays 3)

The Chair: Thank you.

We go back to our regularly scheduled programming.

Mr. Cannings, the floor is yours. You have seven minutes to ask our witnesses questions.

● (1250)

Mr. Richard Cannings (South Okanagan—West Kootenay, NDP): Thank you, Ted, for giving me that time.

Thank you all for being here and waiting patiently while we went through this.

Again, I wish we had all day here, because this is very interesting. I want to thank you for your presentations and recommendations. It makes it really easy for us in a way, when we can see what clear recommendations you have.

I want to start with Mr. Mueller. I'm sorry you're not here face to face, but it's always good to chat with you and get your wisdom. I'm very glad you had a slide here that mentioned Okanagan College, which is of course in my riding and home town of Penticton. You had it as 80 kilowatt hours per square metre per year, though, and I always thought it was 65, which would have made it the best in the country. Maybe that was what they were hoping for.

One of your main recommendations was about training the construction workforce on green buildings. As you may know, Okanagan College has a sustainable construction management technology program. I'm not sure how familiar you are with that.

Is that the kind of program you think is needed? How can the federal government incentivize or promote those kinds of programs across the country, if that's one of the real stumbling blocks to this?

Mr. Thomas Mueller: I think what we call the technical colleges —as you said, Okanagan College in British Columbia, the British Columbia Institute of Technology, the Southern Alberta Institute of Technology, the Northern Alberta Institute of Technology, and so on — play a very important role in training the workforce. If you look at the one slide that I had, 55% of the workforce in the construction industry are in trades. The trades do everything from installing lighting to equipment to all kinds of things. They are the ones who need to be trained, so the technical colleges are very well positioned not only to bring the new workforce on as well as the existing one but also to upgrade the skills in this workforce. It's very important.

I think the government has the opportunity—I apologize because I don't recall the exact name of the department that looks after investing in education and training and so on—to support that in identifying what those gaps are, and then investing in the curriculum that could be developed depending on the types of trades involved. I would suggest that the unions, and also the associations, need to be involved as well. Then they could deliver and support training consistently across the country, because it's not only about specific knowledge; it's about skills.

Also, I think people with new skills, more advanced skills, can also make a way better living in that profession than maybe they could have before. "Sustainability" is a term we use for buildings, as is “high performance”. How do you design high-performance buildings? The trades play a critical role there.

Yes, invest in colleges, technical colleges, and use your federal departments for human development and resources to meet the challenges in that area.

Mr. Richard Cannings: Thank you.

I'll quickly move to the other witnesses here.

Ms. Leach, you mentioned, I think, some of the wasted energy in communities. I think that was part of what you said, and also that personal transportation had the highest percentage of waste at 75%. Is that something that can be remedied, for instance, by a move to more electric vehicles, more zero-emission vehicles? Do they waste less energy than the internal combustion engine does? Is that something that would fit in there, so we would be saving energy as well as creating energy that is non-polluting?

● (1255)

Ms. Tonja Leach: I think that number is not just looking at the personal transportation but at transportation as a whole, from a systems perspective at the community level. There is an immense amount of inefficiency in that system, so we have to look at it from the personal-vehicle side, from fleets, from the sort of return-to-base-type vehicles, and then from the sort of inside-one-city goods movement as well. We need to look at it from all of those different perspectives. Electric vehicles do have a role, but I don't think that's the only solution for that sort of transportation, from a systems perspective at the community level. I think we need to look at what the opportunities are with public transit systems and how they interrelate with personal vehicles, and we also need to look at the fleet opportunities as well.

Mr. Richard Cannings: Okay.

Mr. Bradley, I think Mr. Whalen was questioning you or talking about the fact that, as we electrify our energy system to achieve our climate goals, electrification is necessary. There were questions around how we would provide all that electricity, and you mentioned that we would need more electricity as we save energy. Instead of having these single utilities that produce electricity all in one place, whether it's a dam, a nuclear power station or whatever, is there a role for the distribution of that energy source so people could have an electric car that's fuelled at least in part by solar panels on the roof? I assume that's something that the utilities are considering very seriously as a possible scenario for the future.

Mr. Francis Bradley: Yes, and not just considering—there are a number of pilot projects across the country precisely in this space.

If we are considering what our climate change goals are and what the impacts will be on the economy writ large, I've mentioned to this committee before about some work done by the Trottier Energy Futures. They did a study that attempted to model what our energy system would look like if we attempted to meet our 2050 goal of an 80% reduction in greenhouse gas emissions. That is in a world where the demand for electricity will be two or three times what it is today.

In that instance, it really will be a case that all options will be required: central plant, absolutely; energy efficiency, absolutely; distributed energy resources, absolutely. All of these things will have to come into play if we're going to look at making significant reductions to our greenhouse gas emissions.

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

Mr. Serré, you are going to finish this off. You have about two minutes.

Mr. Marc Serré: Thank you to all the witnesses.

You've brought a lot of good insight for our study—from the Infrastructure Bank to skill development.

I guess, just because of limited time.... I know we have a political party that doesn't believe in climate change, that is constantly....

Mr. Mueller, I just want to ask this. We talked about this earlier—about buildings and carbon-free—and we've had testimony in the past from a political party that is against changing the building codes because the sky is going to fall, there are going to be job losses and no more construction. However, in your deck here, you show that this is going to be a benefit. There are going to be a lot of new jobs created, not only for the environment but also from a small-business perspective.

I just want to ask you to talk, in a minute or so, about the need to look at carbon-free, zero emissions for homes, and how important that is.

Mr. Thomas Mueller: I think, transforming the whole building sector to zero carbon is really important. We have to start it now, because as you know, buildings last a very long time. It's very important.

I would say that, when it comes to homes, it is a bit more challenging because there is a different economic model. Developers have a different economic model. You really need to look at things like district energy systems, systems that tie homes together and supply them with clean, carbon-free sources of energy.

On the building sector, I think there's a better model there. As we said, we have a standard. We already have a number of buildings that we have certified under that standard as zero carbon right now, so we can do this right now. Some of them—actually, two of them—are private sector buildings, commercial developments that have found a way of doing that to get a good return on their investment. This is already happening.

I think the codes play a very important role in that as well, particularly for the residential sector because of the different economic model. As far as I know, there are plans under way to develop a near net-zero code by 2021 or 2022 for Canada, as well as a retrofit code by around the same time frame. I cannot over-emphasize the retrofit code, because all net reductions in carbon between now and 2030 have to come from existing buildings.

Any new buildings, no matter how effectively you build them and how low-carbon you build them, will add carbon to the atmosphere through the building materials and through the carbon that is emitted through construction. It's the retrofit of buildings over the next 10 to 15 years that will reduce carbon emissions from the buildings. These are the net reductions.

● (1300)

The Chair: Unfortunately, I'm going to have to stop you there. We're out of time.

To all of our witnesses, thank you very much for joining us, and a still bigger thank you for being patient for the late start and the disruption during the meeting.

The meeting is adjourned.

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