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Chair

Mr. Leon Benoit

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● (1530)

[*English*]

The Chair (Mr. Leon Benoit (Vegreville—Wainwright, CPC)): Good afternoon, everyone. Welcome to our meeting. Of course, we're continuing our study on innovation in the energy sector. We have five witnesses today.

From the Association of International Automobile Manufacturers of Canada we have Andrew Morin, vice-president, technical and regulatory affairs. Welcome.

From Canadian Manufacturers and Exporters we have Martin Lavoie, director of policy, manufacturing competitiveness and innovation. Welcome.

From the Canadian Clean Technology Coalition we have Céline Bak, president, Analytica Advisors.

By video conference from Windsor, Ontario we have Dennis Dick of Pelee Hydroponics. He is vice-president of Seacliff Energy Ltd. Welcome to you.

By teleconference, which is rare, from Courtenay, British Columbia, we have from Waste to Energy Canada Inc., Alistair Haughton, chief operating officer. He is the person who was trying to make it last week but had some problems with his flight.

We'll go ahead with the presentations in the order on the agenda.

We'll start with Andrew Morin. Go ahead, please, with your presentation.

Mr. Andrew Morin (Vice-President, Technical and Regulatory Affairs, Association of International Automobile Manufacturers of Canada): Good afternoon, Mr. Chair. Thank you for inviting us, Parliamentary Secretary Anderson, opposition critic Mr. Julian, and honourable members of Parliament.

My name is Andrew Morin. I'm the vice-president of technical and regulatory affairs for the Association of International Automobile Manufacturers of Canada. It's a bit of a mouthful, but we do represent the 15 globally based automotive companies here in Canada. The information is in my notes, but the best way to put it is that we represent all the non-Detroit-based companies in this country.

In 2012, our members sold approximately 930,000, or 55%, of all the new vehicles in the Canadian market. I should also note that over 54% of our companies' Canadian sales were assembled in the NAFTA region. Of those sales, 19% were manufactured at Honda and Toyota's affiliated Ontario assembly plants, and approximately 29% of our sales were assembled in the United States. There are 11 of our 15 manufacturers that currently produce vehicles in the NAFTA region, which includes Canada, Mexico, and the U.S. In an aggregate, our members' affiliated manufacturing operations accounted for over 38% of Canada's light duty vehicle production, that being passenger cars and light trucks.

Our association advocates for the sound public policy to support a competitive and sustainable Canadian automotive marketplace. Our members are committed to meeting the mobility needs of Canadians by offering greater consumer choice and providing leading-edge environmental and safety technologies.

We certainly appreciate the invitation to appear here today and to provide some very brief comments regarding the committee's ongoing study into innovation in the energy sector. Indeed, the federal government's proposed future policy orientation with respect to the end users of energy will have a profound impact on Canada's manufacturers and importers of passenger cars and trucks.

Our comments today will focus on three key areas: first, Canadian companies' requirement for continued flexibility to introduce unique-to-Canada vehicles and technologies that will meet the needs of Canadian consumers and comply with federal regulations; and second, the requirement for better quality fuels, lower sulphur, and caution with respect to the expansion of biomass content requirements in gasoline and diesel. Third, I'll briefly touch on some of the challenges associated with the adoption of new advanced technology vehicles, including electric vehicles, in Canada.

In response to the government's recent publication of the GHG or greenhouse gas emissions regulations for passenger automobiles and light trucks covering the years 2011 through 2016, and then successively 2017 through 2025, our association has reiterated its support for a single national program that addresses both GHG emissions and the fuel efficiency of Canadian specification vehicles. It's our belief that only a national approach to reducing GHG emissions and improving the fuel efficiency of new vehicles will prevent the unwarranted development of an inconsistent patchwork of provincial or territorial requirements.

Now, as previous witnesses have already told you, there is no silver bullet or panacea or, shall I say, green magic, that will enable our companies to meet the aggressive GHG emissions standards for 2011 through 2025. All of our companies will need to employ a very broad suite of technologies to comply with the regulations and satisfy Canadian consumers. These include vehicle downweighting; turbo charging; gasoline direct injection; high output, highly efficient, yet small displacement internal combustion engines, both gas and diesel; further hybridization; clean diesel; multi-speed transmissions; and alternative fuels, including electricity and possibly CNG, and ultimately hydrogen.

The real issue is that 70% to 80% of fuel's energy is lost within the vehicle's powertrain and is not transferred to the wheels as motive power. Thus, the automaker's challenge in this new regulatory environment is very complicated. It's costly and it's fraught with risk.

Our members must do several things. They must improve fuel efficiency, and at the same reduce GHG and criteria air contaminant emissions, as well as shrink the transportation sector's carbon footprint. They must keep customers satisfied, while also increasing power, torque, driveability, and safety equipment, which is, by the way, demanded by government regulation as well. We also have to improve utility and legroom, of course.

Canada has unique infrastructure relative to the U.S. Our extreme climate and sprawling geography, including long driving ranges, are natural inhibitors to the introduction of some new technologies, such as battery electric vehicles. Consider, for example, that Canadians purchased only 571 battery electric vehicles in 2011 and only slightly more than 2,400 in 2012, which respectively account for .03% and 0.1% of annual Canadian new vehicle sales.

Even after 13 years on the market, conventional gasoline electric hybrid vehicles, for example, the Prius family from Toyota, account for only about 5% of new vehicle sales in Canada. We have much more work to do.

● (1535)

We expect that the internal combustion engine, therefore, will be primarily fuelled by gasoline and diesel, and potentially by hybrid electric, and these will serve as the predominant vehicle engine technologies for the foreseeable future.

Given that the Canadian light duty vehicle market comprises a significantly different fleet mix relative to the U.S., the types of vehicles sold by our companies in Canada are typically smaller and more fuel efficient than those sold by our members' U.S.-based affiliates.

While our companies will continue to design, build, and sell common products in the Canadian and U.S. markets, we ask that the Government of Canada be mindful that Canadian companies must always require the flexibility to introduce Canada-unique vehicles, meaning vehicles that might not be marketed in the U.S. We might also require the need to introduce unique powertrain offerings or even other technology variants, including safety features that meet the specific needs of Canadian consumers while also satisfying government regulations.

Canadian companies, I would remind you, and not their U.S.-based planners or their international parents, are solely responsible for compliance with these stringent GHG regulations in Canada.

With respect to fuel quality and the requirement for lower sulphur content in Canada, we remind the committee that vehicles and fuels are an interdependent technology. They demand a holistic systems approach to both reductions in GHG emissions and improving the quality of Canadian gasoline and diesel fuels. Improvements in fuel quality will, to a very large extent, determine which advanced technologies will be required to meet the 2011 to 2016 and 2017 to 2025 GHG emissions regulations.

To facilitate the introduction of the latest, and I mean the most cutting edge, internal combustion engine technology and to meet the requirements of government regulations, two critical improvements for fuel quality are required in Canada. These include the requirement for lower sulphur in gasoline to a 10 ppm maximum, and also the higher octane levels; for example, increasing availability of 95 research octane fuel across Canada.

At the bare minimum, the Government of Canada must align its sulphur requirements for Canadian fuels with the anticipated U.S. tier 3 proposal to reduce sulphur in fuel, which is expected to be released either later this month or next month in the U.S.

It's important to note that this recommendation is very consistent with the November 2009 Environment Canada auto industry-oil industry joint work group, which produced the “Report of the Technical Working Group on Certain Fuel Quality Parameters”.

With regard to the introduction of renewable fuel content, fuel additives, and so-called boutique fuels, I just have to say that our industry's experiences with certain biofuels, including higher level ethanol blends and including methanol and biobutanol, for example, have been largely negative. Without sufficient evidence to show that increased biomass in conventional gasoline and diesel is safe for vehicles, consumers, and our environment, the Government of Canada should delay moving ahead on an E15, or higher, mandate for gasoline until all studies are complete regarding the potential impact of these blends upon the current fleet and on future vehicles, both in Canada and the U.S.

Similarly, before any new boutique additive or component is introduced into Canada’s fuelling infrastructure, or indeed the on-road fleet, our companies expect that at a minimum, a potential new additive would be registered with the U.S. EPA and have successfully completed all relevant tests and extensive third party validation covering factors including human health effects, toxicity, fuel distribution system durability and impact, catalyst and engine durability, as well as the finished fuel shelf life and storage.

Finally, I'll just touch very quickly on some of the challenges with the adoption of advanced technology vehicles. Canadian consumers' general price sensitivity and cautious approach to adopting new technologies, as demonstrated by the slower adoption of EVs, electric vehicles, in Canada—and I say all types of electric vehicles, both hybrids and the pure electrics—relative to their U.S. cousins, could further exacerbate our members' challenges in complying with regulations.

Given the relatively small size of the Canadian market and the current lack of a regulatory framework that would permit the introduction of plug-in electric vehicles, for example, it could be difficult for Canadian companies to develop a business case to support the introduction of some ATVs, advanced technology vehicles, in this country. This is especially true given the lack of market incentives available to consumers that would encourage the more rapid adoption of new technologies, as well as the infrastructure challenges inherent in Canada.

The federal government's efforts to improve EV infrastructure availability will, to some extent, determine the pace of EV and PHEV, plug-in hybrid electric vehicle, adoption in Canada over the next decade or so.

I'll stop there. Chair, thank you once again for your time and attention. I'd be happy to take the committee's questions as the meeting progresses.

● (1540)

The Chair: Thank you very much, Mr. Morin.

We now have the next presenter from Canadian Manufacturers and Exporters, Martin Lavoie, director of policy, manufacturing competitiveness and innovation.

Go ahead please, sir, with your presentation.

[*Translation*]

Mr. Martin Lavoie (Director of Policy, Manufacturing Competitiveness and Innovation, Canadian Manufacturers and Exporters): Thank you, Mr. Chair.

I want to thank the members of the committee for inviting me to appear today.

[*English*]

Canadian Manufacturers and Exporters is Canada's largest trade and business association. We represent about 10,000 manufacturers and exporters across the country.

My presentation covers three main topics. First, I will give you an overview of energy consumption in the Canadian industrial sector. Second, I will talk about the drivers of energy efficiency in our sector. Finally, I'll give an overview of government programs that are incentives for manufacturers to become more energy efficient.

In terms of an overview of energy consumption in our sector, the industry in general represents about 37% of all energy consumed in Canada, if you compare it with the residential and other sectors, of which about two-thirds is manufacturing. We're definitely a sector that requires a lot of energy to produce things.

From 1995 to 2010 our industry grew by 11% in terms of output, what is produced in the plants, but despite that, we reduced energy consumption by about 14.3%, which means there has been a lot of investment in getting machinery and plants that are more energy efficient.

Among the 21 subsectors included in the manufacturing sector, about nine represent 92% of all energy consumed. They are paper manufacturing, which is the sector that consumes the most energy at 25%, followed by primary metal manufacturing at 21%, petroleum and coal products at 16%, chemical manufacturing at 13%, and then other sectors such as food manufacturing, wood products manufacturing, and non-metallic mineral products.

Looking at energy consumption is one thing. We want to look at energy intensity. For example, if a sector is declining in terms of outputs, it is normal that the energy consumed would decline. What you want to know is how much energy is used to produce one output, or one unit of output. It's pretty much a ratio of energy consumption and share of a sector's GDP.

In terms of the sectors that I would qualify as best in class since 1995, it would be primary metal manufacturing, which had an energy consumption decline of 11% despite a growth in share of GDP of almost 15%. Paper manufacturing, of course, is a sector that has declined in the last 15 years. Its share of Canada's GDP has declined by 17%, but its energy intensity has declined by over 40%. Despite the decline in the industry they kept investing a lot in energy efficiency of machinery, equipment, and plants.

The source of energy used in the manufacturing sector is mostly dominated by electricity and natural gas, both of which account for 57% of all energy consumption in Canada's industrial sector. Then if you add all the variants of heavy fuel oil, you have pretty much 91% of all energy consumed in our sector.

In terms of the drivers of energy efficiency, we're a sector where investing in energy efficiency can be cost-effective because then you reduce the cost of production. It becomes more competitive, and you protect yourself against the business cycle of some sources of energy.

There is a close relationship between capital investments in our sector and reduction in energy consumption. We hear a lot about the most common ways for manufacturers to reduce their energy footprint. First would be machinery and equipment, more specifically, investments in heat recovery systems, furnace replacement, air leak detection, and air compressor upgrades. Those are all ways you would find if you talked to manufacturers. You hear that a lot.

With respect to training of employees, for most companies that have a sustainable development strategy, getting the right training for employees to make them aware of the importance of energy and so on is a big part of that.

When refurbishing existing plants, some of our members will try to include solar panels and other new technologies that can help them achieve their targets.

● (1545)

In terms of government programs and policies that are seen in our sector as incentives to invest in green assets, I would say the most important one would be the accelerated capital cost allowance that covers classes 43.1 and 43.2, which include a variety of equipment that generates or conserves energy by using renewable energy sources, fuels from waste, or making efficient use of fossil fuels.

This measure was expanded in 2010 to include other types of equipment, especially those related to heat recovery systems. Then in 2011, the federal government again expanded the coverage of types of equipment to include any equipment that generates electricity using waste heat sources. Then last year, there was a further expansion to include clean energy generation equipment. That includes bioenergy equipment.

The second class of government programs is direct support for research and commercialization of clean technologies. Some of them are used by our members, either on their products or in their processes in their plants. One of the big ones would be Sustainable Development Technology Canada, SDTC, which has a $590 million tech fund that addresses climate change, air quality, clean water, and clean soil. They also have another fund of $500 million that supports the next generation of biofuels.

Then you find a bunch of other programs, including ecoENERGY for biofuels, which has a budget of $1.5 billion over nine years to boost Canada's production of biofuels. The scientific research and experimental development tax credit is used by a minority of our members involved in wind and solar energy manufacturing, for example. They'll use that tax credit to do innovation in the sector. A third one would be the 2009 clean energy fund.

Of course, there are other programs at the provincial level. The one you're probably most aware of in Ontario is the feed-in tariff program, which is used to subsidize the production of renewable energy, such as wind and solar.

In conclusion, I want to stress the importance of capital expenditures in our sector. It's true for productivity; it's also true for energy efficiency. At the end of the day, it's the type of machinery we're using. Refurbishing our plants is going to make a big difference.

What is interesting for our sector is that these tax incentives are really achieving some results. In many ways, our members, our manufacturers, have an incentive to invest in these things because there's a business case for using more clean energy.

I'll leave it at that, and I welcome your questions.

Thank you.

The Chair: Thank you very much for your presentation, Mr. Lavoie.

We go now to the third presentation. This is from the Canadian Clean Technology Coalition. We have Céline Bak, president of Analytica Advisors. Go ahead with your presentation for up to seven minutes, please.

[*Translation*]

Ms. Céline Bak (President, Analytica Advisors, Canadian Clean Technology Coalition): Mr. Chair, Mr. Vice-Chair, members of the committee, thank you very much for this invitation to appear today.

I am very pleased to represent the Canadian Clean Technology Coalition, whose mandate is to promote information and facts about the clean technology industry.

[*English*]

It gives me great pleasure to follow the presentations of Monsieur Morin and Monsieur Lavoie, because the companies of this industry are providing the technologies that were just referred to in the two previous discussions.

I'm going to speak about three things: first, to characterize the industry; second, to talk about the barriers for Canada to reap the economic benefits of this industry; and third, to speak about the benefits that would ensue if we chose to pursue these strategies.

Just very briefly about the industry as a whole, it's a vibrant and expanding sector where clean technologies are increasingly becoming economic drivers of growth in the energy and other industrial sectors.

There are more than 700 innovation-based SMEs in this sector in Canada, including 10 sectors overall and 60 subsectors. You can think about it like the aerospace industry, where you have flight simulators on one side and then the forming of nanomaterials and things like that on the other side. It's really as diverse as that.

The thing that unifies the industry is that all of these companies have intellectual property, all of them are investing in R and D, and almost all of them are already exporting. In fact 82% of them already export today, with 50% of revenues from exports.

The thing you may find surprising is that whereas the industry is investing about $1 billion a year in R and D, more than 75% of that investment is by companies that have less than $50 million in revenue. It's a bit of an interesting combination of relatively small companies that are very significant investors in R and D.

Together they employ 52,600 Canadians, which again is a surprising figure, but it's a lot of small numbers, with many small companies who together employ the equivalent of the mining industry or the oil and gas core employment.

I'd be very pleased to answer any questions about the sectors that we have included, but at a very high level it includes production of energy, the use of energy including transportation, manufacturing, etc., and then water and waste water. Where you speak about water, it's almost always to do with energy and water applications, be they in an industrial context, in an agricultural context, or obviously in a municipal context.

I think it's helpful to note that the companies are distributed across Canada per GDP. This is an opportunity for all Canadians, for all regions, and reflects an entrepreneurial capacity that we have across the country to incubate and grow companies that are in many cases world class.

The rate of exports at the moment is 50% of revenues. Total revenues of the industry are $10 billion, which is about half of the aerospace industry today. You may know that in aerospace, exports are now 70% of revenues.

That is a very basic characterization of the industry.

In terms of the challenges the industry faces, many of you will already have heard about capital and debt financing. I think Monsieur Lavoie made some very useful remarks regarding STDC.

To build on that, the government funding is leveraged 3:1 with the private sector in the early stage. The policies we have in place are definitely attracting capital from the private sector. I think that's all to the good, and speaks very highly of the programs that are in place.

You may have heard about the 33¢ to the dollar ratio between investments in Canadian companies and their American equivalents. That leads to slower growth and makes our companies more vulnerable. That's something we need to bear in mind.

What I'd like to add to this discussion is the question of debt and project finance, because it's not often brought up. Companies in this area are exporting, and often in the form of projects, whether they are large deployments or multiple deployments in international markets. Those projects will need to be financed through debt. We don't really yet have policies and programs in place for that. I'd be very happy to answer any questions on some possible recommendations in this area.

The other thing is human resources. It's not necessarily often spoken about in terms of innovation and energy, but in this sector the human resources gaps are not what you would expect. They have to do with international business development and complex systems sales. It's not the usual that we need more engineers. It's actually that we need people who can sell into complex international markets.

● (1550)

What is the potential role of the federal government for this industry? It's important for us to think about how domestic markets must act as a springboard for international exports. That means that the government walks the talk, as it already has through the expansion of Public Works' Canadian innovation procurement initiative. It means a strategic approach to supporting the exports for this sector, and possibly doing that in conjunction with new free trade agreements.

I happened to be in Panama earlier this week. We're about to announce a free trade agreement in Panama. That's an opportunity to really shine a light on this new sector. It just happens that in that market there are certainly opportunities.

In terms of the government's recommendations in the recent Jenkins report on procurement, there was mention of a whole of government approach for defence procurement. We would benefit from a similar type of thinking for this new innovation-based industry, as we have done in the past with aerospace, more than 15 years ago now.

In terms of financial markets and financing, I'd like to introduce the concept of a CMHC for technical risk. I'd like to do that in the context of what will probably be quite a lot of new thinking and policy work to be done on the financing of energy-related technologies in developing countries in the next eight to 10 years.

CMHC has played a foundational role in our property development industry, in our banking industry. If we are to have the same growth and success in this industry, we have to address technical risk. Otherwise the debt that I mentioned a moment ago will not be available to enable our companies to grow.

As Monsieur Lavoie and Monsieur Morin mentioned earlier, I also really believe in the importance of coordinating with our provincial and territorial governments in order to expand the programs that are in place.

What is the opportunity if we choose to focus on this sector? Per our research, it's a $3-trillion global market. To give you a benchmark, the aerospace industry is about $360 million. We have a 6% global market share in that industry. For us to have even just our share of global commerce in clean technology, we're talking about something in the order of $60 billion. It's a very significant opportunity. It represents expanded exports and advanced manufacturing, as my colleagues mentioned a moment ago. It represents an opportunity to balance our exports between advanced manufacturing and natural resources. It provides innovation-based opportunity across the country. It's not just in cities; it's also in rural settings. As well, it provides employment opportunity for skilled workers and young people all across Canada.

As has been mentioned earlier, it strengthens our oil and gas industry, mining industry, our forestry and industrial sectors, both through improved performance and through productivity.

Finally, it would definitely be an area of strength for Canada's global brand. It's one that we should take the opportunity to leverage.

Thank you very much.

● (1555)

The Chair: Thank you, Ms. Bak, president of Analytica Advisors.

We go now by video conference to Dennis Dick, from Pelee Hydroponics.

Go ahead, please, Mr. Dick, with your presentation.

Mr. Dennis Dick (Vice-President, Seacliff Energy Ltd., Pelee Hydroponics): Thank you, Mr. Chair and members of the standing committee. It’s an honour to be speaking to you from the deep south of Canada.

My topic today is the innovation of renewable energy biogas, which is generated through anaerobic digestion. Pelee Hydroponics is a 6.5-acre greenhouse farm producing organic tomatoes. It hosts Seacliff Energy, the farm-based anaerobic digester that is designed to handle a large number of different solid and liquid organic waste materials.

I'll answer the questions that were provided to me.

First, what is the current status of the research, innovation, and technology development for biogas? Most of the research and the innovation and technology are currently taking place in Europe. Aggressive feed-in tariff rates and premiums have driven the uptake of that technology.

Biogas development in Canada can be described as a series of individual achievements. The Biogas Association, an Ontario association of biogas owners, operators, and stakeholders, has been a leader in the research, as well as in assisting in the development of a biogas safety code.

Aided by OMAFRA, the Ontario Ministry of Agriculture, Ontario has led the charge in Canadian farm biogas. There are 30 farm-based operational biogas plants in Ontario and a few in Quebec, British Columbia, and the western and Atlantic provinces. Biogas is also a name given to landfill gas and sewer gas from water treatment plants.

Research, innovation, and technology remain a priority for biogas. The innovation of a mutually beneficial relationship between urban and rural Canada can evolve where rural areas can close the loop of field to food to field with management solutions to organic waste through renewable energy.

Second, how do we compare to other countries? Canada is far behind Germany in the production of biogas. There are 7,200 biogas plants in Germany alone, in a country the size and with the population of Ontario. We can build on and improve on European models. Most of the specialized equipment for biogas comes from Europe, but we have the skills and infrastructure to manufacture that equipment in Canada. Consistent support of biogas will open the doors to manufacturing, exporting, and job creation. A huge opportunity exists to capitalize on organic waste treatment and manure treatment as well, while reaping environmental and economic benefits.

Third, what are the most promising innovative technologies? Biogas production in itself is a promising, innovative, and evolving technology, with several applications to energy markets: heat, power, transportation fuel, gas to grid, and fertilizer. Technology to enable dispatchable biogas-generated electricity can offer a solution to aging electricity grids.

Fourth, what are the barriers and the main challenges? They are: regulation; policy, which can address economics; bureaucracy; and process. A Canadian biogas strategy is needed, a policy with targets and initiatives. There's a need for a centralized body to collect and integrate sector knowledge for proponents, ministries, government agencies, financers, and consumers. One of the barriers is that the absence of a long-term Canadian history of successful biogas plants promotes a perception of higher risk, and that translates into higher associated capital costs.

Fifth, what role can Canada play? It can develop a Canadian biogas strategy with policies, targets, and initiatives. We can look to Europe for aggressive and sustainable biogas blueprints. Canada can incent the production on the back end, and not so much the capital costs, which will enable biogas investment and attract development.

Again, we can adapt variations of the European models for price-adders for innovation, efficiency, and environmental attributes. We can establish a central agency to develop a long-term policy to collect and standardize that information and provide assistance to the ministries, proponents, and financers, and the education of consumers.

● (1600)

Funding is desperately needed for existing associations, like the Biogas Association in Ontario. It has the experience and framework in place to mentor a central agency. This voice of biogas currently assists biogas stakeholders nationally and is poised to transition to a national agency.

We need to enable access to the grid. The dispatchable baseload power and local potential of renewable energy, again, can benefit those aging grids.

The government could provide grandfather incentives to existing plants and keep them on the same competitive level.

We need specific biogas research funding for entities, such as the University of Guelph, Ridgetown campus, which has a demonstration anaerobic digester. I know that universities across the country are researching biogas anaerobic digestion.

We need to target agriculture for this—farmers understand sustainability—and consider biogas incentives and investment as an investment in job creation, investment attraction, and ultimately tax revenue.

So in the words of Norma McDonald, past-president of the American Biogas Council, "Let's not waste our waste.", and I would add to that, let's stop wasting our waste.

Thank you for the opportunity.

The Chair: Thank you very much, Mr. Dick, vice-president of Seacliff Energy Ltd.

Now by teleconference from Courtenay, British Columbia, we have Alistair Haughton of Waste to Energy Canada. He is the chief operating officer.

It's good to have you with us today, sir. It's unfortunate that you couldn't make the connections for our last meeting.

Go ahead, please, with your presentation, for up to seven minutes.

● (1605)

Mr. Alistair Haughton (Chief Operating Officer, Waste to Energy Canada Inc.): Thank you very much, Mr. Chair.

Thank you, committee members, for allowing us to present today. It's definitely a privilege on our part.

Waste to Energy Canada Inc. is an innovative supplier of patented and proprietary technology, specifically in the field of gasification. Very quickly, what we do is take a mixed group of waste streams, and I'll explain those in a second, and we place those waste streams into a combustion chamber. However, we do not combust the waste. We keep it at a sub-stoic level, and then draw a synthetic gas off that waste. Then we combust the gas at a higher temperature. This gives us a very clean gas and emission profile, emission profiles that are able to meet and better any emission standards that are currently available and regulatory compliance levels in the world globally.

We have a very long in-service history with the technology, going back 15 years, and have deployments as far out as the Ronald Reagan ballistic missile base on Kwajalein Atoll in the Marshall Islands, down to the Cayman Islands, Wake Island, the North Slope of Alaska, oil and mining camps, and smaller communities. We also are up in Canada, just recently, with a smaller deployment of a 1.5-tonne system for the community of Old Crow above the Arctic Circle in the Yukon. That system was flown in by a Hercules.

We are able to deploy the technology in a very modular and scalable fashion, and by that I mean from one tonne a day of waste through to multiples of hundreds of tonnes, upwards of 500 tonnes a day. We work on a decentralized model, which primarily means that we eliminate the need for communities to hub or transport their waste. We're able to drop a system into any community globally and provide its waste management solutions in-house rather than it having to centralize and go to larger systems like the mass burn system. We can match the technology to any community or industry size and its growth model, again through the scalability and the modular nature of the technology.

We provide turnkey solutions in waste management. We are able to effectively destroy and provide recovery through MSW, so we're able to take all forms of municipal solid waste. By this I mean there's no presorting required if that technology is not available. The technology we own is able to take the waste directly from the garbage truck, if you will.

We also provide services in that the technology can effectively manage hazardous waste and medical waste; waste water, which is raw sewage; abattoir or slaughterhouse wastes; biomass, which is more of a homogenous waste stream, for instance, pine-beetle kill, spruce-beetle kill. We provide a closed-loop approach in many of our projects, which includes a front-end recovery system where we're able to separate out all recyclables. This is very good for communities to understand where their model for RRR is. Those recyclables go back to the market; organics go to an AD, anaerobic digestion, solution, which the last gentleman was just speaking about. The final non-recyclable organic material, the residuals, go through our system, are gasified, and the residuals from the AD system at the close of that system's loop go back to the BOS. Then, of course, we're able to clean up all of the sewage that is present as well, the human waste.

The scalable example that I gave in regard to Old Crow, again, provides you with an understanding of how we're able to deploy into the highest, most remote regions of Canada, as well as globally. We currently have, as part of our ongoing process, a number of systems that are being deployed into Ukraine, Russia, Poland, the U.K., and New Zealand. The solutions that we provide are key in the mitigation of the primary drivers, especially here in Canada and globally, of air pollution.

● (1610)

The primary component that we release into the atmosphere is CO_2. That CO_2 is basically being unlocked from organics that are currently in the waste stream so we don't create CO_2; we just release it. We're able to convert that CO_2 through a scrubbing process and provide that CO_2 back into greenhouses and/or algae production. We feed them CO_2 and they produce oxygen. It's pretty straightforward.

We're also able to eliminate water contamination. I will give a couple of examples again.

Old Crow is a very good example. There was an open pit landfill where it was being burned or landfilled because of the permafrost. It was just running straight down the hill on a clay bank into the Porcupine River. We also eliminated a cross-vector contamination issue through medical waste being transported to drinking water and such by animals like birds.

We assist communities and industry implementing effective RRR solutions. We overlay all projects with an ISO 14001 environmental management system. We employ local community operators. The technology is very low in O and M, operations and maintenance, so we don't have to fly in Swiss engineers. The teams that operate these systems are local community members.

The energy recovery component is always key. It's actually an add-on in the sense that our primary focus is to remove those vectors as I talked about earlier. The upside to it is cleaner air, cleaner water, and of course, the energy recovery component. For instance, one particular facility that our technology is employed at is in Husavík, Iceland, where the heat is recovered and sent to a community grid for heating purposes of the local community. We're also able to produce electricity from the system, which is just boiler to turbine to generator and to the grid.

We have a large export market. Unfortunately, we are not that well implemented within Canada mainly due to growing policy regimes and some of the other issues that were described earlier. In Canada, we're a little bit further behind the curve when it comes to the communities being educated on this type of technology, which includes, as the last gentleman was mentioning, AD and biogas.

Our strongest markets to date are outside Canada. We currently are one of the last RFPs compliant to the New York City bid. As well, our technology is being featured in, and won, a bid in Santa Barbara County. We also are now in the RFP process for Maui. We are under way with projects in Poland, Ukraine, Russia, Panama, and South America.

I must add that the EDC and the Canadian Trade Commissioner Service have been absolutely fantastic in assisting us at every level in all of those overseas projects. Interestingly enough, the last lady was mentioning Panama. We have worked very well with the group in Panama, as well as of course overseas providing credit facilities to the company.

We provide a very interesting holistic model, which incorporates a socio-economic overlay. I want to highlight two very good projects here in Canada, one being the Kelly Lake Métis Settlement Society, a first nations group on the Alberta and British Columbia border. For the community I don't recall the exact employment rate but there's probably up around 75% unemployment, mainly due to the devastation of the pine beetle kill in the forest region with the community being a logging one by nature.

W e will be able to harvest that pine beetle kill for the next 25 to 30 years. We're able to facilitate those community members back into the field for work. We deliver that employment component. We then are able to translate that wood waste into a usable byproduct that is both heat for processing and electricity to the grid, which provides them with a long-term residual annuity, if you will, to the community.

We're also able to convert the generated heat into community grid heating systems and the implementation of a food greenhouse. It's a five kilometre radius for the food. We're also able to provide the greenhouse systems that use the residual heat from the equipment that provides for the silviculture for the replanting of the harvested material we take from the forest.

We also have a very similar project that is almost the same in size and scale. That is for the Tl'azt'en Nation, just outside the Prince George and Fort St. James area.

● (1615)

We're currently involved with three projects in the James Bay area with first nations groups there as well.

Again, it has been a great pleasure to present to you today.

My apologies for not getting that flight earlier. That wasn't the best for us.

I thank you again. I welcome any questions you may have.

The Chair: Thank you, Mr. Haughton.

Thanks to all of you for your presentations. I know that the members have a lot of questions. We'll start with a seven-minute round, starting with Ms. Crockatt, and then it will be Mr. Julian and Mr. Hsu.

Go ahead, please, Ms. Crockatt, for up to seven minutes.

Ms. Joan Crockatt (Calgary Centre, CPC): Thank you very much, Mr. Chair.

My first question is for Martin Lavoie. I was fascinated when you said that there's been a lot of investment in getting machines more efficient and getting our industries more efficient. I'm not sure the Canadian public knows that.

I think you said that paper was the highest at 25%, then primary metal at 21% to 23%, and then bitumen at 16%. I'm just wondering if you could enlighten us a little bit more about those top players and how they have become more efficient.

Mr. Martin Lavoie: Yes. On what you just said in terms of the percentages, the share of energy consumption, it's very concentrated. As I said, there are about 21 subsectors in manufacturing. Nine of them consume 92% of all energy.

In terms of paper, the context was that they've had a very hard cyclical business. Since 1995, a lot of very energy-demanding plants have shut down as well, so I guess it has reduced the consumption. As I said, they also invested a lot, because the amount of energy they use to produce one output has also decreased. Not only have they had rough years and low profitability, but it seems that they have invested in making their plants more effective and their machines more effective.

Ms. Joan Crockatt: Could you tell us how? Could you give us details of that?

Mr. Martin Lavoie: Well, for example, I know that one of our members, Canfor in B.C., put together a sustainable plant, I think back in 2006, and then they looked at everything. As I said before, they will look at the machinery they use to make their products, and they will look at their plants, their buildings, to see if there are leaks in the air or whatever, in the furnaces, the heating systems, and the ventilation systems.

They will look also at their employees, as I said. Part of their plan was to train employees better, to make them aware of how they can actually succeed and reach some targets.

In their specific example, they've reduced their energy consumption by 25% with that plant.

Ms. Joan Crockatt: What example is that? I'm sorry.

Mr. Martin Lavoie: It's Canfor in B.C.

Ms. Joan Crockatt: At Canfor...you may not have it with you today, but I wondered if you could supply us with more information about that in specifics, because I think that would be very interesting.

Mr. Martin Lavoie: I could definitely, yes.

Ms. Joan Crockatt: That would be great.

Ms. Bak, I think there are still some myths that Canadians are hewers of wood and drawers of water. For what you've suggested to us today, that certainly would not be the case.

Can you tell us about how Canada is doing with regard to clean technology and high-tech, high-quality jobs in this sector?

Ms. Céline Bak: The current U.S. versus non-U.S. export split for clean technology is 56% to the U.S. and 44% to the non-U.S. The forecast by the companies for that moving forward is for it to actually become half and half non-U.S. and U.S., and for the share of emerging markets to grow significantly. At the moment, Europe is the dominant non-U.S. market. As you say, these are not hewers of wood and drawers of water. These are companies selling to Germany and selling to the U.K. These are highly competitive, difficult markets, and our companies are winning projects there.

I was in Mexico earlier last week. In emerging markets there's a great openness to buying from Canada, and many opportunities. Waste-to-energy is a good one. For leaks of various kinds, whether it's methane at Pemex or energy leaks at the major Coca-Cola bottler, which is a multi-billion dollar industry, we have a very good brand, and there are markets that are quite dynamic.

I would say that Asia is an area where we probably need to think some more, because there are still concerns regarding intellectual property in China. If you're investing a billion dollars a year in IP, you should be concerned about it.

The average number of countries where companies are applying for patents is 11. There's a very interesting rule of thumb. For a $10-billion industry, 10% of revenue, or $1 billion, is invested in R and D. Of that, 10% is invested in IP protection. That is invested for 11 patents, on average, per company. It obviously varies according to the type of sector you're in.

● (1620)

Ms. Joan Crockatt: If I got the number right, I think that this sector employs 52,600 Canadians?

Ms. Céline Bak: Yes, with the 5x supply chain.

Ms. Joan Crockatt: Okay.

How has that changed in the last two to five years?

Ms. Céline Bak: The figures we have are from the last three years. The compound annual growth rate over the recession, with all of the issues in the global credit crisis, was 18% employment growth per year.

Ms. Joan Crockatt: So our high-tech, high-quality jobs in Canada are growing at a rate of 18% per year.

Ms. Céline Bak: That's in the clean technology sector; I can't say for all other IT sectors.

Ms. Joan Crockatt: You said that a lot of those jobs were energy related. I'm wondering how you correlate.... Has the energy sector responded by developing high-quality, high-tech jobs in clean energy?

Ms. Céline Bak: I think there is an opportunity in Canada for us to develop greater ties between our innovation-based industries and our established traditional industries. Obviously, as Monsieur Lavoie and Monsieur Morin spoke about earlier today, there are investments being made.

I will say that most innovation-based industries in Canada find it harder to sell at home than they do to sell abroad.

Ms. Joan Crockatt: Even if their primary customers may not ultimately end up being in Canada, or only some of them, are they building on what they're learning in Canada to sell these high technologies elsewhere?

Ms. Céline Bak: Not enough.

Ms. Joan Crockatt: Not enough.

So this is where you want more innovation to happen.

Ms. Céline Bak: Well, with a greater familiarity between our innovation-based smaller companies and our large established companies, I think together we could put together what you might call a power play.

These markets are still emerging, which means that you'll go to a market and work that market for three years, and then perhaps leave the export market for a period of time. It sort of depends....

I think if our big and small companies, like our large engineering firms, for example, were more familiar with our companies such as those that were discussed earlier, we would be able to do very well.

The Chair: Thank you, Ms. Crockatt. Your time is up.

We go now to Mr. Julian, for up to seven minutes.

Go ahead, please.

[*Translation*]

Mr. Peter Julian (Burnaby—New Westminster, NDP): I want to thank all our witnesses who have said some very interesting things.

Ms. Bak, I will start with you.

We know that we have a record trade deficit. We have lost more than 500,000 jobs in the manufacturing sector. The situation in terms of value-added jobs is very bad in Canada. There is no doubt about that.

So I would like to know how we could implement policies to help create jobs in your industry. What is the job creation potential in clean technologies? What is the difference between our current percentage and the global market? What kind of results could we obtain by implementing policies that could really spark interest in the sector and promote it?

Ms. Céline Bak: Industry policies are still being developed when it comes to international financial institutions and our policies on developing markets.

Currently, about a quarter of our sector's exports end up in developing markets. Obviously, if we were to develop those markets —be it in Latin America or Asia—job potential would increase considerably.

We currently hold 1% of the global market. If we had our fair share, 2.6%—our share of international trade—our industry would generate almost three times as much revenue as it is currently generating. So there would potentially be at least twice as many jobs in the sector. We anticipate that business growth will lead to higher income per job owing to greater productivity and competitiveness.

By focusing more on emerging markets, we will have access to markets that are not necessarily visible at this time. We can do that by developing policies with regard to those markets, and by giving due attention to the fact that our competitors, in Germany and elsewhere, are investing in feasibility and financing studies through concessional investing and concessional support. Germany and Japan are very strong in that area, and Korea is also gaining ground. So that's something to think about.

● (1625)

Mr. Peter Julian: I see, but we are talking about hundreds of thousands of potential jobs and the risk of Canada losing that opportunity. So that's something to think about, especially given the current size of this sector, which is lacking value added.

Thank you very much.

Mr. Lavoie, I will now go to you, since I thought your testimony on November 1, 2012 before the Standing Committee on Industry, Science and Technology was very thought-provoking. You said the following:

[*English*]

> ...this week we published a report that compared the R and D tax credits for large companies across the OECD and some other emerging markets. We found that the international competitiveness of our R and D tax credit will fall from number 13 to number 17....

We already know that we have the worst record in the industrialized world in terms of public investment in R and D, the worst record in terms of patent development, and the second worst record in terms of the number of Ph.D.s we produce. Canada in the last six years has a lamentable record on R and D.

Could you comment a little more in terms of the competitiveness of the R and D tax credit falling to number 17, and what that means in terms of the Canadian economy?

Mr. Martin Lavoie: That was in the context of the changes made in last year's budget to the SR and ED tax credit. That international comparison was made for the treatment of large companies. It did not include the tax credit that is offered to what we call small CCPCs, which benefit from a 35% refundable tax credit under SR and ED. The large companies only benefit from a 20% tax credit, which will now be 15%. It was in that context that we compared the competitiveness of the tax credit.

We do have some members who will use that tax credit in the clean energy sector. Some of our members, not a big group but close to probably 75 to 100 of our members in Quebec and Ontario who are in the business of wind energy and solar energy, will use that tax credit to sustain their business.

In terms of that, what it means for them, it's going to cut, of course, all their capital investments.

Mr. Peter Julian: Thank you for that.

Mr. Dick, thank you for your testimony as well. Much of the research being done in the biogas sector is being done in Europe. You mentioned, and I'll quote you, that we are “far behind”. You mentioned a Canadian biogas strategy.

This is now becoming.... Perhaps the title of our study should be “We're Far Behind: How Do We Catch Up?”, because certainly that's been reinforced by so many witnesses.

How do we catch up in biogas? How do we put in place a Canadian biogas strategy?

Mr. Dennis Dick: I suppose we need a study to see who we can best align with to mentor and collaborate with. A start, as I mentioned, would be Ontario's Biogas Association. There's a lot of help to be had from the American biogas association. We can simply look to Europe and see what they have done in those countries, especially in Germany and England. The U.K. is very aggressive on biogas these days.

We have the knowledge in these associations and industry stakeholders to put something together.

Mr. Peter Julian: What is the role of the federal government then in helping to catch up? We are so far behind in so many sectors, and in R and D we're really at the bottom. We're cellar-dwellers, in sports parlance.

How do we catch up in your area, and what does the federal government need to do?

● (1630)

Mr. Dennis Dick: Put together that central agency to collect that information, study the policies of other countries, and follow their lead; in fact, build on their lead. As we can see in the European countries, when the biogas production is incented on the back end, growth explodes. Industry, especially agriculture, just needs a bit of a chance, and as Canadians we'll be right in there.

The Chair: Thank you, Mr. Julian.

We'll go now to Mr. Hsu, for up to seven minutes.

Go ahead, please, sir.

Mr. Ted Hsu (Kingston and the Islands, Lib.): Thank you.

Let me continue with you, Mr. Dick. I'm reading in your notes about a Canadian biogas strategy. It seems to me that this would require a lot of coordination between the provinces, since feed-in tariff is a provincial matter and a number of other facets of biogas are provincial.

Is this something the federal government should be collecting the provinces together to do? What does a Canadian strategy look like?

Mr. Dennis Dick: A Canadian strategy, in simple terms, would be to incent provinces' feed-in tariffs for electricity. That's their jurisdiction, but we need more than that. The feed-in tariff for electricity isn't enough, and we can see that as biogas has not taken off at all at very high levels in the last few years.

The federal government, possibly delivered through the ministries of agriculture, environment, and energy, could provide those price adders that would make it attractive for investment and development in biogas systems.

Mr. Ted Hsu: You're saying to provide the price adders without regard to the different provincial programs and incentives for biogas, just the national price adder.

Mr. Dennis Dick: Correct.

Mr. Ted Hsu: Okay.

Mr. Morin, you said there was a lack of regulatory framework for plug-in electric vehicles.

Mr. Andrew Morin: Yes, and—

Mr. Ted Hsu: I was wondering if you could expand on that to explain what's missing and who needs to do some work.

Mr. Andrew Morin: It's not all doom and gloom out there as far as new technology in the auto sector is concerned. We're in the midst of the biggest technology spend by all companies globally, and particularly in North America, to meet these new U.S.-aligned GHG regulations, which are a derivative of course of new fuel efficiency regulations.

To your point, the regulatory infrastructure will come. The point is that the technology's ahead of the parade to some extent. Regulations are notoriously slow at catching up with new technology. Work is ongoing with Transport Canada, NRCan, Environment Canada, and our industry to develop codes and standards to support the more extensive deployment of electric vehicles in particular. I'm speaking of pure electric vehicles.

Mr. Ted Hsu: You're telling me that some work needs to be done in the federal area as opposed to the provincial regulation of—

Mr. Andrew Morin: We certify vehicles to federal standards. Although there are provincial highway traffic acts of course that can bear on certain motor vehicle characteristics, by and large it's a federal emission standard and a federal safety standard. We can't lose sight of the safety side of the equation either.

Mr. Ted Hsu: Thanks.

Mr. Lavoie, you told us there have been a lot of gains in energy efficiency from improvements in the equipment that is used. We've talked a lot about Canadian industry being able to import equipment from overseas to improve labour productivity and the usefulness of lower tariffs on imported equipment.

I'm wondering if that is connected to gains in energy efficiency at the same time.

Mr. Martin Lavoie: It's a good question. Investment in any type of machinery and equipment, imported or not, is definitely a good thing. I don't have the numbers to see how much is imported versus made here, but we do have a pretty strong manufacturing sector of machinery and equipment in Canada. We export a lot of that. I would need to verify that. I'd be happy to get back to you. This would be an interesting stat to have.

● (1635)

Mr. Ted Hsu: Thank you.

Mr. Haughton, we've heard in this committee from other gasification companies involved in gasification of waste. In my mind I'm trying to build a picture of different companies and different technologies. I was wondering if you could highlight some of the differences between your company and some of the other companies in Canada. What are three distinct things about your company that I should remember?

Mr. Alistair Haughton: We're the only company in Canada that has a commercially operating facility. We're the only company in Canada that holds patents globally, including China, oddly enough, and more than 11; we actually went over the top. I think we went to 36 countries for patents. Our technology to date is able to attain the highest level of international compliance over all other technologies, while utilizing the least amount of emissions control systems.

To give you a snapshot, if you take the physical footprint of, let's say, a facility of 60 tonnes a day, most technologies are on par with the size of the footprint; it's the emissions stack that looks like an oil refinery hanging off the back side of it. Our emissions stacks are actually internal to the system and represent about one-third of the footprint. We're able to remove a vast cost component from the capitalizing of the project, which puts us into a far greater accessibility range for communities and industry.

Last, the technology we deploy, not to oversimplify it, is so straightforward. It's very simple to understand. It's very simple to operate. It does not take a team of hundreds of engineers to operate the system. As I mentioned before, the system can be operated by community members—

The Chair: Thank you.

Mr. Alistair Haughton: Pardon me?

The Chair: I'm sorry. Go ahead.

Mr. Alistair Haughton: Of course, in the utilization and the recovery of the energy, we're able to take energy from the secondary chamber, from the combustion of the gases, and we're then able to convert that into three positive revenue streams. We're not just taking the energy and converting it from the waste into, say, gas, for firing an engine. We're not taking that energy and converting it into a fuel, which we could do.

We're taking that energy and converting it into three usable streams, one being the process, heat; the second being that community grid type of saturated heat; and then, of course, the third being electricity. We end up becoming a true combined heat and power facility with a very small footprint, very low capital costs, and proven patented technology.

The Chair: Thank you, Mr. Haughton.

Thank you, Mr. Hsu.

We'll go now to the five-minute round, starting with Mr. Trost, and then we'll have Mr. Calkins and Ms. Liu.

Mr. Brad Trost (Saskatoon—Humboldt, CPC): Thank you, Mr. Chair.

Probably the widest energy efficiency or energy innovations that everyone in the country would notice would be with regard to their cars. Most of us drive. It's a big thing as far as most people's lives go, usually starting in their late teens and going forward.

My first question is for Mr. Morin. From your industry's perspective, what is it that drives the fuel efficiency of the vehicles? One of the things I've often wondered is why governments are always so.... Even our government meddles way more than it needs to, I think. Why are governments so interested in doing fuel economy regulations when consumers can sit down and figure it out? Do they want to drive an F-350 Ford or do they want to get a much smaller putt-putt vehicle to get them to and from work?

From your perspective, why don't consumers pick the fuel-efficient vehicles on their own? Why is it that the government has to get in there, or why is the government getting in there to push consumers in certain directions?

Also, could you give us a brief summary of how fuel efficiency regulations work here in Canada?

● (1640)

Mr. Andrew Morin: How much time do we have?

Voices: Oh, oh!

Mr. Brad Trost: You have three and a half minutes.

Mr. Andrew Morin: Very quickly, in Canada we have, in effect, a greenhouse gas emissions regulation as opposed to a fuel efficiency regulation, but one is a derivative of the other. Those regulations are much to the industry's support. I think I'm speaking for all auto companies in this country when I say that, generally speaking, we think a U.S.-aligned direction is good. A continental perspective on this is probably the wisest move. There are, of course, niggling issues for some companies with some aspects of the U.S. regulations and in terms of the technology and the vehicle choices that those may drive in this country.

I would just say to your point that we're becoming fuel efficient for a couple of reasons. One is that consumers are demanding it. Two, governments in turn are demanding it, for various reasons. Canada is doing it as part of its effort to meet environmental targets and climate change targets. Certainly, the U.S. is moving for the same reason. I would just say that, generally speaking, Canadians do make fairly fuel-efficient choices in vehicles that suit their needs: the gentleman who might need the F-350 Ford out in the Prairies to do farming will do that.

Mr. Brad Trost: Let me follow up on that. In the way that the regulations are set up, is the environmental tax, we'll call it, put on each individual, specific vehicle, or is it applied on a fleet basis? Do you end up, effectively, with some vehicles subsidizing other vehicles through the way the price structures have to be skewed? Is it very vehicle specific? Can the technology be much more vehicle specific or is it more broadly based?

Mr. Andrew Morin: I would say that the targets the vehicles are required to meet or the fleet is required to meet, on an average, are class segment specific. Light trucks have one set of targets, essentially, and passenger cars and smaller SUVs have their own set of targets.

Ironically, our regulations, I must say, do put a disproportionate share of the burden on the cars that are already the most fuel efficient. Ironically, they have the most stringent targets and the biggest challenge ahead of them to become more fuel efficient in turn.

This is not to denigrate the makers of trucks. It's simply to say that the U.S. rule, I would say, which we have aligned with, is a little more lenient in some areas in terms of the pickup truck use—

Mr. Brad Trost: Good.

Mr. Andrew Morin: —for various reasons, some of which my members might not support, and others that might make practical sense.

Mr. Brad Trost: Could I get in one quick last question?

I was reading an article the other day about the flexibility of fuels that you can have in different parts of the world. They were noting in China it's methanol and gasoline, back and forth, and Brazilians have a bunch of options, including ethanol and natural gas.

Are there specific challenges in Canada that would make it difficult for us to adopt more ability to flex between different fuels? I'm not just talking about ethanol; it's a whole range of things. What specifically in Canada would stop us from taking on those innovations such that people could then shop in a marketplace between options of fuels for their vehicles?

Mr. Andrew Morin: There's very much a chicken-and-egg argument here. The fuels aren't available. The engine technology and the powertrain technology won't be there to support the use and the consumption of those fuels. Conversely, the same applies.

I will say that it's our position among our membership.... You won't hear, traditionally, a stampede of support for higher levels of biofuel, and in particular ethanol, among our members. That's not to run it down as a fuel. It's simply to say that higher level blends within gasoline, separate from E85—so I'm looking at E15, E20, and beyond—still have not been proven in terms of the durability on the current existing vehicle fleet, and in particular, on those 15- to 20-year-old trucks we were talking about that people like to keep and maintain. Similarly, the jury is still out in the United States on this. There are several lawsuits flowing. I'm not looking to pick an argument with the renewable sector at all, but simply to say that we urge caution in that respect.

The other thing about boutique fuels is that everybody these days seems to have a panacea to introduce into a litre of gasoline or diesel to make it go further and stretch its efficiency. We don't support drop-in requirements for fuels. We need good quality fuel. Generally speaking, plug-and-play compatibility with new additives is not our preference until there's been durability testing done, and in both the United States and Canada, obviously, to support that.

● (1645)

The Chair: Thank you.

Thank you, Mr. Trost.

Mr. Calkins, you have up to five minutes. Go ahead, please.

Mr. Blaine Calkins (Wetaskiwin, CPC): Thanks, Chair.

Mr. Lavoie, we hear a lot at this committee. We're nearing the end of a study, and I have to say that most times I don't hear a lot of new things. Everybody brings a different perspective on their particular industry, but we hear a lot of the same themes over and over again.

The one different thing that you brought today, and my colleague, Ms. Crockatt, touched on it earlier, is that training of employees is a key part of any sustainable development initiative. That's something I don't think I've heard said by anybody else who has come to this committee.

I'd like you to elaborate, if you could, in just a minute or so, on what precisely you mean by this and how that particular aspect of your program has actually.... If we can train everybody in various industries or provide incentives to train people in various industries to be more economically efficient or energy efficient in the delivery of whatever it is, of the products and services that you're delivering, I think this is the low-hanging fruit, and we're not even talking about it.

Mr. Martin Lavoie: You're right. I would say there is a similar point to be made about productivity as well.

We focus a lot on the machines. We don't focus much on the people who will actually maintain and operate the machines. I would say it's the same thing as having a very fuel-efficient car but you drive it in a way that is not very fuel efficient.

In the examples I was giving, the whole idea of training an employee is more popular for companies that have a plan that goes beyond just buying new machinery or refurbishing their building. More and more of our member companies are aware and they do adopt these plans, with consultants or internally.

We've had lean manufacturing, where you were training people to see if you could become more productive by changing the way you put the people on the line and the way you operate the machine. It's the same thing for energy efficiency. Operating the new machinery the right way, having your people in the plant giving you some intelligence with regard to the buildings in general, and having good maintenance of the building internally, are all things that companies will want to do. A lot of them will go with consultants that will put together a sustainable plan that will focus on training the employees to make sure they achieve their targets.

As I said, Canfor is a good example. They reduced their energy consumption by 25%. I don't know what share of that was due to training their employees, but it had to be quite a significant share of it.

You're right, and it's something we keep emphasizing. I hope in this year's budget and the federal budget next year, there will be more focus on labour training. It's definitely an area where we need to do something more.

Mr. Blaine Calkins: I look forward to that.

If you have wording for a specific recommendation for our committee to put in our report on this, I would encourage you to do that. I'm not looking for you to wordsmith that right here in front of me, but I would be curious to see a recommendation that we could at least examine in part of our study here.

Mr. Dick, I want to talk to you about your technology.

Is it a thermal hydrolysis technology?

Mr. Dennis Dick: It's a thermophilic and mesophilic technology. We use heat to aid fermentation, and then the biogas is created, burned in a reciprocal engine, and from there we have some heat recovery that we use in the adjacent greenhouse and facility.

Mr. Blaine Calkins: You can use virtually any biomass as feedstock, except I'm guessing you're not going to do well with lignans or anything from woody fibre. Is that right?

Mr. Dennis Dick: Correct. We focus mostly on organic waste that's MSW, municipal solid waste, or source separated organics or food-processing waste.

Mr. Blaine Calkins: You talked a lot about how your technology could be helpful for the agriculture sector, and I believe you. I'm very familiar with thermal hydrolysis technology.

Is there anything in your technology that's been certified by the OIE, with the removal of specified risk material, prion degradation, or anything like that?

Mr. Haughton talked about vectors and so on in the medical waste stream, but in the agricultural waste stream from slaughterhouses, we do have some real issues. We could use that waste stream to create the nutrient-rich fertilizers that you talked about, but if we're not getting rid of prions or specific risk material or any other types of disease control that we need at the front end.... I'm wondering if your technology addresses some of those concerns.

● (1650)

Mr. Dennis Dick: To a point. As I said, we have a thermophilic pre-treatment, so we are able to reduce 99.9% of the pathogens.

With regard to things like brains and spines, this technology would not take care of that, but virtually everything else.... There is a treatment where things can be pasteurized again. That's more so in manure treatment, the nutrient management as to the agricultural component of this technology. This is where most of the ADs are situated.

The Chair: Thank you, Mr. Calkins.

We now go to Ms. Liu for up to five minutes.

Go ahead, please.

[*Translation*]

Ms. Laurin Liu (Rivière-des-Mille-Îles, NDP): Thank you, Mr. Chair. I also want to thank our witnesses for their suggestions and testimony.

I will begin with Mr. Lavoie.

I would like to have more information about the survey of your members regarding the scientific research and experimental development tax credit. I know that report was published a few months ago in the *Research Money* newsletter. Could you tell us about the findings of that survey?

Mr. Martin Lavoie: Yes. That is the Management Issues Survey. It focuses on management issues in the manufacturing industry. After the changes to the R&D tax credit were announced, we wanted to see how the companies would react.

It was still very early. The changes had not yet been implemented, but respondents could choose from a range of answers, and about 20% of companies said that they would look into what was being done elsewhere in terms of tax credit because the loss of 5% would seriously affect their ability to reinvest in R&D in Canada. Nevertheless, 69% of companies—or the vast majority—said that they could not necessarily afford to do R&D elsewhere, and that they may cut their budget once the changes were implemented over the next three or four years.

Ms. Laurin Liu: You also asked your members whether they thought that the elimination of capital expenditures eligible for that tax credit would lead to the offshoring of their research activities.

Do you have any figures with regard to that?

Mr. Martin Lavoie: That measure will have the biggest impact, after the rate reduction. More than half of our members have capital expenditures in R&D for things like machinery. Some of our members who represent large companies—for instance, in the resource processing sector that often involves pilot plants, especially in the mining industry—have significant capital expenditures. As I mentioned, more than half of those people said that this measure would affect them.

Ms. Laurin Liu: Could you submit that survey to the committee? It could help us with our final report.

Mr. Martin Lavoie: Very well.

Ms. Laurin Liu: Ms. Bak, you suggest that a strategy on green technologies be adopted. You also conducted a survey in January 2011 on SMEs' needs in terms of federal support for research and development.

Could you tell us about the results of that survey?

Ms. Céline Bak: The survey concluded that the most popular programs were SHRED and SDTC's program. Another conclusion was that companies wanted various financing programs to be coordinated, so that they don't have to learn a new procedure for each program. Obviously, I should have mentioned that IRAP was among the top three programs.

Ms. Laurin Liu: I would like to quote an excerpt from your report. I only have the English version. It says the following:

[*English*]

> In 2009, total BERD by Canadian clean energy SMEs was $512 million. For the same period, total BERD by Canadian clean energy large companies was $1.02 billion.

[*Translation*]

We see that investment in companies' research and development has been declining since 2008. That sector contributes a lot to research and development. It helps increase our budget and expenditures in that sector. I think that's a success.

You also talk about the importance of establishing a national procurement policy.

Could you elaborate on that?

● (1655)

Ms. Céline Bak: Thank you. That is a very interesting question. We should obviously be very careful when it comes to our obligations under agreements on free trade and international trade. However, I think that we, as a society, could decide to invest in infrastructure for our communities that are far from the network or outside the network—self-sufficient communities. We could keep in mind that Canada is advanced when it comes to energy, water treatment facilities and waste management systems. That was discussed today. We should at least be aware of the fact that Canadian companies could serve as a showcase for trade in our remote communities in need of infrastructure.

[*English*]

The Chair: Merci, Ms. Liu.

Mr. Trost, you have up to five minutes.

Mr. Brad Trost: Thank you, Mr. Chair.

I was listening to Ms. Bak when she was talking earlier, and I got the impression that a lot of the companies involved in the sector there tend to be on the smaller side. They're not always the biggest. They tend to be the people with the ideas, but maybe they haven't fully implemented them.

From your perspective as their representative, what tend to be some of the particular issues the smaller firms have? I know you talked here about international business development, but what are some of the other issues they face as they try to take their better mousetrap to the next level?

Ms. Céline Bak: Thank you for that very interesting question.

There is perhaps an opportunity just to raise the familiarity with this sector among our established industries. We do find ourselves in situations where we'll fly in a large U.S. corporation to solve a problem where there are some Canadian companies that should be invited to the table. The ability to build confidence in what is actually a fairly accomplished industry internationally would be useful. That would open some doors, which may not always be open today.

Mr. Brad Trost: You're basically saying that there should be a bit more education or advertisement. How do we do that?

Ms. Céline Bak: Obviously the government has put in place the Canadian innovation procurement initiative. Highlighting the accomplishments of Canadian SMEs and exports would be one way of doing that. There is new data to suggest that over the period from 1997 to 2007, the value of SME exports that were not resource, mine, automotive, or aerospace grew from $40 billion to $80 billion. That's a very significant number, and it's probably much more than we expect. There's not an annual figure on this, but SME R and D investment in Canada represents 45% of our private sector R and D, $7 billion over $15 billion.

These are figures that give credibility to the industry and make people more open to returning a phone call.

Mr. Brad Trost: Why then are the smaller and medium players the dominant—maybe I don't mean dominant. They're not quite a majority, but when you look at the overall players, why are they such a high percentage? What are they doing right, and what can they do better to get that R and D into more application and get more products out the door?

Ms. Céline Bak: It's important to note that this industry is only 15 years old. The average age of the company is actually 16. The aerospace industry, as a comparative, is over 40.

Mr. Brad Trost: As that matures, will it change?

Ms. Céline Bak: Things will evolve over time. However, I'd like to note that our ability to incubate companies in Canada is quite strong. Our ability to integrate those companies into our economy is still to be developed.

Mr. Brad Trost: Another thing you said earlier caught my attention. A couple of us sat on the international trade committee when it debated the Panama-Canada treaty, so we're somewhat familiar with it.

What other markets out there are of particular interest to your segment? Where else would Canadian trade deals be of use? We're doing one with the EU right now. I suspect that might be it. Where in the trade agenda could government policy be useful to your industry?

● (1700)

Ms. Céline Bak: I'll speak about renewable energy just because Panama is an example of that. Canada has a real niche in small-scale hydroelectricity and small-scale wind, as an example. Panama has actually a number of hydroelectricity projects that haven't been developed because they require changing the course of rivers. We have technology that doesn't require that and works in a very complementary way with aboriginal communities in Panama.

The Caribbean is obviously a place where energy is very expensive. Again, we have some very nice, globally competitive technologies that would be relevant there as well.

Eastern Europe offers other opportunities. There's a lot of infrastructure that needs to be built there. As we build our relationship with the EU—

Mr. Brad Trost: Trade deals with the Caribbean, Eastern Europe, and smaller countries in Latin America would all be—

Ms. Céline Bak: I haven't spoken about Asia. In Japan, everybody's talking about VIP, Vietnam, Indonesia, and the Philippines. We need to actually engage with the Asian Development Bank and have a say at that table.

Mr. Brad Trost: Basically, trade agreements and free trade around the world would be useful to your sector.

Ms. Céline Bak: Yes, if we actually combine that with engagement with the international financial institutions, to which we lend money in a very responsible and regular way.

The Chair: Thank you, Mr. Trost.

We go next to Mr. Nicholls, but Mr. Cleary will be taking the first question.

Go ahead, please.

Mr. Ryan Cleary (St. John's South—Mount Pearl, NDP): Thank you, Mr. Chair.

Thank you to the witnesses. I just have one question.

I was in Israel last summer, and I went for a tour of the country. I also toured a Toyota plant, and I test drove an electric car, a Toyota car. It was fascinating. It's hard to tell that the engine's on when the engine's on, if it is an engine, I suppose.

At any rate, one thing that is happening in Israel with the technology is that they're actually building a string of stations across Israel. When you stop, you don't recharge the battery, you change the battery. When you buy the car, you lease the battery, more or less, over the lifespan of this vehicle.

I realize that the weather is a lot different in Canada than in Israel in terms of the amount of sunshine, but where is that technology here in this country versus Israel? Are we close at all in terms of this electric technology?

Mr. Andrew Morin: In terms of the vehicle, Toyota is planning to manufacture, and they might have started it already, the RAV4 electric vehicle in Woodstock, Ontario.

The problem you have with the deployment of pure electrics in particular—I'm not talking about the hybrid or the dual-fuel solutions, such as the Chevy Volt or some others—is that it's hard to break range anxiety when you don't have in place the infrastructure charging stations, etc., be they the Better Place model or the Israeli model that you spoke of.

You also need a critical mass. I mean, it might not make economic sense to string these charging stations all across the Prairies, where they have a more limited population, let's say in the northern parts of Manitoba or Saskatchewan, but certainly in the Quebec-Windsor corridor that would probably make sense, and in provinces like British Columbia. Quebec is already into that, to some extent, and they're moving quicker, given that they produce power to a large extent in the province.

Without arguing for one technology over another, because I do represent all the auto companies with different approaches, I would say that whether it's new fuels or whether it's electricity, the infrastructure has to be there to support it.

I'm certainly not here to ask for any incentive or handout from the government for that, but certainly governments—plural—be they federal or provincial, do have a role to play in that, along with industry.

How do we get there? I think that's a question the policy-makers need to decide. There probably will be some dollars and cents behind it. That will have to be discussed at some point.

Mr. Ryan Cleary: Thank you.

Mr. Jamie Nicholls (Vaudreuil-Soulanges, NDP): I'm feeling very generous with my time, Mr. Chair. I'll pass the rest of my time to Mr. Gravelle.

The Chair: Go ahead, please, Mr. Gravelle.

Mr. Claude Gravelle (Nickel Belt, NDP): Thank you.

Thank you to all of the witnesses.

Mr. Dick, in your presentation you talked about Seacliff Energy in Ontario. Can you tell me where it is in Ontario?

Mr. Dennis Dick: It's in Leamington, Ontario, close to Point Pelee, which is at the southernmost mainland tip of Canada in southwestern Ontario.

● (1705)

Mr. Claude Gravelle: All right.

When you answered your first question, you said that aggressive feed-in tariff rates and premiums have driven the uptake of technology in Europe. Can you explain that? Can you comment on why it would have done that in Europe and not in Canada?

Mr. Dennis Dick: The feed-in tariff rates are much higher in Europe. In Germany the rate works out to about 20¢ Canadian for a kilowatt hour. In Canada, for a one-megawatt plant, it's about 14.7¢, and in the U.K. it's upwards of 28¢.

That feed-in tariff rate price drives the financial investment. Lenders are able to lend and producers are able to make money to get a return on investment.

As well, the German government, like governments in other parts of Europe, has recognized the value of their renewable energy and the organic waste solutions combined together. Their policy is that they believe in this industry as a way to solve some of their problems.

Mr. Claude Gravelle: One of the comments you make is that biogas plants are located on dairy farms for obvious reasons. How would an ordinary farmer go about paying for one of these plants, and how much would it cost?

Mr. Dennis Dick: It would cost about $8,000 a kilowatt. We did a study at the Biogas Association, an Ontario association of biogas owners, which surveyed a number of existing biogas plants. A farmer would need a certain number of cattle, probably about 500 head, to make it viable. You would use the money generated through electricity production from the manure process through the digester and bring in some off-farm organics, but it's very difficult in Ontario to make those numbers work.

The Chair: Thank you, Mr. Gravelle.

We will go now to Mr. Allen for up to five minutes.

Mr. Mike Allen (Tobique—Mactaquac, CPC): Thank you, Mr. Chair.

Thank you to our witnesses for being here.

Ms. Bak, I'd like to start with you, please. I'm going to pick up where Mr. Trost left off.

I'm not going to put words in your mouth, but I think I heard you say “a CMHC for technical risk”, and you also talked about bidding into these foreign markets and winning. I want to get some clarity around what you mean by “technical risk”. Typically I see technical risk as technology, if you will, or whatnot, as opposed to some other risk in the area, so if you're bidding on these projects and winning, are you bidding proven technologies in these foreign markets? What does “technical risk” then mean if you're bidding proven technology?

Ms. Céline Bak: That's a very helpful question.

Bankers will look at a project in terms of different elements of the project. If you're working on renewable energy, for example, you need to have an agreement in place for your municipal waste if you're going to do waste to energy, so you need tipping fee agreements and things like that, and you need an off-take agreement, someone who will take the electricity.

If the technology has not been in place and doesn't have, let's say, two years of operating data, they will see that as being a technical risk. It may be that the technology is proven in the sense that it has been operating for a year or something like that, but banks take no risk technically.

It depends on how our government decides to proceed, but if, for example, under the negotiations for the next approach on climate change we decided to participate in that, the technologies that Canada has will generally be viewed as having technical risk even though they are deployed at some level. This means that the next round of climate-related technologies could all be from China because there is no technical risk associated with five megawatt turbines, wind turbines, and Chinese-produced solar panels. We need to think about what we're going to do, if we want some of the more novel technologies deployed.

● (1710)

Mr. Mike Allen: In essence when you're bidding on these projects, the countries you are bidding in don't put a square around the technology and whether it's proven or not. They are entertaining everything. Is that true?

Ms. Céline Bak: That's right. As an example, Panama would be in-river hydroelectricity, but if you have not proven in-river hydroelectricity, it has technical risks.

Mr. Mike Allen: You also talked a little about it being hard to sell stuff at home sometimes. When you look at some of the changes, and Mr. Lavoie talked a little about the accelerated depreciation and accelerated capital cost allowance for generation and other types of equipment, are any of those types of policies helping, from a Canadian standpoint, to adopt some of the technologies of your companies?

Ms. Céline Bak: Yes, they help absolutely, but I would suggest we need to consider looking at some other classes of energy efficiency assets that can be deployed.

You had a presentation earlier on district heating and others, some broader—

Mr. Mike Allen: Okay.

Mr. Lavoie, I'm going to you for a moment.

You still have a lot of your folks on heavy fuel oil. What transition have you seen from heavy fuel oil to other technologies in terms of energy savings? Do you see your industry having a plan to move away from heavy fuel oils over the next so many years? I'm assuming that the accelerated capital cost allowance will help them do that.

Mr. Martin Lavoie: Yes, there have been some, but since 1995 it's been quite stable in terms of the source of energy. The only change you've seen is electricity and natural gas. Electricity became a bit more important. But it's not like in the U.S., for example, where natural gas really grew because of the lower.... Now the U.S. wants to become a net exporter of natural gas because they have new technologies to extract this gas from the soil, and so on, and in Canada we haven't got there yet.

Certainly, for our sector and in the sense of all these discussions, we talk about feed-in tariffs and so on. It's all nice, I think, to pay more for clean energy, but at some point you need to reach a balance. At the end of the day someone has to pay when you double the price we pay in terms of feed-in tariffs. It's either the taxpayer or the industry—

A Voice: Exactly.

Mr. Martin Lavoie: It's fine to have a feed-in tariff system and it's fine to promote certain types of energy, but if that means you're going to lose capital investments in manufacturing or in certain sectors, you need to reach that balance. You can't just see it from one angle; you have to see it from many angles.

In our sector, in our cost structure, energy's a big part of it. I named a number of policies that are good incentives. There are also other policies that are not that good in terms of providing incentives for manufacturers to become more energy efficient; they're actually a burden for them.

To give you an example, in Alberta some municipalities impose a franchise fee on your utility bill. If your natural gas bill goes up, then your franchise fee at the municipal level goes up. In B.C. they've introduced a carbon tax, which was supposed to be a tax neutral carbon tax.

Tax neutral to me means you would tax a manufacturer for its carbon footprint, but reinvest that money to make that manufacturer more energy efficient, but that's not what they've done. They've taxed manufacturers, and they gave tax credits to rural homeowners and a bunch of other things, so at the end of the day, the carbon tax is just a tax.

All these things need to be thought through thoroughly, because at the end of the day you want to invest in green assets, not just put in a tax or pay a higher tariff just because you want to be seen as a green government having a green policy.

Mr. Mike Allen: Thank you.

I couldn't think of a better way to finish my time.

The Chair: Thank you, Mr. Allen.

We go now to Mr. Nicholls. Go ahead.

Mr. Jamie Nicholls: Mr. Lavoie, when the accelerated capital cost allowance came out, the Conference Board of Canada said it was a good feature to help adjust to the high dollar at the time. That was in 2007. They also said it should be temporary and not extended beyond three years. In 2007, as you know, it was brought in to help profitable companies with reduced profit margins due to the credit crunch among other global economic factors.

Would you agree with their recommendation that it just be a temporary measure, or do you think it should be continued? The Conference Board believes that as a permanent measure it encourages an artificial investment into the manufacturing sector and perhaps not in the right areas, not the innovation-based sectors, but just manufacturing in general.

Could you address their critique and counter it with your own analysis of the situation?

● (1715)

Mr. Martin Lavoie: Yes.

The accelerated capital cost allowance is not that much a measure related to innovation, but to productivity. If you're talking about the ACCA, it's the classes of assets that are used for manufacturing and processing. It's a productivity measure that gives incentives for companies to replace their old equipment with new equipment and become more productive, more competitive.

Of course, it was introduced as a two-year temporary measure and it's been extended three times. It's going to end this year. We're arguing that it should be extended for at least another two to three years. A lot of our companies have not taken advantage of it, because they hadn't seen profitability before 2010-11. It takes an average of about three years to make that kind of investment, so if they were planning to buy new equipment in 2011, they could probably take full advantage of that measure in 2013-14. Beyond the two-year writeoff, because it's really two and a half years, I think there's a way to review these classes of assets. Because you want a depreciation rate that reflects the real life cycle of an asset.

For example, when I see types of equipment that are related to ICT, information and communications technologies, we all know that ICT equipment accounts for about half the gap in productivity between Canada and the U.S.

Under the old system you have a 30% first-year decline, and then on a declining basis, so 30% of 30% each year after. It takes about 14 years to depreciate 95% of your investment. Do you keep your laptop or your phone or any piece of ICT equipment for 14 years? Maybe there's a way you can review these assets and say maybe two and a half is quite quick, but maybe five reflects the real life cycle of that asset.

I think there's a way we can revamp these classes of assets once the temporary measure is up.

Mr. Jamie Nicholls: We know there's all this private investment money that's being sat on, basically. It's about 30% of GDP, I believe, and as opposed to the United States, our investment here is divided equally between machinery and equipment, as you talked about. Manufacturing invests in that equipment and it drives productivity. The rest is in storage and transport structures. How can we move the private capital, private investment, more to areas that will drive productivity up?

Mr. Martin Lavoie: That's a good question. In most of the industrialized countries, there is an amount of capital that is being held by companies for various reasons from uncertainty in the markets to.... We're expecting in some sectors a new wave of mergers and acquisitions, so some companies are holding on to their cash for that. The use of credit is less popular. We've seen a de-leveraging of companies. That's a trend that goes back to the 1990s.

There was a very good report just published by the Ontario Institute for Competitiveness and Prosperity. They actually recommend that governments should implement a tax credit for machinery equipment, not just a capital cost allowance related to depreciation, but a tax credit, so you're actually giving incentive for companies to take part of this cash and invest it in machinery equipment.

Mr. Jamie Nicholls: The United States has 100% writeoff, is that not correct?

Mr. Martin Lavoie: For certain sectors it has a bonus depreciation of 50% more, so 150%. That's a temporary measure that was supposed to end this year, but in the fiscal cliff deal, they renewed it for another year.

What the report says is that it doesn't agree with some of the statements from the Bank of Canada, for example, which says to give it to shareholders in a dividend. The report says that no, you should provide an incentive so this money actually goes into a productive asset, as you said.

The Chair: Thank you, Mr. Nicholls. Your time is up.

We'll close the questioning with Mr. Menegakis followed by Ms. Crockatt, for five minutes each.

Go ahead, please.

● (1720)

Mr. Costas Menegakis (Richmond Hill, CPC): Thank you, Mr. Chair.

I want to thank all our witnesses for appearing before us today. I certainly have found your testimonies and your responses very informative.

I want to start by talking about greenhouse gas emissions. There are nine areas of the world—China, U.S., EU, Brazil, Indonesia, Russia, India, Japan, and Germany—that represent 70% of greenhouse gas emissions on the planet. Canada is about 1.8% , and as you know our government has committed to reduce greenhouse gas emissions by 17% from 2005 levels by the year 2020.

As the Minister of the Environment announced in August 2012, we are now better than 50% of the way towards accomplishing that goal. We believe it's a realistic target to get there by 2020, and it's in accordance with the Copenhagen accord that we signed, and it's also aligned with the United States.

I want to start with you, Mr. Morin. We're accomplishing this by focusing on the two largest sources of emissions for us here in Canada: electricity and transportation. You're representing the Association of International Automobile Manufacturers of Canada with 931,000 vehicles sold in 2012 here, I believe you said. From the research I've done, the associations you represent, a group of 15 or so companies, employ about 77,000 people, and 50% of those vehicles sold in Canada were built in North America. I was struck by your comment. You speak about Canada-unique vehicles. Can you tell us how that would be different from our biggest neighbours just south of the border? What are the requirements here that are so different from those in the U.S.?

Mr. Andrew Morin: In essence, we have harmonized or aligned GHG regulations, which is an easier situation to deal with, in that we have a continent-wide approach to this.

What we're saying, though, is that given that the Canadian fleet has historically been a little different from that in the U.S. in terms of the cars that people like to buy.... Certainly there is a strong desire for larger SUVs and trucks in this country. In recent years that's gone up as people put a lot of money on the hood to sell those vehicles, but I will say that in general the fleet mix in Canada is much more efficient already than it is in the U.S. There's a long history of that, going back to the oil crisis of the 1970s, for that matter. By and large, Canadians live in that compact to mid-size car category, as opposed to their U.S. neighbours, who live sort of a notch above that in terms of the efficiency of their vehicles.

What I would say is that different technologies and the regulations that we're in right now.... An important point I need to make is that for these regulations, when you read automotive commentary, you'll often see “when these targets go into effect in 2016”. That's the line that's often mentioned. It's a little misleading. We're in that regulatory space right now. Canada's regulations actually started a year ahead of those in the U.S., in effect, in model year 2011, as opposed to model year 2012.

We're in that right now. Given that companies are going to have to produce and sell a mix of vehicles specific to a company target within the regulations, they are going to have to constantly re-evaluate their product plan. It might mean that they sell fewer trucks and a few more small cars or that they might have allowances to sell more larger vehicles given that they've been very successful in the small vehicle realm.

It's a major technology and sales planning effort, and a compliance effort, to make sure they can live by the regulations. At any given time, they may need to bring in a technology, a specific vehicle, or a specific powertrain that's not available in the U.S. but might sell better in Canada or improve their situation in this country, or in response to Canadian consumers' demand.

Mr. Costas Menegakis: Thank you very much.

In the minute I have left in my questions, I'd like to direct this to you, Madam Bak.

You commented in your opening remarks that policies in place are definitely attracting capital. Can you elaborate a little on one of those policies and how it's attracting capital?

Ms. Céline Bak: There are two different things, I guess. We have STDC, which is attracting three to one. I expect that the EDC, in some of its investment rules, will also be attracting capital. To the extent that we engage in a more proactive way with the International Finance Corporation, that will definitely attract capital. Also, I would suggest that our companies should be joint venturing with emerging country companies to get equity capital and then to attract the debt financing that the World Bank can provide. As I mentioned earlier, project finance will become an issue.

● (1725)

The Chair: Thank you, Mr. Menegakis.

We'll go now to Ms. Crockatt for up to five minutes.

Ms. Joan Crockatt: Thank you very much.

I'm going to go back to Mr. Lavoie, if I may, please, to talk a little more about the accelerated capital cost allowance. You're recommending that it be extended for another two to three years. You are probably aware that it has been discontinued for the oil sands. I wonder whether you think this is discrimination against the oil sands and whether you would recommend that it be extended across the board so that we're not picking winners and losers.

Mr. Martin Lavoie: Discrimination against the oil sands....

Voices: Oh, oh!

Mr. Martin Lavoie: I like this expression.

Ms. Joan Crockatt: Yes, they're the only industry that doesn't receive it. The Ontario manufacturing sector receives the accelerated capital cost allowance. The oil sands do not.

Mr. Martin Lavoie: The accelerated capital cost allowance is a tool to achieve another objective. It's not an objective in itself. As I said, I think the first thing you need to look at is if the current CRA rules actually reflect the life cycle of the assets they use in their sector. I know there is a lot of technology going on in the oil sands. The reason they can exploit this resource now at a certain cost is that there have been a lot of new ways of thinking in extracting it, so that's one.... Are they a victim? I've never really thought of it that way.

In our sector, I think what we want to achieve is better productivity.

Ms. Joan Crockatt: That's right.

Mr. Martin Lavoie: If there's an issue of productivity in the oil sands sector, I would say that's probably a good tool to put in place if you want to increase productivity, because it goes to the heart of the kind of machinery you're using. It's quite a capital-intensive industry, so I would say that if a productivity increase is an objective, the ACCA definitely has to be looked at.

Ms. Joan Crockatt: Could you maybe draw the lines between the dots for us about how productivity is exactly connected to something like the accelerated capital cost allowance?

Mr. Martin Lavoie: Productivity has to do with the number of outputs and the labour and the hours worked. If you have a low dollar, you can improve your productivity by having people working more, or by having more people working.

When you are in an environment where the dollar is high and you need to control your costs, having more employees might not be the best cost-efficient way to make more outputs. You need to look at innovations or new machinery that will allow you to have the same production, maybe with fewer hours worked, or more production with the same number of hours worked. It's from this perspective....

Replacing old machinery is a way to improve productivity, but as I said before, if you look at what type of machinery you want to focus on, definitely the information and communication technology type of equipment.... All the reports I've read point to that kind of equipment, which accounts for about 50% of the productivity gap between Canada and the U.S.

Maybe there's a way even beyond the ACCA, for all types of machinery and processing, to keep the focus on these kinds of machines, because new innovation in our sector is about automation and greater use of a computerized process of manufacturing.

Ms. Joan Crockatt: Okay.

You talked about human productivity. I'd like to go there for a little while, because a lot of times when we talk about productivity, we end up coming back to things like machinery. The productivity gap in Canada seems to be.... There was a report out from Deloitte, one of many, saying that in human labour productivity they give Canada a C grade. I'm wondering how we can improve human productivity.

Mr. Martin Lavoie: One of our recommendations, again going through the tax system.... That's one tool to change behaviour: to tax or not tax, or to give a tax credit. One recommendation is to maybe start looking at a specific tax credit for labour training.

We give tax credits in this country for a number of things, such as innovation and all the things that we believe are important for the future of our sector. I think labour is as important as the machines that we put in our plants. From this perspective, we're saying that we should start thinking about this as one of the tools we may want to use for companies to be more proactive in doing labour training.

Labour training in our sector is also about the way in which you put your people on your assembly line to make sure you're actually more efficient. That goes back to lean manufacturing. For example, in our case in Ontario, we manage a program with SouthDev, a southern Ontario initiative, to make our companies more productive and to use lean manufacturing as a way to become more productive. It's not a tax-based approach. It's more of a direct funding approach that can complement the tax-based approach.

● (1730)

Ms. Joan Crockatt: What kind of training? Do we need attitudinal shifts? We have a lot of jobs that are available in Canada. We have a lot of people who aren't working in those jobs. We're outsourcing to other counties or bringing in immigrants. Where do you see those all matching up?

Mr. Martin Lavoie: It's a good question. Sometimes I wonder how universities are—

Ms. Joan Crockatt: Do you see any real innovation happening in our human capital?

Mr. Martin Lavoie: I'm sorry?

Ms. Joan Crockatt: Is there innovation that we could be employing in our human capital?

Mr. Martin Lavoie: There's definitely innovation going on. It's what you call organizational innovation. We think of innovation as product innovation, but there are actually four types of innovation. Organizational innovation has to do with the way you deal with suppliers and the way you deal with your employees. That's something we don't really hear about because it's not really covered by SR and ED or other things, but it's a really important part of productivity improvement and innovation.

Going back to the question of why we need a tax credit for companies to provide more training, I think there's a gap between the needs of companies and what is being offered in our academic institutions. I sometimes wonder how a university or a college actually decides if they will offer one type of mechanical engineering degree or another type of degree.

They don't call me. I don't know who they call. Do they actually talk to someone in the industry who looks at their needs over the next five years and at whether they should set up a new program? As for the only ones who actually do that, if they're in Baie Comeau somewhere in northern Quebec and a big mining company comes in, says it needs a certain kind of people, asks if they can set up a program, and says it will give some money for it, they actually do it.

Is there a way for us to look at how they actually decide to offer certain types of programs or not? I actually don't know.

The Chair: Thank you.

Thank you, Ms. Crockatt.

Thanks very much to all of you for a very interesting meeting today, witnesses: Mr. Morin, representing the Association of International Automobile Manufacturers of Canada; Mr. Lavoie, representing Canadian Manufacturers and Exporters; Ms. Bak, representing the Canadian Clean Technology Coalition; Mr. Dick, representing Pelee Hydroponics; and Mr. Haughton, representing Waste to Energy Canada Inc.

Thank you so much, all of you, for your presentations and for answering questions here today. It was another very informative meeting. We appreciate your input.

The meeting is adjourned.