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Chair

Mr. James Maloney

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● (1535)

[*English*]

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

We're going to get under way here. I'll ask everybody to take their seats.

We have three witnesses in the first hour. In the second hour, we're going to get into some committee business.

I'd like to thank our witnesses for joining us today. From the Canadian Wood Council, we have Peter Moonen. From Cobden Strategies, we have Catherine Cobden, and from Conifex Timber, we have Sandy Ferguson. We're grateful to the three of you for being here.

The process is that each of you will be given up to 10 minutes to do a presentation. Once the three of you have completed your presentations, we'll then open the floor to questions from around the table.

We have very tight time limits. Presentations are 10 minutes. Questions range from five-minute segments to seven-minute segments. If I interrupt you or one of the people around the table and tell you to stop, it's not because I'm rude but because I have to.

You have translation devices, if you need them. You may be asked questions in French or English and of course, you're free to deliver remarks or answer questions in either official language.

On that note, Mr. Moonen, the floor is yours.

Mr. Peter Moonen (Manager, National Sustainability, Canadian Wood Council): Thank you for the opportunity to meet today. My name is Peter Moonen. I'm the national sustainability manager for the Canadian Wood Council. I'm not sure if you're familiar with the wood council, but we essentially provide technical support to designers and architects, and we represent the industry to that sector. Our principal job is to inspire, enable, support, promote, and recognize excellence in wood design.

I'm going to start with an area that I'm sure you're very familiar with: environment. We're facing a lot of different environmental imperatives: forest management, climate change, carbon footprint, and energy efficiency. I'm going to concentrate on where wood is, but I'd like you to think of a very simple acronym that I think demonstrates the attributes of wood. It's 4S: sustainable forestry, sink, sequester, and substitute. Those sum up the values that wood offers to the built environment.

Canada takes great pride in sustainable forestry. That's the first S. We have more certified forests than do the next four countries combined: Russia, U.S., Sweden, and Australia. I think you all know that our forests are sustainably managed, but they also act as a carbon sink. That's the second S. I know there are many researchers in the CFS who evaluate the carbon emissions from all sources, including forests. I work with them on a fairly regular basis.

The third S is “sequester”. When wood is used, it takes the carbon that those trees put into the wood and locks it up for as long as the wood remains intact. That's an important factor when we're designing our structures. I'll get into the fifth area, time, in a minute or so. By designing enduring and adaptable structures, we can actually extend the carbon cycling so the CO2 that is stored in the wood is kept out of the atmosphere.

The fourth S is “substitute”. You can also consider that to be avoided emissions, which is just as valid as buying an electric car to avoid future emissions. When you build with wood, you avoid the emissions that might have come about from a more carbon-intense material. There's no perfect material, but I think wood offers some very significant opportunities in the carbon realm.

The other aspect that is often overlooked when it comes to carbon is the matter of time. Since greenhouse gas effects are cumulative over time, both impacts and benefits accrue over the long term. I'm sure that most of you have a retirement plan. You can look at the carbon benefits or the carbon impacts in the same way as the money that we put into a retirement plan to grow and accrue over time. It's the same with carbon impacts or the carbon benefits. When we make our carbon savings is just as important as how we make them.

Wood is an incredibly interesting and wonderful material, and it enhances the abilities of architects, designers, and builders to build high-performing buildings. I'm going to focus most of my attention on the structural use of wood and the buildings into which it goes.

It can reduce energy use because of its thermal properties. It doesn't transfer heat very well. When you're designing a high-efficiency building that is trying to achieve a passive house level or net-zero energy, that thermal transfer is important. I think you've probably all put your hand up against a window in the winter and found that it's cold. If you put your hand up against wood, it's probably not cold because it doesn't transfer that heat. That's going to be important, because, as building codes move towards net-zero, passive house, or super E, we're going to have to pay attention to those little details about things like how we make our building envelopes airtight, how we make them thermally efficient, and how we design and build buildings that are comfortable, functional, and healthy to live in. Wood plays a role in all of that.

The carbon aspects of wood are being recognized by governments all around the world. I know that the national building strategy is recognizing carbon. The City of Vancouver has a carbon footprint requirement so that any new development has to report its carbon emissions, not just its operational carbon. This is in an effort to achieve net-zero carbon and net-zero energy.

● (1540)

We're undergoing a huge change from rural to urban, and that is putting a lot of pressure on cities. It's causing densification. It's causing change in how we build, where we build, and what we build with, so it poses a lot of challenges to the construction sector, which is arguably the largest industrial sector on the planet.

Canada is facing trades and skills shortages. Speed of construction is an issue, as are cost, precision, and building quality, which are necessary for high performance. A lot of those things can be addressed by prefabrication, which is an area in which wood excels in Europe, and one that is growing in North America and being recognized by contractors as an important component of future construction. As I say, it poses opportunities for wood.

I have some materials here, which I'm going to pass around. Aside from one product, they're all manufactured in Canada and they all present different opportunities for either the structure or the building envelope.

These first two products are part of heavy timber. There's laminated veneer lumber and TimberStrand, which is another form of an engineered wood product. They are increasingly being used in tall wood to be used in place of steel or concrete. They're very fire-resistant. They have been used in mid-rise construction around the country and in innovative green buildings at UBC and in Ontario, and we're seeing many more mass timber products being used.

I have three items that are actually non-structural products. They are wood fibre-based insulation. When I first heard of that I thought, “Why would you put that in a wall? It's just going to burn.” If I had a propane torch here, I could try to light the product, and it would not burn. It would char, but it would not burn.

There is research being done at FPInnovations, and we're putting this into buildings across the country, because it's not only a wood product but also a very efficient insulation product.

Building envelopes are going to be increasingly important. Wood plays a great role in those. There are many passive house buildings and mid-rise buildings in Vancouver that use wood because of its thermal properties and its ease of fabrication. It can be precision manufactured. It's a superlative product for what we will be trying to achieve over the next little while.

What's needed? One of the things we find most frustrating is that architects and engineers are not informed about wood. They don't take it in school. We need to incorporate that knowledge into learning for existing practitioners and contractors as well as for our future professionals. To my mind, every architect and engineer and contractor should have a comprehensive understanding of materials so that they know how they can merge, how we can have composite systems. To do otherwise is sort of like teaching a gourmet chef how to cook but not teaching them anything about vegetables. I think it's important that we educate our designers if we want to have these buildings.

There needs to be some research into advanced design on prefabrication, on understanding how materials can be combined to make the most efficient structures.

We also need to raise our skill levels in prefabrication, in hybrid design systems, and in retrofitting and renovation. The biggest change we can make for energy performance is to retrofit existing buildings and not just build all new buildings to net zero. That's a tough task, but I think it's an area where wood can excel because, again, of its thermal properties and its ease to be machined to tight tolerances.

We also need to have performance-based material evaluation in our codes. The wood today is not our grandfather's two-by-fours. It's very different. As you can see, these are products that weren't around 20 years ago. We need to upgrade our building codes to reflect the true performance capabilities. Don't put wood in a situation where it's going to fail, but recognize that it can do more things than we thought 20 or 30 years ago.

One hundred years ago most of Canada's buildings were based in wood. At the turn of the century, about 10 years after the Eiffel Tower was built, people started building with steel. In the thirties they started building with concrete. Michael Green is a friend of mine, and he's always saying that wood is undergoing a renaissance.

I think the 20th century may have been the century for concrete and the 19th century might have been the century for steel, but I think the 21st century is going to see the rise of wood, and I'd like to see that happen. I think Canada is in an excellent position to be a world leader in that.

Thank you.

The Chair: Thank you.

Ms. Cobden, go ahead, please.

Ms. Catherine Cobden (President, Cobden Strategies): Thank you, Mr. Chair.

Good afternoon and thank you for the opportunity to be here.

This is a topic extremely dear to my heart. My name is Catherine Cobden. I come by my interest in this topic quite honestly. I was born and raised in the shadow of a pulp mill in Espanola, Ontario, very close to Sudbury. I became a chemical engineer and spent many years in various communities right across our country that are 100% dependent on the forest industry. To say I'm passionate would be an understatement.

Prior to my current role, I was the executive vice-president of the Forest Products Association of Canada. I led a number of studies that investigated the way to create new secondary products and supply chains for the industry, which are very germane to the topic at hand.

Now I am president of Cobden Strategies Inc., a boutique consulting firm. In that capacity, I am pleased to work with innovative forest products companies and many other companies in other industries, like steel, that are interested in pursuing the opportunity that incorporating forest fibre-based materials presents for their businesses.

I actually see strong developments across the country in this space, from iconic tall wood buildings, which we have been talking about, to novel products like nanocrystalline cellulose, through to these manufacturing companies, in a wide array. I see steel and cement coming together with forestry as we try to reduce something that's critically important in Canada, which is our carbon footprint. The list goes on and on. This is an extremely timely topic.

The creation of secondary products is an exciting economic story that has already begun. It's creating jobs in both rural and urban Canada, but it's also an environmental story and it's very exciting. We know that wood stores carbon—we have just had a great description of that from my colleague Peter—so you know there's a direct link between the low-carbon green economy that Canada aspires to and what we call the forest bioeconomy.

It is with this in mind that I am pleased to be here today. I worked hard to try to think of some offerings I could give this committee, as it studies this topic, about the current industry and the development of those secondary supply chains.

First and foremost—and this goes almost without saying but let's put it on the record—sustainable use of forest resources must be paramount to ensure healthy and vibrant forests for generations to come. The sustainability of our forests, as we pursue these secondary supply chains, must be central to how we proceed. Our policies, regulations, forest-management practices, certification schemes, and so on must all keep pace to assure that we have that secure, predictable, and sustainable supply of forest material in the future.

Second, there are primary products. I've been asked to talk about my own definition of primary. I see primary products as being the traditional products of various wood products, lumber, and pulp and paper products. I see them being linked to each other in an extremely integrated economic model. This committee is probably very aware of that. When there's a problem in one part of the family, it impacts everybody. I believe, given some of the long-term structural challenges in pulp and paper, that we have an ongoing economic imperative to create these secondary supply chains that you're looking into.

Third, secondary products are already being created today. We're talking about some novel engineered wood products. I didn't bring any toys, but they're awesome. They're fantastic. We're talking as well about energy-generation capacity. I presume my colleague Sandy will talk about that in a bit more detail as well. Of course, right across this country, we're seeing biochemical biomaterial trials for the first time ever in the world, which is extremely exciting.

Fourth, none of us in this room and none of us who look at this issue deeply actually know how this will unfold in the future. I think we need to stay cognizant of the fact that the secondary products of today may become the primary products of tomorrow. Also, there may be brand new inputs that forest-based materials provide for these other sectors. We might even see entirely new segments of our bioeconomy emerge.

Fifth, the primary production of traditional products is currently the most economic and job-rich way for this to unfold, so while we don't know how this will actually take place, we do know a few things.

● (1545)

Bio-pathways looked at this and I believe the current analysis shows that you're best to take clean technology and bolt it on to some of these assets, or take residuals from existing primary forest product producers and convert that to additional bioproducts.

Finally, there are a lot of new entrants out there, a lot of new businesses that are extremely interested, and I think new market opportunities will emerge that will be quite significant. My advice is that primary product producers need to recognize and be encouraged to form these new business relationships to actually grab hold of those market potentials.

You're taking on this study at a time as well—and I'm sure you're well aware—when international competition is looking at this in all sorts of ways. We must be seized with the question of how we do this here in Canada.

While I have the floor, I'd like to applaud the Canadian Council of Forest Ministers for their recent launch of a bioeconomy framework. As you likely know, it provides a tool box for federal and provincial governments to think about how best to support the primary forest users and create those secondary supply chains that you're looking at. It got a lot of things right so I encourage you to take a look at it, but I'd love to ask you to go one step further.

I think we can do more. I would like to suggest we could take a leadership role and develop immediately a federal strategy that puts those elements of the framework into action that would support the provincial activities in this space, that would provide critical information, to all current and potential users of the resource, of feedstock supply, of what the inventory of clean technologies that are moving dynamically is, and really drive further innovation.

Globally, this is a very fast-moving space. I think we have to keep our eye on all of this. We have an enormous economic job and environmental opportunity that you're studying. We have a very strong base. We have 350 million hectares of beautiful forest that we know how to manage sustainably. We have a strong global reputation for those sustainable practices. Our development of "world first" clean technologies cannot be overlooked. I think if we marry these strengths with ongoing innovation and look deeply at how we can go further, Canada will be very well positioned to be a leader.

Thank you very much for taking on this study and for the chance to appear.

● (1550)

The Chair: Thank you very much.

Ms. Ferguson, it's your turn.

Ms. Sandy Ferguson (Vice-President, Corporate Development, Conifex Timber Inc.): I'm not sure I can be as succinct as Catherine has been, so I'm going to time myself.

Thank you very much to the committee for having me here. I'm from Vancouver, British Columbia, and I'm the vice-president of corporate development with Conifex Timber.

I am very pleased that your group is taking a look at this area. It's a big topic. I was kind of daunted when I was first invited to talk about secondary supply chains. We could be here for years studying this, so I'm going to try to take just a particular slice, which is the area near and dear to us as a company and to me personally, and that's really around the bioeconomy. It's also around our company and what it's meant to us in terms of how it's changed our business and how it's made us more sustainable. I'll also talk a little bit about the opportunities and challenges and how the forest sector overall can really contribute further to innovation and to the low-carbon economy.

Our company, in case you don't know us, is not one of the giants of the industry, but we are a publicly traded company, so if you want to look up more information, most of it is online. We're a lumber and biomass power producer, and we had revenues in 2016 of around $400 million, so that puts us at the level of a relatively small entrepreneurial Canadian forest products company. We were formed in 2008 when our founder, Ken Shields, saw two idle sawmills in the interior of British Columbia. He thought maybe we could do a better job of restarting and running those operations, because the essential piece of them, the fibre basket, was still there and was still in place. In 2009 and 2010, we acquired sawmill assets from AbitibiBowater and Pope & Talbot up in the interior of British Columbia, in Fort St. James and Mackenzie. If you folks have ever been up there, you'll know it's just north of the Prince George area.

We hold over a million cubic metres of annual allowable cut licences in British Columbia. We did $128 million in our two sawmills, which produced over 500 million board feet of lumber, 90% of which is exported to outside of Canada.

Since 2009, we've contributed 600 jobs to our communities. These are resource-dependent rural communities, so those of you who live in these kinds of communities know how important these kinds of jobs are to them.

We have also recently modernized and rebuilt a sawmill in El Dorado, Arkansas, to provide further diversification. I'm going to talk a lot about diversification today, because the additional prong—we have sawmills and we have a new asset in the U.S. south—is that a big part of our asset base is our bioenergy facility, which is in Mackenzie, B.C. We moved into the bioeconomy really because of an opportunity that was created by government regulation. In 2010 when we acquired the Mackenzie site, there was very good government policy in British Columbia, which encouraged clean, independent power production, and we were successful in using some assets—an old newsprint facility.

Of course, being lumber people, we didn't know what to do with a newsprint facility, and there was also a reason the newsprint facility had gone down, so we thought that at least we could try to repurpose and reuse some of those assets to do something else. We found $103 million of financing out on the market—and I'll talk a bit more about how hard that was because it was not an easy thing at all—and we were able to get into an electricity purchase agreement with BC Hydro, to add to our load displacement. It's 36 megawatts, which puts us as the second largest in the province of British Columbia and at a pretty good size across Canada.

As I mentioned, we reused, repurposed, and refurbished as many of the assets that were on the site as we could, and then we looked at the really state-of-the-art pieces, which were a new turbine and a $12-million fuel-handling facility, to be able to take the residuals and process them appropriately to use as feedstock for the fuel source for the boiler.

We use 172,000 oven-dried tonnes per year, the majority of which comes from our own sawmill residuals—the lower-cost residuals, not the chips, as well as the hog fuel, which is the barky bit, and also the shavings. We successfully commissioned this project in 2015. We sold electricity the month after we completed it, and we're at 99% efficiency and very happy with the project.

● (1555)

Conifex gets a stable and diversified revenue source from Canadian fixed-dollar currency. In the lumber business, you're always producing in Canadian dollars and selling in U.S. dollars, so you invariably take on exchange-rate risk. This is also predictable. We don't have cycles of softwood lumber and cycles of commodity price drops. We have a 20-year contract that gives us stability.

We get assured markets for a significant portion of those low-cost residuals, and we've developed a $12-million platform, through which we are learning a tremendous amount about how to process biomass feedstock for our current project and for future applications. It's really enhanced the competitiveness of our Mackenzie site. We have greater assurance that the site will operate and will maintain employment even in the downturn because our sawmill and our power plant are so integrated. The province of British Columbia gets a 230-gigawatt-per-year clean-energy source or the equivalent of powering 20,000 B.C. homes, $103 million in new investment in the clean-tech sector, and for the town of Mackenzie, 24 new jobs, good jobs, primarily power engineers. We have heightened certainty that our company will be able to continue to account for one-third of the tax base in that town.

Has this been a good addition to our business? Yes. Has it been hard? Yes. We had a lot of challenges with the financing. That's a big chunk of change when you're a relatively small company. We've also had continuous learning around processing feedstock in a very different way from the way we get logs into the mill. Finally, we had to hire a brand new workforce with very different kinds of people.

What are the opportunities and challenges that face forest product companies as we seek to really scale up the bioeconomy? I think there is a very broad spectrum of activities that go beyond the core production of lumber and/or pulp and paper. If you look through a lens, I think of utilizing the sawmills and/or harvesting residuals to produce heat, electricity, biofuels, biochemicals, and advanced biomaterials. All of these replace petrochemical products. Bioenergy is the first level, and that includes things like bioheat, community district heating, biomass power—which we have produced—cogeneration at sawmill sites, and first nations diesel replacement through community heat and power.

There is, however, much more we could and should do, both in these mature areas and as we move to developing the types of opportunities that Catherine mentioned a moment ago, and on which other witnesses have shared. Those are around biofuels, especially chemicals, and advanced biomaterials in markets such as the automotive sector and the pharmaceutical and industrial markets.

At Conifex, our major investment decisions are driven by our duties of loyalty and care to shareholders. We always have to remember that, as much as we might want to move forward in areas, because it's the right thing to do. That is the primary reason our company exists. Our best value for the fibre we process still comes from using sawlogs to make dimensional lumber. There is more we can do to maximize value-added applications for our residuals; the two are complementary and additive.

Having a competitive forest sector, however, is crucial to providing a platform to move into some of these higher-value and riskier new applications. I encourage continuation of the efforts now under way in B.C. and other provinces to help with the competitiveness in our sector. I, too, commend the Canadian Council of Forest Ministers for taking the big step of creating the forest bioeconomy framework, and I join Catherine in calling for the evolution to a strategy as soon as possible and to collaboration with the provinces. That's so crucial, because in this space, as you all know, it's a very locally based business. It's a fibre supply in one area and an energy profile in another, and the applications are all going to be very different, depending on where you're based.

There's a big role for government here in encouraging all of these emerging sectors. We would not have built our biomass power plant without the good government policy and the regulation at the time in British Columbia. We need to have effective and long-term government regulation and funding programs to mitigate the risks that are beyond what those of us in the private sector can do ourselves. We can't take on regulation risk. That's where we need help.

● (1600)

Private and public sectors need to work together to educate stakeholders. I encourage all of you to attend the Scaling Up conference here at the end of November. It's a perfect opportunity for this committee. It's probably the best conference in Canada, and it's in just a couple of weeks.

We also need to develop better partnerships across all elements of the supply chain, including end-users. I was very disappointed to learn that the biodesign supercluster did not receive funding in the supercluster race. I know there were a lot of terrific proposals out there, but what was really exceptional about this was that we don't necessarily work that well together in the forest products sector, and the opportunity that was presented brought a lot of stakeholders, both in forestry and outside, together, with $400 million of potential project funding on the table. I think the momentum will continue, but we have to find the right mechanism.

I'd like to see some tax policy for the bioeconomy that's equivalent to the tax policies enjoyed by the fossil fuel industry. I'm sure I'm not the first person to mention that. We need revenue-neutral carbon pricing that's aligned with best-in-class equivalents in other parts of Canada and the U.S., because products will flow to whoever will pay them the most. We need to really become better at understanding how to access those very large volumes of biomass, but they must be economically available.

I see I am getting tapped, so I wasn't very good with my watch. May I say my last sentence?

The Chair: Certainly you may.

Ms. Sandy Ferguson: The bioeconomy builds on our Canadian global leadership in sustainable forest management and contributes to GHG reduction, jobs, rural community development, clean-tech innovation, and forest sector transformation. This is an opportunity we simply cannot pass up.

Thank you.

The Chair: Thank you.

Ms. Ng, you're first up.

Ms. Mary Ng (Markham—Thornhill, Lib.): Thank you so very much.

Thank you to all the witnesses for coming and talking to us today on this very important subject. It's great to hear all of you, because you're touching on a number of things we want to understand and that, I may say, are aligned with what our government is doing, whether that's creating jobs or looking at where there are opportunities for those secondary forest products that can emerge, and then being good to our environment.

Mr. Moonen, maybe I'll start with you. You touched on the need for a greater capacity among architects and engineers to understand the capability of wood and also on the changes or modifications that need to be made on the building code side. Of course, that isn't an area of federal jurisdiction, but help us understand what we could be doing at the federal level to enable that better understanding so that there is a better or greater capacity to use wood in that innovative way, which will then spur greater secondary products?

● (1605)

Mr. Peter Moonen: That's a great question, because we are always asked about what people can do.

There are two elements to that. One is the education of people who are capable of designing and specifying wood. The other is their legal ability to use it in certain structures. The legal aspect is basically in the codes and the standards and the like.

I don't know that there is a really good understanding by a lot of people of what the new wood products can do. You've probably heard of Brock Commons. Who would have thought 15 years ago that we'd have an 18-storey building the main structural element of which would be wood? Many of those materials are still restricted in various jurisdictions, some by the national building code but often by locals, because people look at them and say, “Wood, fire, burn, bad”. The real question should be how the material will respond in a fire, not whether it will eventually burn. I can make steel wool burn, but it's acceptable.

That's one area where I think CWC has done an awful lot of work in helping people understand what's possible and where not to use wood. Don't allow it to be used where it shouldn't be used, but don't diminish its capability because you have a weird perception of it.

The other thing is how the architects and engineers learn about this. Very few architects 15 or 20 years ago took any courses. At the university I went to, UBC, the engineers have an optional course in wood, heavy timber design, and it's 12 hours long, out of four years of instruction. To be honest, they probably shouldn't use wood, but that needs to change. Laval University has a wonderful program. The University of Northern B.C. has a master's program. UVic wants to build a wood engineering program. These universities are recognizing that wood is going to play a role, but we really do need to teach today's practitioners as well so that they are comfortable in building with wood.

I really think there should be a requirement to learn about all the main structural materials if we're really going to be comprehensive engineers and architects. Does that answer the question?

Ms. Mary Ng: Yes, that's good.

Ms. Cobden, thank you for your insights.

You're in the business now of providing strategic advice. This is not a piece you touched on, but what do we know about international trade opportunities with external markets to which secondary products created in our country could go? Is that something you're looking at?

Ms. Catherine Cobden: Absolutely.

Ms. Mary Ng: Is that something for which the market is understood? Never mind the development of products on the one hand, but where might some additional markets be? Help us understand that a bit.

Ms. Catherine Cobden: Actually, that rests precisely on a jurisdictional role that you do have. Market development, taking an active role, is something that, federally, has been going on for some time and that continues and must continue into the future with, for example, building out the tall-wood market beyond Canada. There are some really good developments happening in Canada, but beyond that, the role that's been facilitated by the federal government, to build wood markets in China and Asia and elsewhere, for example, is critical.

As far as secondary products go as well, we did look deeply at the biochemical market and the biomaterial market when we were doing some historical studies, and frankly they're huge. The lessons learned from building out markets the way you have been in previous decades, currently, and into the future can be translated to these products. You already do it so well. It's the “made in Canada”, the flag waving, the trade missions, the stuff that's been done. I think that needs to be continued as part of this comprehensive strategy I'm discussing, and that market intel and market development are two key pieces that should be fulfilled.

● (1610)

Ms. Mary Ng: Ms. Ferguson, I love the work your organization has done.

You talked a little bit about having a greater, robust, primary forestry industry, because it actually is a prerequisite to how the secondary supply chain can, in fact, be developed. Can you talk to us a bit more about that so that we can understand it a little better?

Ms. Sandy Ferguson: We produce lumber, and by-products of lumber are hog fuel, shavings, sawdust, and chips. The chips generally go to the pulpers. The shavings and the sawdust often go to pellet operators, or maybe they go to biomass power. Hog fuel usually goes to biomass power. Those same products can go to other things, but if we can't produce lumber at a price at which we can make money or even—let's be basic—keep the doors open, then we're going to have a hard time creating a residual stream and finding opportunities to sell both to current customers and to new applications.

It's very hard to speak to competitiveness without being specific to the location we're in, which is the interior of British Columbia. We have some really big challenges right now around fibre supply. I think you're all very aware of the mountain pine beetle epidemic and how much that has impacted fibre supply. We have drier wood. We have less wood. There's the annual allowable cut. We're having to learn how to produce different types of lumber, and the China market has been a real key in that.

Everything is integrated. I think that comment has been made by others. We have to have new markets for the different types of wood we're producing, and we need to have more robust and more competitive environments for the fibre-supply side. That's not a federal jurisdiction; that's something the provinces are looking at.

I'm sure somebody is going to ask me the softwood lumber question today, so I might as well just get it right out there on the table.

The Chair: That might be a good point at which to switch over to Mr. Schmale.

Ms. Mary Ng: Thank you so much.

Mr. Jamie Schmale (Haliburton—Kawartha Lakes—Brock, CPC): Thank you to the three of you for very interesting presentations.

This is probably for Mr. Moonen first, but feel free to jump in if you have an answer.

Mr. Peter Moonen: Don't worry—if I get it wrong, they'll get it right.

Mr. Jamie Schmale: You mentioned that wood is a growing factor in a number of construction options. We know that with wood, the quality of the construction and the technology are getting better. When you're looking to build a building eight, 10, or 30 storeys tall using wood, what factors are you looking into to ensure it can meet the demands that a building of that size would require? I'm going to ask the engineer, I guess.

Mr. Peter Moonen: Several years ago, a very competent engineer, Eric Karsh, and Michael Green put together a paper called "The Case for Tall Wood Buildings". It looked at three ranges of tall wood—up to 12 to 14 storeys, up to about 22 to 24 storeys, and up to 36 storeys. The principal concern around building with wood is not the strength of the material. When you get to around 50 or so, then you have a lot of wood and not a lot of space inside. The principal concern is around fire.

There are two ways to address fire in these buildings. One is to coat it with something like drywall, which was used in the Brock Commons Tallwood project. The other is to have a lot more wood than the fire can consume before the people get out, so there's the charring effect, which is combustion and encapsulation—or you can use a combination. Strength is not really the concern. It's principally around fire. That's where it gets into the perceptions.

If I were a building inspector and I had never seen a 16- or 18-storey building, I'd be justifiably concerned, because my local government would be on the hook if that building failed. This is where it's an iterative process. If we have a success with the 18-storey building in Brock Commons, that will probably make it easier for a 12-storey building to get built. I know there is a 12-storey building that a large company was approached to build in Toronto. That's wonderful. I think that's great. It's that kind of thing.

Wood is actually stronger on a strength-to-weight ratio than is steel or concrete by about a factor of two, but it combusts. That is usually the limiting factor. I think there are opportunities but we have to educate ourselves. We have to have confidence in the materials. We have to have success with buildings. Then we have to emulate that and duplicate that and expand that knowledge.

It makes it easier for us when there's a 10-storey building built out of cross-laminated timber in Austria or Australia. Then we can look at it and say, why can't we do that? There's a very friendly, collaborative, and competitive process going on among wood engineers to see who can build the tallest one. There's a 22-storey building in Vienna, and I know of a 34-storey one being planned for Vancouver. So who knows?

● (1615)

Ms. Catherine Cobden: I happen to be working on the 12-storey building in Toronto, if it's the same building. I hope there isn't another one. I would just add to all of what Peter has mapped out that there is something that is germane to your topic, which is availability, regional supply that's affordable to get, etc.

When you are the owner of a building, as my client is, and you're really trying to do this, you have to think about that too. This is where fostering supply chains and what it takes, the type of stuff you're thinking about, is crucial for real life.

Mr. Jamie Schmale: For your client—and you don't have to give away too many secrets—the price to build would be relatively the same as it would be with traditional concrete.

Ms. Catherine Cobden: No, it's more expensive. It's what we think. Actually there is a federal program. Do you know about the federal program aimed at this, actually to help get at that differential? It is more expensive now because of what I'm talking about. There is no local supply. Those factors are all going to disappear, by the way. They're not permanent but we're in a transition. We're trying to build that market.

Mr. Jamie Schmale: To follow up on the question regarding new market opportunities, what would be some of the barriers you'd see here in Canada to businesses starting up and then creating those opportunities that you see? Maybe since you're from northern Ontario, you can talk about northern Ontario.

Ms. Catherine Cobden: One factor that is a huge barrier for all of us to wrestle with is the geography of our country. For example, there's a potential new market in Canada—we don't even have to go international—that's significant. I don't mind saying it's the steel sector. They're very serious about this. I work with them as well as with some mining companies, and it's very interesting.

However, to get the material to them...and the barriers to entry are huge because of the location. What do you do? Do you just decide it's over? No, you actually work on technologies that convert at source to make things much more efficient and affordable to then get to these new markets. That's what we're seized with. That's why it has to be comprehensive. We can't just look at market creation, because we may not have the supply chains to get to market. We have to look at all elements from feedstock, to supply of raw material from the sawmills and other sources, to conversions and maybe even second conversions, and ultimately to use in new markets, some of which might even be domestic.

You've seen some of this with OPG for example. I believe Capital Power is doing some conversions as well. There are many other sectors that are very serious about undertaking that same type of.... Whether they'll actually be able to do it is unknown at this point.

Ms. Sandy Ferguson: Can I add on to that? It's an important reason why so many bioproducts projects are co-locating beside forest products operations, because it costs a lot more to transport a log, a pile of shavings, or a bunch of sawdust than it does if you convert it into a higher-valued product, whether that product is a biofuel or advanced chemical. There is too much water and too much weight in the primary product.

Mr. Jamie Schmale: How much time do I have left?

● (1620)

The Chair: You have 10 seconds.

Go ahead, Richard.

Mr. Richard Cannings (South Okanagan—West Kootenay, NDP): Thank you all for being here. I have a million questions. I'm going to start with Mr. Moonen.

You talked a lot about the tall wood buildings. Fortunately, we had Michael Green here in the last meeting, on Monday, and I think he gave us very compelling and interesting testimony on all of this, but I just want to follow up with you on the role that governments could play. He talked about how—and I think Ms. Cobden mentioned it—time is of the essence here in terms of the Canadian industry and where we are versus the Americans and the Europeans and how we get to that place where those materials are accepted and used on a broad scale.

I'm just wondering about the government's role in providing the research to give people the comfort.... Government procurement, building these buildings as examples, would provide that comfort, as would building the local industry. I think we have only two plants in Canada doing this. How can we multiply that?

Mr. Peter Moonen: A few months ago I was sitting with a number of municipal officials on Vancouver Island who said they wanted to expand the value-added sector. I told them that they needed to be the first and best customers of what is growing in their backyard. We have to make a mental commitment to look at the materials that are available to us. We have to be willing to buy them —because they are actually of better value. They may cost more, and I think there are some things on CLT that are actually going to be almost a wash, but it has to be something for which we set objectives that are realistic and palatable. Maybe it's low carbon. Maybe it's a commitment to design flexibility. There are a bunch of features that wood can meet. As I say, it's not a perfect material, but we need to be the first and best customers.

The research Catherine mentioned is covering the difference. For Brock Commons, there is some additional engineering and some testing. That's not going to be there on the second building. That structure type is now understood and accepted. The contractor likes it. The engineer likes it. The thing went up in nine and a half weeks. We've gone over that 18-storey hurdle with cross-laminate and glulam. That was largely funded by Natural Resources Canada, and my thanks to you, because it's an iconic building globally. People say, “Wow, you can do that with wood.”

We need to be the first and best customers and then take our research and apply it in our buildings because it makes sense from an economic point of view and from a structural and functional point of view. It isn't rocket science, but it does take a mental switch to thinking that we can do it.

Ms. Catherine Cobden: I have a really exciting story to add. It will take one second. When the tall wood building in Toronto that we're discussing went out for bid to the architectural community, it was astounding how much—and this is maybe news to Peter—the international community is now taking this issue seriously. They got high-quality bids from dozens of firms right across the world, whereas for Brock Commons that was not the case. So the point that Peter is making, that you learn, you grow, you get better, and you attract the attention of the world—that's what we've done.

Mr. Richard Cannings: I promised Ms. Ferguson I would ask about softwood lumber.

Ms. Sandy Ferguson: Can I just add to what she said for one second?

The clean fuel standard would be a huge driver. If we had something equivalent to what's in the U.S., we would see our renewable fuel sold here and used here for low carbon. Loan guarantees like the ones in the U.S. would be effective. We could have more IFIT funding. It's been a fantastic program. There are green investment banks, as we've seen in the U.K., and green procurement. Just in terms of the other areas of bioeconomy, those are all really good ones for your committee to look at.

Mr. Richard Cannings: I just wanted to ask you about softwood lumber and the fact that perhaps these other uses of wood like producing CLT panels would give you some buffer against having to export 90% of your materials to the United States and still provide those residuals for your power.

It seems that this model can be put out across Canada in rural areas that are suffering, and also.... My last point has just vanished.

Can you comment on that while I rethink?

● (1625)

Ms. Sandy Ferguson: The whole structural lam side is not really a good fit for lumber producers. It's a very different kind of business. The harvesting and the feedstock collection is all very different. Structural laminate remanufacturers—I think you heard from somebody earlier this week or last week—purchase finished lumber.

The whole supply chain is really different. It's not an easy business for a lumber producer to move into. What's more interesting for us is the use of where our residuals can find a higher value-add. If we had spare residuals, which at the moment in Mackenzie, because of the biomass power, we don't.... But it's a potential for our Fort St. James operation, trying to find those additional value-added applications that can either create products we can sell in the export market or use for low-carbon economy purposes here in Canada.

We are very grateful for all the hard work that the Canadian government is doing on our behalf with the softwood lumber agreement. I do want to stress that. We're very disappointed with the recent announcements, however.

Mr. Richard Cannings: I just remembered what I was going to ask. What advice would you have for any other companies that were thinking of getting into biomass energy?

I have mills in my riding that have vast piles of residuals, especially cedar peelings, that they can't easily get rid of any other way. Bioenergy is one obvious thing. I'm wondering because you have done this successfully, what would you—

Ms. Sandy Ferguson: You have to do the right match of what your feedstock profile looks like to what the energy demands are either in your own market or externally, and there's an awful lot of due diligence and an awful lot of patience. This is not a fast game.

If I can leave anything with the committee, its that this is the future of our children and our children's children. It's a long-term game.

Mr. Richard Cannings: Thank you very much.

The Chair: Mr. Harvey.

Mr. T.J. Harvey (Tobique—Mactaquac, Lib.): First of all, I completely agree with you, Sandy, on the difficulty with primary lumber producers transitioning to build secondary manufactured products like laminated I-joists or....

I had a company in my hometown. When I was growing up there were two sawmills. One of the companies attempted to do that. It was when that product first came on the market. One of the main struggles they had was they had originally intended on using the two-by-threes they produced from offsize lumber within their own plant, but they didn't pass the strength test. They had already built the plant and ended up having to bring.... I live in western New Brunswick. They ended up bringing two-by-threes in from northern Quebec in order to get the right strength, and it led to a substantially higher-cost product.

In the end it was not a good move for them, but I'm really interested by the biomass energy side of your business. Prior to running, I actually built a biomass cogeneration plant for the company I worked for, so I'm interested. It's a very small plant, 3.5 megawatts, and uses two turbines, a condensing turbine and a negative-pressure turbine, in order to get the maximum allowable usage out of it.

Ms. Sandy Ferguson: I'm sorry. Is it for independent power, or for use in—

Mr. T.J. Harvey: No. They have a power-producing contract that we power. The reason it works for them is that they make potato flake, the process for which is very similar to making paper. I was intrigued by the fact that you were using the remnants of a paper plant to do that.

What is the break-even size you identify? You're producing 36 megawatts, but there obviously is an economy of scale that you needed to reach in order to just produce power even though you're using remnants from your sawmill operations. What is that identified...?

Ms. Sandy Ferguson: I can't share that with you because that would back us into pricing, for which we're under a confidentiality agreement. What I can say is that we looked at the amount of residuals we have, so 170,000 oven-dried tonnes per year was the reasonable amount we needed. We knew we couldn't source that entirely from our own supply, but we were confident that in the area we could get the additional supply either from in-forest harvesting or from other producers.

The in-forest harvesting is the part that's a really tricky nut. If this committee has ideas to help accelerate the work that's being done by FPInnovations and others...because that's really crucial. It's getting that feedstock that's sitting out in the forest often creating fire and pest risk and putting it into a value-added, purposeful, and efficient use for producers.

● (1630)

Mr. T.J. Harvey: That's something we've struggled with too. It's what value proposition it offers to government to have that feedstock cleaned up in order to make it worthwhile for the generator to consume that, because it's obviously very costly to go and gather up that feedstock, especially after the wood's been harvested.

Ms. Sandy Ferguson: Yes. It's the transportation costs, typically, especially in markets like ours, where a lot of the harvesting is done quite far from the mill now. It's not within 25 kilometres anymore. Those were the good old days.

Mr. T.J. Harvey: Absolutely. Right, I get that.

Similarly, a huge by-product from the process of making power is steam, waste steam. I'm just wondering, have you looked at alternative uses for your waste steam in order to lower the costs?

Ms. Sandy Ferguson: We don't have much, because when we originally went out to look at this, the only opportunity we had was to produce power. B.C. Hydro did not incent power and heat, and we were too far from the local town to build any infrastructure to do community heating. I think most of you know that in Canada we don't have a lot of district heating, and it's very expensive any time you're having to look at about 25 miles. That's just too far.

Mr. T.J. Harvey: Yes, I recognize that. I mean like alternative—

Ms. Sandy Ferguson: We have a little bit of waste heat, but we designed our system knowing that it was going to be power-producing, not power and heat. We have a little bit off the stack, and we're currently doing some due diligence in evaluating if there are some other things. I still love the idea of doing a greenhouse in that community—

Mr. T.J. Harvey: Right, that's what I was going to get to.

Ms. Sandy Ferguson: —because we're up in these northern communities, where they're paying atrocious amounts for fruits and vegetables. There are a lot of first nations communities around there that may also be interested. It's not a slam dunk, but it is something we're exploring.

Mr. T.J. Harvey: Similarly, in the project I was involved with we used a lot of the waste heat to dry the feedstock coming in, of course, just to smooth out, because that plant runs on direct line pressure, the peaks and valleys in terms of moisture content, but also to recoup some of that heat. They're also looking at trying to use the residual heat that's left over, which doesn't have a lot of pressure but has a lot of heat content, to do something like that.

Ms. Sandy Ferguson: It's very important that these projects are out there in the public domain, and that people are sharing best practices and information. Certainly, any of the early-stage projects that have received IFIT funding, or NRCan funding, are in the public domain, at least. There's confidentiality around detail areas, but that's something we need to do more of and there's a host of interesting innovative projects. While one size doesn't fit all for location or application, there's a lot we can learn from each other. It's very interesting.

Mr. T.J. Harvey: My last question is to all three of you. In your opinion, within the context of your relationship within the sector, what do you feel is the biggest limiting factor in further adoption of increased use of secondary products, whether it's laminated beams or products like this? Where does the biggest opportunity lie?

Ms. Sandy Ferguson: I talked a lot.

You start now, Peter. Give me a break.

The Chair: You'll have to do it quickly now, too.

Mr. Peter Moonen: The product you have to your right is a very high-value product. It's typically made in Europe. It uses chips. It would actually compete with biomass, but produce about a $2,200, $2,300 per metric ton finished product, which is higher than lumber, higher than pulp. Right now it's very expensive. There's no market, really, and that's because it's expensive. It's expensive because it comes from Europe. It comes from Europe because nobody makes it here. Nobody makes it here because there's no market. That's the cycle. It was the same cycle with CLT.

Mr. T.J. Harvey: Right. It's a vicious cycle.

Just as an offshoot question before I move on, what's the R value of this?

Mr. Peter Moonen: It's about the same as XPS—extruded polystyrene—or Roxul. Depending on the density of that, that's variable.

This is another. It's hemp and wood fibre from Alberta. It has a lower density, higher R value. Really, these products will take hold if there's a market. Sometimes we have to break that spiral, whether it's a spiral of regulation that allows you to generate energy and put it into the grid, or creating a new product for which there is a market demand. That's why some of the projects that NRCan has undertaken, demonstration projects from a structural point of view, have been so valuable, because they say, “Look, it can be done, now go out and do it, and here's the information that offsets your learning costs.” Those are basically going to be market-driven. Who's going to be the first?

I'm going to talk to Sandy afterwards, because if you have residual fibre in Fort St. James, which used to be a Canfor mill—

● (1635)

The Chair: Maybe you can take conversation afterwards offline, but I'm going to have to stop you there.

Mr. Falk, we'll go to you for five minutes, and then over here for five minutes, with Mr. Serré and/or Mr. Tan.

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

Ms. Cobden, I'd like to start with you.

You talked about forest sustainability, and I'd just like your opinion. Based on the current practices by our forestry industry, are you satisfied that we're operating in a sustainable way?

Ms. Catherine Cobden: I absolutely am, actually.

We have a lot of checks and balances in the Canadian forest management system. I'm not saying we don't need to continue to evolve, and I'm also not saying that we haven't evolved. We have done a tremendous amount of ongoing improvement in how we do forest management.

Just as a proof point, I'd like to point to the third-party certification record of our country, which is by far greater than any other country in the world, and we have no illegal logging practices, etc. I could talk on this for hours—

Mr. Ted Falk: A quicker answer is fine on this next question.

Are we over- or under-regulated or is it just right?

Ms. Catherine Cobden: We have to keep pace with the changes that are happening. I don't know if I would characterize it as over or under, as much as we need to keep pace. If we're going to be doing all of this transformation, we need to make sure that we keep pace with that so we do not erode the foundation.

Mr. Ted Falk: Okay, but currently there aren't any regulations that prevent growth in the industry.

Oh, there are. Okay, you've answered that. Thank you.

Ms. Catherine Cobden: No, I—

Voices: Oh, oh!

Ms. Sandy Ferguson: You have to compare doing business in the forest products sector in Canada to doing it in other jurisdictions, and it is more highly regulated, there's no doubt about that.

Ms. Catherine Cobden: But that's to our benefit.

Ms. Sandy Ferguson: But we have public crown lands, so we are stewards of the land. Just the very nature of our system means that of course we have some differences.

Mr. Ted Falk: Ms. Ferguson, I'm glad you've jumped in, because I want to move to talk about you a little bit.

You mentioned 90% of your product is shipped out of country. Is that south or offshore?

Ms. Sandy Ferguson: We do about 50% to the U.S., and about 20% to 25% to China, which is varying a little bit because the Chinese market is changing a bit. We do 10% steady to Japan. We do 10% steady in Canada, and then we have less than 5% that goes to different markets. We're doing some work, actually, to develop the Mexican market, and Taiwan and the Philippines are two others.

Mr. Ted Falk: What stage of processing is most of that lumber in?

Ms. Sandy Ferguson: It's finished lumber, everything from two-by-fours—

Mr. Ted Falk: Dimensional...?

Ms. Sandy Ferguson: Dimensional lumber, yes.

It's two-by-fours, and we do grades from economy all the way through to J grade for the Japanese market.

Mr. Ted Falk: Okay. For whatever reasons, they have very high standards on imports.

Ms. Sandy Ferguson: They do. We'd like more of it. They pay more.

Mr. Ted Falk: They're willing to pay for it. That's correct.

Ms. Sandy Ferguson: They are.

Mr. Ted Falk: I want to shift a little bit into the biomass part of your presentation. I found that very interesting.

Your company has invested I think $103 million into the initial facility, and then an additional $12 million into the fuel handling—

Ms. Sandy Ferguson: No, altogether. The fuel handling is in that $103 million.

Mr. Ted Falk: It's part of that $103 million.

Ms. Sandy Ferguson: Yes, it is.

Mr. Ted Falk: Okay.

You obviously feel there's a good rate of return on that investment, and your investors do too. Your stock price has done very well in the last year. It's gone up 50%, so somebody thinks you're doing the right thing.

Ms. Sandy Ferguson: We're hitting our targets, so people are happy. Our power plant's on target, and then we're hitting some of the other objectives. All this is public record, but we're doing about $14 million in EBITDA. That is really a good, solid return for a small forest products company in the public arena.

Mr. Ted Falk: We've had previous witnesses at committee tell us that they can't access the power grid in B.C. You've been able to do that.

● (1640)

Ms. Sandy Ferguson: We were then, but we wouldn't be able to do a second project today because the costs associated with building a power plant mean that we would need to have some help in terms of where the rates get set. There's enough power in British Columbia right now, as I'm sure you know, so they're not looking for more. The rate they would pay if they were even open to taking more power is too low to justify the cost, but in 2010 it was a different environment and they were trying to encourage more independent, clean power.

Government regulation really made that happen, and government regulation, and where it's at today, means that we're not likely to see more biomass power in British Columbia. It's a very different story in our neighbouring province, in Alberta, where there's a high need to replace coal as a primary source. I'm hoping that the Government of Alberta is going to be providing some opportunities for some of my colleagues in the forest products sector.

Mr. Ted Falk: I have more questions for you, but I don't have any more time.

Ms. Sandy Ferguson: That's all right. I don't—

The Chair: You're right on time.

Mr. Tan.

Ms. Sandy Ferguson: Thank you.

You know how to find us. That's what I'll say.

Mr. Geng Tan (Don Valley North, Lib.): Thank you.

I will share my time with my colleague, for these five minutes, so I will ask a very quick question and expect very brief answers from you.

My question is for Mr. Moonen.

You answered some questions about education for engineers and the industry on the use of the tall wood buildings. However, the committee heard a slightly different story on Monday from one witness who said that the designers and the architects are well prepared for the technical challenge of building tall wood buildings in Canada or other countries, but he added that the industry is not there yet.

That's slightly different from your comments. Can you explain that a little bit? Where does the real gap lie, with the industry or with the designer?

Mr. Peter Moonen: You should know I'm going to be talking to Michael next Tuesday. Michael is one of a very few extremely talented architects who are very well-equipped to do that, but Michael didn't learn that at Cornell. He learned it in the firms he was at. Architects are not equipped, and you can ask him. He didn't learn that in school, and that's my point. We need to teach them at the beginning so that when they get into a project and they're in a position where they're determining what the material is, they at least have an understanding. If you are an engineer who has a specialty in wood, there are no shortages of jobs. Every graduate from the UNBC program got a job.

There is a shortage of engineers who understand wood, and we deal with architects and engineers all day. Michael is an elite, extremely competent, talented guy, and he's a friend of mine, and I'll be talking to him on Monday.

Ms. Catherine Cobden: May I just make one point, though, because this has come up a few times around the table, and I really want to stress this. It gets to Michael's point about the industry not being ready. Who he means by that is the building industry, and that points to the same problem that Peter is outlining, which is that we need the skill sets out of our colleges and polytechnics, for example, that really do support the construction industry to get the right skills in place for tall wood construction.

It is about education, and to Mary's earlier comments, that's actually in your jurisdiction, secondary education and skills and polytechnics.

Mr. Geng Tan: I give the rest of my time to Peter Fragiskatos.

Mr. Peter Fragiskatos (London North Centre, Lib.): That's very generous, Geng. Thank you.

I'm not a regular member of this committee, but I am happily filling today. I want to ask a question about carbon neutrality.

You mentioned, Mr. Moonen, at the outset of your presentation the many benefits that wood provides from an environmental perspective. If you put all those into one category, and compare it with another category, that being the cutting of trees, do we still end up in a carbon neutral situation?

Mr. Peter Moonen: Werner Kurz from the Pacific Forestry Centre is an expert who I go to when I ask about that. There is a carbon lag when you cut down a tree. There's no doubt about that. If the tree is not regenerated, if the forest is not regenerated, that wood is not carbon neutral. If it goes into a building and then it ultimately gets burned, it is not carbon neutral.

● (1645)

Mr. Peter Fragiskatos: I don't mean to cut you off but in the interests of time, do you feel that areas that have been logged are being replenished to the point where we can actually see a neutral situation, or are they being used alternatively, and thus creating the problem that you're talking about?

Mr. Peter Moonen: Canada's conversion to non-forest use from forest is less than 0.2%, so I have no doubt. I'm a biologist by training, and I live in a forest that was logged 105 years ago, and those damn trees get in the way. I can't even see the ocean anymore.

Mr. Peter Fragiskatos: It's an important point. I'm glad it's on the record. Thank you very much.

The Chair: You have 30 seconds if you want to use them. I'll even give you more.

Mr. Peter Fragiskatos: It's very skills intensive, when we talk about the secondary sector here. It's very skills-based.

Do you have the challenges that other sectors do in terms of labour shortages and the like? Is this something that you're worried about as a sector? Are you partnering with colleges and universities and the like on these issues?

Mr. Peter Moonen: Yes, and I'm going to deflect that to Catherine, because I know the skills and trade shortage for the forest sector, or the logging sector, is one she was dealing with many years ago. Part of that is because 20 years ago people thought the forest industry was a sunset industry. These days it's a sunrise industry—make no mistake—whether it's for lumber, tall wood, or energy.

Ms. Catherine Cobden: I couldn't have said it any better, Peter. Well done.

Ms. Sandy Ferguson: If I can just add, we just hired our first environmental engineer at our Mackenzie site. He's a 29-year-old whiz kid out of the University of Northern British Columbia. We didn't have that position two years ago.

Mr. Peter Fragiskatos: Those are good middle-class jobs.

Ms. Sandy Ferguson: He is providing an excellent contribution around the aspects related to environmental issues in our power plant and our sawmill, and he is contributing to the work we're doing with the government in British Columbia around looking at all the issues related to the carbon tax and the low-carbon economy.

Ms. Mary Ng: It's also a green job.

The Chair: Indeed. Thank you very much.

Thank you, Mr. Fragiskatos.

Thank you to our witnesses for taking the time to join us. That was very interesting and engaging, and the value of the contribution will be reflected in our report.

We will suspend for two minutes, and then we'll get into committee business. I'm hoping people will stick to the two minutes, or as close to it as possible.

[*Proceedings continue in camera*]