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Chair: Mr. Robert Morrissey





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Thursday, October 24, 2024

• (1100)

[English]

**The Chair (Mr. Robert Morrissey (Egmont, Lib.)):** I call this meeting to order.

Committee members, I invite you to take your seats. The clerk has advised me that we have a quorum and that the witness appearing virtually has been sound-tested and approved.

Welcome to meeting number 131 of the Standing Committee on Human Resources, Skills and Social Development and the Status of Persons with Disabilities. Today's meeting is taking place in a hybrid format, according to House of Commons procedures and rules, meaning that people are participating in person in the room as well as virtually.

To all of you, you have the option of choosing to participate in the official language of your choice. In the room, interpretation services are available by choosing the language of choice using the headset in front of your microphone. For those appearing virtually, click on the globe icon at the bottom of your Surface and choose the official language of your choice. If there is a breakdown in translation, please get my attention by raising your hand. We'll suspend while it is being corrected.

I'll also mention a few operational things.

Please wait until I recognize you to speak. To get my attention, please raise your hand and I will recognize you. Any members appearing in the room with devices and Surfaces, please turn off alarms or anything that may trigger a noise, because they can be picked up by the microphones and may be harmful to the translators. Also, please refrain from tapping on the microphone boom because it pops the sound.

With that, pursuant to Standing Order 108(2) and the motion adopted by the committee on Monday, June 3, 2024, the committee is continuing its study on the advancements in homebuilding technologies.

I would now like to welcome our witnesses. We have two today for the first hour. We have Andy Berube, vice-president of sales and strategic partnerships at BECC Modular Systems. Virtually, we have Mr. Stephen Smith, executive director of the Center for Building in North America.

I advise each witness that you have up to five minutes for your opening remarks.

We'll begin with Mr. Berube. You have the floor.

**Mr. Andy Berube (Vice-President of Sales and Strategic Partnerships, BECC Modular Systems):** Thank you.

Good morning, everyone.

Thank you, Mr. Chair and members of the standing committee, for the opportunity to speak on this subject, representing BECC Modular and the off-site construction industry. The homebuilding technology and advancements in that field are critical, obviously.

We have five key points we would like to table today. They are the standardization of design, procurement policy, enhanced collaboration, education on building quality in the off-site industry and sustainable advantages. I think it's important to understand that, when we're talking about technology in construction or off-site construction, we can have the best technology in the world, but if the whole ecosystem is not in line, it doesn't matter about the technology. The word "technology" is here, but it's important to understand it as an ecosystem in construction.

Number one is the standardization of design. As a construction industry, it's important that traditionally, when you design something, a conventional construction process can actually build whatever an architect designs up front. When you're improving the process in any way, shape or form, you have to look right back to the beginning: Does the actual design that's being produced in a traditional manner work in a process where new advancements will be able to take advantage of that design? In terms of improving the actual standardization across the board for the factories and coming up with a model that is not restrictive and specific to a factory, for example, but to a point where any factory can build from a standard—whether building with wood, steel or plastic, it doesn't matter—can we get to an approach where a fundamental design helps everybody?

The next one is procurement policy. In a traditional method, again, if we're going to an advanced methodology that changes things, if you go to the traditional model of procurement, often we'll see what is called a "design-bid", which means you design something at an architectural level. In a traditional sense, if you design it, there's a construction firm that can build it. It doesn't matter; it's in situ. You've designed it and we can build it. However, if you're trying to improve the entire life cycle of construction and expedite it or improve it in any way, you end up designing something that doesn't fit a model that's being created by the industry, because it's being designed for a traditional sense. I think the standardization being put forward by the federal government and CMHC is admirable. It's more complicated than just putting out a standard, because you're dealing with land property, code differences and whether that design is the same and can go in different locations.

The next one is a deeper collaboration between all levels of government. As an example, at the federal level we have some fantastic policies being put in place, but unless it's at the provincial or municipal level, we'll continue to see roadblocks. It's critical that we ask members of this committee to keep that in mind and make sure that, at all levels, we're focused on the change at one level being continued through the other two levels of government.

The fourth one is education on off-site. What we mean by this is that often we run into the reality that, when we're building, people are not educated in the fact that when you have an off-site production facility, it is a very stringent quality QA and QC process. The CSA actually requires that. The inspection at a site is very common, but it's also as common in a factory.

- (1105)

What we're building in a factory has as good or better quality than what's at the site. It's important, on the education front, that we're all...especially at the municipal or provincial level. When there's a project going on, the quality in a factory is actually more rigid and stringent than what's going on at a site, but we need to reduce the barriers because of a presumption that the quality is lesser. It slows down the process and costs everybody more, which is counterproductive.

The fifth is sustainability. I don't think there's an industry we're working in right now that doesn't have this at top of mind. When we're looking at off-site construction or the modular industry, everything we do is as precise as possible, with less waste. If you go into a factory, you see a small trash bin. If you go to a construction site, you see multiple trash bins. The sustainability aspect of off-site construction and the technology we're bringing are superior.

- (1110)

**The Chair:** Thank you, Mr. Berube. If there are any other points you want to make, I'm sure you'll get the chance in the question session.

We'll now turn to Mr. Smith for five minutes.

Mr. Smith, you have the floor.

**Mr. Stephen Smith (Executive Director, Center for Building in North America):** Thank you for having me here today.

My name is Stephen Smith. I'm the executive director of the Center for Building in North America. We're a non-profit organization based in New York City with the goal of conducting research on construction and building codes in the United States and Canada, with a focus on global perspectives.

My organization's research starts from the premise that demand for housing in the U.S. and Canada has shifted over the last generation, and existing ways of building have not caught up. North America has a unique construction culture, one that was well suited to sprawl. We developed techniques for affordably building single-family houses on greenfield sites—that is, sites that were not previously developed in an urban way. This served us very well in the 19th and 20th centuries. However, in the 21st century, we face new challenges. The climate and a strong demand for living in cities have meant that demand and policy have turned inward toward cities. More Canadians and Americans want to live in cities, and our construction culture has not caught up.

A unique feature of construction in North America—that is, in the U.S. and Canada—is this: Per square-metre construction costs—sometimes called “hard costs”—rise as density rises. A low-rise apartment building costs more to build per square metre than a single-family house, and a mid-rise apartment building costs more to build than a low-rise apartment building. This is a feature that I have not observed in other countries. I've looked at Italy, Germany and even Mexico. In those places, the cost of building is fairly consistent per square metre, whether they're building single-family houses or denser apartment buildings. The implication of this, as demand and planning policies lead to more urban construction, is that we face affordability challenges in construction, ones we do not know how to solve.

Fortunately, there are other models. If we want to bring down the cost of urban construction, we can look to places where it doesn't cost any more to build apartments than it does houses. The places most culturally and economically similar to the U.S. and Canada are in Europe. European nations have traditionally led the way in construction, whether we're talking about the use of mass timber, prefabrication, energy efficiency or more efficient floor plans for tight urban sites. Fortunately, Canada and countries in Europe share common histories, climates and languages, and they're in similar economic situations.

My research thus far has focused on elevators and stairways. However, throughout building codes and the web of what are known as “referenced standards” in areas from plumbing to windows, we can find similar themes. A North American tendency is towards oversizing, a reluctance to look outside of our two countries for standards and solutions, and generally higher costs, especially for more urban kinds of construction.

We can get into more specifics during the questioning about codes, standards and general approaches to construction and regulation, but my broad advice to Canada is to try to resist the cultural pull of your larger neighbour to the south. I realize this is a bit ironic, since I'm coming to you from the United States. Look instead to places that have had more success in implementing the goals you're trying to achieve.

Building codes in Canada and the construction industry more generally tend to look to the United States, but this is not where you will find a record of success when it comes to building cities. When you think about affordable new urban housing, more family-friendly apartments, more energy-efficient homes, more innovative forms of construction, housing that is safe from fires and better mass transit, you won't find those things in America. If you continue to emulate American models, you'll end up with American outcomes and will probably continue to be unhappy with the results.

Thank you for inviting me. I'm happy to answer any questions.

**The Chair:** Thank you, Mr. Smith. That's an interesting comparison you gave. I'm sure it will be of interest to the members.

We'll begin the first round of questions with Mr. Aitchison for six minutes, please.

• (1115)

**Mr. Scott Aitchison (Parry Sound—Muskoka, CPC):** Thank you, Mr. Chair.

I want to start quickly with Mr. Berube.

Technology is amazing, and the technological abilities of a company like yours to produce buildings, multiple-unit buildings, at a really rapid rate.... I'm sure you probably haven't come close to maxing out the potential of what you could produce. What's the biggest limitation to your maxing out production of units in your factories?

**Mr. Andy Berube:** I think the analogy would be this: If you could build the fastest car in the world but don't have a road system, you're not going anywhere. It's kind of to the theme of the five points that I have. You can have the technology, but you need the support, the understanding and the education of multiple people in the construction ecosystem to make sure that it works. I would say that the biggest hurdle....

There's off-site construction of modular, which we're playing in, but our partnerships, our clients and our developers.... Everybody hears what they're saying about the policies, the roadblocks and the inefficiencies around trying to get things done. That's before.... The factory is ready to go; we have gas in the car. However, we're going out of business, literally, because of something that's happening down here. You can put as much tech in the factory as you want, but if you don't have the support—holistically, really, at all levels—we're not going anywhere.

**Mr. Scott Aitchison:** You have to have a place to put those houses—

**Mr. Andy Berube:** Exactly.

**Mr. Scott Aitchison:** —and it takes too long to get that approved.

Okay, thanks for that. I'm sure others will have questions for you.

I'd like to move over now to Mr. Smith.

What you're working on is fascinating to me. There are all kinds of examples, I think, where the United States and Canada have a whole different set of standards, and we make it more difficult and more costly to build than it is in Europe. I've read through your report on elevators. People would probably call me a nerd, but I found it fascinating—the different sizes of elevators in North America versus Europe.

I'm wondering if we can speak briefly, if you don't mind, Stephen, about stair policy and this concept that people might not understand: single-stair egress. Could you speak to that briefly for the committee to understand what the issue is?

**Mr. Stephen Smith:** Sure.

To get out of a building, you need at least one stairway, certainly. Historically, lower-rise buildings tend to have only a single stairway. The most lower-rise would be a single-family house, and there's only a single stairway. As the building gets taller, naturally, the egress requirements get more intense. Since you're farther from the ground, it's harder to rescue people, and this happens all over the world.

However, in the United States and particularly in Canada, the requirements get very tight very low to the ground. In Canada, it is effectively impossible to build an apartment building with multiple storeys with only a single stair. This sounds like a minor issue, but for a small urban site, it can be quite an imposition. I don't have data from Canada, but in the United States—prices are probably pretty similar—a four-storey stairway costs about a little over \$200,000, depending on the market. I would assume it's a similar price in Canada. For a larger building, for a building on a former industrial site, maybe a commercial site where you have dozens of units on the floor, this is not a very high cost. However, I know that cities across Canada are encouraging and allowing multi-family buildings on what were formerly single-family lots, and on a small lot for example, it can be quite an imposition and quite a high cost.

There are all sorts of ways—

**Mr. Scott Aitchison:** I'm going to jump in here quickly.

It's about cost, but is it also not about the lost opportunity for more rental units, for example, more units, more housing units, in that building?

**Mr. Stephen Smith:** Sure, it could be. I mean, it could be about more housing; it could be about more open space. A lot of people sort of oppose housing because it takes up a lot of the lot. That's ultimately a planning decision: whether you'd want to replace it with nothing at all and lower the cost, or replace it with housing and just get more housing out of it. There are some technical considerations around that, but in general, I mean, it'll reduce the supply of housing, the more building code requirements you load on. Some of them are necessary, but the the second stair at such a low height is not considered to be necessary in any high-income country outside of Canada.

• (1120)

**Mr. Scott Aitchison:** Do you think it's safe to say that, particularly in Canada and I guess in the United States to some degree as well, we don't take affordability into consideration enough in our building code review?

**Mr. Stephen Smith:** I would say that it's taken into strong account for single-family houses and into less account for denser forms of construction. For a while, that was mostly what the U.S. and Canada were building—single-family houses—but as we move to more multi-family typologies, yes, I would say there's not as much of a focus on.... Maybe the intent is there for affordability, but the actual tax and the policies can be quite expensive for multi-family housing. It's quite expensive.

**Mr. Scott Aitchison:** I think we have about 30 seconds left here. I was going to ask for three different changes you'd make to the code today, but maybe give me your top one.

**Mr. Stephen Smith:** The top one would be harmonization of standards, probably particularly with Europe. These are technical details that regulate anything from what kind of gypsum board you can use to what kinds of elevators or windows you can buy. Don't look to the United States, but harmonize globally.

**Mr. Scott Aitchison:** Thanks very much, sir.

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

Mr. Collins, go ahead for six minutes.

**Mr. Chad Collins (Hamilton East—Stoney Creek, Lib.):** Thanks, Mr. Chair.

Mr. Berube, I'll start with you.

I want to pick up on one of the last comments you made in terms of the use of modular and getting your company and others to a point where you're at full capacity. One of the challenges I've found is that there are a lot of people within the industry, and even those at all three levels of government, who really aren't familiar with the benefits of modular housing.

I look back to 2019. I was a city councillor. I had to bring a motion to my council to look at the benefits of modular and to investigate a municipal non-profit build for modular. I didn't know the pandemic was coming, and I didn't know that the federal government, before I arrived, was going to create the rapid housing initiative, which forced municipalities to build in a very short time frame. Therefore, my motion jibed very well with that program, and our council said that it was going to build a modular build to take advantage of the rapid housing initiative. If I look back at the course of what happened over a two-year period in my municipality, had it not been for the rapid housing program or the motion, it probably wouldn't even be looking at modular. Now, I think it's into its sixth or seventh project.

What can the federal government do in terms of encouraging or incentivizing—the rapid housing initiative is a great example, I think—our municipal and provincial partners as well as the private sector to investigate or to look at, at least, and consider modular as an option when they're considering a residential housing build?

**Mr. Andy Berube:** I think one of the points I talked about was just the barriers around the consistency across the three levels of

government. To answer your question, I think there needs to be consistency. Is there a point person at all levels who has this as their initiative, and do you speak collectively as one? A policy that's created at the federal level that's not aligned with the provincial or the municipal level doesn't make any sense. It stops the progress. I would say that is probably the number one piece.

At the factory level, I think we're doing our job in promoting the industry and in expanding and discussing the benefits and the quality of what we build—that it's better or the same as conventional construction. We're just doing it a lot faster, which has inherent benefits. The policies and assumptions around what we do are really the roadblocks, so it's the education and the consistency across the governments.

**Mr. Chad Collins:** Thanks for that.

Mr. Smith, I was on your website, and I looked at the “Why we can't build family-sized apartment units in North America”. Again, I'll revert back to my municipal days. Just before I arrived here in Ottawa, I worked on a public-private partnership with our municipal non-profit. In that partnership, we transferred lands where we previously had just over 100 townhouse residential units, and we looked to consolidate those units in a higher density.

You talked about infill. Of course, as municipalities and others look for sustainable developments, they look at higher densities. One of the challenges we had with higher densities and with moving families into an apartment building was the cost of constructing family-sized apartment units.

Can you provide some recommendations in terms of what the federal government can do to assist in bridging the gap with the whole issue of cost related to family-sized apartments?

**Mr. Stephen Smith:** The most important thing the federal government could do insofar as it controls the building codes, or at least the model code process that eventually filters down, is slim down what are called the vertical circulation requirements. These are the elevator requirements and stair requirements. Obviously, you don't want to sacrifice safety, but you need to find the right balance. The more vertical circulation you require, the larger the building has to be. Strangely, generally, the smaller the building, the easier it is to build family-sized apartments, so you want to make it easier to build small apartment buildings.



As I understand it, a number of cities and provinces are working on this. I think they should probably move a little more quickly and be a little more ambitious, and then there are also planning reforms that go along with it. I don't know the Canadian context well enough to know what role the federal government has there, but in general, you will find the most family-friendly apartments in any place in the lower density areas.

You don't want to limit housing to only very tall towers on very large sites. You want to open up some of these single-family neighbourhoods to modest apartment buildings of three to six storeys. That's where, for a number of reasons, it's always going to be easier to build family-sized apartments.

• (1125)

**Mr. Chad Collins:** Thanks for that.

Mr. Berube, I have about a minute left. I toured BECC's facility in Ancaster when I was there for an announcement we made. I think we provided just over \$2 million to assist with some improvements they were making at the plant.

I'm curious to know what federal investments, or any investments from any level of government, mean to your business and your sector as they relate to improving research and development and getting you to a point whereby those homes are being constructed more quickly in the factory and provided to the clients and whoever may choose to purchase them.

**Mr. Andy Berube:** That's a great question.

Funding at any level is significant for a factory or any industry. Funding at a factory level is put toward labour but also toward technology. If you're running a factory and you have, let's say, 100 staff in there and you can produce one or two fully finished units a day, can you invest in the technology to stay at 100 staff and produce four, five or 10 units?

We look to Japan and Scandinavian countries that have been doing that for 50 years, literally, and what they've done with their plants. It's not always about robotics. It's just about systems and efficiencies, and it costs money. To grow, expand and deliver quickly, you need capital, so capital coming into the private sector from the government is obviously well received and a huge benefit.

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

[*Translation*]

Ms. Chabot, you have the floor for six minutes.

**Ms. Louise Chabot (Thérèse-De Blainville, BQ):** Thank you, Mr. Chair.

I would also like to thank the witnesses who are with us.

Mr. Berube, your company is based in Ontario, and you build prefabricated steel-frame homes.

Did I understand correctly?

[*English*]

**Mr. Andy Berube:** I'm not hearing the English version. I'm sorry.

**The Chair:** I'm sorry. We'll suspend for a moment.

• (1125)

(Pause)

• (1125)

[*Translation*]

**The Chair:** You may resume, Ms. Chabot.

**Ms. Louise Chabot:** Thank you, Mr. Chair.

Mr. Berube, your company is based in Ontario, and you build prefabricated steel-frame homes.

Did I understand correctly?

[*English*]

**Mr. Andy Berube:** We don't use mass timber. We use structural steel. Our factory is based in Ontario.

[*Translation*]

**Ms. Louise Chabot:** Has the demand for the type of product you're offering increased?

Is there an appetite for this type of construction?

[*English*]

**Mr. Andy Berube:** Absolutely. There is a demand and it's increasing year over year. I've been in this business for 12 or 13 years and it hasn't slowed down. The interest at all levels is increasing.

We're in a fantastic industry. It's complicated. It's construction. In general, the industry is construction, and we need more houses, so we're just a part of the solution to build more houses.

• (1130)

[*Translation*]

**Ms. Louise Chabot:** Mr. Berube, you are right to say that more housing construction is needed. The committee has actually conducted a few studies on the topic, and it has looked at the issue of demand. We're looking for solutions that will ensure that what gets built is affordable. There's a need for affordable housing, whether it's apartments or houses.

How could your technology or your way of doing things help with housing affordability?

[*English*]

**Mr. Andy Berube:** There are two parts to that answer. At factory level, bringing in more technology and more systems to reduce factory costs will, in turn, translate into lower costs on that side.

Lowering the cost at the site on the construction side is really about a rapid delivery. Think about time as money. You can build a building in a traditional sense in two years. If you can cut that in half, or even to three-quarters, and it's 12 to 15 months, you would have it five, six or seven months quicker. Time is money. Every month you're on the job, it costs everybody more money and it creates more problems—with, obviously, fewer houses on the market.

[*Translation*]

**Ms. Louise Chabot:** Mr. Berube, you talked about the obstacles to overcome, including standardization. You didn't talk about uniformity, but about consistency among all levels of government and collaboration.

As we know, the realities of governments, be it Quebec or the provinces, differ from one another. The geographic landscape, the type of needs and the demand are different. Maybe I'm wrong, but I don't think there needs to be a uniform application across Canada. We also have to take into account the territorial reality of Quebec and of each province.

What does consistency among levels of government mean to you?

[*English*]

**Mr. Andy Berube:** Yes, it is more complicated than just saying we're going to have a standard that works for everybody. The more detail you get into, the more restricted you get, and it's not only at the municipal or provincial levels, because everybody has their own rules and regulations. It will also restrict each factory. We're steel, but if a particular factory is wood and a project is more conducive to wood, you would have a standard that is so detailed that it stops the options in the market.

I'm not saying it's easy. I'm saying there has to be a balance between the standards of design so that they don't make it so restricted. It's so fundamental that it should work in most provinces and territories, if not all.

There is a balance. A common denominator needs to be understood at all levels. It's not easy. We say a "common design", but it's a much deeper conversation than that.

[*Translation*]

**Ms. Louise Chabot:** Thank you.

Mr. Smith, I find it hard to see how comparisons can be made between North America and Europe. I find that very interesting, but it seems to me that the territory and the climate, for example, are quite different.

How is Europe a model for North America?

[*English*]

**The Chair:** Please give a short answer, Mr. Smith.

**Mr. Stephen Smith:** They are often not as different as it's painted. In Europe, there are many different countries. One of the projects of European integration and cohesion has been standardizing across the continent from very high-income places like Switzerland—which isn't even in the European Union, but typically follows EU standards—to low-income places like Romania, where my mother lives. You have vast differences in climate, from southern Italy to the top of Norway, yet they have found a lot of ways to integrate within themselves.

There are many places in Europe that have climates that are like those in Canada. You have similar languages. There are more similarities than differences. Fire burns the same. Structures and materials have the same properties. I think there are more similarities than is often portrayed in the construction industry in North America.

• (1135)

**The Chair:** Thank you.

[*Translation*]

Thank you, Ms. Chabot.

[*English*]

Ms. Zarrillo, you have six minutes.

**Ms. Bonita Zarrillo (Port Moody—Coquitlam, NDP):** Thank you, Mr. Chair.

I'm going to go to Mr. Berube first.

I think about the fact that we're not operational. We're legislators, and what can we really do? My focus is always life and safety in relation to this one.

I'm thinking about how we need to modernize the federal code, and you mentioned the standardization and also talked about how complex that is. I think about Vancouver where, in the eighties or actually the early nineties, they did the California building code on a number of multi-family buildings. They didn't have rain screens, and their egresses are totally flooded all the time.

I just want to think about life and safety on a federal level. What is the federal space with regard to life and safety when you talk about sustainability? I think about climate change in my community. My community was the one where two people died with the atmospheric river recently. One house was washed away.

Where does sustainability play role in the federal code? I'll add on top of that rural and remote communities and indigenous communities, where we know that housing is desperately needed. How do we also roll in accessibility for persons with disabilities and for the aging population? How could the federal government have a role in that life and safety focus?

**Mr. Andy Berube:** I think you already have that. There are policies and procedures that, you know, any method of construction has to follow around safety. The specific code is not my expertise, but that code, whatever the policies are.... We have to adhere to that in the factory.

With respect to the part of your question around disabilities or first nations, it comes at the design level. Collaboration with the design to accommodate whatever we need with respect to safety is part of what we do. When we're building something, if the design and the build needs to accommodate a variety of different things in that particular jurisdiction or demographic, we build to the design, and we collaborate with the architects to design what's needed for that particular community because it is different. I think it's fundamentally there.

**Ms. Bonita Zarrillo:** It becomes a challenge because there are so many.... I mean, I heard what you were saying about the different materials that can be used. It might be the same design but a different material. How do we give you the flexibility but still maintain the life and safety? Then, who makes those decisions? That's what I'm struggling with.

**Mr. Andy Berube:** Are you referring more to the standardization of design, or are you just talking about how we build and the materials we build with?

**Ms. Bonita Zarrillo:** I think that it's the standardization of design.

Let's talk about egress. If we have a federal code that says that for  $x$  square footage you need two egresses, is that detailed enough or too detailed when you go to manufacture something and have to think about where it's going to be, where it's going to be placed, how it's going to get there, what the transportation capabilities are, what labour is available in that area...? There are just so many factors.

What role can the federal government really play when there's so much that needs to be done to get it built on site?

**Mr. Andy Berube:** I think it does circle back to that the federal government can actually communicate more effectively or can align with the different levels of government. We, as a factory, whether it be conventional or off-site construction, can build to whatever that policy is that is set up. However, the challenge is that the policy that you set up here is not consistent. We can be ready to do whatever you want—we're ready—but it doesn't happen fast enough because of the lack of alignment between the governments.

• (1140)

**Ms. Bonita Zarrillo:** That's interesting to me because I wonder whether the federal code is too restrictive and whether the federal code should really be focused more narrowly on life and safety.

**Mr. Andy Berube:** Possibly.

**Ms. Bonita Zarrillo:** All right. I'm going to go to our second witness.

I am interested in egress. You said that you've done a lot of work on elevators and stairwells. In B.C., the B.C. government just recently approved the ability to have single egress. However, the disability community is really very concerned about it, and so are the B.C. fire chiefs. They're writing to the provincial government and saying that this hasn't been thoroughly thought out and coded.

I want to just quote a very high-profile disability advocate in B.C. A CBC article says, "She [said] that the province's building code changes do not take into account disability or old age—especially given B.C. had mandated that single-stair buildings not be put [in] seniors' residences". That reminds me of when I was in China and in a seniors' residence. There was no elevator, no way to get them out, and the workers were actually putting the seniors on their backs to get them up and down stairs.

I'm just wondering what your thoughts are on these comments from a disability advocate and also on the fact that the B.C. fire chiefs are saying that single egress isn't a good idea.

**Mr. Stephen Smith:** In regard to disability, I think there is sometimes some confusion. "Single exit" refers specifically to what's known in building codes as "the exit", which is the stairway. It doesn't speak to how many elevators or whether or not there should be an elevator. My understanding is that building codes in Canada, at least for what are called part 3 buildings—that is, larger buildings—generally require elevators, and those would remain required.

A general fact about housing is that newer housing is always more accessible and generally safer in every way than older housing. The details of how you regulate newer housing are not quite as important as new versus old. To take a concrete example, older housing in British Columbia, including Vancouver, is much less likely to have an elevator. It's much less likely to have step-free thresholds for getting in and out of units. The actual standards are much lower. The electrical standards and clearances for turning wheelchairs or whatever in kitchens or bathrooms were much lower back then.

You have to weigh the smaller details of new construction against all of the improvements you get in a new building to begin with, so—

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

Ms. Zarrillo, we're well over time.

You may want to finish that thought process in another question, Mr. Smith.

We'll go to Mrs. Gray for five minutes.

**Mrs. Tracy Gray (Kelowna—Lake Country, CPC):** Thank you, Mr. Chair.

Thank you to all of the witnesses for being here. My first questions are for Mr. Smith.

Canadian architectural company RealSpace 3D wrote an article that's on their website. It says:

Building codes, while essential for safety and sustainability, can significantly influence construction costs in Canada. Compliance often requires additional materials, specialized labour, and time-consuming administrative processes, all contributing to higher housing prices.

Would you agree with that statement, and is Canada an outlier when it comes to building codes adding unnecessary costs to construction?

**Mr. Stephen Smith:** It's a pretty general statement, so it's pretty easy to agree with, I would say.

As I said earlier specifically with regard to multi-family housing, yes, Canada is an outlier. The cost curve as you go from single-family to low-rise multi-family to mid-rise multi-family is quite steep in Canada compared with other places—more so than even the United States, but especially compared with countries outside of North America.

**Mrs. Tracy Gray:** Thank you.

Mr. Smith, several not-for-profit organizations that build affordable housing have been before this committee talking about the Liberal government's federal housing agency having burdensome regulatory requirements—more than what standard building codes require—resulting in delays and cost increases.

Based on your experience, are burdensome red tape and regulation at the federal level and others undermining Canada's ability to build more affordable housing units?

**Mr. Stephen Smith:** I think I could agree with that.

I would say that, in general, most of what's in a building code and a regulation is sound. However, there are elements that I think go overboard in multi-family housing in particular. I don't want to throw the baby out with the bathwater and be too anti-regulation. In a lot of ways, I think regulations could stand to be a bit stricter, but in other ways not.

What I would advocate for is a different framework, not necessarily more or less—although there should probably be a bit less in certain areas.

• (1145)

**Mrs. Tracy Gray:** Thank you.

Mr. Smith, is it wise to layer a building code with new regulations, red tape or bureaucracy if they don't necessarily improve building safety or increase accessibility, for example, but only increase the cost to build? Do you have any thoughts on that?

**Mr. Stephen Smith:** Taking the question for granted, certainly that would be a very bad idea.

Some of the difficulty is in knowing exactly what's going to increase safety and what won't. The buildings have become so complicated that, when you're writing codes—especially on a municipal or provincial level, but even on a national level, honestly—it can be difficult. This is why I think it's important to look to international standards. These have been vetted in a much wider community. As you start to take it down to more local places, your resources to weigh the costs and benefits—even to investigate what the costs and benefits are—start to diminish.

It can be very difficult to do this in a small jurisdiction. You end up basing it on instinct and opinions rather than science.

**Mrs. Tracy Gray:** Thank you.

Mr. Smith, you just talked about international standards.

In comparison with other jurisdictions—I know you're very familiar with European jurisdictions, in particular—where do Canada's national building code and standards rank in assisting to deliver affordable homes, in your opinion?

**Mr. Stephen Smith:** For multi-family in particular, I think they rank quite well. I was looking through the national building code of Canada today and looking at the reference standards. You guys are referencing a lot of U.S. and Canadian standards and not so many international ones.

**Mrs. Tracy Gray:** Do you have any specific recommendations you can provide that might be international standards that Canada might want to consider?

**Mr. Stephen Smith:** It's difficult to say there's any particular one, because a building is made up of so many different parts. Each one is sort of a de minimis cost, which is how these costs increase. You say, “Well, this is just a little thing. It's just a little part of the building. What does it really matter?” An elevator, for example, is only 2% of the total cost of construction, but you find these costs in the entire building. It's hard for me to isolate just one or the other. There are some things that I know about, such as ventilation and plumbing, that go a bit overkill. I know a lot about elevators and a lot about stairways. You have separate standards for windows. It's every part of the building. It's hard to isolate just one.

I guess my general recommendation would be to go through the building codes systematically, look for differences in the global standards, which tend to derive from the European ones, and try to fix them all, ideally. That's really the task of a lifetime, but I think it needs to be done. It's hard to pick just one. I know the ones I've studied, but that's not to say these are necessarily even the most important ones. They're just the ones that, with limited resources, I've looked into.

**The Chair:** Thank you, Mrs. Gray.

We'll go to Mr. Coteau for five minutes.

**Mr. Michael Coteau (Don Valley East, Lib.):** Thank you very much, Mr. Chair,

Thank you so much to our witnesses today.

I'll start with you, Mr. Smith. The national building codes you made reference to are not specific law but recommendations to provinces. It's up to them to adopt their own specific building codes. Is that correct, from your perspective?

**Mr. Stephen Smith:** I don't know the specifics very well—you should probably ask a Canadian—but my general understanding is that, yes, they're model codes and then the provinces can—

**Mr. Michael Coteau:** Yes. My understanding of these building codes that we're talking about is that the federal government puts out recommendations and provinces can actually adopt them. They come from the National Research Council. It's really up to provinces and territories to design their own specific codes when it comes to fire, health, safety, accessibility, energy efficiency, etc. One of the challenges we have....

I don't know how it works in the States. In the States, is there a national building code that is actual law and governs the entirety of the United States, or are states responsible for their own codes, like in Canada?

**Mr. Stephen Smith:** In general, states and cities are responsible for their own codes. The national one, which is actually not even written by government in the United States, is just a model to follow. Most of the time, like in Canada, I believe it is followed, but yes, states and cities ultimately have the authority. They determine the—

• (1150)

**Mr. Michael Coteau:** It's because I think the tone being set was that the federal government is responsible for all of these codes in law and that it's federal regulation or law that's actually slowing things down. These are just recommendations. I wanted to mention that.

I also wanted to mention the European-North American comparison. When both Canada and United States started to build cities, it wasn't too long ago. In the U.K. or in Europe, some of these cities are more than a thousand years old. How do you compare Yorkshire, England, where the infrastructure has remained the same for 500 or 600 years, to Ottawa?

**Mr. Stephen Smith:** Europe was heavily damaged during World War II. There are countries, especially in southern Europe, where as a tourist you go into these ancient city centres, but most of the housing stock in a place like Spain or Italy is actually quite new. I don't think the age is actually all that different. As a tourist, of course, you don't want to visit some 1960s suburb of Madrid. You want to visit the beautiful little city centre. Most Europeans are not living in 300-year-old buildings. They're living in much newer ones.

**Mr. Michael Coteau:** Right.

Mr. Berube, thank you for being here. I know that you said some growth is occurring in your sector. As a company that might represent a lot of growth, and for Canadians and development in our country as a whole, do you see your sector spreading rapidly across the housing sector? Could you take a minute to explain how large this sector is within housing?

**Mr. Andy Berube:** I would say the demand is increasing and the growth is stagnant, and I'm probably exaggerating the stagnant part of it. We're growing as an industry and we're building more and more off-site, shortening time frames around construction, but the demand is increasing rapidly just because the population....

People aren't going into the trades. We don't have the people to build, so what is the solution? You can't make people.... Well, you can make people, but you can't force your kid to be a tradesperson. At the factory level, we're able to help resolve a problem around labour in the market. It's one of the reasons we.... That's a picture of the industry and the growth part of it. The demand is there, but we're stagnant because of the organization in total.

You made a comment earlier about the federal government being responsible. I would say it's not necessarily responsible, but it should be supportive and encouraging—

**Mr. Michael Coteau:** Setting the tone.

**Mr. Andy Berube:** —setting the tone, educating and putting out the understanding that, if you put a policy or a suggestion in place with provincial or municipal.... If it's not, it's just contributing to the problem.

**The Chair:** Thank you.

**Mr. Michael Coteau:** I've run out of time already. Thank you so much.

**The Chair:** You went a bit over. I'm generous today.

[*Translation*]

Ms. Chabot, you have the floor for two and a half minutes.

**Ms. Louise Chabot:** Mr. Smith, first of all, thank you for being with us. It's interesting to see that there is a centre for building studies and that it's a non-profit organization.

On your website, you say that our apartment buildings—you are talking about the United States and Canada, I imagine—are inefficient when it comes to cost, energy and layout.

Can you tell us more about this finding? What are the potential solutions?

[*English*]

**Mr. Stephen Smith:** How do I expand on this? What I've said is to look more toward other countries outside of North America. The United States, which is traditionally what Canadian codes have looked to, has not historically been that concerned about energy efficiency. There are far better models in other places. In fact, there are many features of the buildings that are not even specifically about energy efficiency but raise the amount of space that needs to be heated and cooled or reduce the efficiency of the building envelope.

Once you reach a certain level of efficiency, you need to do things that increase the costs, but if you're starting from a fairly inefficient baseline—a building that has two stairways where only one is necessary or a building that has an older type of elevator where a new one is possible—you can find things that are both cost saving and energy reducing, and these things are not in tension. If you're starting from a low baseline, as the United States certainly is and I believe Canada is as well, you can find things that meet both objectives. I'm sorry to repeat the same thing over and over, but I think it's really important to look outside of these two countries to find these models.

Hopefully I answered your question. I apologize if I repeated myself or if it was a little too general.

• (1155)

[*Translation*]

**The Chair:** Thank you, Ms. Chabot.

[*English*]

Go ahead, Ms. Zarrillo.

**Ms. Bonita Zarrillo:** Thank you, Mr. Chair.

I'm going to go back to Mr. Berube. How can the federal government modernize or even keep current with the emerging technologies and assist in getting affordable, accessible, climate-resilient housing built?

**Mr. Andy Berube:** How can you help? As far as the requirements to be more sustainable are concerned, I can't remember the question that came up, but the more you drive the requirements of things that are not critical, the more it drives up the cost of construction. Even the term "affordable housing" has nothing to do with somebody finding a secret spot to buy a cheaper piece of two-by-four.

Driving the numbers up just by wanting to be more sustainable...we need to be. Private industry is bringing in technology to improve the current state, but if you get to the point that everything is so restricted and driven toward improving.... You can always improve, but is the cost associated with that improvement necessary? Is it broken? If it's not, you really have to question why you're adding costs to it.

I hope I answered your question.

**Ms. Bonita Zarrillo:** Does your technology and your solution assist with getting accessible, climate-resilient and affordable...? Does your solution help in some of that antiquated thinking and some of those antiquated...?

**Mr. Andy Berube:** As far as accessible, that's a design thing. As a construction industry or modular off-site industry, making something accessible is just a matter of design. Everybody can do that. That's just following code to whatever the requirements are for accessibility.

For the sustainability part, at our factory, for sure, it's how we reduce the cost and reduce the waste.

**Ms. Bonita Zarrillo:** I'm interested in the waste.

How does it reduce waste? What are your experiences on waste reduction?

**Mr. Andy Berube:** For example, what we're looking at within our specific factory is the time it takes us to do one beam today, which is eight hours. What we're looking to improve is creating the same steel beam in 30 minutes.

The reduction of time and what we have to do with welding or securing that piece is the difference. We're going from eight hours to 30 minutes.

**The Chair:** Thank you, Ms. Zarrillo.

We'll conclude with Mrs. Falk and Mr. Van Bynen. It will take us a little over, but we have an hour for committee business.

Mrs. Falk, go ahead for five minutes.

**Mrs. Rosemarie Falk (Battlefords—Lloydminster, CPC):** Thank you very much, Chair.

Thank you to both the witnesses for being here today.

During this study, we have heard that most building code changes drive up the price of homebuilding and that those added costs can make it difficult for home builders to innovate or to consider using new technologies.

Mr. Smith, I'll start with you.

You had mentioned that the government could harmonize standards within code. I'm just wondering if you have any other sugges-

tions for what the government could do to ensure that affordability and cost-effectiveness are factored into building codes.

Is there anything else, other than harmonization?

• (1200)

**Mr. Stephen Smith:** I think something that I would like to see more of in the U.S. and Canada is research by the government into the costs and benefits of various changes. I've found that the level of study that goes into some changes—having done some of it myself—really leaves a lot to be desired. I can't speak so specifically to the Canadian context. However, in the U.S. context, the way that these codes are written, it's often a bunch of unpaid volunteers in a room puzzling things out together.

If you're trying to evaluate the costs and the benefits, it doesn't do a great job of doing that in a very precise way. If you don't understand the costs and you don't understand the benefits, it's hard to balance them very well.

**Mrs. Rosemarie Falk:** Excuse me. When you say "volunteers", what types of backgrounds do these people have? Are they experienced in that field, or are they academics?

**Mr. Stephen Smith:** They're certainly experienced in the field. Not very many are academics. I think bringing in academics to the conversation would be a lot better.

They're experienced in the field. Some of them have vested interests. They might work for a material manufacturer. Others work for the fire service or they're a building official—something like that. A bunch of people in a room talking, like we are, does not get you to a high level of precision. At some point you need to devote resources to it and understand exactly what you're dealing with: What are the costs? What are the benefits?

I find that's often lacking in the United States. I would imagine that's in Canada as well, but I don't know it specifically enough to say.

**Mrs. Rosemarie Falk:** Thank you.

Mr. Berube, thank you for being here.

I just have a question around government input costs. We heard at our last meeting that these input costs, like the carbon tax, have impacted the feasibility of some construction projects that would be considered or may not be considered, given the carbon tax.

Would you agree with that?

**Mr. Andy Berube:** Yes, I think any change that's going to drive the numbers up just fundamentally makes a difference in construction. Whether it's a sustainable change, like wanting to go passive, title 24, triple net, whatever the policy, if it creates a scenario.... We can build it. It's not a question of whether the construction industry can build it. The construction industry can build it, but it's just driving the numbers up.

**Mrs. Rosemarie Falk:** Is it fair to say that any increase in taxes would affect the feasibility?

**Mr. Andy Berube:** Of course. Absolutely.

**Mrs. Rosemarie Falk:** Madame Chabot asked about the materials you use. You're using steel. Has the carbon tax affected your ability to get the recycled steel? We know there's less being manufactured. It's very expensive, given this carbon tax that's been imposed on industry.

Is that affecting your ability to get things built or your ability to get product? From what I understand, you're using recycled steel. Is that correct?

**Mr. Andy Berube:** It depends on what we're building. It really does. Again, it just comes down to this: If there are regulations being imposed, it typically will drive numbers up, so you really have to look at—

**Mrs. Rosemarie Falk:** Since the carbon tax was implemented—and was forced in some provinces—in this country, have you noticed a difference in...?

**Mr. Andy Berube:** I can't speak to that specifically for our facility. If it relates to the steel carbon tax, if we're not building in a particular province, yes, it will.

**Mrs. Rosemarie Falk:** I know in talking to the steel manufacturers in Saskatchewan at the Evraz plant, they have a huge issue with this. They see the carbon tax as a detriment to their livelihoods and to their ability to produce steel. I would just make the assumption that it would affect anybody who needs that product. Is that right?

**Mr. Andy Berube:** That's correct.

**Mrs. Rosemarie Falk:** Okay. Thank you very much.

**The Chair:** Thank you, Mrs. Falk.

We will conclude with Mr. Van Bynen for five minutes.

**Mr. Tony Van Bynen (Newmarket—Aurora, Lib.):** Thank you, Mr. Chair.

We've learned an awful lot from a number of witnesses we've received during this study, and I'm certainly interested in the options you're offering.

Through our government's industrial strategy for homebuilding, we are investing in new models of homebuilding technology that will rapidly increase the housing supply. Can you further develop the model you've put together, and how you have innovated to cut down on building times?

• (1205)

**Mr. Andy Berube:** How has our factory...?

**Mr. Tony Van Bynen:** How have your operations...? How does that help?

**Mr. Andy Berube:** I'm sorry. How have you helped...or what are we doing?

**Mr. Tony Van Bynen:** What are you doing? What does your business model provide in terms of reducing the construction time of the house?

**Mr. Andy Berube:** That's, I think, a very key focus for every factory and for ours obviously. For our system right now, I can say that we're looking to the global market to bring in technology and partnerships that have been doing this for years. For us, we're forecasting where we can produce two fully finished modules per day.

We're going to get to 10 to 20 finished modules per day. I can't get into specifics, but every factory—speaking on behalf of the industry—is always looking at this. How do we produce faster?

**Mr. Tony Van Bynen:** Some of the other models we heard about were effectively a house in a box. You put it on a trailer, and you construct on site. Is that what your business model is as well?

**Mr. Andy Berube:** House in a box...? I'm sorry.

**Mr. Tony Van Bynen:** It was referred to as a house in a box, where they effectively put all of the components of the unit onto a flatbed truck, take it to the site and construct it there.

**Mr. Andy Berube:** Yes, it's volumetric construction. "Volumetric" just means you're building a module where your interior is fully finished, which expedites the construction at site. You build it in tandem. The site work is done in tandem with the second floor or the fifth floor. When you finish that, this part of it is already done, so you're combining them to expedite it. Our facility is a volumetric structural steel modular factory.

**Mr. Tony Van Bynen:** You send units out and put them on the site.

**Mr. Andy Berube:** That's correct.

**Mr. Tony Van Bynen:** How does that compare or contrast to the traditional forms of homebuilding? How much time are we saving?

**Mr. Andy Berube:** I don't think we're at 50% reduction just because of the system, the collaboration, the education and how we're getting better. We're certainly at 30%, and there's a lot of room to improve as we collaborate. From the factory, the design, the construction, the development side and from the capital partners that go along with the whole construction ecosystem, once that continues to evolve and to get better, I think the industry believes that we're at a 50% reduction in speed.

**Mr. Tony Van Bynen:** If we were to do an end-to-end analysis, it would seem to me that a large part of the barriers lay in the approval processes and in taking raw land to the point where there's a foundation. Is that the way you see it? Have you had any experience on how we might expedite the process from raw land to foundation?

**Mr. Andy Berube:** That is the way the industry and we see it. It's really the front end—the developers who we work for and who want to build on that property—that is impacted the most, because they have to go through the entitlement process and the permitting process. What we're talking about today is that removing those barriers and being more consistent across multiple layers of government will help that by reducing the costs and the steps associated with it.

I think that question is probably better served to developers who have to deal with that every day. We're ready to go. They can't.

**Mr. Tony Van Bynen:** Would you say that this committee should more effectively be spending some time on how we get through the barriers that take raw land to the foundation?

**Mr. Andy Berube:** Absolutely.

**Mr. Tony Van Bynen:** There are certain directions that we need to give some thought to in order to provide incentives. Are there any certain directions for investment that you would encourage others to pursue that might help the industry and our objectives?

**Mr. Andy Berube:** Yes, specifically in the off-site, there is a difference in the draw for the project. In a conventional project, you draw small amounts continually, and everybody is used to that. Banks and capital partners understand that. In off-site construction, if you think about.... We're doing floor two to 10, and floors one and two, for example, are podiums. We acquire the entire building on day one. We don't buy parts and draw from a fund. As far as understanding how to solve the problem of funding a model where

we, as a factory, buy everything today because it's so rapid to run through and finish, we need the majority of our money to build up front. That's a big problem to be solved.

• (1210)

**The Chair:** Thank you, Mr. Van Bynen.

On behalf of the committee, thank you, Mr. Smith, for joining us virtually for today's meeting, as well as Mr. Berube for coming in and providing your testimony to this particular study.

We'll suspend for five minutes while we transition to an in camera session to do committee business.

Mr. Smith and Mr. Berube, you are free to go.

*[Proceedings continue in camera]*

**Mr. Tony Van Bynen:** Thank you.

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