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Chair

Mr. James Maloney

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● (1540)

[*English*]

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

Good afternoon, everybody. Welcome to our Monday meeting. Thank you for joining us.

We offer apologies to our witnesses. We're starting a bit late. Today is a celebration of the 150th anniversary of the Parliament of Canada, and there were four former prime ministers in the House of Commons. For reasons that aren't clear to everybody, some of the committee members thought it was more important to stay there with them than to come here. Nonetheless, here we are. Richard was here at 3:30 sharp.

We thank the three of you for joining us today. I'm going to dispense with lengthy formal introductions because we're running short on time, but the process is as follows: each of you will be given up to 10 minutes to make your presentation. Following that, there will be a round of questions. You can deliver your remarks or answers in either official language. There are devices available should you need something to be interpreted.

On that note, I will say welcome again.

Mr. Foster, since I'm looking at you, why don't you start us off?

Mr. David Foster (Director of Communications, Canadian Home Builders' Association): Thank you, Mr. Chair.

The Canadian Home Builders' Association appreciates the opportunity to present to the standing committee with information and perspectives on the evolving and critical role of wood and wood products in our industry and in the homes of Canadians. My comments this afternoon will focus on the overall dimensions of our industry and the role that wood products play in the homes that our members both make and renovate across the country.

I also want to highlight a number of important and innovative trends that may support the increased future use of value-added wood components, including both engineered wood and secondary wood products.

Home building and renovation are obviously an important source of demand for Canada's forest sector and a major end market for a wide range of Canadian-produced wood products. Based on Statistics Canada input-output data, our industry's consumption of forest products amounts to over $8 billion annually, providing a major domestic base for the forest products industry.

The residential home construction industy consists of two primary segments, new home construction and home renovation. In totality, it represents one of the largest industrial sectors of our economy. Last year, our industry generated some $138 billion in economic activity, $67 billion in new construction and $71 billion on the renovation side of things. In 2016, residential construction supported just over one million jobs across Canada, both directly and indirectly, and this employment generated just under $60 billion in wages.

In relation to new homes, we're seeing a significant shift in the product mix that our members are building. Simply put, the traditional Canadian home is changing as our cities become more densely developed and absorb an ever-growing number of Canadians per square kilometre.

In 1996, 60% of all the housing units in Canada were single detached homes. By 2016, single detached homes represented only 32% of all the new homes we built in a year, while about 50% of new homes were apartments of all types, whether condominiums or for rent. The remainder were made up of low-rise multi-family units like townhomes and row homes.

The way we build homes is also evolving and will continue to do so in the coming years. This will have a direct bearing on the products and the materials used in construction, including a wide range of wood-based products. The environmental performance of homes, particularly their energy efficiency, has evolved tremendously over the past few decades. This evolution will continue and in fact accelerate in the years ahead.

A new home built today uses a fraction of the heating energy required in an older home. Half of the homes in Canada today were built before 1985, and that older half of the housing stock uses twice as much energy as the homes built since 1985. As well, a new home built right today here in Ottawa would use 20% or 30% less energy than one built just five years ago.

This trend towards improved energy efficiency is far from over. Based on the policy direction set by government for future building codes, by 2030 all new homes will require an additional improvement of more than 50% in energy performance, reaching “Net Zero Ready” standards.

This is an ambitious goal and one that will challenge our industry. It will also challenge society unless affordable means for reaching these levels of energy efficiency can be found, and as an association we continue to be concerned about affordability for younger Canadians looking to become homeowners.

Changes in how we build homes will impact the role that wood products and other materials play in the construction process. Today a typical 2,400-square-foot single detached home requires about 16,000 board feet of dimensional framing lumber. Its construction also consumes about 14,000 square feet of other wood products, including plywood, oriented strand board, glulam beams, and laminated veneer lumber.

Each new home also requires a range of secondary wood products, including flooring, cabinetry, siding, decking, and millwork. As well, wood components are incorporated into windows and doors.

● (1545)

To put this in value terms, dimensional framing lumber represents only about 14% of the value of all wood products used by our industry. Secondary wood products, including millwork, windows, doors, and prefabricated wood assemblies, represent about 60% of the total value of wood we consume each year. As we look to the future, secondary wood component use is less likely to be impacted by changing codes; however, the structural elements certainly will be affected.

There is a long-standing trend in residential construction towards ever-greater use of value-added engineered structural components. In the future, this may tend to blur the lines between engineered and secondary wood products. We're seeing this happen in some markets, where traditional site-building home builders are switching over to the use of factory-built wall systems, traditionally viewed as a secondary product. It's also reflected in the structure of our association. The two national organizations representing factory-built home builders merged with CHBA last year, creating our new factory-built Modular Construction Council. This simply reflected the increasing integration of building practices across all segments of our industry.

In addition to this trend of increased industrialization, we're seeing engineered wood products leading the way towards new forms of wood construction. Six-storey wood frame buildings are now referenced in the National Building Code and are being constructed in a number of provinces. We're also watching, with great interest, research and demonstration of wood structures of between six and 12 storeys based on innovative technology like cross-laminated timber.

Our industry's interest in such emerging and innovative technologies is very straightforward: we need to provide Canadians with great homes that meet ever-higher performance requirements and consumer expectations. At the same time, housing affordability is a central preoccupation, as it directly impacts the capacity of younger Canadians, new Canadians, and those with young families to become homeowners.

As an association, we feel it's incumbent on all of us, including government, to ensure that more demanding codes don't impact affordability, which means we need to find technologies and techniques to do this at the same cost or less. This is a real challenge.

From our industry's perspective, a key aspect of any new building technology, whether wood-based or not, is its capacity to help us address the affordability challenge. Diminished affordability serves as a growing barrier to home ownership, and we're seeing the effects of this problem. The latest census data, released quite recently, showed that for the first time in our history, Canada's overall home ownership rate has declined, from a peak of 69% in 2011 down to 67.8% in 2016.

Perhaps more significantly, the ownership rate has declined for all age groups under 65, but especially for younger Canadians. As we move forward, knowing that future building codes are going to demand performance that currently means much higher house prices, we're looking at new, innovative technologies and materials to help us preserve and enhance affordability. Innovative wood products can and should be part of this mix. Most importantly, as Canadians, we know how to make this happen.

Over the last 70 years, there has been tremendous collaboration between our industry, the forest products industry, and the federal government to advance the science of home building. This has led to a wide range of innovations, from roof trusses in the 1950s to the 12-storey cross-laminated timber buildings being pioneered today. It has allowed us to build net-zero energy homes and to begin to find ways to reduce the cost premium involved. While we still have a distance to go in getting these costs down far enough, we are on the right path.

We therefore need to see more of this research and development activity, and we need to ensure that it's focused in areas that can enhance both the quality of housing and its affordability. Our association works with Natural Resources Canada, the National Research Council, and Canada Mortgage and Housing Corporation on a wide range of housing-related research. Such collaboration is what gave Canada housing technology like R-2000, which put us at the leading edge internationally, and our voluntary CHBA net-zero home labelling program, which is reasserting our international leadership today.

The homes our industry will build in 2030 must deliver the high levels of comfort, quality, and value that Canadians demand at a price they can afford. They must also contribute to more sustainable and resilient communities that provide housing options for all Canadians. These future homes must also make more efficient use of our natural resources. This is a tall order and a real challenge, but the potential rewards are significant: a stronger residential construction industry; stronger resource industries, including the forest products sector; great homes for Canadians; financial well-being for a new generation of homeowners; and enhanced opportunities to share our innovations and products with the world.

● (1550)

These are outcomes worth working hard to get. Our industry looks forward to partnering with the forest products sector and government to make it happen.

Thank you.

The Chair: Thank you, Mr. Foster.

Next is Mr. Atkinson, from the BC First Nations Forestry Council.

Mr. Keith Atkinson (Chief Executive Officer, BC First Nations Forestry Council): Good afternoon.

Can you hear me all right?

The Chair: Yes.

Mr. Keith Atkinson: Thank you very much for the invitation to contribute to your hearings regarding the secondary supply chain products in the forest sector in Canada. It is my pleasure to speak to you today on behalf of the BC First Nations Forestry Council. We are a non-profit society here in B.C. supporting 203 first nations communities—approximately 200,000 first nations citizens—in this part of the country.

We also understand your interest to consider more specifically the employment and economic impacts, the environmental aspects of these industries, and the development of energy-efficient technologies. You will hear aspects of all three themes in our presentation to you today.

Our first reaction to this important work is that it is extremely timely, and we are keen to see participation by first nations. The forest sector is moving through tremendous transition, as you know, and we feel that recent efforts towards revitalization and innovation have missed the mark. Instead of innovation, we seem to be on a continued path of liquidating timber resources for primary manufacturing only, and in some cases, in the west here, we are now even seeing a move backwards, towards increased export of raw logs.

With regard to employment and economic impacts, we wish to express to you that the opportunity of aboriginal participation in the forest sector is an urgent opportunity. We are very aware of the changing demographic for the existing forest sector. As you are aware, hopefully, there is a significant aboriginal youth demographic in our communities. Utilizing and maximizing aboriginal people in the forest sector represents a great opportunity to access local labour resources, to bridge socio-economic challenges in first nations communities, and to build political and corporate relationships, including cultural awareness. Tremendous benefits can be gained, now and in the future, from such strategies being implemented by Canada, regional governments, and forest sector partners.

In our efforts to collaborate and work with B.C. and Canada on transitions in the forest sector, including adapting to climate change conditions, we've maintained that the value-added sector or secondary manufacturing is required. Raw resource extraction and primary manufacturing will not provide enough employment and benefit to Canada as the change in the sector unfolds; secondary and value-added manufacturing are going to be required.

First nations communities were very active in prioritizing the mitigation of the mountain pine beetle epidemic that began 15 years ago in B.C. One of the top three priority goals was participation in the new bioenergy or other bioeconomy business that would utilize the dead pine trees. Bioenergy became a buzzword for B.C. and a mitigation strategy for the pine beetle infestation. Although there were some pellet plants and multiple bioenergy proposals and pilots, the full implementation and utilization are yet to be developed.

One area of focus we looked into was bioenergy solutions for the replacement of diesel-generated power. An obvious business model exists to convert over 65 first nations communities in British Columbia from diesel generators to bioenergy plants. However, jurisdictional power supply issues and policies have challenged this type of investment.

An important part of the transition we are facing in the west is that the mid-term and long-term supply of timber resources is diminishing. As a result of well-known long-term timber supply analysis and recent shorter-term climate change impacts, we've known for some time that we must learn to do more with less. The annual harvest levels in British Columbia are expected to drop from 75 million to 55 million cubic metres per year, and we will have significant challenges in that transition as a result of climate change impacts, the pine beetle, and wildfires.

Unfortunately, from our perspective we see an economic and corporate tragedy unfolding in the common situation. Various forest sector components are fighting to hold on to previous economic opportunities and continue to seek increased revenue and new markets for the same primary supply chain products, seeking reduced costs of production, although it is well known that we are at the most expensive part of the timber harvesting cycle in the west as we move from old-growth to second-growth stands.

● (1555)

When it comes to piloting new value-added products or manufacturing, we wish to raise to your attention that we have seen examples of new business being granted support for pilot projects with inadequate environmental standards to ensure health and safety in communities. We are very aware of the opportunities; however, we wish to raise the concern that rigorous environmental frameworks need to be in place for the protection of the environment and communities. Although we believe in and support the development of a value-added forest sector and the development of new and innovative forest products, we wish to emphasize this point.

We can't move too quickly into this space without ensuring.... In our case, as first nations, working towards having our title and rights recognized is important at the local community level. We wish to remind the committee that the rights and title of first nations people are at the forefront of natural resource management decisions and projects in Canada, and that first nations should be priority partners and decision-makers in the process of considering investment in secondary supply chain products.

First nations communities are largely in poverty and continue to have to fight for the recognition of their title and rights, including recognition of pre-existing title rights. With this in mind, I bring to the committee's attention the Supreme Court of Canada decision on the Tsilhqot'in in 2014. This most recent decision has been discussed as a game-changer, in that it has brought clear definition of title as it relates to first nations lands. How it relates to first nations lands is clearly important to a renewed forest sector and the balance between investment in some of these new manufacturing regimes and with first nations.

In addition, the Truth and Reconciliation Commission has recently completed its work and published its calls to action, providing guidance for all in terms of implementing reconciliation. The committee should also be reminded that Canada is now implementing the United Nations Declaration on the Rights of Indigenous Peoples.

These high-level mandates towards reconciliation and your committee's work towards innovation in the forest sector represent tremendous advancement potential for previous federal commitments towards reconciliation, policy transformation, and meaningful transformation of the relationship with Canada's aboriginal peoples. However, after 10 years of commitments to this high-level engagement and participation, and clearly good intentions being described on paper, we are suffering a shortfall on the realization of these goals. We suffer the same risk of all talk and no investment for aboriginal engagement and participation going forward.

As we have previously described, a renewed manufacturing sector or a stimulated value-added sector is almost out of reach for first nations communities due to lack of access to capital and jurisdictional or policy barriers. For those of us who wish to see a renewed forest sector for Canada—and we are certainly part of this group—a forest sector that is inclusive and respectful of aboriginal peoples in Canada is imperative. Strong relationships with first nations can lead to globally certified wood products or other value-added products that make our sector stronger. We want to emphasize the interest in partnership in moving forward in this type of work.

First nations are eager to be part of a new forest sector. It requires investment in these communities for stewardship and planning; operational and management support; targeted workforce programs; access to capital for local investment in the new manufacturing and value-added facilities, including bioenergy; and of course a policy framework that will accommodate this work.

Let's move past denying the title and rights that aboriginal peoples hold, and past the shallow commitments that look nice in reports but have inadequate scale when financial resources are called for. We feel that a strong and healthy relationship with our communities will bring prosperity for all in a renewed forest sector for Canada, so I wanted to share those priority mandates of our organization, our chiefs and leaders in the west, in support of your committee's work moving forward.

Thank you very much.

● (1600)

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

Now we have Mr. Verreault, from Chantiers Chibougamau.

[*Translation*]

Mr. Frédéric Verreault (Director, Corporate Affairs and Communication, Chantiers Chibougamau): Thank you, Mr. Chair.

My thanks also go to the members and the parliamentary secretary for their invitation to appear before the committee. Today, we open the dialogue to fuel your work and your thoughts. I especially look forward to hearing your questions about our activities. I hope my comments will inspire your own work.

Chantiers Chibougamau is a family business that began operations in 1961 in Chibougamau, in northern Quebec. Chibougamau is approximately 700 kilometres north of Montreal, Quebec. Right now, our company operates two main plants, one in Landrienne, near Amos in Abitibi, and the other in Chibougamau, in northern Quebec. In total, Chantiers Chibougamau processes about 8% of Quebec's public forests. We have a major engineering wood production complex that French Professor Pascal Triboulot describes as the world's largest glulam production complex. He has visited almost all existing complexes, and he thinks ours is the one with the largest installed capacity.

In total, almost 900 people work in the company, with about 800 in all the forestry and plant processing operations, and more than 50 in technical development, the development of construction projects, and administration.

We are here to talk about wood processing, wood construction, and the impact on jobs and climate change. In that sense, there are a few things that motivate us on a daily basis.

Here is the first one. Today, beyond the beneficial effect of diversifying our business, softwood continues to form a major part of our revenue—we are still active in the traditional softwood markets. The fact is that diversification allows us to grow. The family business's sales exceed $250 million, which is largely due to the wide range of wood construction products we have developed.

When it comes to strictly solid wood used in the construction of non-residential buildings, such as institutional, commercial or multi-unit buildings using wood, about 150 jobs in our company depend on those activities, which started 15 years ago.

So it is all about energy and environmental performance. A number of key aspects related to those wood construction products must be considered in order to be recognized for their proper value. Of course, our products use a renewable resource. From the outset, this gives us a guarantee of indisputable sustainability and differentiation.

In addition, manufacturing our products requires very little energy. Throughout the assembly process, we consume significantly less energy than we produce for equivalent products and even for equivalent products elsewhere in the world.

Let me give you a concrete example of the importance of wood in buildings, in France or in Europe, for example. In light of the life-cycle analysis of our products from more than seven years ago now, we were surprised to see that our products had a carbon balance that was twice as satisfactory as the equivalent solid wood products and glulam products manufactured in Europe. This is a result of our processing procedures being integrated from the forest to the plant. It is also a result of the use of hydroelectricity and, of course, of very energy-efficient processes to assemble columns that will be a substitute for equivalent columns made out of other materials, such as steel and concrete.

From the forest to the delivery on site, the process uses an incomparable amount of energy. Of course, all of this means significant benefits that contribute to environmentally-friendly buildings. It is also important to point out the intrinsic properties of the materials, such as heat conduction in the energy performance of the buildings. We rarely hear that wood conducts 350 times less energy than steel. Wood conducts 30 times less energy than concrete. As a result, in summer, outdoor heat will be conducted inside the building 350 times less than it is with steel and 30 times less than with concrete, which is a major performance for the energy consumption, but also for the operating costs of the building.

● (1605)

In addition, still on the environmental front, in solid wood constructions, the structure will often remain exposed. Clearly, an exposed structure means savings in finishing materials. Again, we can recognize wood solutions at their proper value for their economic performance, but also for their environmental performance, because the intrinsic reduction in the consumption of materials has a direct impact.

In terms of the market, I talked about jobs. Frankly, the market is stagnant in Canada. We have seen projects emerge one at a time over the past 15 years. We have reached a certain plateau with a certain volume. The volume is there; we have inspiring examples.

For example, in our case alone, we have completed more than 2,000 solid wood construction projects to date, mainly in Quebec and Canada, but also in the United States. We are therefore far from being the exception, the oddity or the extraordinary, and this is what our industry wants to achieve. We want it to become normal for the country to build with wood.

In addition, we have built 125 bridges out of wood, bridges with long spans over forest or public roads.

Some of these solutions allow structures to be delivered before the deadline and under budget. We had that experience during a project with the Stornoway mine in northern Quebec. We delivered the 17 wooden bridge structures several weeks before the deadline and the costs were 10% under budget. Those were the most competitive solutions.

I would now like to talk about government construction.

Once again, I candidly and respectfully submit that government clients for projects are quite rare, both in Quebec, in our province, and across Canada. Still, there are some extremely interesting sources of inspiration.

For example, we at Chantiers Chibougamau provided the structure for the new U.S. defence buildings in Alabama. No one there was at all keen on supporting the Canadian forestry industry; they simply wanted to have the best possible construction that meets the highest current standards and the most ambitious environmental footprint standards. Naturally, all that pointed to our solid wood products made in Chibougamau. So the potential is there.

This year, in the cross-laminated timber construction sector, our company's sales in the U.S. market will be higher than those in the Canadian market. The good news is that it's very good news for Canada's trade balance and for Canada's exports. The other good news, which is actually a challenge, is that we can do much better here in Canada. The use of wood should not be approached as help for the forestry industry; it does not help us. It does not help us at all when we say we want to build with wood to help the forestry industry. The use of wood can be a natural choice, an ambitious choice, a competent choice, a choice made simply with a view to better building.

To that end, let us be inspired by our German friends, who promote wood construction. In Germany, they use 30 times more wood than we do here in Canada in non-residential construction. It is all driven by the ambition to achieve energy efficiency and environmental performance.

We therefore have a multitude of extremely inspiring and compelling examples of what should drive us.

I was talking about energy efficiency. Our product is carbon negative and allows us to deliver carbon-neutral buildings. We have built a few. Developers make that business decision, as with the Arbora project in Montreal: 450 wood condominium units in Griffintown. It is the largest multi-residential solid wood project in the world, and it is done in Montreal. It is a business decision made by developers. They did not want to help the forestry industry in Quebec and Canada; they made a business decision that results in such a conclusive result.

To sum up, we want the product to be considered for its benefits, its performance, its competitiveness and its profitability. Let's make sure that using solid wood for modern construction is not something extraordinary or special, but something normal in this country.

Thank you.

● (1610)

[*English*]

The Chair: Thank you very much.

Go ahead, Mr. Harvey.

Mr. T.J. Harvey (Tobique—Mactaquac, Lib.): Thank you, Mr. Chair.

I'll start my questioning with you, Mr. Verreault.

While you were speaking, I was listening, but I was also on your website looking at some of your products. I see you make pre-engineered laminated beams for schools and bridges, Nordic joists, and a bunch of those pre-engineered products. Coming from a forest town, I recognize some of those products.

You spoke quite a bit in your presentation about the low-carbon footprint and the value proposition that your company offers to the environment in terms of a reduced cost of energy because of proximity to hydroelectric generation and also in terms of the general overall carbon footprint related to your product. How do you feel that proposition is playing, overall, in North America? Do you feel that is something that is going to propel the company forward at a higher rate of growth than other companies in the next 10 years? If it's not, what are some of the inhibiting factors?

Mr. Frédéric Verreault: I'll continue to respond in French, just to make sure the translators aren't going wild with me switching between French and English.

[*Translation*]

Mr. T.J. Harvey: You can speak in French.

Mr. Frédéric Verreault: So far, there is very little or no interest in low-carbon products in Canada. Strangely, the interest in these products is on the American side. People call us about the availability of our products because they want a more energy-efficient and environmentally-friendly solution. There are also signs of interest in China. We have already conducted two missions to that country, and the Chinese have come to our plant in Chibougamau. However, there is no such interest in Canada.

Some factors may explain this lack of interest or curiosity.

The first factor is the competitiveness of the products available. There is a sort of contradiction. There has been a lot of talk about wood construction to help the Canadian forestry industry, which is quite traditional. However, if I am helping someone by buying a product from him, clearly, I expect to pay more for it. Let me draw the following parallel: if I buy a chocolate bar at the local store and pay $1, I will have a certain amount of chocolate. However, if my neighbour is selling chocolate bars to raise funds for his swim club, I will not pay $1, but $2, since I'm helping him. The whole rhetoric of helping the Canadian forestry industry is sending the message to the market that it must be more expensive since it is being helped. However, that is not the case.

The first factor is therefore competitiveness. We have no complex about it and we are not asking for any special treatment for the cost of our products.

The second factor is simplicity and speed. If there are regulatory barriers or very cumbersome administrative processes, clearly, developers and professionals will be discouraged from engaging in the exercise. For example, I'm referring to the high-rise construction guide developed by the Government of Quebec, which is now used by many other jurisdictions. It costs the Government of Quebec nothing, and so far, it is yielding the best results in stimulating demand.

In a nutshell, the determining factors are the promoters, the competitiveness and the simplicity. At this point, this is not being perceived positively. Yet it is positive. The evidence is our successful projects.

● (1615)

[*English*]

Mr. T.J. Harvey: Second, following on that, especially with Nordic joists and I-joists in general, that product requires a specific set of properties for the one-by-three beams that go on the top and the bottom. They need to be grown in a certain area in order to have enough growth rings in them to give them the strength that they need. Is there a competitive advantage that can be offered by Canadian companies like yours that can't be found in other jurisdictions?

[*Translation*]

Mr. Frédéric Verreault: There are two main categories of wood construction products: solid wood, such as beams and columns, and light-frame products made of 2x3s, such as I-joists.

The market for light-frame products is going pretty well; it is not particularly difficult to enter that market. In the case of I-joists, things are going well too. This year, we are selling 60 million board feet of I-joists in the United States and 25 to 30 million board feet in Canada. Those are big numbers. For those products, market conditions are good.

[*English*]

Mr. T.J. Harvey: Mr. Foster, what are your thoughts on what we've heard from Mr. Verreault today and the value that could be derived from wood products that extend far beyond traditional building uses? Do you feel that there's a move by the construction industry to use more wood and to use engineered products on a significantly greater scale than in the past? If there isn't, what are some of the challenges with moving in that direction?

Mr. David Foster: In overall terms, yes, we've seen a steady progression over decades to move to more engineered products, such as the replacement of floor joists with wood I-joists and various other engineered components. We are, of course, creatures of building codes, so to see the widespread adoption of new technology, we need to see it proven out. We need to see it being accommodated and handled by a code and code officials.

We recently saw that happen with six-storey wood frame construction, which moved from a curiosity into something that is fully embraced by our industry. I know that there is a huge interest in cross-laminated construction in particular. At every conference of our association that I go to, somebody is showing us amazing pictures of these buildings.

This is really important in the cycle from when an innovation is developed till when it is in full commercial application. From our point of view, that's a process of de-risking something, and often it takes partnerships. It takes government encouraging and facilitating that transfer. There's huge interest. We're going to be building very differently in 10 or 15 years from the way we are building today.

The open question is the mix of materials and the type of materials, but more engineered and highly processed wood products have traditionally been a solution, and we would expect they're probably going to be one in the future.

● (1620)

Mr. T.J. Harvey: That's perfect. Thank you.

The Chair: Mr. Falk is next.

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

Thank you to all of our witnesses for your very interesting presentations.

Mr. Foster, I'd like to begin by asking you some questions.

In the last several years, probably in the last decade or so, there's been a move to interlock concrete-forming block construction, even in residential construction. Can you tell me why a person should consider wood over concrete?

Mr. David Foster: Again, from our builders' perspective, I think fundamentally we're agnostic when it comes to material choices. A lot of what is decided is dictated either by code or by affordability concerns. The type of construction that's used has to fit within the pro forma of the project and deliver a quality product at a price the market can support.

On the concrete side of things, insulated concrete forms are a technology that has made a lot of inroads, particularly in basement construction, because they tend to outperform conventional poured concrete foundations. That lowers warranty exposure and callbacks and leaks and so on and so forth.

I think we're seeing innovations across the materials spectrum. The advent of six-storey wood and its acceptance in code gave us a tool that was more affordable for some applications. I think that's why we've seen a rapid uptake of it. I think that if other technologies offered the same benefit, you'd see people....

Mr. Ted Falk: You mentioned in your answers that building codes and regulations are the impetus for a lot of the technology that's being employed in the building industry. You also mentioned in your presentation that there's a decline in home ownership and that it's most significant among young people. That's very troubling. That speaks to the affordability of buying their first home, and it's something that I'm sure your industry would be very concerned about.

Building codes and regulations are forecast to become more burdensome in residential home construction, especially in view of the fact that there's maybe an overemphasis on the environment and on energy efficiency when constructing homes. That's adding costs to the price of a home that make it unaffordable for young people.

Can you speak a bit on how building code regulations negatively impact your industry?

Mr. David Foster: Typically, the building code process, the development process, as it takes place here through Codes Canada and the Canadian Commission on Building and Fire Codes, is probably one of the best code development processes in the world, in that basically everybody gets a kick at the can. Things don't get through that process without being challenged, tested, measured, and poked and prodded, which is a good thing, because it ensures that what comes out in code is safe for our industry to build and safe for people to live in.

I think there is an acceptance of the fact that any time we improve building codes, we necessarily increase the cost of building, and I guess we challenge that. Real innovation—and Monsieur Verreault spoke of that—can also provide better outcomes at a lower price or the same price, and we feel strongly that this needs to be an objective of code development in the future.

Mr. Ted Falk: Do you see that happening?

Mr. David Foster: I see some recognition of the importance. Certainly the commission is discussing, I think in a serious way, how it can fit in affordability as a sort of lens that is applied, among many others, when code is developed. We already do impact analysis that includes costs and benefits. Costs and benefits aren't the decider. There are some things that you do for the public good even though they are difficult to cost-justify simply because they are socially necessary. I think we're going to see increased head-scratching about how we can do that, how we can get a better outcome at the same or lower cost, because otherwise we'll keep excluding people from the marketplace and from the benefits of home ownership. I think the emphasis is beginning to shift a bit.

● (1625)

Mr. Ted Falk: Good. Thank you, Mr. Foster.

Mr. Atkinson, I'd like to engage you as well. You talked about a lot of raw, unprocessed lumber being exported out of the country, and you said there's been an increase in that. I'd like you to comment on that a little further. Where do you see that lumber going?

Mr. Keith Atkinson: What I was referring to is the challenge we're having with the lack of manufacturing facilities in B.C. We have seen very little investment in the last couple of decades to replace the older, primary forest manufacturing facilities. Instead of welcoming that and seeing that investment take place in the province, companies have decided not to do that, and now we're seeing an increase in raw log exports. It's not in the lumber so much. That's creating a backwards movement away from the innovation we want to see.

Mr. Ted Falk: Is there any connection of that to the lack of a softwood lumber agreement?

Mr. Keith Atkinson: Our experience with recent versions of the softwood lumber agreement is that each time we go through a softwood lumber agreement, smaller companies end up dying and going out of business and we get a reduced number of larger companies, so we have fewer and fewer corporate holders of the woodlands producing softwood lumber in B.C. Now we're struggling with finding people. The uncertainty of investment here is what causes us to lack that investment in new manufacturing.

Mr. Ted Falk: You talked about employment among your first nations community, especially for your youth, and you also talked about value-added and secondary processing for wood products. Can you give me any examples of how your communities have been creative in creating employment in that vein?

Mr. Keith Atkinson: The main one I talked about was the bioenergy. Because of the mountain pine beetle epidemic, we had resources and investment to work, so we prioritized our efforts and wanted to participate in the bioeconomy by utilizing the dead pine. Numerous small ventures were created through that.

Mr. Ted Falk: I'd like you to expand on that further, but I'm going to run out of time here in about three seconds.

The Chair: We're running late. Usually I'm quite happy to extend time, but we don't have that luxury today.

I'm going to go to Mr. Cannings and then over to Mr. Falk briefly. We're going to extend the first hour a bit just to complete the first round.

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

I'm going to start with Monsieur Verreault.

I think you talked about 2,000 projects using solid wood, but very few of them were generated by the provincial or federal government. You talked about how most of your projects seemed to be down in the United States. Why do you think that's happening? Is it something about the way we approach building with wood here? What positive role could the governments play to change that?

[*Translation*]

Mr. Frédéric Verreault: In my humble opinion, that all rests on whether or not the will exists to find an innovative solution to meet the government's needs. For example, if the government shows its intention to reduce the environmental footprint of its methods of transportation, there will be an enthusiastic reaction in equipping the fleet of public vehicles with electric ones. However, in the case of wood construction, the intention expressed is not to use better construction to adapt government-owned buildings to the toughest standards. Instead, they say that they want to consider wood in order to help the forestry industry.

In that case, the message being sent loud and clear is that it will be complex and expensive. In the entire chain leading to the completion of a project, we see a very serious lack of interest. As soon as they can, people say that the option is being put to one side, that the matter is settled, that the political movers and shakers are satisfied and that, in response to the demand, the intention, that they had expressed, they have been shown that wood has to be set aside, or that using it is more complicated. They can then move on to something else and work in the same way as they always have.

There really is a resistance to innovation in general. The other key factor is motivation. In terms of using wood, that is what causes it to be ignored as an option.

● (1630)

[*English*]

Mr. Richard Cannings: When you're shipping to the United States, are your solid wood products subject to the softwood lumber tariffs?

[*Translation*]

Mr. Frédéric Verreault: Not at all. According to the principle that determines the categories of products subject to countervailing duties in the United States, if a product can go through American customs and then be divided into softwood products like 2 x 3s, 2 x 4s, or any other size, it can be subject to countervailing duties. At least, that is the logic the American Congress uses, and the American producers.

I-joists, the light framing referred to earlier, solid wood products, and glulam panels and columns are products that cannot be broken down and put back into their softwood state once they are through customs. Therefore, no duties apply. But that directive was updated after the duties in the new conflict were imposed. So it was specific.

Mr. Richard Cannings: Okay, thank you.

[*English*]

I have to keep moving along here because we don't have much time.

I want to go to Mr. Atkinson.

You talked a lot about the challenges that the industry faces, particularly in British Columbia, with declining annual allowable cuts, the beetles, reduced old growth, the fires, etc., and the challenges of government policies, especially towards your operations and operations in your communities.

As we all know, forestry tends to be managed by the provinces. First nations concerns are more of a federal issue. What would you recommend that we could do at the federal level to move those questions along, especially when it comes to changing the forest tenure system that I think you implied was causing a lot of the problems, at least in British Columbia? How we could perhaps start to see that change from the federal end?

Mr. Keith Atkinson: Great. Thank you for that question.

I think that's part of what I was challenged with in presenting to you today. What it really boils down to, in our opinion, is about the federal framework on policy for the manufacturing sector, the federal commitment to a reconciliation with Canada's aboriginal peoples.

In a large way, the relationship between Canada and our first nations is a fiduciary role. Being able to bring our communities to a place where they are able to participate in a manufacturing sector is where I'm hoping to guide it.

The other thing I was trying to raise in connection with some of the issues and barriers that we hit on the policy front were the jurisdictional issues between fuel management in wildfire protection leading to bioenergy projects on Indian reserve land. There were cross-jurisdictional problems with power supply agreements with hydro and that kind of thing.

The policy framework and being enabled through policy are important, as well as the fiduciary role and supporting aboriginal peoples in their reconciliation and with the provinces, which, as you say, control the forest lands and the sector primarily. We're struggling to reconcile those relationships in tenure reform, or land reform. We need support at the federal level to make that happen.

Mr. Richard Cannings: Thanks. I have one minute.

Mr. Foster, you touched on this idea that new codes would result in higher prices for homes, especially if you're moving to net-zero ready. Then you hinted that this might not always be the case. I heard someone say that.

Can you expand on that, in a very short order?

Mr. David Foster: Simply put, the position we've been putting forward at a policy level, and certainly in the code process, is that we're not arguing against moving to net-zero ready by 2030; rather, we're saying let's figure out how to do it without increasing the cost of the house.

That's a really big challenge. We think it's doable, but unless the process has that as a goal, it's unlikely to happen. What tends to happen in code is that everybody sticks something in that they think would be good to have there, but there's not a lot of thought about how you do all of this and try to maintain affordability.

We think it's simply taking on a bigger challenge, figuring out not just how to.... We can always spend money and build a better house. Can we build a better house without spending more money? I think that's a more compelling challenge.

● (1635)

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

Go ahead, Mr. Falcon-Ouellette.

[*Translation*]

Mr. Robert-Falcon Ouellette (Winnipeg Centre, Lib.): Thank you very much, Mr. Chair.

My thanks to the witnesses for being here today. We are glad to have you with us.

My questions go to Mr. Verreault.

What is stopping your company from producing more secondary products?

Should the federal government be more proactive in terms of buying construction products so that jobs are created here and so that the products are processed using energy-efficient materials?

Mr. Frédéric Verreault: Actually, the federal government is already doing some very good things. For example, I'm thinking of Natural Resources Canada's project to build wood high-rise buildings, which is about four years old. Structurlam has already done this in Vancouver. In Quebec City, we did it with the Origine condo tower. The tower has 13 floors, including one of concrete and 12 of solid wood. The project was carried out through a Government of Canada initiative for demonstration projects that focused on the entire technology development component of the project, not the cost of the wood. That kind of support is very positive.

We are able to offer products like cross-laminated timber (CLT) today thanks to partners like FPInnovations. In 2009, FPInnovations mentioned to us that there was a mission to Europe for a new solid wood product, cross-laminated timber. So we went to Germany and Austria, as suggested by FPInnovations. All our product validation technology processes that we were developing were supported by FPInnovations, actively and loyally supported by the Government of Canada, which is very strategic.

What can we do to make more products? Clearly, it's a market issue. We have been talking about the National Building Code for a few moments. The Code is restrictive for innovation; it does not say that the project must meet safety objectives, for example, in case of fire. The Code does not say that we have to meet such and such objective in terms of the environmental footprint. The Code requires us to take this product or that product. This is where the requirement obsturcts innovation.

Mr. Robert-Falcon Ouellette: I would now like to ask Mr. Foster a question.

[*English*]

This one's related to the building code.

You talked about codes and officials. How do we create mass products to make housing cheaper for more people using mass industrial procedures, thereby ensuring that we can actually have the people who do the building codes involved in creating innovation, so that these two things can meld together and we can support the industries here in Canada?

Mr. David Foster: Mr. Verreault touched on one of these.

Increasingly, we want to see codes move to performance outcomes rather than prescriptive outcomes. It doesn't tell you how to do it, but it tells you what you must achieve in terms of safety, environmental features, durability, and that sort of thing. That move in code will open it up for innovation.

Code should not stop you from innovating. It should tell you what you have to achieve when you innovate. It's a big transition, and I think there's a lot of interest in the code process to try doing that.

Everyone involved in the code must realize that we need to carefully balance the costs and the benefits sides of things so that we don't have a process that's always additive. Sometimes you have to make choices about how far to open the door to let through an innovation, yet keep it affordable.

Mr. Robert-Falcon Ouellette: You talked in your presentation about the secondary products, such as the mass-produced walls for homes. I would expect that to actually reduce costs because in the end, that would probably be cheaper to do in a large-scale building. People would be doing the same task over and over again without having to make measurements.

Why have we not seen a reduction in the cost of new homes for young Canadians or in first nations communities? Is there a way of increasing the industrial procedures or processes here in Canada to make us more efficient and to make it cheaper?

● (1640)

Mr. David Foster: We did have a major developer in Alberta that produces a thousand homes a year go from on-site construction to preassembly in a factory. Then they just put the pieces together on site.

His experience wasn't that it necessarily saved him money in fabrication, but it allowed him to be more precise and to have much more precise tolerances, which meant fewer warranty claims, fewer on-site problems, and fewer weather delays. It also allowed him to deal with labour shortages that were a huge issue in Alberta a few years back and will be an issue in our industry going forward.

Where we see that happening, it's for economic reasons, but the lower cost per square foot of the materials is not necessarily the driver. It can be labour utilization, better precision, and fewer warranty and performance issues because you have a more precise product. Those are still very good reasons.

Mr. Robert-Falcon Ouellette: I just have one final question. It's for Mr. Keith Atkinson. You mentioned there were some manufacturing issues that were making it more difficult for first nations involvement. I was wondering if you could talk about how we can increase the number of jobs for first nations in this sector.

I see some stats here from the Library of Parliament, with 211,000 people directly involved in forestry, and of that, 9,700 jobs for indigenous people, so that's a rough estimation of around 5%. Indigenous people make up a greater percentage of the population where the forestry products are, generally. What can we do to increase, not the percentage of aboriginal people participating, but the number of jobs that are located where people are working?

Mr. Keith Atkinson: Thanks for that.

It's actually been one of the keystone programs of our organization in the last six years to try to enhance the potential for aboriginal people in the forest sector workforce.

The manufacturing sector has been an interesting component that we've been really challenged by, since traditionally the manufacturing sector has held onto great jobs to offer the community, with a line-up of very skilled workers and people ready to take those jobs. It is an environment where very few aboriginal people are employed, so there is no cross-cultural awareness and programming within those companies and probably a negative historical relationship. There's a problem with a negative perception in our community of the forest sector because of the lack of involvement and the lack of benefit over the years. It's a message to our youth that it's not really a place to look for employment.

We're trying to change those kinds of cultural barriers. I think we need to see some work done to help transition communities that have been in an unhealthy condition due to the sad history of residential schools and the education programs that affected our people. We know we're in an unhealthy condition in that environment, and there are programs that try to support the transition into that workforce. Probably the biggest thing is having the sector actually embrace that concept and invite those jobs into their organizations, which we are getting some traction with.

In the last 10 or 15 years, there haven't been very many jobs to fill. The forest sector has maintained a very skilled workforce that's growing older. In B.C. in particular, it's actually been diminishing, not growing, so there hasn't been a need for workers. It's only now that we're seeing a high demand, and there's a generational gap in skilled workers. We're rushing. That's why we call it an urgent opportunity with our large youth demographic to try to prepare those people for that opportunity and not miss it while we turn over that large segment of the workforce.

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

To all three of you gentlemen, we're very grateful for your taking the time to be here. Your evidence will be very helpful to our study that we're dealing with right now.

I'm going to suspend the meeting for two minutes, and I mean two minutes, and then we're going to start very promptly, so don't go anywhere.

Thank you.

● (1640)

(Pause)

● (1645)

The Chair: We're going to resume, ladies and gentlemen.

Mr. Green, can you hear me?

Mr. Michael Green (Principal, Michael Green Architecture): I sure can.

The Chair: Okay, that's great, and likewise. Thank you for joining us and thanks for your patience. We're running a little bit behind schedule today.

We will start with you. We're grateful you're able to join us today. We'll give you the floor for up to 10 minutes to deliver your remarks. Then we have another witness who will follow you, and then we'll open the floor to questions from the members around the table.

The floor is yours.

Mr. Michael Green: Thanks very much.

By way of introduction, I'm an architect in Vancouver. I have my own practice of about 25 employees. We build around the world in wood and in advanced wood products, for the most part.

At this point, our firm is fairly well recognized as one of the most advanced wood design firms. Certainly in Europe we're seen that way, and in the North American context. We have had the privilege of being at the forefront of our industry in the use of wood products, and that has given us some insight that we're really pleased to share with you.

In addition to my firm, I run a not-for-profit school that specifically teaches designers how to build with wood, as well as a not-for-profit program called Timber Online Education, or TOE for short. This is a global program to advance the understanding of wood construction across all aspects of the construction industry. It's something that we are in the process of building, but it will certainly champion the advancement of the use of wood in building and of safety around it, which is specifically, but not only, for architects and designers. It is also for the construction industry, fabricators making wood products, policy-makers, city officials, and code officials, as well as environmentalists and the general public. Our interest is in expanding knowledge in all of those areas through this global online program, which has been translated into the world's languages, thus giving us a very wide reach.

Why I say all this is that we see wood products at a very interesting crossroads. It's clear that in the architectural realm, for the most part my focus is on structural products and advanced structural products. I wrote a book called *The Case for Tall Wood Buildings*, and then later I gave a TED talk that became the founding principles for moving us toward increasingly taller buildings in wood. We've had the good fortune of being able to do that.

Unfortunately, the commercial market here in Canada has not kept pace with the fact that in Canada we not only have enormously good products from forestry, obviously, but also enormous expertise within our industry. We have some of the finest engineers, builders, and fabricators working in wood. For some reason, we're not seeing those buildings advance as quickly as we could, whereas in countries like France, we have five different projects. The majority of buildings that we're seeing proposed across France right now are moving towards wood, which is quite interesting. Equally, we're very involved in the United States. They were very late to come to the game of talking about these advanced wood buildings, but they now have entered the race and are starting to build a lot of them.

Why that matters to all of us around the secondary wood product market specifically and in advancing the cause for Canada is that there are two organizations currently in the world looking to move the construction industry, which is largely a craft-based industry, from a craft into a sophisticated manufacturing process. It is the intention to dramatically change the cost of buildings in society by dramatically making buildings more affordable, reducing waste, and making them more sustainable by basically moving into a factory environment.

The state of the construction industry is such that you cannot factory-build in concrete because it's too heavy to transport. You can't do it in steel because again it's too heavy. However, mass timber panels and predominantly CLT, cross-laminated timber, are very robust materials that are also lightweight enough to allow manufacture in factories. These are very sophisticated factories using robotics, much like the car industry, allowing significant amounts of automation and customization.

This means that buildings can be unique but affordable, because they are built in a controlled environment. This is the revolution I see that is similar to the way Uber has impacted the taxi industry and Airbnb has impacted the hotel industry and Amazon has transformed the way products are bought.

We're working with one company in the United States, called Katerra, which has raised a little bit more than $1 billion in their first 18 months to develop it. It's a Silicon Valley-based company that is building the largest CLT plant in the world in Washington state and has plans for two more factories in the United States. This obviously has a huge impact not only on our construction industry but also on our forest products and where these panels are going to be built and how they're going to be used.

● (1650)

By the way, there's a similar company. It's enormous. It's called Legal & General. It's the insurance company in the U.K. that's doing this exact same thing in the U.K. Having never built a house before, L&G expects their system of factory-built housing to make them, in the next five years, the largest housing producer in the U.K., all based on using wood products, and specifically cross-laminated timber.

It is a a very significant change coming to our industry that the industry is very unaware of, frankly, and it requires a much more integrated model of understanding how wood products reach the market and how they're not simply a commodity we buy at the stores, but part of a systems approach to the future of building.

With regard to Katerra, they are Silicon Valley-based. With them, we're starting to work with Google. We're also starting to talk to Facebook with them to build huge campuses of housing, specifically in Silicon Valley, but obviously this is what we want to see happen here.

We expect this model to mean housing that will be about 30% less expensive than the current housing in California, which has a market similar to that of British Columbia. Therefore, if this company is as successful as I expect them to be—and certainly they're funded to be successful—we're going to see them having a huge impact on the use of wood products, as well as the affordability of buildings.

This same company is interested in investing in China and is partnered with a very large $180-billion-a-year company in the electronics market to expand construction using the CLT spot as their backbone into the Chinese markets. I'm certainly speaking to them about coming to Canada. I'm trying to encourage them to do so. I think they're open to it, to access not only our forestry products but also our design expertise industry here, but there are gaps in the system in terms of making that happen.

China obviously is of particular interest to all of us. I live on the west coast. It matters. Again, it's not about just shipping raw products, raw logs, or CLT panels; it's about shipping entire systems of building. The Chinese markets are open for it. I'm not sure if somebody has spoken to you yet, but until recently there were almost no wood buildings being built in China. On October 2, the codes in China were changed to allow buildings up to 18 storeys tall to be made of wood, specifically because of the leadership of what's happened here in western Canada, and yet unfortunately we don't have a market ready to go to access what could be a major transformation in the way they build in China.

I think the Katerra model is exceptional. It's something that I certainly want to see happen in Canada. Unfortunately, it definitely requires significant kinds of investment. The Silicon Valley folks are used to the scale of investment. The construction industry and the forest products industry are not used to that scale of investment, so obviously, as a matter of public policy, I believe there are opportunities to incentivize these companies to keep us at the forefront of the construction industry; therefore, in kind, we will be at the forefront of the forest products industry, as we should be.

There are several components to how I see that success happening that I'm happy to speak to. Certainly one is globalizing the education system around how to build in wood.

I am working with folks in Turkey and in Brazil, and have worked in the past with China, where there's interest in building this way but simply no knowledge about how to do it or how to use these wood products. For too long, certainly in British Columbia and I think in Canada, we have thought to export our wood products to places such as China by assuming they will adapt our building culture, meaning lightweight wood frame construction. That simply doesn't work, because building cultures take centuries to evolve. It doesn't happen overnight.

Instead, with the CLT market we're working with a system that can be adapted to their building culture and therefore will be much more marketable within countries such as China and India, and emerging markets, including Brazil. Places such as Turkey and Brazil have enormous interest in moving toward wood construction but simply don't have the experience. Again, I think this is an opportunity for foreign investment for our companies, for them to think not just about our own forests but about opportunities elsewhere.

I realize that I'm introducing concepts on a macro scale. I'm happy to speak to the details scale.

● (1655)

My experience has been that as I travel the world lecturing and speaking, I've realized that we are at the forefront. Every country is interested in this. We need to maintain some global leadership on this for our industry to benefit, but we need to think globally and of course act locally.

Investing in the forest sector is a global opportunity for us in terms of the investments made into companies like Structurlam or BC Passive House, and there have been various investments by government to encourage fabrication plants. Unfortunately, although we have very good companies, we are a mom-and-pop industry here in Canada for these wood products.

If you visit Switzerland or Austria, as I do often, you'll see that there are literally hundreds of companies making these products in fully automated, fully closed-loop energy systems. They're products of exceptional quality from, let's face it, a very small forestry market compared to ours, yet their products and their investment in innovation are far more significant. That's meant that as an architect today I can source wood products from Austria cheaper than I can from Canada for projects in Canada.

These things are the broken aspects of our current system that I think can be fixed, but it is going to take investment in education and investment in innovation—

● (1700)

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

Mr. Michael Green: Sure. No problem.

The Chair: Thanks.

The bad news is that I have to stop you, but our other witness wasn't able to join us, so the good news, members, is that we have more time to ask Mr. Green questions.

Mr. Michael Green: That's great.

The Chair: Ms. Ng, you can start us off.

Ms. Mary Ng (Markham—Thornhill, Lib.): Thank you, Mr. Green, for sharing your thinking with us. You've given us a lot to think about, even in that short opening that you gave us.

You said that there is a real opportunity to essentially ship an entire system of products that can be made and developed in this country. While you talked about it at the macro level, can you dig down just a bit and share with us what it is that we need to be thinking of? What kinds of investments do we need to be thinking of in order to enable that kind of a renewal, if you will—or not even a renewal, but a creation, in Canada?

Mr. Michael Green: The challenge for us is that the companies doing this are vertically integrating their companies. They own everything from the wood products, which they're fabricating themselves, to the plumbing systems, the lighting systems, and all of the components that go into a building. They're putting them together in a factory and then shipping them to site, meaning that you shorten the construction time significantly. That reduces costs for projects and it increases the quality of the products.

The reason it's challenging for us is that currently we don't have companies big enough to make the scale of investment to do that. As for how we do it, I'm not personally clear. Private investment certainly is the bulk of it, but how are we going to compete should these U.S. companies, Silicon Valley-based companies, have those resources to do it? Their intention, as the CEO often has said, is that they want to be the Amazon of construction. They're going to be building with wood products, and right now it's only American wood products. How do we tap that market? I'm not clear on how we do it, but clearly we want to incentivize them to invest into Canada.

Ms. Mary Ng: Presumably there's the market out there, so there's elsewhere to ship to. We certainly have the raw material, right? We have that wealth in different parts of the country. How could we incentivize that here domestically? We have the U.S. example, but is there a way to do that here for our natural resources-rich tenures or companies that are already here?

Mr. Michael Green: Certainly we should be feeding into those companies that are doing this, because they'll buy a lot more of the products. We're shifting our focus from this kind of consumer market to a more industrialized market. That's one part that will naturally happen.

As in Austria, we could have a lot more investment in the automation of smaller plants than we currently have. If you were to take 100 square kilometres in Austria, you would find 120 different cross-laminated timber factories. We have two in all of Canada. We have the largest sustainable forestry industry on earth, but we have only two factories making advanced wood products.

We can incentivize that into local communities, potentially, by either government investment or government tax incentives for companies to build smaller-scale, local, high-tech production for wood products.

Ms. Mary Ng: Right.

In earlier testimony, we heard from a group representing indigenous people in B.C. They talked about some of the challenges in providing opportunities in the traditional industry.

Does this mean there could be an opportunity to pivot, create capacity, enable the creation of those very companies by our indigenous people and have a job creation opportunity, because it is new?

● (1705)

Mr. Michael Green: Yes, absolutely it is. That's right. Absolutely it's an opportunity for our first nations communities. I have spoken with three or four of them who have shown interest in this idea, and it is a big hurdle.

Part of the reason we have our online schools and online education is that you will be able to go there if you're interested in building one of these plants. It will walk you through the economic development plan, the equipment, the operating of the equipment, the safety issues associated with it, all of the high-tech training, as well as business development training, if you're specifically interested in developing this plan. I think a huge missing part of it is where you go to access this information. That's not unique to Canada, but a global one, which is why we started this program. However, I think this is a huge opportunity for first nations.

If I use the Austrian model, it's very small communities that are able to build these plants. The waste product from the system basically goes back into an energy production facility, meaning it's a closed-loop system. It's very cost-effective, and that makes it perfect for smaller remote communities.

Ms. Mary Ng: I have one last question.

We also heard from the Canadian building association and others, and they talked about how our building codes are prescriptive and not conducive to building wood structures.

Do you have any advice on that end of things? It isn't the creation but the adoption in Canada of greater fabrication, greater wood product buildings and products.

Mr. Michael Green: There are two different conversations when it comes to wood. One is on light wood frame, which is buildings up to six storeys tall. In British Columbia, we're allowed six storeys; in other parts of Canada, it's only four storeys. That should become six storeys coast to coast. That will open up more of the market. If we can do it in B.C., where we have earthquakes, you can do it anywhere in Canada. That's a small code change coast to coast that would make a difference for light wood.

Mass timber moves you into buildings that are between seven storeys...and we've designed them up to 35 storeys tall. We haven't built yet, but in France we have 35 storeys. We believe we can go much, much taller. We've developed designs to 100 storeys, the point being that our building code in 2020 will allow buildings up to 12 storeys coast to coast. In B.C., we can get around it a little and get a bit higher.

I've said for more than a decade, since I wrote the book, that there should be no height limit on mass timber. The artificial height limit is arbitrary. It's not based on any building science. It's not based on any fire science or fire department access issues. It's an arbitrary height that's been created. What it effectively does is create a ceiling of innovation. That's a huge problem. If you want to go to the moon, you have to aim for the moon, and we are right now aiming for the clouds, not the moon. I think that's a code change that absolutely has to happen. We could be a world leader by demonstrating that we follow the science involved in code, not the emotion involved in code.

Ms. Mary Ng: Thank you.

The Chair: Thank you.

Mr. Schmale is next.

Mr. Jamie Schmale (Haliburton—Kawartha Lakes—Brock, CPC): Thank you, Chair.

Thank you, Mr. Green, for joining us. It's great to hear your comments.

I am very interested in the recent conversation regarding the building codes. I want to continue along that path, if you don't mind. Sometimes my issue with government is that it regulates for what is and not what can be or will be. I think from your comments that it seems that is true in this case.

Although you did lay out a few points, can you maybe expand a bit more on why the building codes are limited in such a way? Are you getting resistance from certain groups? You alluded to the fact that it seemed to be a clear path, but maybe I'm missing something. You kind of ran out of time, so could you explain it?

Mr. Michael Green: Changing the code is a laborious process involving a lot of committees and a lot of professionals. It doesn't really rest on government. It rests on the whole industry, and that's the way it should be. It should be a cautious process to develop it. It's about life safety, and that's important.

On the other hand, it has become acceptable that every code takes five years to develop. That's what has created the slow transition. Nobody had ever imagined buildings 30 storeys tall made of wood, truthfully, until we started talking about it 10 to 12 years ago. In fairness, if you haven't imagined it, you don't write the code for it, but steel and concrete have no height limits attached to them.

It's not that we should see an entire world covered in very tall wood buildings. It's not that I believe that's the future, but I believe we should see a lot more large buildings in wood. Introducing these artificial and arbitrary height limits somehow says to the public that wood buildings aren't as good as steel and concrete.

That impression is part of the shift we that we need to change. I often say the hardest part of my job is shifting the public's perception of what is possible. It's not the engineering; that's easy. That shift of public possibility, I think, is a great opportunity for our government to say that we have a history going back to the first nations people of building in wood and that we are as good as anybody on earth at doing this, and so let's champion this as part of our national identity.

Even at a very primitive level, every two years at the Venice Biennale of Architecture, Canada somehow has been embarrassed to demonstrate our leadership in wood because I think there's a sense that we might be looking back at our past rather than recognizing part of our future. Instead we show concrete and steel buildings instead of wood buildings. I think that shift in public perception comes from some investment in.... In the same way that we talk about the national parks in public media and on television ads, we should be talking about Canadian wood products in that same forum.

In Australia that's what they've done. They had a public campaign around recycling tin cans. After that was finished, they moved into encouraging people to build in wood. They had public celebrities across Australia speaking about building in wood. This is from a country that has very little forest. They chose to invest that way, and it made a huge difference. People identified that recycling tin cans makes sense and obviously building in wood makes sense, and the consumer side of the industry started to adopt it.

You introduced the question around code. I think the broader question that we have to address is how the code impacts the perception of what's possible.

● (1710)

Mr. Jamie Schmale: I didn't think you were alluding to that in your original comments, but I'm glad to hear you say you don't necessarily want people living on top of each other in big buildings. I've very happy. I'm a country guy myself, and I like my open space.

Going forward, if we introduce the code changes and wood buildings get taller, are the national fire chiefs or any organization that you know of calling for increased sprinkler systems or fire prevention or stuff like that?

Mr. Michael Green: The risk in the buildings is actually during construction. Most of the big fires you see are construction fires that happen when the building safety systems are not yet in place. Sprinkler systems aren't working, a torch is left on during construction, and in the middle of the night the building burns. I do think there are both process solutions and code solutions to specify that during construction, this is how you should protect a building if it's made of wood or any other material. We could improve in that area.

On the tall wood building side, although the code is going to allow it, you would still have to negotiate effectively with the local fire marshal around how you are building a building. They have enormous autonomy—as well they should, in many ways—to reject the concept of what you want to build.

To me the answer is education. They're not used to these buildings. They don't have a peer group that can help them learn about them. Through our Timber Online Education, the intent is to have fire marshals teaching other fire marshals to build a robust program that educates that group, because their mission is important and their concerns are very valid. They simply don't have access to the right information to understand why these buildings are safe. We have to expand that education for them.

Mr. Jamie Schmale: If we do move towards taller buildings and that type of thing, and if we do rely more on the lumber industry here in Canada, that obviously means the need for more product. Will our supply be able to absorb that need? Will we be able to continue to ensure new trees are planted and that the supply meets the demand?

● (1715)

Mr. Michael Green: I have a great way to describe this.

I built the first tall wood building in Canada. It's up in Prince George. It was the Wood Innovation and Design Centre. It's a 100% wood building that's eight storeys tall. We calculated that the North American forest grows enough wood to build that very large building every four minutes, again shifting the public's perception of what the forests can produce for timber.

That's North America, not just Canada, but the point is that we have the resources to do it and the skills to do it, but we don't have the investment to do it. Moving us away from primitive approaches into advanced value-added wood products is the key.

Mr. Jamie Schmale: Okay.

I want to ask about investment, but I think the chair is going to cut me off.

The Chair: You're unfortunately out of time.

Mr. Jamie Schmale: Okay, next time.

The Chair: Go ahead, Mr. Cannings.

Mr. Richard Cannings: Well, thank you.

Thanks for being here today. It's been extraordinarily interesting.

A lot of what we've been hearing from you today is about the reluctance of the Canadian market to move to this new technology.

Could you comment on the idea of having government procurement policy drive that shift to changing public perception, and also building these companies from mom-and-pop operations to the bigger operations that you talked about?

Would that be a helpful thing?

Mr. Michael Green: Absolutely.

We have the Wood First policy in British Columbia. It's almost voluntary, community by community, but it's made a big difference simply because it introduces the concept into the conversation. That's all it takes, that first introduction.

I think government procurement policy is smart. The French government has done just that. Their intent is to move from 5% wood buildings in the residential market to 30% over the next 30 years, as a matter of public policy around climate change. I think we can do the same thing. We should make this not only about supporting our forest industry but part of a sustainable building policy for government buildings. I think it's a great idea.

I think some parts of our country have moved towards that. Ontario and B.C. have both started to invest in it, but at a federal level it would be a wonderful help.

Mr. Richard Cannings: You talked about the need for big investment. Is there any reason you can think of that the big operators, such as Canfor and Interfor and Resolute, haven't jumped in? Is it just too new and it's not what they do?

Mr. Michael Green: The way I look at it is that the construction industry is broken, but it's not quite broken enough that anybody wants to actually fix it. Everybody is making money, so it's hard to say, “Let's start over in the way we think about it.”

However, we're going to have to, now that things are changing so quickly. I don't see a reason that those companies can't do it. They certainly can build CLT plants. I've spoken with all of them before. Certainly they could jump into this area. It's not a large investment; it's $15 million that makes you a CLT plant. Again, we have just two of them in the entire country.

When I talked to the Katerra group, which is again Silicon Valley guys—their CEO used to run Tesla, by the way, and these are very significant thinkers—their attitude towards a $15 million investment was laughable, because it's such a small investment. In the forest product sector, that's a huge investment.

Fixing that does need the big companies to invest in it. They don't is because their cultures aren't really built around innovation. They cut trees, but they're not in the innovation business. I think they need to be. I think it's part of their future to understand the importance of it, but I'm personally not entirely clear on how we incentivize them to do it.

Mr. Richard Cannings: Are there model codes from elsewhere in the world, especially from the States, that might help?

Mr. Michael Green: We are the leader.

Mr. Richard Cannings: Okay.

You talked about fire chiefs. Can you quickly talk about Brock Commons at UBC and what the local fire chiefs thought of that project?

Mr. Michael Green: I've only heard good feedback about the project. Once people see the building, walk around the building, and understand the building....

The problem with that building as a benchmark is that they covered up all the wood. I believe that was a huge mistake. The only incentive, from a marketplace point of view, to build buildings like this is to expose the wood. All the buildings I do globally are exposed wood. Unfortunately, Brock Commons covered it, so it's not a useful example to communicate to fire marshals from a fire point of view because it's overly conservative. It doesn't actually deal with the science.

Again, it's designed to the emotion of how people would react to a tall wood building. That will change. The next few that get built will start to shift that perspective. Certainly fire marshals who have experienced it understand it and are comfortable with it.

As far as international code goes, no country anticipated this. Even though a lot of the industry on the forest products side.... Some of the most exceptional industries are in Austria, Switzerland, Germany, and even Italy, but their codes didn't anticipate it either. If anything, we are a global leader in code advancement. The fact that we're going to get to 12 storeys by 2020 is actually.... As much as I'm critical of it, in one way I'm very proud that we are stepping up to the plate and moving the bar higher like that. We just need to take the number 12 off and allow ourselves to build tall, period. That's really where we'll end up.

● (1720)

Mr. Richard Cannings: I'm wondering if you could give us some of the details about the fire safety question, because that's what I hear about. As you may know, I have a private member's bill on this very subject, and I'm encountering resistance from people. Could you talk about the fire safety concerns of exposed wood and how you get through that?

Mr. Michael Green: There are two methods of protecting a building. When it's tall, we need to separate a building horizontally and vertically with what's called a two-hour fire separation. There are two ways we can do that with wood.

One is we take our wood and cover it up with two layers of fire-rated gypsum products, meaning drywall. That's what we did in Brock Commons. That's really heavy and it hides the wood, but it creates a traditional fire barrier to protect the wood.

The other method, which is really based on the way we've done things for 100 years—it's not new—is that we overbuild the size of the wood by a certain dimension. If it needs to be this wide structurally, we build it this much wider. That extra width is basically what would be allowed to burn in a big fire. It burns away very slowly—it actually burns at 0.6 millimetres per minute—so we can calculate exactly how much burn there will be. Over two hours, we lose a certain amount of material, but the remaining material still has the structural soundness to support the weight of the building plus the weights of the occupants and the firefighters who need to fight the fire. That's the principle involved.

The reality is that in all of the fire testing we're seeing for CLT products, it's very difficult to sustain a fire. Again, this is a public perception issue. The analogy I give is that it's like taking a big log and a lighter and trying to make a fire. You can't do it. You need little sticks, and you need to build up your kindling before you can put the big log on. These products are so robust that they do not catch fire very easily because they have this massive thickness.

As I said, we've designed wood buildings like this, and our codes have accepted wood buildings like this for the last century, since the beginning of building codes. We build heavy timber buildings with these big wood beams that are allowed to char naturally in a fire, but that protect the core structure. We've been doing it, but we just haven't shifted from thinking about it at certain heights to allow it to go to bigger heights. That's really the obstacle, and it's really, again, just an emotional shift that has to happen to embrace the science we already know. I think we're getting there, but it's going a little bit too slowly to really advance it.

The Chair: Thank you very much.

Mr. Serré is next.

[*Translation*]

Mr. Marc Serré (Nickel Belt, Lib.): Thank you, Mr. Chair.

I will let Mr. Tan ask a first question.

[*English*]

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

We just had some talk about this 53-metre-high Brock Commons building in Vancouver, which was erected in only 66 days. I realize that the building was designed by other architects. I'm wondering if you or your company believes that there are also other big opportunities for other kinds of structures to use this wood and to use mass timber panels, in addition to focusing on the tall buildings?

● (1725)

Mr. Michael Green: That's a great question.

Unfortunately I did not win the project to build Brock Commons, but we are building taller buildings elsewhere in the world right now. In Canada, I believe there are an infinite number of opportunities to build more in mass timber.

At low heights, we've done many mass timber buildings in Canada that are what I call “legacy buildings”. These are institutional investments in a building when you expect that investment to last 60 to 100 years. Where you might choose to build in concrete or concrete block and light wood frame construction may not be robust enough for that kind of longevity, such as in an earthquake zone, where I live, is where you might choose to use these products on lower buildings. This would be for a university campus and certainly for government buildings. I built North Vancouver City Hall this way. I built part of the Ottawa airport. The Ottawa airport, by the way, is one of my designs. It's only part wood, but it is part wood. Certainly lower heights are possible.

The other important thing is that we talk about tall wood buildings, and not because I believe we should have a world of 24-storey or 30-storey tall wood buildings. I believe you design a few at that height, and the public gets comfortable with that idea. Then when we build a lot of buildings at 12 storeys and 14 storeys, where most people live—10 to 12 storeys, 14 storeys in the cities—the public then becomes very comfortable, because they can point to much taller buildings. The big super-tall building is really about stretching imagination, pushing engineering innovation, and changing the public's perception of what is possible. The vast majority of advanced wood buildings will be 14 storeys and less, I would guess.

Mr. Geng Tan: I have another quick one.

You mentioned tall buildings made of wood of up to 30 storeys or 40 storeys, and you also mentioned that the code in China has been changed to allow building wood structures of up to 18 storeys. You also mentioned that the industry in Canada is not ready.

If you and other architects are ready, technically, to build those kinds of high buildings, should we do it?

Mr. Michael Green: Yes, we are, and we're doing it.

We've been asked by the U.S. company to partner with them in China. That is not in my current mandate, so I'm probably not going to do that, but I think there are lots of opportunities for others to do so.

This education piece is paramount to making this happen. I've been talking about this kind of education for a very long time—I've built exclusively in wood—but that's not good enough. I can build one building at a time, or I can create this school to advance the cause globally. That's where my personal commitment is, not to specifically build lots of buildings in China or in other countries.

That school that I keep speaking to, to be frank, is a not-for-profit B.C. organization and society. My intention is to have it free, globally available online, and paid for by international governments. Lots of governments internationally have spoken to me about their interest in investment, but ours has not. I think that's something that I would appreciate a conversation about at some point.

The Chair: You have about two and a half minutes.

[*Translation*]

Mr. Marc Serré: Thank you, Mr. Chair.

Could you clarify the role of the federal government? Earlier, you mentioned that developing and enforcing building codes is the responsibility of the provinces 100%. Is that what you said?

[*English*]

Mr. Michael Green: Yes, but it's based on the national code. The provinces take the national code and adjust it for their own context. The code changes first at the national level, and then it trickles to the provinces. In some cases, even the city can have its own. For example, Vancouver has its own independent building code.

Mr. Marc Serré: Thank you.

I also want to follow up on the investment question that my colleague started to ask.

You mentioned R and D. You mentioned innovation. What can we do, as a federal government, to stimulate and attract private sector investment in the industry?

Mr. Michael Green: I have been a fan of the concept of an XPRIZE, and I've talked about it in the past.

When you, as a government, select certain organizations—such as FPInnovations, which is a great forest product innovations organization—I think the challenge is that if all the funding goes to one or two organizations, you don't get the most out of the opportunity around innovation.

Instead, what I think would be very compelling as a mission is if there was a large prize offered every year—Sweden does this—that was made available for wood innovation in any form and was handed out only to a Canadian resident. It may be some innovation on the technical fabrication side. It may be on the building side. It may be on the marketability side.

That would do a couple of things. For every dollar you invested as a government, you would get 100 times the number of people chasing that money. You would be setting an ambition that we are an innovative country and that we are going to inspire innovation by giving everybody access to it. It's a drop in the bucket as an investment for the government, which in turn would give you a tenfold or a hundredfold return. One of the most important things is that it would attract the best of the best from around the world to say, "Wow, Canada has this. Maybe I will move to Canada. Maybe I will emigrate to Canada because I am a wood innovation expert who wants to contribute to the Canadian system, and they are going to give me this opportunity."

I think that would be a wonderful way to spend our money.

● (1730)

Mr. Marc Serré: I know you probably don't have time to answer this question. It really irks me that the U.S., the U.K., China, and France are ahead of us. Do you have any suggestions that you could forward to the committee after this meeting today about what we can do to get back on track, either from a procurement perspective—provincially or federally—or from an R and D perspective?

Forestry is important to Canada, and we are number one in many respects in forestry, but we have to get back on track. If there is anything you could provide to us afterwards, I would ask you to forward it to the clerk, please.

Mr. Michael Green: I'd be happy to do that. I'll write a summary.

The Chair: Fantastic.

Thank you very much for taking the time to join us today. Your evidence not only was interesting but will also be very helpful for what we are trying to achieve here. We appreciate your time.

Mr. Michael Green: Thank you for giving me the time.

The Chair: All right. That is all the time we have, folks, so we'll see you on Wednesday.

The meeting is adjourned.