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## **Standing Committee on Natural Resources**

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**EVIDENCE**

**Thursday, February 8, 2018**

**Chair**

**Mr. James Maloney**



## Standing Committee on Natural Resources

Thursday, February 8, 2018

• (0850)

[English]

**The Chair (Mr. James Maloney (Etobicoke—Lakeshore, Lib.)):** I call the meeting to order.

Good morning, everybody. Thanks for joining us today.

There's a slight change to the agenda that everybody has in front of them. Mr. Priddle from The WoodSource is going to be here in the second hour, and you'll see that Mr. Larocque is here from the Forest Products Association now.

On that note, Mr. Larocque, thank you very much for joining us today.

On-screen, we have Mr. Bouchard, who's the executive vice-president of Groupe Rémabec, and Mr. Mercier, who is the president, I believe. Mr. Mercier, on our screen, you're on the bottom, and Mr. Bouchard, you're on our top left. That's for the benefit of the members.

We have some audio problems. There's no sound. Just bear with us for a moment, and we'll try to get this sorted out.

Can you each try to say hello?

**Mr. Charles Tardif (Vice-President, Corporate Development and Procurement, Maibec):** Hello.

**The Chair:** Okay, perfect. All systems are working now.

Let's start this over again.

The format for the morning allots each individual or each group up to 10 minutes to make a presentation in French and/or English. Following all the presentations, we'll open the floor to questions from around the table.

Mr. Larocque, since you're here with us today, why don't you start us off?

**Mr. Robert Larocque (Senior Vice-President, Forest Products Association of Canada):** Thank you, Mr. Chair and members of the committee. Copies of my remarks are available for committee members if you wish to have them.

My name is Robert Larocque, and I am the senior vice-president at the Forest Products Association of Canada. I'm very pleased to be here today to further discuss the connections between the traditional forest industry and innovators who are seeking to capitalize on new markets and technology innovation.

In my remarks today, I will focus on the supply of forest resources, demand for advanced forest bioproducts and services, and a possible role for the federal government to accelerate the bioeconomy in Canada.

[Translation]

I would like to remind the committee that the Forest Product Association of Canada provides a voice for Canada's wood, pulp and paper producers, nationally and internationally, in government, trade and environmental affairs, as well as on the topic we will be discussing today, the increasing speed of the bioeconomy in Canada.

[English]

I would like to provide the committee with the status of where we stand today in regard to forest resource uses and bioproducts innovation. Based on "The State of the Forest Report 2017", the forest products sector harvested 160 million cubic metres of wood to produce 77 million cubic metres of wood products and 23 million tonnes of pulp and paper products. The sector also produced 12 million cubic metres of wood residue, which is mainly used to generate clean electricity at our facilities. Natural Resources Canada has evaluated that there are currently 25 million cubic metres of wood residue that could be used to produce new products. The sector currently employs more than 230,000 Canadians and supports more than 600 communities, mostly in rural Canada.

The sector has also invested over \$2 billion in innovation over the last decade. By innovating, the industry has already greatly improved its competitiveness and expanded its product and process portfolio.

An impressive array of innovation examples exists across the country and across every segment of the sector. Some highlights include production of clean energy across Canada; new materials and advanced building systems that revolutionize the construction and carbon footprint of larger buildings and structures in the built environment, such as cross-laminated timber; new chemicals, such as nanocrystalline cellulose, cellulosic filaments, or biosourced chemicals that add new valuable characteristics and renewable properties to everyday products such as solvents, insulations, paints, and cleaners; novel product developments, such as wood fibre in composite car parts, electronics, and sensors; and development of new tools and information, such as forestry genomics and enhanced forest inventories, to support long-term forest health and security of fibre.

A critically important success factor to date has been the strong partnership and collaboration that the federal and provincial governments have forged with the industry to develop and support innovation across the forest product supply chain. From facilitating global research collaborations to partnering with industry to support FPInnovations to providing clear funding support for first-in-kind commercialization projects such as the investment in forest industry transformation program, IFIT, and market access-specific supports such as the expanding market opportunities program, the federal government has contributed significantly to the innovation performance of this sector.

•(0855)

[*Translation*]

In terms of our traditional products such as timber, pulp and paper, I would like to emphasize the need to continue supporting the sector so that we can be assured of a prosperous future.

We are grateful for the current efforts in innovation, in international trade, and in infrastructure products, and they must be maintained. But new supply chains, in which the sector can produce biofuels, biomaterials and tall wood buildings, are within our grasp.

[*English*]

One of the key factors for a prosperous forest sector in the future is to ensure a sustainable, stable, and economic access to fibre from our Canadian forests. Climate change impacts such as increased forest fires and pest infestation have a significant impact on Canadians, our communities, and the forest industry. We also believe that more can be done to make sure our forests stay more resilient and ensure long-term sustainability based on three broad themes: research and development, policies, and support.

Concerning research and development, we must continue to study the long-term potential climate change impacts, such as through modelling of forest fires and pest infestation; enhance our forest inventory methods; accelerate innovation in our forest harvesting practices and equipment; and optimize the Internet of things by expanding the communication capabilities in the forest—for example, by having movable cell towers where forest is harvested. As we harvest at different locations, you can move those cell towers to ensure communication.

With regard to policies, we need to start now to implement climate-resilient solutions, such as FireSmart communities; work with our provincial counterparts to modify our forest management activities to allow for selecting and planting trees, based on changing climate conditions; and evaluate and modify current forest management plans to take into consideration climate change impacts.

With regard to support, more government support is required to ensure a healthy forest. Currently, most federal funding programs are tailored to mill capital investment support, with significantly fewer funds for forest innovation. Furthermore, current carbon policies are only focused on energy. The same financial support or credits should be available for forest projects that either reduce GHG emissions—for example, forest fires—or improve the amount of carbon a forest absorbs—for example, afforestation.

FPAC believes that now is the time to consult across Canada to develop a series of recommendations and potential actions that we can all take to minimize climate change impact on the forest, enhance forest management, and remove policy barriers to ensure a healthy and resilient forest.

It is also important to highlight those currently proposed federal government policies and decisions that could affect the supply of forest resources. Carbon policies such as a clean fuel standard and implementation of key recommendations from the forest bioeconomy framework will put an additional demand on forest biomass, while species at risk and conservation decisions could reduce the amount of biomass available for harvest. While the use of biomass is beneficial to address climate change, accelerate the bioeconomy, and support a healthy forest products sector, it is critical that we evaluate and work together on all those policies and decisions to understand the overall impact on the supply of forest resources.

Assuming we have a healthy and resilient forest, the sector is well positioned to develop advanced forest bioproducts, and the federal government can play a role that will accelerate the bioeconomy in Canada. One key role the federal government can take is to lead the implementation of the forest bioeconomy framework recently announced by the Canadian Council of Forest Ministers, CCFM.

FPAC supports the ministers' four key pillars: communities and relationships; supply of forest resources and advanced bioproducts; demand for advanced bioproducts—for example, creating new value chains; and continued support for innovation. We look forward to working with the CCFM in the implementation of the framework.

The sector's road to full transition to a low-carbon economy will create new secondary supply chains. In the transportation sector, it could be as a supplier of biofuels; in the energy sector, as a supplier of renewable natural gas; in sustainable living, as supplier of products used by Canadians in their day-to-day lives, producing bioplastics, nanomaterials, and car parts; and in new construction, through construction of tall wood buildings made of engineered wood with wood fibre insulation, but to get there, we must work together.

Current funding like Sustainable Development Technology Canada, IFIT, or even recently the clean growth fund, which are necessary, focus on capital investment for new technologies at the mills. Moving forward, it is crucial that we modify or create new policies and funding programs to accelerate access to new markets and value chains.

Providing support for product testing—for example, compatibility and quality of the bioproduct—small-scale trials at the user's facility, or funds for testing equipment—for example, trial engines that run on biofuels—is critical to opening new markets in the supply chain. The supercluster concept did provide that support, but unfortunately, the biodesign supercluster proposal from the forest products sector was not successful.

The federal government can also show leadership by accelerating the implementation of the greening government strategy announced just before Christmas. The strategy shows promise, but implementation will be key. I would also like today to acknowledge and congratulate committee member MP Cannings on his private member's bill, Bill C-354, which passed second reading in the House yesterday. This bill proposing to amend the Department of Public Works and Government Services Act to require that, in the wording of certain contracts, preference be given to projects that promote the use of wood, while taking into account the associated costs and reductions in greenhouse gas emissions, is another great example of federal government leadership.

• (0900)

In conclusion, I would like to thank the governments, our communities, and our academic and indigenous partners who have contributed to the initiation of our forest sector's transformation. With programs such as IFIT and the clean growth program, government vision through the forest bioeconomy framework, and partners such as FPInnovations, we are moving towards a fully transformed sector, but to really accelerate it we must capitalize on economic and job growth, ensuring vital benefits. We all need to work together to ensure sustainable and healthy forests, maintain current programs for the forest sector facilities, and accelerate access to new markets and value chains.

[*Translation*]

Thank you very much for your attention. I will be happy to answer your questions.

[*English*]

**The Chair:** Thank you very much.

Mr. Tardif, why don't we turn it over to you?

[*Translation*]

**Mr. Charles Tardif:** Good morning.

I will give my presentation in French.

My name is Charles Tardif. I am a forestry engineer, and Vice-President, Corporate Development and Procurement, with Maibec Inc.

First, may I thank you for your invitation to appear before your committee in order to describe the challenges that the industry in Canada has to face in terms of secondary wood products, and to make some suggestions on the ways in which the government could provide assistance.

This presentation contains no statistical or economic analyses. It is intended instead to communicate the facts—

[*English*]

**The Chair:** Sorry, Mr. Tardif; can I just interrupt you for one moment, please?

**Mr. Ted Falk (Provencher, CPC):** On a point of order, Chair, is there an English copy of the notes that were distributed?

**The Chair:** Apparently not, Mr. Falk. I haven't even seen that copy.

**The Clerk of the Committee (Mr. Marc-Olivier Girard):** Normally they are distributed in the language of the witness. Most of the time it's in English.

There is no English copy.

**The Chair:** Apparently, no. It was distributed and there wasn't an English copy. I wasn't aware of that.

**Mr. Ted Falk:** Well, okay.

**The Chair:** I would have sought your consent, but I wasn't aware of it myself.

**Mr. Ted Falk:** Okay. Thank you.

**The Chair:** Sorry, Mr. Tardif. Go ahead.

**Mr. Charles Tardif:** Do I have to start over, or do I continue?

[*Translation*]

This presentation contains no statistical or economic analyses. It is intended instead to communicate the facts as we experience them in our company.

First, what is Maibec?

Maibec has been in operation for more than 70 years. It is a family company, owned by the Tardif family. In 2012, the Fonds de solidarité des travailleurs du Québec joined our company as a minority shareholder.

The company's name, a contraction of the names Maine and Quebec, is significant. In the beginning, the company acquired its logs in the forests of Maine—as we still do—and processed them in Quebec into construction materials to be sold in North America.

Because of our plants, which are located along the Canada-USA border in the Chaudière-Appalaches region of Quebec, in Maine and in New Brunswick, and because of our more than thirty-year experience in producing solid wood siding and white cedar shingles that are pre-stained in our plants, Maibec today is the largest manufacturer of natural and pre-stained white cedar shingles in North America, producing the equivalent of the siding needed for about 6,000 houses per year.

Maibec is the largest manufacturer of factory pre-stained wood siding in eastern North America. We produce enough siding for approximately 10,000 houses per year. We produce the equivalent of more than 250 million board feet, bd ft, of softwood lumber. This is the amount needed to build 17,000 houses per year.

Finally, Maibec is the largest manufacturer of cedar mulch used in Canadian horticulture. We produced more than 9 million bags in 2017.

In total, Maibec employs about 1,000 people in Canada and the United States.

As you will have gathered, Maibec is active in primary and secondary wood processing; we are studying the possibility of starting tertiary processing very shortly, in the form of complete construction systems.

In order to make sure that a secondary processing industry can be developed in Canada, the primary processing industry has to be kept competitive and profitable around the world. Here are the main challenges that our company will have to face in that regard.

First, there must continue to be an available supply of quality roundwood at an affordable price. The Government of Canada could help us by supporting areas such as research in forestry genomics, and FPInnovations could contribute in terms of research.

The second challenge is the availability of well-trained labour in rural areas. The government could help us by supporting training and automation programs, and by encouraging francophone immigration.

The third challenge is about free market access. Of course, the government must negotiate an acceptable and viable agreement on lumber so that Quebec's border sawmills, including Maibec's, can maintain their product's excluded status, as in the last four disputes.

The final challenge is about the market for by-products.

● (0905)

[English]

**The Chair:** Mr. Tardif, sorry; can I ask you to slow down just a bit? The interpreter apparently is having some difficulty keeping up.

**Mr. Charles Tardif:** Okay. That's no problem.

[Translation]

The by-products are woodchips, sawdust, shavings and bark, but the major challenge is with the wood chip market. We have to come up with uses quickly and find high-volume users as a replacement for pulp and paper manufacturers, whose products are disappearing from the market. The products should go to the biofuel, bioproducts and biochemical sectors. To do this, the government should support research and development and assistance programs designed to reduce the financial risk inherent in moving new products from demonstration to industrial scale. It should make regulations requiring fuel to contain some proportion of forest biodiesel. Measures of that kind would allow the industry to develop.

Now, let us move to the secondary processing sector. It can be divided into two parts.

The first part is made up of basic products such as I-beams, joists and treated wood. These are produced by "push production", meaning you sell what you make. The second part is made up of niche products such as decorative products, an area in which Maibec has gained some expertise.

Challenges with secondary processing are associated with the availability of a well-educated workforce in rural areas. Training programs, encouraging francophone immigration and assistance programs for automation would provide support for our industry.

Other challenges that the sector has to face include the need to understand construction systems, building envelopes, regulations and codes, as well as performance and durability requirements. We

would like the federal government to support training and research and development programs like those that already exist, such as the Chaire industrielle de recherche sur la construction écoresponsable en bois, CIRCERB, at the Université Laval, funded by the Natural Sciences and Engineering Research Council of Canada, NSERC. This example shows that the industry is capable of taking great strides forward.

We would also like to enlist the support of FPInnovations, whose program in construction systems, including panels, timber and glue-laminated wood, is unique in North America. The program operates in Quebec City and in a laboratory in Vancouver. It is unique in the sense that few research projects consider panels and sawn wood in construction systems. They are found nowhere else in North America. The exceptional development being done in this area in Quebec City and in Vancouver must be supported. Part of our industry's future depends on it.

It is appropriate today to highlight the research concept being developed in Quebec City between FPInnovations, the Canadian Forest Service and the Université Laval. Agreements to collaborate and to share offices and research equipment have been reached so that we can be more effective and productive, both in forest development and in the development of products and construction systems. This entirely new model has been in place for a few weeks. This promising model will let us move from basic research to applied research and product development. This is the formula that needs to be followed, and we are very pleased that we have succeeded in creating this synergy in Quebec City. It should allow us to speed up the development of these products.

We must also rise to another challenge, the development of market intelligence. By that, we mean understanding the value chain right to the end customer, especially for the more "pull type" production of niche products. We must continue to develop this aspect that is unique to the secondary processing industry.

We must also gain a better understanding of the technical aspects of wood as a material. This means how it is worked, stained and made to last, the factors on which the long-term guarantees provided by manufacturers depend. In this regard, the support provided at the CIRCERB, and in universities, is extremely important for the industry.

Finally, there must be free access to the market. It is often believed that secondary products are not affected by commercial constraints, but unfortunately they are. Take, for example, our panelling, made of superior quality wood. It is worked and stained in our plant, custom-made for house after house, and delivered with spare mouldings, nails and paint. Those products are taxed when we want to export them to the United States. Of course, in the negotiations about the next lumber agreement, the Government of Canada must ensure that secondary products are excluded from all constraints, which is unfortunately not the case currently.

●(0910)

Finally, I would like to talk about the tertiary processing industry. Products such as commercial and multi-storey building systems that use cross-laminated timber, for example, have to face the same challenges as the secondary processing industry. This developing sector will increasingly have to influence existing and future building codes to ensure that wood is accepted to a greater extent in building systems throughout Canada.

The Government of Canada can help support the creation of standards, as well as the Canadian Wood Council and the WoodWORKS! promotional program, for example. Canada must set an example thanks to its green infrastructure agenda. It must adopt a wood charter, like Quebec, that would require architects and engineers to assess the possibility of using wood, just as they would use other materials, such as concrete, steel and plastic, for their plans. I think that this would be a big step for the wood industry and for Canada in terms of its vision as a country with a green agenda.

Since my time is short, I will keep to these points, and I am ready to answer any questions the members of the Committee may have.

Thank you.

[English]

**The Chair:** Thank you, Mr. Tardif.

Mr. Bouchard or Mr. Mercier, I'm not sure who's going to lead off.

[Translation]

**Mr. Éric Bouchard (Executive Vice-President, Groupe Réma-bec):** Good morning everyone.

My name is Éric Bouchard, and I am the executive vice-president of Groupe Réma-bec. I am accompanied by my colleague Mr. Serge Mercier. He is the vice-president of business development and finance for Produits forestiers Arbec inc. and the president of Bioénergie AE Côte-Nord Canada, a subject that we will be talking about a little later.

To begin, I would like to thank you for inviting us. Mr. Mercier and I are very happy to be here with you today to talk about the development of the bioenergy sector. This subject is of relevance today, because this emerging sector has been developing for a few years now. I believe that we have many choices at the moment. The circumstances seem favourable, and the opportunities are clear.

I'll try not to repeat what the two previous witnesses said. Rather, I will talk about aspects that are dearly important to the Groupe, and that may not have been addressed, or that were addressed in a slightly different way.

First, I want to talk about what I consider the three most important links of the chain in the development of the bioenergy sector. Raw materials and the supply thereof constitute the first link; processing plants, the second; and opening new markets, the third. I will be focusing on these three aspects, given that my time is limited.

With regard to the first link, the supply of raw materials, I will mainly talk about the situation in Quebec, because our activities are concentrated in this province. Our traditional markets for our by-

products are currently in decline. This has created an imbalance between supply and demand for the by-products.

Furthermore, this has repercussions on the prices of our by-products, which are falling much too quickly compared to the speed at which we can innovate as "sawmillers". Innovation, for sawmillers, can certainly happen in the plants in order to improve our performance and our productivity, but we must also add value to all the by-products we create.

In the long run, we hope that our clients who are in sectors such as newsprint production are getting ready for a change, even though we can't expect every unit, when faced with a decline, to convert their operations to join more promising markets. We knew that this situation was coming, but we didn't think it would happen so quickly.

How can we add value to our by-products? The bioenergy sector is certainly important. It is a very interesting market because it's just coming to life. We see it as a winning niche market full of major economic opportunities.

Finally, I will finish my point on supply, the first link, by stating that, in our opinion, there are enough quality raw materials to go around. They will allow us to sustain the new, booming economy.

Concerning the second link, the processing plants, many things have moved forward in the last few years. What we are witnessing is the evolution of a great deal of high-performance, proven technologies. The federal government seems to have also implemented programs to innovate in this sector.

Our company considers the federal government as a good partner. You probably already know that Bioénergie AE Côte-Nord Canada is has a major project in the biofuel sector in Port-Cartier, in northern Quebec. It is a \$104-million project with a capacity of approximately 42 million litres per year. The federal government, through its sustainable development technology Canada (SDTC) programs, and its investments in forest industry transformation (IFIT), has assisted us with an investment of over \$44 million.

●(0915)

In other words, it is therefore possible to implement these kinds of projects. We just have to be proactive and have a certain long-term vision.

We have another more modest project that is in the pre-startup phase. It is a pilot project with pyrolysis oil. Currently, our investment is valued at approximately \$8 million, which is a much lower amount than the one for the Port-Cartier project, but we are using different fibres. We have to therefore go in that direction. Solutions, techniques, and all kinds of things are coming to light. We have to position ourselves for what's to come.

Support from the federal government to transition toward this market is important to us. You have been a partner for the second step—the processing plants—and we are currently looking into markets that offer various solutions. The government could set the example for the first of these solutions, because the products from this sector could be used to heat buildings, fuel vehicles, for national defence, and so on. It would be a way to send a message that you believe in this economy, and that it must be developed.

As my colleague Mr. Tardif said, you would have to improve the regulations in order to promote a wider use of these products to transform different sources of energy, such as diesel or aviation fuel, for example, or any other interesting sources of energy. I think that we need support in this regard.

However, beyond all of that, we need a concrete program that will ensure that this industry can develop and give producers somewhat of an assurance about the revenue they could generate from it. I would invite you to research the Renewal Identification Number (RIN), which is an interesting system in the U.S. used by the whole industry, and that actually does issue carbon credits to fuel producers.

It is a great program, and we must draw inspiration from it. As raw materials increasingly become more available, and technology more advanced, the federal government must work with us to carry out these projects. We need emerging projects. Other investors are needed to put more processing plants into production, and, when this market is born, we must be there. It is an interesting way to solidify many markets in a way, because we will secure the forest sector, and build a new economy. We will also create jobs, which is very very important for our country. We will also keep an eye on our environmental footprint by including measures to reduce greenhouse gas emissions in these programs.

So let me say this: Let's stop looking around, and let's start getting things done. Let's implement favourable conditions for the industry, and let's pledge to develop our communities, because many Canadian communities live off the forest. I think that this is a good way to create and diversify wealth nationwide.

We are happy to answer your questions.

• (0920)

[English]

**The Chair:** Thank you, gentlemen.

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

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

I'm going to start off first, Mr. Larocque, with some questions about some of the data you presented, to try to wrap my head around the value that the currently unused residual wood products might have in the marketplace.

You opened up by quoting the forest report and mentioning this 25 million cubic metres of remaining wood product that's currently unused. Do you have any concept or any estimates of what the value of that wood might be in the marketplace, if we're successful in substituting for plastics, if we're successful in creating standards for biofuels to incorporate wood-sourced biofuels? What's the vision?

**Mr. Robert Larocque:** That's a very good question. The issue is that we could make biofuel—and in certain places it's going to make total sense, as my colleagues in Quebec were talking about—but there are also some opportunities to make higher-end value, such as using it, if it's possible, to make wood flooring. You'd go through manufacturing in Canada, which creates more jobs. If we could make all kinds of chemicals in the way the oil and gas industry does, the value would be tremendous, but at the same time, we understand we're not there yet.

Biofuels would be at the lower end of value. Then you would go into longer-lived wood products, which would be a bit more valuable. Then you would go toward the full high-value biorefinery concept. However, we're not there yet with those residues, so I think it's going to be a time of transition.

What we use right now is about \$120 million, and we're a \$67-billion industry, so that 25 million cubic metres is in the billions of dollars.

**Mr. Nick Whalen:** If we went into some combination of those things, what types of margins are we talking about for the capital investment that will be needed? Do we have a vision here? What's the value proposition in commercializing this 25 million cubic metres of unused wood?

**Mr. Robert Larocque:** The way I see it, based on residue, biofuels have lower margins, according...and then we're all saying we're counting on some kind of carbon pricing or carbon credits or something like that, but less capital investment would be needed to build it. A biofuel plant—and correct me if I'm wrong—when you're looking at it, I think you talked about a \$100 million of investments in whatever. For a biorefinery, you're looking at a \$750-million to a \$1-billion investment. Your ROI depends on how much money you need to put in for your plant. I think on integration, it makes sense to go with biofuel from the residue initially, as long as you get a sustained... That's what we're talking about. We need to maintain our primary manufacturing—

**Mr. Nick Whalen:** Okay.

**Mr. Robert Larocque:** —and then use those residues as a subset of diversification.

● (0925)

**Mr. Nick Whalen:** In terms of reforestation and afforestation—and maybe this is a question for everyone—it would seem to me this is all pretty well understood and what the value is there. Is there additional work that needs to be done on reforestation techniques to help the forest sector cope with climate change, or do people have their heads wrapped around what needs to be done? As long as the government ensures that all the producers and users participate to the same high standard and meet the goals and meet the best practices of afforestation and reforestation, are we good, or is there more work that needs to be done there?

**Mr. Robert Larocque:** I can start, and then I'll let Quebec answer, because I think there are different forest management plans across the country.

You're right that the technology is there; however, we need to change. For example, there's a concept called “assisted migration”, through which we're planting trees from the northern U.S., Washington state, in Vancouver and southern B.C. In some provinces we can't do that. It would be nice to look at different policies or barriers for planting trees that would be more resilient.

In terms of afforestation and reforestation, where we harvest we're the most regulated in the world and we do the right thing, but we're talking about what happens with a forest fire, a pest infestation, or reforesting seismic lines out in Alberta, for example. That's the kind of support in which B.C. leads the way, with a \$27-million program in the last budget or two years ago. That's something that was mentioned in the pan-Canadian framework, but we haven't seen a lot of additional support since 2016.

**Mr. Nick Whalen:** In Newfoundland we see the spruce budworm coming, and we know it's a major problem.

**Mr. Robert Larocque:** Exactly.

**Mr. Nick Whalen:** For the folks in Quebec, do you have any comments on what more the federal government can do to make sure the best forestry practices are used?

**Mr. Charles Tardif:** I will jump in.

There is always something. We have been doing research on reforestation now for just about 50 years. That's not a long history of scientific knowledge. I would bring in here the need to know more about the properties of the trees that we are planting. That's something you have to look ahead at for the future, and no genomics have been input. It's improving quite a lot, but we have to go much further to know exactly what to plant and what type of tree that will give us. We need to have a good indication about the quality of the fibre and the strength that future forests will bring to the industry.

I think there's a wide area to continue to work on, to bring more information on those and then identify that the trees we're planting are the good ones for our vision of the future of the industry.

**Mr. Nick Whalen:** Thank you very much.

I know if Mr. Harvey were here today, he would have added to that. He took a lot of us on a tour of a genomics facility in New Brunswick related to the forestry sector. It's very interesting, and obviously the federal government is keen on supporting that.

In terms of new markets, product testing and trials and testing equipment were mentioned. Is there a role for the federal government to play in standards creation so that when biofuels go to market, as long as they meet particular standards, then people know what they're buying and know that it's going to meet a particular standard, or are we not there yet for wood products? Are we still early in the development stage? Are we at the same level as ethanol yet, or are we still at a lower stage of certainty around these products, and what can we do?

**Mr. Robert Larocque:** On building codes, we're on our way. That's a perfect example: continue to work on building codes to have tall wood buildings by 2020, and then all the appropriate standards that go with it. I do support some of my colleagues in Quebec about information sharing and making sure the architects are well aware so that they can build more there.

On the other standards side, yes, we're not there yet on ethanol production. One of the things we are looking at is to make sure that existing standards.... Whether the molecule is based on fossil fuel or based on wood products, it should be the same thing, so don't create additional barriers. There are fears about whether you can double-check, triple-check that it's the same thing? Well, it's the same carbon molecule, except it's not made from oil but from wood. Those are some places that we can work with ISED and other departments to streamline the regulatory certainty a little once we can make those bioproducts. That's from a government perspective.

What we loved about the supercluster... A perfect example is jet fuels. There are two places in Canada where you can make biodiesel for jet fuel and blend it, but we can't.... There are programs to help us build that diesel technology in our facility, but there's nothing else. If we need \$1 million to go and work with WestJet to go through that compatibility testing, there are no programs that we can have for support. The cluster had it; without the cluster, we don't have it.

● (0930)

**Mr. Nick Whalen:** I guess I've gone through my time. I could ask questions on this for another eight hours.

Thank you.

**The Chair:** Unfortunately, we have to move on.

Mr. Shields, I believe you're up next.

**Mr. Martin Shields (Bow River, CPC):** Thank you, Mr. Chair.

I appreciate the witnesses and the information you're sharing with us.

Mr. Tardif, did you make some mention of a labour issue in the sense, I believe, of a shortage of labour?

**Mr. Charles Tardif:** Yes, you're right, everywhere we are having difficulty. In fact, in New Brunswick, in different regions of Quebec, and even in the United States we have some difficulty with labour. Everywhere in the regions we have less and less labour available, and we need to attract new people, knowledgeable people to the regions.

That's the reason I was mentioning immigration. In our head office in Lévis, right now we have eight professionals coming from the African continent working with us. We have three in Saint-Pamphile. We have two in New Brunswick. We have Brazilians. They are bringing more knowledge into the regions, and that's where we need it. Immigration is probably part of the solution. It's not an easy one, but at least in our case we see that it is working as part of the solution.

We also see a lot of effort put into the automation process, particularly in the shingle industry, which is, I would say, in the archaic stage of technology. We've now been developing robots, because that's really labour-intensive. We have to go through that channel and have support to be able to create new technology in that sector. It is necessary and would really help us.

**Mr. Martin Shields:** At this point, it's skilled labour you're looking for, and you're replacing the shortage with technology.

**Mr. Charles Tardif:** That's it.

**Mr. Martin Shields:** Okay, thank you.

Mr. Larocque, you talked about a number of pieces of technology, but one you didn't mention was the wetlands and the technology used. Some of us are familiar with the discovery of new empires because of the use of technology and radar skills, but you've been working with that for some time in the forestry industry to protect the wetlands.

When you talked about environmental aspects, that's a piece you didn't mention.

**Mr. Robert Larocque:** Yes, I don't disagree with what you're saying. I only had 10 minutes and I was trying to focus on certain things.

**Mr. Martin Shields:** That's why I'm giving you the chance now.

**Mr. Robert Larocque:** I'll be honest with you: my background is on the mill side. I'm not the forest expert at FPAC, but I could get back to you.

What I do know is it's the radar technology and the whole forest. We can really improve. We're not even close to the Scandinavians on that technology. Forest enhancement in terms of inventory, the wetlands, and the absorption of carbon is where we have room to grow in Canada.

That's all I can answer for now, but if there are additional questions, maybe I can talk to you afterward and get you more information.

**Mr. Martin Shields:** I probably know what you could tell me about it. You may not know it, but the advancements you have made in the protection of water and wetlands are incredible in forestry.

**Mr. Robert Larocque:** Yes. Thank you very much.

**Mr. Martin Shields:** Let's talk about the pine beetle in the sense of natural forest fires. The indigenous people used to burn the mountains down on a regular basis to get lodgepole pines for teepees. They discovered in Yellowstone, after "Let's protect the forest, let's protect the forest, and no fires", that all of a sudden they had one of the most devastating forest fires the U.S. has ever seen because they didn't burn the underbrush. We're building a firetrap in the forests if we keep all fires from happening.

**Mr. Robert Larocque:** That's exactly what I was mentioning about understanding climate change more. There has been some analysis from Natural Resources Canada that forest fires are increasing, and we need to be part of that solution while also respecting biodiversity in our forests.

FireSmart communities are a very good example of forest management protecting communities while still taking care of biodiversity, but we need to learn from the pine beetle and the spruce budworm. We're not learning quickly enough. It's still beating us. The pine beetle now is making its way out west, and the spruce budworm, I appreciate, is beginning in Newfoundland. We need to accelerate it, because if we don't, we're going to have the same problem all across Canada—so yes, you're absolutely right.

• (0935)

**Mr. Martin Shields:** From a supply point of view, if we don't get those two things dealt with and supported, all these other things become irrelevant.

**Mr. Robert Larocque:** We had mill closures in B.C. this year because they didn't have enough wood supply because of the forest fires. It took about three months before they restarted. That's one of my concerns.

I agree that in Quebec there is lots of biomass to make biofuels, but out west, because of those pine beetles and whatever, the wood supply is very tight. We need to do something to protect the forest.

**Mr. Martin Shields:** Good. Thank you.

Do I have another minute?

**The Chair:** You have two minutes.

**Mr. Martin Shields:** Going back to Mr. Bouchard, when you talked about markets, were you talking about internally replacing energy sources in markets already in Quebec? Is that your market, or are you talking about exporting to other provinces or internationally?

[Translation]

**Mr. Éric Bouchard:** Currently, the international markets, like the one in the United States, are already a logical option for us. If we indeed want to build a foothold at home, and make sure that our environmental footprint is favourable in Quebec and Canada, we need to stimulate the domestic markets, and use this biomass for our needs, here in Canada.

We use fossil fuels. This gives us the opportunity to use biofuel or to mix our products to establish a green sector in our economy. I believe that the Canadian market should be stimulated and improved, and that we should be considering all resources available to us.

[English]

**The Chair:** Go ahead, Mr. Cannings.

**Mr. Richard Cannings (South Okanagan—West Kootenay, NDP):** Thank you all for coming before us today.

I'm going to start with Monsieur Larocque, mainly because he mentioned me in his speech. I want to start by thanking you for saying that.

**Mr. Robert Larocque:** Well, you deserve it.

**Mr. Richard Cannings:** I would like to jump in where Mr. Shields left off about fire. You mentioned FireSmart communities. It's a huge concern in the interior communities in British Columbia, where I'm from, and I'm sure it is across much of the boreal forest of Canada. Communities are worried about the interface between fires and their communities. I see this as an opportunity, if all levels of government get involved.

In British Columbia, we had the Filmon report, which said we should spend millions of dollars on thinning forests around communities. I think this would obviously provide jobs for the people doing that, but it would provide fibre supply for all the things you mentioned. It would probably mean changing the ways a lot of companies do things and the kind of fibre they would be getting in.

I'm wondering if you could comment on that aspect, on how the federal government could push that agenda forward.

**Mr. Robert Larocque:** Yes. Thank you very much.

We're right now having some conversations with Natural Resources Canada's Minister Carr to create some kind of federal-provincial working group, as well as with indigenous peoples, environmental groups, and industry, to discuss what we call the "forest forward". It's about how we can make sure that with forest fires, we have species and a healthy forest and fibre access for the next 20 to 35 years.

Fires and pests are a part of that, but we need to look at the global picture, including some of the carbon policies that the current federal government is working on and how we can incent that.

**Mr. Richard Cannings:** Right.

Speaking of carbon, I am an ecologist, and when I dive into the primary research on carbon sequestration in forests and the effect of

forest harvest on not only the carbon sequestration that might happen afterward but the carbon release that happens when that forest is cut, it gets very confusing quickly, even for me.

**Mr. Robert Larocque:** Yes.

**Mr. Richard Cannings:** I know your industry is anxious to say forest harvest is good because then everything grows back and sequesters carbon, but I wonder if you feel there's a need for more research into exactly what happens in terms of carbon sequestration there, the different forest harvest techniques that might be better—

**Mr. Robert Larocque:** Yes.

**Mr. Richard Cannings:** —in different habitats, whether it's a boggy situation or dry.

• (0940)

**Mr. Robert Larocque:** I completely agree.

**Mr. Richard Cannings:** I'm wondering if that's something the federal government should get involved in.

**Mr. Robert Larocque:** The federal government has started. The Canadian Forest Service, for example, has some kind of information, but to deeply dive to the level you're at is where forest inventory at the actor level is critical.

Regarding some of our forest practices, Mr. Shields talked about wetlands. We know about it, we do a good job, but we don't always calculate it. Then there's the whole aspect of sequestration you are mentioning, to make sure the forest does regenerate over time.

To give you a perfect example, "The State of Canada's Forests" report in 2016 said there was 240 million tonnes of carbon emitted because of forest fires. In forest management land, where we harvest, we were a negative 26 million tonnes of carbon.

We need to minimize forest fires and take advantage of advanced forest practices.

**Mr. Richard Cannings:** Okay.

I would like to turn to Monsieur Tardif. You mention that your company is fairly different, I think, from most Canadian companies in that you do buy primary products from the United States, remanufacture them in Canada, and then export back to the United States.

Can you comment on the softwood lumber agreement implications of that? I was in Washington, D.C., last summer talking to representatives from Maine, and they mentioned this problem—that a lot of their forest companies were selling into Quebec for remanufacture. I assume they were talking about your company. Could you talk about that?

**Mr. Charles Tardif:** Yes, exactly. I'm part of the group. We call ourselves the Quebec border mills. We had a special condition, a special statute, over the last four disputes. Yes, due to the location of the forests in Maine—especially northern Maine, northern New Hampshire, and northern New York: those states have a kind of a greenbelt where there is no [Technical difficulty—Editor] and it is against the U.S.–Canada border. On the Maine border, the [Technical difficulty—Editor] is there, and the service. About 75 or 100 years ago, entrepreneurs in the United States had fibre they couldn't use, so the entrepreneurship in Canada offered to transform that resource. That's the way it started. Since then, there has been an important industry right along the border that is established to transform that wood.

This time in this actual dispute, for the first time in 30 years, the border mills haven't been able to have a statute recognized yet. In the past, either we had a preliminary exclusion because we were transforming U.S. wood or we had no special, specific review, which was allowing us to have our own rate.

This time, the dispute didn't allow any preliminary review or preliminary exclusion, which means that even if we are not a target of this dispute, we're still in front of it. We don't transform any wood coming from public land. Of all the groups I represent—we are eight companies—just 2% of our wood supply comes from crown land. The rest is all private land in the U.S. and Canada.

We're fighting. We're developing our support. In the U.S. we do a lot of lobbying toward the senators in the states where we buy the wood. That's the fight we're in. We're really affected by that because we're buying most of our wood in U.S. money, so we need that currency selling our lumber. We need access to that market, which is close to us. We're quite affected.

We know we have the support of Canada on that. We've been working really closely with Global Affairs Canada, but that's really an affecting situation.

**The Chair:** Thank you. We're out of time, unfortunately.

Mr. Fragiskatos, you're next. I think you have two or maybe three minutes.

**Mr. Peter Fragiskatos (London North Centre, Lib.):** Thanks very much, Chair.

My question goes to you, Mr. Larocque. I'm very interested in wood's potential in the building sector. Steel has the advantage of being strong, obviously, but it also can have a negative impact on the environment.

A recent study published in the well-regarded journal *Nature* says that densified wood is actually stronger than steel. Can you comment on densified wood? I guess the process of getting there is that it's heated at 93°C and boiled in a mixture of sodium hydroxide and sodium sulfite. Long story short, it's 11 times stronger than natural wood and is in fact stronger than steel.

Could you speak to that? If these findings are accurate, I think there's a great potential for wood to continue to be so important in the building sector in the long term.

● (0945)

**Mr. Robert Larocque:** I don't know the exact details of everything. Maybe some of my colleagues in Quebec know about the study and might be more expert than I am on it, but I do know that engineered wood products are the new trend, for sure.

We can build wood that is as strong. It's also quicker to make a building, so you save money there. We've done all kinds of testing with earthquakes and all kinds of testing with fire prevention. That's the next step. We can make that wood. I'm not sure about the densified one. I'm not sure we're there yet, but for some of them, like CLT, for example, and some of those companies in Quebec....

What we need to catch up on is the building code. We've done a lot of trial buildings. Brock Commons in B.C. is 17 storeys high, but the building code is not keeping up.

**Mr. Peter Fragiskatos:** For the folks who aren't here with us, does anybody want to take that question?

**Mr. Charles Tardif:** [Technical difficulty—Editor] ...which principle it is, but there are many different processes in development right now in the world. We're heading into an area that is really important, which is the durability of the product and the protection in the product. To also have strength is another element. We need to do more research on those elements and we need to try to go faster to develop those kinds of products and to make sure that products that I use outside are competitive with other plastics that exist or other materials.

We know the technology is there. It's just a matter of applying it properly and to make products that need really minimum maintenance. As you say, the stain on the wood siding that Maibec does allows us to now be able to give you 50-year guaranteed maintenance-free material. That wood siding from the 1960s was about 80% of all the siding that was on houses in North America, and now wood is used for just 4% or 5%, due to the maintenance. Knowing how to achieve durability of the product and use the stains and all of that allows us to bring that material back to the forefront on a competitive basis, since we're able to have it closer to maintenance-free.

The densified wood has pretty much the same orientation for the future in building structures that are really stable, and it probably will allow us to build higher and stronger with wood.

**The Chair:** Thank you. We're going to have to stop there.

Gentlemen, thanks to all of you for joining us this morning. We appreciate your time and your evidence. You've been very helpful to our study, but unfortunately that's all the time we have, so we'll have to stop here.

We will suspend for two minutes sharp and then start with the second set of witnesses.

Thanks again.

• (0950) \_\_\_\_\_ (Pause) \_\_\_\_\_

• (0955)

**The Chair:** Mr. Priddle, we're going to start. We're just waiting for a couple more witnesses to join us by video conference, but apparently we have some technical issues.

You will have up to 10 minutes to make your presentation, and then, technology willing, we're going to hear from one or two others. At that point we'll take questions from around the table.

I'll open the floor to you.

**Mr. Timothy Priddle (President, The WoodSource Inc.):** Thank you very much. Thank you for inviting me here this morning.

My name's Tim, and I own a business in the south end of Ottawa called The WoodSource.

I love everything about wood, I love everything about forests, and I am passionate about what happens in Ottawa and Canada. I travel a lot. We purchase wood from all over Canada, North America, Africa, and South America. Most of the wood we purchase is purchased in Canada. We are a remanufacturing plant, so we take wood that has been sawn from the log form and turn it into finished products. That could be everything from a door frame for a building like this to desktops to baseboard, flooring, or trim.

We work a lot with companies like Maibec. We are the last operating mill in the city of Ottawa. If we had been here 100 years ago there would have been dozens of mills in Ottawa and probably tens of thousands of people working in the wood industry.

The wood industry in Canada has been slow to innovate and automate. A couple of things in recent years that have helped us innovate and automate are what I would consider unfair competition that hit us late in the 1990s and early in the 2000s, with material from overseas—mainly from China—that arrived here. It was manufactured in plants where there were no labour codes, no environmental rules, and people working in absolutely terrible conditions. This material arrived overnight and put many small businesses like ours out of business. These were businesses that had been around for generations,

Those that survived invested heavily in automation and technology to be able to reduce their cost to produce product, and a lot of them have rebounded and been able to respond to the markets, allowing us to thrive in a business that wouldn't otherwise be easy to operate in.

Other things that have affected us include the ongoing softwood lumber dispute with the United States. One thing businesses like is consistency. Over the last 20-25 years, this dispute keeps raising its ugly head. It makes it very difficult for businesses like ours to know what's going to happen, and it negatively influences our business. We have a fair bit of export business to Europe and the United States, and it just throws a wrench in the works when these countervailing duties get thrown in, such as anti-dumping and so on. It messes up the market and confuses everything.

Interestingly enough, some of the things that help our business are things that other governments are doing. Companies like Maibec, Cape Cod, and Fraser—pre-finished siding companies—benefit

greatly from, in particular, European countries that provide a disincentive to use sidings made out of vinyl or aluminum. There's a great export market for us in Europe, because homeowners, builders, and contractors who choose to use wood benefit from not being taxed, whereas they're heavily taxed for products that are made out of aluminum and vinyl. It's interesting that what other countries are doing is benefiting our industry here.

In Ontario, we struggle as a remanufacturer. We have high electricity costs in our plant. About 10 years ago, we doubled our capacity, and it took three or four years to get permission to build. It took hundreds of thousands of dollars in studies to get the building permits in place, and when it was finished—from the time we started that process to the time we finished—the cost of our electricity had almost tripled. Part of our plan was to use all our shavings. We create several tons of shavings every day. We wanted to turn that into fuel, but the cost of electricity was so high that we were unable to do that.

Whenever we are looking to improve in technology, we have to go elsewhere, because we can't find technology companies in Canada that are interested in innovating in machinery that helps us. This morning we were in touch with a company called Homag. Two big German companies, Homag and Weinig, as well as a big Italian company, are excellent in woodworking machinery. We have to go overseas to get any high-tech machinery that's going to help us innovate and reduce our costs. It would be nice to see more of a hub in Canada.

• (1000)

In fact, sometimes I think, if you've heard of the economic historian Harold Innis and his staples theory, that we tend to still be hewers of wood and drawers of water. We aren't doing nearly as much as we could in this country to keep jobs here and to take our national resources to a completely finished stage and then export them to the world.

We are also very interested in innovation in the housing market. The housing market is still doing the same things it has been doing for 60 or 70 years. If you take a drive in the west end or east end of Ottawa today, you'll find people trying to nail shingles onto roofs. You'll find people trying to frame, trying to scrape away a bit of the snow so they can stand up walls. We end up with poor-quality houses.

We are very interested in the panel business. We prefabricate components of homes, allowing you to install and finish a home in three or four days, once the foundation is in place, instead of in two or three months. There is very little of this happening in Canada. We see, in working with a number of builders, that this is a very great opportunity for Canada to innovate again and develop a very interesting industry around that. There is a company in Edmonton called Acqbuilt that's doing this, but it's about the only one.

We want to see innovation in that building market. It will also help us develop net-zero homes, which we're trying to achieve but haven't been very successful in doing.

We do everything in our business, from selling a small piece of trim to customers renovating their houses to exporting 100,000 or 200,000 board feet of reclaimed lumber to a company in Europe. We're just finishing a major project in Portugal, where we've been exporting reclaimed lumber. We have a reclaimed component of our business that takes old buildings and reuses that wood. We sell that all around the world. The market for that is far bigger in the United States and Europe than it is in Canada. The CFIA has been very helpful in helping us with that export, and we're grateful for that.

I think that's about all I have to say to introduce myself. We would love the federal government, provincial governments, and municipal governments to work together more in these areas. There is a lot of confusion between the different levels of government. For instance, with regard to the Species at Risk Act that's coming into effect, they need to get together with some of the provincial ministries of natural resources and make sure they're working together. I was just chatting with one of our colleagues out in B.C. who runs a large cedar mill, and they're very worried about things like that.

In my business, we used to get all our wood from British Columbia by train. About 15 or 20 years ago, CP shut down the only track coming into Ottawa. We had a siding off that line. The government wasn't able to think far enough ahead, and the City of Ottawa didn't take that rail line. It's now a recreational pathway.

As I was driving in from that end of town this morning, I realized that it would be nice to have a train taking people downtown so they don't get stuck in gridlock. It took me an hour and a half to get here from Greely. There was a train line that used to have trains going to Ottawa in 10 minutes. That train line is gone. We now have to have hundreds of super-B trucks transporting cedar and fir from the west coast to here on our highways, taking very large loads. We would like to see more automation in the trucking industry. We don't think the railway industry is going to come back in a great way for businesses like ours.

One of the fears I have is.... Several times I've had to call the police when a truck has arrived in our yard and the truck driver was so exhausted. He was completely panicked to get unloaded because he needed to get to Montreal to pick up some steel and head back, and he was obviously doing stuff to help him stay awake. That industry scares me. We need automation. We need more regulation in the trucking industry to try to make the roads safer.

•(1005)

**The Chair:** Thank you, Mr. Priddle.

**Mr. Timothy Priddle:** Thank you very much.

**The Chair:** We are joined now, or I hope we are joined....

Can you hear me where you are in Edmonton?

**Ms. Sian Barraclough (Vice-President, Commercial and Energy Management, Capital Power Corporation):** Yes, I can.

**The Chair:** All right. Thank you for joining us. I'm sorry about the technical problems.

We have Ms. Barraclough and Mr. Wollin from Capital Power Corporation, and Mr. Madlung for the Bio Mile and Clean Tech. Is that correct?

**Mr. Dan Madlung (Chief Executive Officer, BioComposites Group Inc.):** The company is actually called BioComposites Group Inc. We're located on the Bio-Mile in Drayton Valley.

**The Chair:** Thank you. Okay. My apologies.

The process is that we're going to give each group up to 10 minutes for a presentation. Then we will open the floor to questions.

We'll jump right in because we're a little behind schedule. I don't know who wants to start off. I'll leave that to you.

**Ms. Sian Barraclough:** Okay, I'll start off.

Good morning, chair, ladies and gentlemen, and honourable members of the standing committee. My name is Sian Barraclough and I'm vice-president, commercial and energy management, with Capital Power, headquartered in Edmonton, Alberta.

I'm also accompanied today by my colleague Steven Wollin, vice-president, engineering, for Capital Power.

Thank you for the opportunity to appear before you and to provide background on the bioenergy project we're seeking to develop at our Genesee site. We believe that using forestry residuals through projects such as ours to create electricity delivers against two key federal policy objectives: sustainability of the forestry sector and early reduction in greenhouse gas emissions. Our initiative also supports the vision of the forest bioeconomy framework for Canada announced late in 2017 by the Canadian Council of Forest Ministers.

By way of a brief background, Capital Power is a developer, owner, and operator of generating facilities across Canada and in the United States. We are a publicly traded company with a market capitalization of approximately \$2.7 billion with approximately 700 employees located through Canada and in the U.S.

Capital Power currently owns approximately 4,500 megawatts of power generation capacity in 24 facilities. Our generating fleet includes a wide range of fuel types, including coal, natural gas, wind, solar, waste heat, and biomass.

Roughly 30% of our capacity is from our four coal generating facilities, all located in Alberta, and they are the youngest and most efficient coal units in the province.

Our bioenergy project is focused on the Genesee site, home to three of our coal generating facilities. The Genesee site is undergoing a transition to a lower carbon future, supported by three key activities: first, a program that we call the Genesee performance strategy, or GPS, focused on reducing emissions, which GE has stated positions Capital Power as a world leader in carbon reduction from coal plants; second, a staged approach for coal-to-gas conversion; and third, our biofuel substitution strategy.

We have already taken actions that will reduce greenhouse gas emissions through improved efficiency at our units. The GPS initiative alone will deliver an 11% improvement in emissions intensity by 2021 with the units operating as coal facilities.

In addition, we have been actively looking at replacing coal with biomass to deliver additional substantive greenhouse gas emissions reductions. As we transition the units to natural gas, the benefits of both our GPS carbon reduction program and our potential bioenergy project would be sustained.

Woody biomass residuals from existing forestry operations are a significant potential renewable energy resource that can enable a transformation of the electricity sector while helping to sustain a strong forestry sector. The phase-out of incineration of wood waste in the forestry sector has resulted in mounting inventories of wood residuals at some sites, creating a challenge for small and large forestry producers. While some of this residual wood is expected to be used in the production of wood pellets for export, there remains a significant volume of bark residuals that pelletization facilities cannot process and that could end up stockpiled or landfilled. There is sufficient capacity at the Genesee generating station to consume most or all of the surplus woody biomass volumes in Alberta. Cost-effective conversion of waste wood into bioenergy would enhance the sustainability of Alberta's mills, create new rural and indigenous jobs, and reduce methane emissions from decomposition, while also reducing greenhouse gas emissions as a result of the displacement of coal for power generation.

Capital Power has explored biomass fuel conversion options, including pelletization, and concluded that the most cost-efficient near-term means to create bioenergy from forestry residuals at our units is through a customized on-site biomass preprocessing system. This custom-engineered methodology involves drying and sizing the raw wood waste before blowing the fuel into the plant's combustion system. The initial project would allow 15% blending of biomass with coal at one of our Genesee units, while future phases could increase biofuel substitution to 30% of two units with long-term potential to have a single unit run entirely on biofuels. It is also worth noting that biomass fuel substitution could be applicable in Saskatchewan, Nova Scotia, and New Brunswick, provinces that all have important forestry sectors and legacy coal-fired generation plants.

A 15% biofuel substitution project would contribute over 600 person-years of employment, while reducing greenhouse gas emissions by 600,000 tonnes per year, the equivalent of taking 100,000 cars off the road. Coal-powered generation would be reduced by up to 400,000 megawatt hours per year, well in advance of 2030. In addition, the project would deliver dispatchable, renewable generation that would help support increased deployment of wind and solar resources going forward.

• (1010)

To date, we have spent over \$2.2 million testing potential bioenergy options at Genesee through two rounds of testing in 2016 and 2017. The testing has proven the feasibility of our unique fuel preprocessing and conveyance approach.

Capital Power has been working closely with industry partners, including West Fraser, the Albert Forest Products Association, and Emissions Reduction Alberta, to move this opportunity forward.

Emissions Reduction Alberta has committed \$5 million to the project through its methane challenge competition, a small portion of which was used to support the second round of testing in 2017.

West Fraser also actively supported the testing by providing wood residuals from its Alberta forestry operations.

As part of our 2017 cofiring test program, Alberta Innovates also provided partial funding towards the testing of an advanced solid biofuel created from municipal waste. The results of the test are promising and show that our Genesee facility may also be able to generate renewable electricity using a much wider range of waste fuels, which complements our efforts to utilize forestry residual biomass.

This biofuel substitution technology is unique relative to other low-emitting, dispatchable generation sources, such as nuclear or hydro, because it is rapidly deployable and could be operational in less than two years of an investment decision. Further, it is the lowest-cost solution that we have identified that can create near-zero GHG electricity at a fossil fuel power plant and will be less than half the cost of carbon capture and storage technology.

Although Capital Power would be able to offset a significant portion of our construction and operational cost from avoided carbon levy payment, and although this is the lowest-cost solution to create low-emission electricity at a fossil fuel plant, based on current economics, there is still a financial gap to close. Therefore, we are currently working with the Clean Growth Hub in hopes of identifying federal programming that would be the best fit to close this gap.

Capital Power is committed to a transition to a lower-carbon future at the Genesee site. While making a material contribution to that goal, this biofuel substitution project is also a unique way to improve the sustainability of the forestry sector by finding a productive use for a resource that has traditionally had low value.

Capital Power appreciates the opportunity to provide its views on this very important initiative. We welcome any questions you have.

Thank you.

• (1015)

**The Chair:** Thank you.

Mr. Madlung, I believe that you're next.

**Mr. Dan Madlung:** Thank you, Mr. Chairman. Good morning, honourable members.

My name is Dan Madlung. I'm a forester; I graduated from UBC in 1979. I worked my way through the forest industry. My last job with a company was with CanFor. I was the vice-president of operations there. I've worked in several countries. When I retired in 2006, my wife and I decided to become entrepreneurs, and we've since built several companies related to the forest industry. The last one we're currently commercializing is a company called BioComposites Group, and that's mainly what I want to talk about today.

BioComposites Group is unique in North America. No other plant is doing what we're doing in North America. We produce a non-woven needle-punched mat. We take natural and synthetic fibres and we use a little needle, barbed at the end, and weave together natural fibres. This process uses no water, no chemicals, no heat; it's just a mechanical process. We have a unique ability to take several natural fibres—wood, flax, or hemp—and we can also combine synthetic fibres, whether they be polypropylene, polyester, or fibreglass.

I purchased this equipment from CanFor after I retired. I used to use wood fibre to make automotive panels; this is an automotive panel here. The ones we used to make in CanFor were quite a bit bigger, so I didn't bring them, but this particular one just happens to be the first automotive panel made in Alberta and the first one made out of hemp in North America.

We built this in Drayton Valley. We did have federal and provincial funds to build it. It's a fairly large plant, with about 36 semi-loads and 34,000 square feet. We've been building this for just over four years. It just started to become commercialized about last September in cash flow. Commercialized products include the only completely biodegradable and non-animal-trapping erosion control mat and a weed suppressant mat, and the latest product is a hydroponic grow mat, which is used for [*Inaudible—Editor*] in any commercial operations and household operations [*Inaudible—Editor*]. You can see us on our website or Instagram if you wanted to see more examples of that.

We have a lot of products under development, including a grow medium for greenhouses to replace rockwool, which is not very environmentally friendly. We're making a natural fibre insulation to replace pink insulation. We're replacing fibreglass. This year, just as an example, in replacing fibreglass we're working with some large manufacturers in fibreglass plants in Manitoba to replace the glass fibres with hemp and wood fibres.

We're also doing automotive parts. We're working with some Canadian and U.S. companies. This is the example here. We're fairly close to commercializing that. We're doing automotive interiors and industrial equipment interiors, such as tractors. We make 100% compostable feminine hygiene products—well, I shouldn't say we make them, but that's under development. Several other products would include wood siding replacement, which is currently being tested and has proven highly successful.

On the fibre side, we do utilize wood fibres, but right now our favourite is hemp fibres because they're longer and stronger. We normally mix the two fibres together, depending on the engineering qualities required.

• (1020)

An example of the potential of this is that in Alberta there are 17,000 hectares of industrial hemp grown today. It's grown for the seeds and the stalk, and the straw is basically all wasted. That is what we utilize. The value chain potential of utilizing that straw is 485 direct jobs. These are rural jobs. This would require about a \$200 million investment, and I can tell you that investment is coming fast to us and our industry, and that would result in about a \$220-million annual revenue stream.

I'm not calculating the impact on the wood industry, but our value add would be about 10 times that of the products that the wood industry would currently make from their waste. However, our volumes are quite small when you look at the wood industry.

Industrial hemp is the second-fastest-growing plant on the planet. It sequesters about five times more CO<sub>2</sub> than a forest does.

That's my summary. I'm happy to answer questions. Again, we're unique. We're the only one in North America, and I can tell you that we're growing quickly.

**The Chair:** Fantastic. Thank you very much for your presentations.

Mr. Serré is going to start us off.

**Mr. Marc Serré (Nickel Belt, Lib.):** Thank you, Mr. Chair. I'll be sharing my time with Mr. Whalen.

Thank you, witnesses, for your testimony and the work you've done. It's really enlightening and it will really help our report here.

Mr. Madlung, you outlined a lot of the products that you've done. It's a great job. We've heard from many other witnesses on the challenges of providing products. You have several products here. Specifically, what can we do at levels of government to ensure that you have a better penetration in the Canadian market and also internationally with the U.S., Asia, and Europe to sell your products and increase exports? What can we do specifically? Do you have any recommendations?

**Mr. Dan Madlung:** In terms of our challenges, my wife and I spent about \$1 million trying to get into the automotive industry. Getting into these big companies has been a big challenge, so we've actually backed off from that. In order to create cash flow, we've gone to more products that we can get into more quickly.

The trick to commercializing new products is that while there's a lot of support around product development and devising the product, there's very little support for getting it to commercialization. The federal government has a very good program. It's called the BCIP. It orchestrates buying products from companies like ours. It doesn't cost the taxpayer any money; it just helps us specify those products. They buy those off the shelf at the commercial rate, and it then allows us to get that product to the market and get it tested. In the time between when you've developed that product until you have customers, the customer is saying "I really need to have test results on this, and I want to have it tested in the field." My hat's off to the BCIP program. It doesn't cost the taxpayer any money, but it gets us commercialized.

That's a very good program for getting commercialized in Canada. I think there's a lot of support for companies like ours, and I appreciate that, but maybe we could do more BCIP-type programs, just to get companies like ours to that commercial stage and get out of that valley of death.

• (1025)

**Mr. Marc Serré:** Thank you, and that leads to our other witnesses.

Mr. Priddle, you talked about how the forest industry in the past was slow to innovate. You indicated that you were going to Italy, Germany, and the U.S for high-tech equipment. Also, Capital Power indicated the technology and that some of the markets are not being opened, so what can we do better?

We've heard from other industries about the commercialization and the valley of death and about how we're not doing a good job as a country, so what specific recommendations would you have on commercialization? I'll ask Mr. Priddle and then Capital Power afterwards.

**Mr. Timothy Priddle:** I think it would be nice to have an innovation hub in woodworking machinery in Canada. We have a lot of technology companies that have great systems that could be applied to woodworking and aren't. I think a company like Homag is now investing heavily in Canada. It's good to see a German company doing that in the Montreal and Toronto areas.

Ottawa has a technology sector, though, and I often think about how much money gets put into the automation of vehicles and other sorts of things but not into the automation of house building and so on. I think there need to be partnerships between people building houses, people manufacturing stuff for houses, and the government. I think partnerships are very important.

We are currently working with an Ottawa developer that's very interested in this, and we are chatting with some of the folks at NRC. We've partnered with Carleton University, the NRC, and others to start modelling some of this stuff and working on it.

**Mr. Marc Serré:** Thank you.

I think Mr. Whalen had some questions.

**Mr. Nick Whalen:** Thank you.

I know our INDU committee is fairly interested in technologists and that part of the supply chain, and of course the government operations and estimates committee is currently investigating BCIP. Maybe it will provide you with some comfort that other committees are addressing those issues.

With respect to biofuels and the utilization of the 15% or so of extra wood products that are left over in the industry after the housing materials, wood products, and paper are made, and after about 12 million cubic metres of wood products are used for fuel substitution in plants—as we heard in the last presentation—we have this biomass.

I want to make sure we have policies in place that use that to its highest economic purpose. My first question is to the folks who are using it for fuel.

Can I get a sense of what you guys are paying per tonne for access to that wood product?

Then the second question would be for Mr. Madlung, who is using the fibre, to ask what he pays for fibre to displace fibreglass or polymer-based fibres.

Thank you.

**Ms. Sian Barraclough:** Maybe I'll take a crack at that.

From our perspective, just to be clear, today at our Genesee units, we aren't using biomass fuel, but we would like to be doing that.

In terms of the cost of the raw biomass to us, we don't expect the biomass itself to be of a high cost—there may be some minimal cost—because at the end of the day, the mills that we're dealing with need to be neutral on this from an economic perspective.

The major cost in terms of procuring the fuel is actually transportation. It's transporting that fuel from the mills that are located in various places around Alberta to our Genesee site.

The other economic gap.... We have increased O and M at our site in order to be able to process the biomass and displace coal, as opposed to using coal. Then, obviously, we have an upfront capital spend. On a 15% project that we're looking at, initially it's about a \$50 million capital spend for us, but in terms of specifics on the fuel procurement bill, it's the transportation costs that are the biggest challenge for us.

**The Chair:** We're going to have to stop there.

Mr. Waugh is next.

**Mr. Kevin Waugh (Saskatoon—Grasswood, CPC):** Ms. Barraclough, through the clean growth hub, you're working with the feds. How is that working?

**Ms. Sian Barraclough:** It's good so far, to be honest. We've just tapped into the clean growth hub. We heard about it fairly recently. We've seen some program announcements that we think may be potential funding opportunities for us. We've just tapped into them and have started conversations. To date, it seems to be going well, and they seem to be helpful.

**Mr. Kevin Waugh:** You mentioned indigenous jobs. I actually sit on the INAC committee. How are we doing there? It has been a struggle in this country, first of all educating our indigenous peoples and then getting them involved. The graduation rates are not good in this country, and I just want to know how your company is working with them to get them better-paying jobs and get them into prosperity in this country.

● (1030)

**Ms. Sian Barraclough:** At this point, I think we've engaged on a couple of levels with indigenous groups. First, potential biomass fuel suppliers have approached us who, of their own initiative, are looking at projects to undertake. Second, we've certainly had engagement with indigenous groups in proximity of the mills and our Genesee plant.

The primary area where we see the opportunity for indigenous jobs in our project is on the trucking side, so we'd be looking to engage indigenous-owned trucking companies, companies that would use indigenous employment, and those kinds of things.

**Mr. Kevin Waugh:** Are indigenous companies coming forward and investing with you as a partnership?

**Ms. Sian Barraclough:** That's the potential. We aren't that far down the road yet, but there is the potential for us to do some kind of equity investment.

**Mr. Kevin Waugh:** Mr. Madlung, we need more of you in this country. You probably don't sleep. You're an innovator. That woven fibre, what's it used for?

You're trying to work with the automotive industry. You're probably too small and they shut you out. All of a sudden, we see what you have in front of you, and it's pretty innovative. Can you talk about that? You and your wife put your necks out and invested, you said, millions of dollars, and sometimes I'm sure you don't sleep and you're up at four in the morning wondering what the hell you're doing.

**Mr. Dan Madlung:** The honest part is that I didn't sleep when I retired because I had too much energy.

The automotive side is a good one, but I might go around your question a bit here.

It's important to realize that the value chain is very immature. The processing part of the industry to get the fibres we need is very immature. We need to develop that in the industry, and it will be taking place here very shortly, either through myself or somebody else.

Then there's our plant, and then there's the secondary processing for.... Let's say we decided to make insulation—that's a huge market—or we do a fibreglass replacement; that requires another factory. There is investor interest in that, and we will deliver on it, but the trick is that this whole area is very immature, whether it's refining wood fibre or refining hemp or flax. When we get that maturity, it will open up a lot of markets, such as the aerospace industry or making bulletproof vests for the military. We've had all those inquiries.

This fibre is very strong, and it can be engineered. How do we go about that? There are different ways that I've done it. One is through a team. I have a team that develops products, but I limit them to four products at one time. The secondary way I do that is to invite other innovators to use our equipment and develop their products, using natural fibres, and we enter into business arrangements afterwards.

For example, insulation is that way. I'll invite other innovators in because I don't have the time or energy or the people to do it and not focus on those four.

I'm not sure if I'm answering your question, but—

**Mr. Kevin Waugh:** Yes. I do have a question, because my time's running out here.

You mentioned hydroponic grow mats. Are you selling them to marijuana operations, or have you thought about it?

**Mr. Dan Madlung:** No, these are just for sprouts.

**Mr. Kevin Waugh:** Okay.

**Mr. Dan Madlung:** They're for sprouts, but we're developing a full product to replace rockwool. That's the growing medium that would.... We're working with marijuana and hemp-growing companies.

**Mr. Kevin Waugh:** Thank you.

Mr. Priddle, you had 1,500 pages of government forms over six years. Let's go through this again. Fifteen hundred pages of government forms to fill out over six years cost you over half a billion dollars in fees and other administration costs.

How can we get this deregulated so you don't have to go through this and have this grief for you and your company? You know, you mentioned right off the top that you're the only one left. Can you talk about the regulations and the red tape that you had to go through?

• (1035)

**Mr. Timothy Priddle:** Sure.

Probably about 10 years ago we decided we wanted to expand our plant. We saw market opportunities in Canada and elsewhere. We engaged with a consultant to help us with the process of getting a building permit. In Ottawa that's a very difficult thing to do.

We're in the forest industry. We understand trees, but I had to do a tree study, for instance, and we had to get a book written on what was a farmer's field 15 or 20 years ago. It had a few poplars on it, so we had to get an arborist to measure each tree and write a little description about it and so on. Things like that tend to irritate you.

We have more land out there now, and we have partners who want us to expand again. I'm trying to find the energy to get up and do that again. As a businessman, I often think it would be nice if governments were a little more innovative. I've lived in Ottawa for my whole life and I love the place, but I wish the City of Ottawa was a little bit more proactive in helping businesses grow and develop. Instead of having to go to eight different departments in the City of Ottawa to try and get a permit, they would have someone who would guide you through that process.

I could go on about the Ministry of the Environment for our dust collection system and so on, and how you just get lost in a big pile in Toronto somewhere. It's a real struggle. Very many companies would have more money, time, and energy to innovate if they didn't have to spend a lot of time on these things while they're trying to grow.

I fully understand the need to grow in a manner that respects the environment, etc., but there have to be easier ways to do it.

**Mr. Kevin Waugh:** Thank you.

**The Chair:** Mr. Cannings is next, and then that'll be it. We're going to have to do some committee business after that.

**Mr. Richard Cannings:** Thank you all for being here with us today.

Mr. Priddle, I'm from British Columbia and I was happy to hear you talking about new ways of building. You mentioned manufactured homes, siding, kits that people could put together in a few days to get around having to build in crappy weather. We can build the houses inside.

I have a number of operations in my riding that do just that. One I was just visiting had developed a new do-it-yourself house designed for use in the Arctic. You can fly in one of these kits in one plane-load, and it takes three days for teenagers to put it together. You don't have to wait for a journeyman to come in from other places.

That's just the tip of the iceberg. In my hometown, we have other manufactured homes and Structurlam buildings of engineered wood. I was wondering if you could comment on the future of how we're building homes.

**Mr. Timothy Priddle:** One of the big issues is labour shortages and young people. I don't want to pick on millennials, but they don't seem to like to work. They don't like getting involved in the trades. You probably won't believe me, but I was chatting with an Ottawa fencing contractor who does commercial fencing in Ottawa. He has three foremen, all making over \$100,000 a year installing fencing. They've been working for him a long time, and he has to keep these guys because there's such a labour shortage.

This situation also affects tract builders. We work with a company in Ottawa called Caivan Development Corporation. They build 300 to 400 homes a year and they spend most of their time pulling their hair out trying to get stuff done properly and on time. They're seeing this labour shortage as a detriment to the whole industry. They're innovating and they want to partner with us in developing a system like that company in Edmonton, Acqbuilt, whereby we can build most of the components in a controlled environment with current technology, reducing costs and getting a house of better quality. I see that being forced on us because of the labour shortage—which is a good thing.

**Mr. Richard Cannings:** Yes, and I think it will create better houses.

**Mr. Timothy Priddle:** Definitely.

**Mr. Richard Cannings:** This brings me to the international competition you mentioned. Could you expand on this business in Europe of disincentives for manufacturers of aluminum and vinyl siding?

• (1040)

**Mr. Timothy Priddle:** Sure.

**Mr. Richard Cannings:** It was also a good thing for you, I guess.

**Mr. Timothy Priddle:** Yes.

**Mr. Richard Cannings:** Why isn't it happening here? What are the ups and downs of it?

**Mr. Timothy Priddle:** A lot of the European countries understand that wood siding is a renewable resource that comes from an industry interested in protecting the forest and itself. These European countries have become our best friends. Like us, they think wood siding—not vinyl or aluminum—is an environmentally sustainable way to build a house, and they have put a massive tax on vinyl and aluminum siding to promote the use of wood siding.

Nothing like that exists here. I love wood, and I call it the scourge of vinyl siding. You drive around parts of Ottawa and you can see blocks and blocks of three-sided vinyl homes, all clad with this nasty vinyl stuff. We have now found a couple of builders who are going to start using pre-finished siding on their homes as a regular thing, and they're hoping the consumer will understand that it's better and more beautiful. They're taking a huge risk, because it's costing them an extra \$7,000 to \$8,000 a house.

**Mr. Richard Cannings:** I'll just mention to Mr. Whalen that I think that's one of the worst things that's happened in Newfoundland in the last 50 years: everybody moved from that beautiful wood siding to vinyl siding.

**Mr. Nick Whalen:** Well, we're moving back, big time. I'm just doing it to my house right now. There's a move back to wood siding now. It's fantastic.

**Mr. Richard Cannings:** In talking about softwood lumber tariffs, I recently heard that now it's now cheaper in many ways to buy lumber from Europe than it is to buy it here. In my riding, companies are filling in the eastern North American part of their business by importing lumber from Romania or Germany. I'm just wondering how that is affecting your business.

**Mr. Timothy Priddle:** There's some coming from Europe and some from South America.

One of your previous witnesses in the last session was talking about pine coming out of Maine and New Hampshire. We buy a fair bit of white pine. We get most of it from Quebec and Ontario and a little bit out of Maine and New Hampshire. There is more and more wood coming out of Romania and Bulgaria. It hasn't affected our business that much yet, but I can see it coming with this countervailing duty in place, and hopefully we get rid of that as soon as possible.

**Mr. Richard Cannings:** I've got so many things to ask you.

You mentioned competition from China, with low labour standards and low environmental standards. I was wondering if you might want to comment on how that stands now. It sounded as though it was a while ago. What might your message to the government be about free trade agreements with China?

**Mr. Timothy Priddle:** Yes, I think it would be important for people within the government to travel to China to see what the working conditions are like in some of the plants.

We produce a lot of handrailing, newel posts, flooring, and that sort of thing for homes. We have to have air quality tests done in our plant. We have to get a permit for our dust collector. It has to not release anything into the environment. Sound conditions.... More importantly, we have to make sure our workers are safe.

If you travel to China and look into some of those plants, you'll see that's just not the case at all. The government is, I think, progressing a little bit in China on that front, but the conditions are still terrible. You wouldn't want your kids or grandkids working in some of the plants that I see in China.

**Mr. Richard Cannings:** Okay.

I'll just make a quick comment about German technology. We have that same issue in plants in my riding, so I'm fully behind you on that.

Thank you.

**The Chair:** Thank you to our witnesses.

Unfortunately, we're out of time, which always seems to be a problem here when we get into these interesting discussions. Yours is no exception to that.

You are the last witnesses in this study we're doing, and so we close strong, I have to say. Thank you very much.

We're going to suspend for about 30 seconds while we release the witnesses, and then we have a couple of items we have to deal with in committee business. If everybody could stick around without getting out of their seat, I'd be grateful.

*[Proceedings continue in camera]*

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