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Chair

Mrs. Deborah Schulte

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• (1105)

[English]

The Chair (Mrs. Deborah Schulte (King—Vaughan, Lib.)): I call the meeting to order.

Thank you very much, everyone, for your patience while we got organized. We had a subcommittee ahead of us, so it put us a little behind. I'm sorry about that.

I want to welcome our guests. I will introduce them in a minute, but I want to thank them personally and on behalf of the committee for being in front of us today. We have a very short timeline on this study. We are most thankful that you've taken the time to join us and in such a short time frame.

I'd like to introduce our guests. From Canada Mortgage and Housing Corporation, we have Mr. Duncan Hill, who is the manager of Housing Needs Research. From the Building Owners and Managers Association of Canada, we have Benjamin Shinewald, who is the president and chief executive officer. We have Randal Froebelius...did I say that correctly? You'll correct me if I'm wrong—

Mr. Randal Froebelius (President and General Manager, Equity ICI Real Estate Services Inc., Building Owners and Managers Association International): I will, Madam Chair.

The Chair: Thank you. He is the president and general manager with Equity ICI Real Estate Services Inc. Thank you very much for being here.

From Passive House Canada, we have Rob Bernhardt, and he is the chief executive officer.

Thank you again for being with us today.

As a little bit of detail, I have some cards. Obviously, we have 10 minutes for your statements, and then I'll hold up a card when you have one minute to go. The red card means that you are out of time. I don't want you to stop, but just wrap it up, knowing that you are out of time.

Who would like to start? Mr. Hill?

Mr. Duncan Hill (Manager, Housing Needs Research, Canada Mortgage and Housing Corporation): I'm ready to go.

The Chair: I don't mind. Why don't you start?

Mr. Duncan Hill: Thank you, Madam Chair.

Is the sound good?

The Chair: Yes. I can hear it fine. Is everyone okay?

Mr. Duncan Hill: Thank you, Madam Chair.

I'm pleased to be here on behalf of Canada Mortgage and Housing Corporation. CMHC is Canada's national housing agency, and our mission is to help Canadians meet their housing needs.

Many know us through our housing finance initiatives—CMHC has been around for a while—such as mortgage loan insurance, which helps Canadians access the housing market. We also fund affordable housing solutions, working in partnership with the provinces, territories, indigenous communities, municipalities, and other stakeholders.

Finally, CMHC provides market analysis, information, and research—which is my bailiwick—which helps businesses, governments, and the public make informed decisions about housing. We're one of the most comprehensive and trusted sources of housing information in Canada.

Madam Chair, housing is more than just the roof over our heads. Good housing creates healthy, sustainable communities, and of course it is a vital component of the economy. This is why CMHC has encouraged innovative green building practices for several decades now through our research, information transfer, and funding programs.

We work closely with Natural Resources Canada and the National Research Council to study ways to improve the performance of housing, from single-family homes to high-rise apartment and condominium buildings. We make a point of sharing our research widely with the housing sector, policy-makers, and the public. We publish fact sheets on energy-efficient design, construction, and renovations, and case studies sharing lessons learned through the research that we do.

We've extensively used demonstration projects to advance innovation in housing. Reaching back some 20 years now, our Healthy Housing demonstration project was the first to show that it's possible to build homes that are healthy, affordable, energy-efficient, resource-efficient, and environmentally responsible as well.

Most recently—well, we started it 10 years ago and finished it about four years ago—our EQUilibrium sustainable housing demonstration initiative showed the housing sector that it's technically possible to achieve net-zero energy housing with commercially available materials, equipment, and systems. As a result, there are several net-zero home building initiatives under way across the country now.

CMHC has also incentivized green housing across the sector through its funding programs, prioritizing projects that are more energy-efficient, with fewer greenhouse gas emissions than what local building codes call for.

Our Green Home program offers a premium refund on our mortgage loan insurance of up to 25% to borrow to either buy, build, or renovate for energy efficiency using CMHC-insured financing.

We're also helping to green Canada's affordable housing stock. Through the 2016 federal budget commitment of close to \$600 million over two years, we're supporting the renovation and retrofitting of existing affordable housing units to make them more energy- and water-efficient.

The impact of this environmentally sustainable approach to housing will be even greater with the launch of the federal government's new national housing strategy this April. The strategy represents an investment of \$40 billion over 10 years, with the focus on the housing needs of Canada's most vulnerable populations, and incidentally, those usually most unable to pay high energy bills. It will remove 530,000 households from housing need and reduce chronic and episodic homelessness by 50%. It will also lead to the creation of over 100,000 new housing units and the repair of another 300,000 units, while at the same time upgrading them and making them more energy-efficient.

CMHC is pleased to be leading this unprecedented investment in building healthy communities. It's a comprehensive strategy that will advance a whole host of broader government initiatives, objectives, and priorities, including supporting Canada's climate change goals. Many of the initiatives under the national housing strategy will give priority to projects that exceed mandatory minimum requirements for energy efficiency.

For example, the national housing co-investment fund will create up to 60,000 new high-performing affordable homes located near public transit, jobs, day care, schools, and health care services. They will be at least 25% better in energy efficiency and in greenhouse gas emission reductions compared to equivalent buildings built to the 2015 national energy code for buildings.

This fund will also invest in renewing and repairing some 240,000 existing units so that they have 25% less energy consumption and greenhouse gas emissions when we compare before and after.

To maximize the impact of the fund, the federal government will transfer up to \$200 million in federal lands to housing providers to encourage the development of sustainable communities. Funding will be provided for renovations, retrofits, and environmental remediation to ensure surplus federal buildings are suitable for use as housing.

• (1110)

The national housing strategy will continue to encourage housing innovation in a number of ways. In my area, we will be moving forward with demonstrations that exemplify higher-performing affordable housing projects. When we speak to performance, we think in terms of energy efficiency, greenhouse gas emissions, affordability, resiliency, and of course, occupant health.

We will also be moving forward with solution labs, where we will be enabling the industry to develop more innovative solutions to persistent and problematic challenges. We will address problems and issues facing the housing sector through dedicated teams of experts, people of lived experience, and academia, focusing on problems to more rapidly develop solutions. This is an exciting initiative that we'll be launching this April.

The national housing strategy also includes an investment of \$221 million in research, demonstration, and surveys, which moves the needle in terms of environmental responsibility. We are going to make a point of exploring new relationships with organizations like the Natural Sciences and Engineering Research Council, as well as the other members of the tri-council in order to carry out research in ways that might not otherwise be possible.

We'll carry out demonstrations of forward-looking technologies, practices, programs, policies, and strategies to show what is possible for the future of sustainable housing in Canada

I'd like to thank you, Madam Chair, for the opportunity to appear before this committee and to inform you about the important work we're doing at CMHC and with our partners.

I'd be pleased to answer any questions you might have at this time.

The Chair: Thank you very much, Mr. Hill. That was fast.

What we're going to do is hear from all of the witnesses and then we'll get into rounds of questioning, if you're okay with that.

Next up, we have Benjamin.

• (1115)

[Translation]

Mr. Benjamin Shinewald (President and Chief Executive Officer, Building Owners and Managers Association of Canada): Thank you, Madam Chair.

We will make our presentation in English, but if there are any questions in French, we can try to answer in that language.

[English]

We just got notice a few days ago, as you've mentioned, so we prepared this short deck. We have a longer deck that's also ready for you, but it wasn't quite ready for translation. We'll have a further document following.

I'll start with just a word of introduction about who we are. We thought we'd answer the four questions that you put to us as well as we could, and then we might tell a brief story that might flesh out a bit more of what we do, if the time permits us.

First of all, what is BOMA Canada? As you mentioned, Madam Chair, we're the Building Owners and Managers Association of Canada. We are a very mature organization. We're over a hundred years old. BOMA B.C. was the second chapter formed in the world, about 110 years ago. BOMA Toronto just had its 100th birthday in 2017. We represent many thousands of building owners, managers, and suppliers, ranging from energy engineers to janitorial service firms to lawyers, occasionally, from coast to coast to coast. With our 11 chapters, we have representation in all 10 provinces and even in the territories as well.

We have a flagship program called BOMA BEST. BOMA BEST is our building environmental standards program. We're closing in on 3,000 certifications of existing buildings in Canada. The private sector has really run with the program, and the public sector has embraced it too, although not quite as much. We truly believe that it can be a flag-bearing, public diplomacy global champion for Canada. To that end, we're actively expanding the program outside our borders.

We have our first hundred or so certifications in the States. I was in Mexico last year, as well as in China and Korea, with interest from elsewhere in Latin America, so we really think this can be an awesome thing for all Canadians.

Those are a few words of introduction, so maybe we'll move to the questions. Randal, do you want to do the first one?

Mr. Randal Froebelius: Sure.

How can GHG emissions reductions in the building sector be accelerated prior to the next scheduled update to the national model building codes? Property managers and building operators have market-based incentives to operate their buildings efficiently, which means energy, water, and waste efficiency too. Therefore, invest in the human beings running our built environment. Let's provide incentives for training of building operators. The building operators are the blue-shirt fellows or women that we see running the buildings. We could provide incentives for early adoption of emerging sustainable technologies, new heating sources, new air conditioning sources, solar power, and that type of thing. Demand BOMA BEST sustainable buildings certification for all federal buildings. We believe this would have a significant impact.

Mr. Benjamin Shinewald: I will just elaborate on one point that Randal made, and then I'll move on to the next question.

A lot of people look at buildings as being static entities, where a guy with a broom comes at the end of the day, and that's the maintenance it requires. In fact buildings—and I highly suspect this is one of them, since I lived in Ottawa for many years when this building was being renovated, and I'm astounded at how well it came out—are complex machines. They are driven by IT increasingly. There are environmental factors that the building operator shapes much more than the designer or the architect, the construction firm and so forth. A lot of what we do is to try to focus on educating and bringing up the skills of the operators, the trades and the professionals who run the buildings day to day. The temptation often is to look at the newest technology, that ground-breaking innovation, or even just the new build as being newer and better. That's human nature. However, in fact—and I may get back to this, time permitting—investing in people, irrespective of the beauty, the age, the stage, the size, the location of the building is very often the best way to drive performance.

Mr. Randal Froebelius: I'll just drive that home a little further.

In a recent renovation of the kind you've done in this building here, the BAS, or the building automation system, that would have been installed would be incredibly complex. Typically what happens when we commission the building and turn it over to the people who are actually operating it, there's often a bit of a slip, and the people who take it over may not know all of the features and ways that it can be maximized or optimized. A big part of what we advocate is to

get our teams educated and make sure they understand everything they can do, so that at two o'clock in the morning, when no one's in this room, we drop the temperature by five degrees. It's very simple, common sense stuff, but it's a matter of making sure everyone knows how to engage in that.

• (1120)

Mr. Benjamin Shinewald: I will go on to the second question, looking at provincial programs for energy efficiency retrofitting of buildings and how federal existing or new programs could further incentivize energy-efficient renovations. You've listed a bunch of them.

Obviously, our view is that our program is the answer, but it's not just vanity or whatever. BOMA BEST is thriving. It's a brand that's poorly known outside the industry, but is a powerhouse inside the industry. We're trying very hard to grow a brand outside so the next time you ask a question of stakeholders, our brand will be there too. We have many thousands more certifications than our quasi-competitors. We are a made-in-Canada answer, and that's unique. We are the only made-in-Canada answer to the question that you're posing, and we're an answer that truly is by the industry, for the industry.

We overhauled our program a couple of years ago. We had over a hundred industry volunteers going through it comma by comma, quibbling over how many points for this question or that question, and really making sure that it meets the needs of the industry that has to run these buildings. I think that's why we've been so successful. We've been so successful, in fact, that we have all this third party data that shows we are driving continuous building efficiency. In fact, our data shows that while building efficiency improves at certification, it actually gets even better at recertification. Again, these are not static entities; these are ongoing challenges.

We're fully integrated with the Energy Star program, which NRCAN has licensed from the EPA. We actually just won an RFP from NRCAN.

You mentioned net zero, Mr. Hill. We have a net-zero challenge coming up. If there's time, I can talk about that. The objective behind it is to nudge the commercial and institutional industry towards net-zero performance, and we're leveraging our BOMA BEST platform to do that.

As I said before, there are thousands and thousands of buildings, and there's lots of scope for federal buildings to enter the program.

Mr. Randal Froebelius: Both climate and carbon footprint of predominant energy sources vary among provinces, territories, and latitudes in Canada. How can federal policy and program investments be regionally targeted to yield the greatest return in emissions reductions?

Cleaning the grid is obviously the way to reduce emissions, but energy efficiency is too, irrespective of grid. Government should incentivize energy efficiency in commercial buildings, again through technology training. Regional targeting could work as well, but also yield perverse results.

We know Alberta has a significant percentage of coal-powered power in their province, and it powers most of the commercial buildings. In Quebec it's more hydro-based, obviously. Each area will always have regional differences in what programs can target different uses of energy sources. We recognize each region is going to have unique programs or unique responses to the issue, but again, we are a broad-based organization across all provinces, so we're here to help.

Mr. Benjamin Shinewald: Actually, I was thinking about this slide in front of us. Our answer is that energy efficiency is energy efficiency, irrespective of whether the grid is cleaner or less clean.

Actually, one thing missing from the slide is incentivizing on-site production of energy through solar and other innovative things. That will obviously also help, particularly in a less clean grid, and we should have had that on the slide.

The last question you posed to us was on how we can further accelerate net-zero energy housing becoming market-feasible. We heard a lot of that from Mr. Hill. It was terrific.

Our industry represents commercially owned and professionally managed assets, a significant portion of which are multi-unit residential buildings, commonly called apartment buildings, so we don't look at the single family detached house that I and many Canadians live in. I think the others on the panel could probably help us there. We are increasingly in condominiums. Student residences are a huge, booming area too.

Frankly, it's the same message again: driving energy efficiency, driving building operations efficiency, and investing in the people who are running it, as well as investing in technologies and providing the right kinds of incentives. The one difference is that it's a much different relationship to engage with a residential tenant—my mother-in-law, who lives in an apartment in Toronto, for instance, or my grandmother in Winnipeg—than it is to engage with a commercial tenant, where there is a different kind of relationship.

I'm out of time. I'll put that slide up and leave it at that.

Thank you.

● (1125)

Mr. Randal Froebelius: I'll just add one thing from the residential side, though.

As increasingly more housing stock is going back to rentals, especially in our major cities where the cost of housing is becoming so high, a lot of our landlords are very sophisticated. Because utilities are often included in gross rents, they are a good place to start with respect to pursuing net zero.

The Chair: If the committee is willing, we could go through that last slide and go over.

Are you okay with just carrying on, because we were short on the first one?

Some hon. members: Agreed.

The Chair: Carry on.

Mr. Benjamin Shinewald: The yellow card is already up. I feel like I'm playing soccer.

The Chair: Sorry.

Mr. Benjamin Shinewald: Thank you very much for the extra time.

An hon. member: Time.

Voices: Oh, oh!

Mr. Benjamin Shinewald: Thank you.

The key message here is that new construction is a huge driver of the economy, and our members do that, but on the day-to-day operations, our core message is to resist the temptation to say that the new, shiny building is the best one. Sometimes they are; sometimes they aren't. It's how you operate it.

If you look at the cars on the streets, you see a Tesla or a Prius go by. If you're a car guy or a car woman, you say, "There goes an environmental car." In fact, if that Tesla or that Prius has deflated tires, or the air conditioning is on but the windows are down, or they haven't changed their filters in a while, I can drive my humdrum Honda or Ford, or even my Mack truck—well, maybe not a Mack truck—more efficiently than the person who is driving the flashier car or that statement car more poorly.

The key way is, yes, to design buildings green, but then you must not stop the conversation and you must continue it and operate them green, and focus on operations, retrofits, and technologies. There's an axiom in our industry: the greenest building is the one that's already built.

There was an article in the *Globe* a couple of days ago about 24 Sussex Drive. That house has a lot of commotion around it for a whole bunch of reasons. It's built, and with all the embedded environmental costs, it's always going to be a more efficient building than building something new.

I'll leave it at that.

The Chair: Thank you very much. Sorry for rushing.

Mr. Benjamin Shinewald: Thank you for the time. It's great.

The Chair: I didn't really mean to impact in a negative way, but we do have a schedule.

I'd love to have Mr. Bernhardt share with us his statements, and then we'll move on to questions. Thank you.

Mr. Rob Bernhardt (Chief Executive Officer, Passive House Canada): Thank you very much, Madam Chair and committee members.

It's a pleasure to be here. I must say I arrived on somewhat short notice and haven't had time to translate materials and put it together in that way. If it's all right with you, we'll perhaps just have a bit of a conversation.

I do have some materials with me that we will be able to provide to committee members once we have them translated, but if afterwards any of you would like to see some of them, I have them with me here. There are a variety of graphs, documents, and collateral material and so on, so please feel free to chat after the meeting.

The Chair: I just want to clarify that point. You'll provide those to us as a committee via the clerk, and then he'll make sure he distributes them, just to be sure everybody will get them from you. Thank you.

Mr. Rob Bernhardt: Okay. Thank you.

We, Passive House Canada, are a national, not-for-profit, membership-based organization with a mission to transform buildings across the country. We view our role, at this point, as largely supporting the implementation of the federal-provincial agreement that's been reached for the national strategy.

Our members are the market leaders. They are the building professionals, the architects, the engineers, the contractors, the developers, and the manufacturers who are today delivering projects that meet the level of efficiency that's being targeted in the 2030 model national building code. That's who we are. We are the ones who are doing it today. I actually think it's quite appropriate that we follow BOMA, because we see our role as delivering better buildings to their members—buildings that will be simpler and more affordable to operate. That's really where we fit in.

Perhaps two years ago in Canada, Passive House had hardly been heard of, and in a lot of circles that's still the case. The good news is that in the pipeline—there aren't that many built or finished yet—there are millions of square feet that are currently going through the permitting and development process, or are under construction. They are in all climate zones, other than the high Arctic. We don't yet have one in Resolute, but they're certainly in cold climate conditions all over. They're virtually all building types. We have institutional buildings—large rec centres, fire halls, and social housing—and they're spread across the country.

The name is Passive House. That's rather an unfortunate translation from another language. It means “building”, not “house”. It is something that is about all forms of buildings, and that's what we are now developing with our members. There are a number of high-rise projects in Vancouver that are currently going through permitting. Right now, in the city of Vancouver, 20% of their rezoning applications, which is most of the development in the city, are for Passive House projects. That's what's coming in through the pipeline. We're seeing that roll out in Toronto in a big way with larger-scale projects and developments there, and it won't be long before this standard of building starts to hit the market in force. That, I think, is a really good thing, for a variety of reasons.

I'll just take a few minutes to frame the issue, starting with some work we did with UN agencies in developing the UN framework guidelines for buildings. In that work, the UN, of course, has its sustainable development goals. Sustainable development goals, for them, include not just energy efficiency but also improving the quality of life in buildings. The quality of life includes things such as affordability, comfort, air quality, and simplicity in operation. That

whole basket of goods is required for them to achieve their sustainable development goals.

We support that approach to buildings because, although there is the climate change imperative that is driving codes and standards, we also need consumer demand. The demand for better buildings that offer better comfort, better air, and are simple to operate is a crucial market factor in our minds. It's essential to keep both of those forces in mind. Better buildings are really a question of building physics, and inertia is a very powerful force in physics as well as in politics. To overcome the inertia, we need to marshal all available forces to drive the market transformation that is needed. That's why we urge that we not overlook the quality of life offered within buildings.

The question is, how do we do that? Again, if we look to the EU, they funded a research project back in the 1980s, asking how efficient buildings should be. Is there a sweet spot? They hired academics, largely physicists, to go around the world and study buildings to see if there was some sort of economic sweet spot. Typically, as you go up in efficiency, costs go up. You need to figure out what the point of diminishing returns actually is in practice, not according to some theoretical calculation.

● (1130)

What they noticed, simply by plotting the numbers of projects from around the world, was that the costs go up and up, but there is a spot at which, all of a sudden, costs drop. They inquired as to what the cause of that could be. It is that at that level of efficiency, the envelope is good enough that the envelope itself does most of the work. It is of high enough quality and it can be trusted by the mechanical engineers and so on, so they can properly size their equipment. The systems become much simpler. It's driven by simple physics—the heat-carrying capacity of air—and you can therefore keep a very comfortable environment, with all the exterior surfaces being warm and so on, without a high-power mechanical system.

That's one component of the affordability. The other component is that the mere fact of having to achieve that level of efficiency requires a simplification in design, because efficiency is first and foremost a question of design, to set the building up for success. It requires some innovation—some different ways of laying out floor plates and that type of thing—but that's what it is. We had those two factors driving this economic sweet spot, and the study then concluded that this was where it ought to be, because at that lower level of energy consumption, it's possible to meet the remaining demand through renewable sources—perhaps not on a per-building basis, but at the community level.

That was the level of efficiency that the study developed. That efficiency and those metrics are what formed the foundation of the Passive House building standard. It is a standard that was developed to answer that question. It was developed within the regulatory context, and I would suggest that it's the reason we see those metrics and that standard referenced as widely as we do around the world in the development of building standards. When we look at the metrics evolving within Build Smart, they actually mirror the Passive House metrics, and I would suggest it's for that reason.

At that level of efficiency, we also get the quality of life, so the two are related—they go hand in hand. That's really the magic of driving efficiency far enough: we get something that is affordable, that is demanded by consumers once they're aware of it, and it solves the climate change issue in terms of buildings.

That is the type of solution that's being looked at in a variety of circumstances, not just in Canada but around the world.

How does that relate to our national building strategy or net-zero-ready buildings? Those are, as I said, the metrics that are being incorporated. The functional definition of a net-zero-ready building within some building code is aligned with the Passive House standard, and we're seeing it roll out all over.

The key for market transformation, we would say, is to feed and follow the leaders, and they will figure it out. This isn't easy work. It is demanding and it requires innovation, but the industry leaders like doing it. They will figure it out, and they enable others to follow.

We're working very closely with the City of Vancouver in developing their centre of excellence. We believe that type of model is an excellent model. We're happy to provide more information on it, and we provide a national curriculum of education to train engineers and builders on how to do this.

Those sorts of mechanisms are really the key to success, whether we're talking new buildings or retrofits; they're really very similar.

I see the colour red is up, so I'll wrap up my comments there.

• (1135)

The Chair: Thank you very much, Mr. Bernhardt. Thank you for the work you're doing. It's a very exciting area.

We'll open to questions. I want to welcome Mr. Bezan and Mr. Viersen to the committee today.

We'll start with Mr. Bossio.

Mr. Mike Bossio (Hastings—Lennox and Addington, Lib.): Thank you very much, Chair. Thank you all very much for being here today. It's a great conversation. I apologize in advance for not being very well understood.

Where to begin? You talked about creating incentives through technology and training. Can you expand on that a bit, on the technology side? The training side I get—you know, operational training leads to.... But on the technology side, where do you see that the incentives can occur?

Mr. Randal Froebelius: Many owners of existing building stock take advantage of incentives to do the retrofits themselves. Often you will engage a third party consultant to come in and design that incentive and to in fact act as your liaison with the authority offering the incentive.

If we bolted on an added piece that made it much easier for training or added resources to the process that incorporated training into the actual rollout of the incentive that's being offered, it would be a big help to us. Also, some research on the training side would help. That could be done by our groups in NRCAN or even CMHC, when they're designing a lot of these programs. They could just keep in mind that this gets us to a certain point, but what happens after that? What happens a year after that? What happens three years after

that? How can we keep that all up to date, because staff changes as well, right? Is there a way to build it into the process so that we can keep it going throughout the life of the value of that project?

• (1140)

Mr. Mike Bossio: From the technology standpoint, that could be whether it's heating, HVAC, lighting, IT systems in terms of building control systems, all of those different types of technologies—

Mr. Randal Froebelius: Right, and even in preventative maintenance.

Mr. Mike Bossio: —even energy generation types of systems that you don't see as much of today.

As I mentioned to you when we were talking to you earlier, my best friend is a builder. One of the things that drives him nuts is the duplication within the code itself. You want to go with a newer technology, but as soon as you go with that newer technology, you have to add the capability of the older technology as well, just in case somebody at some future date decides they want to go back to that.

Mr. Randal Froebelius: Right.

Mr. Mike Bossio: Can you address that? I don't know, and maybe it's not a fair question, but is there any kind of understanding as to how much that actually impacts the cost overall of a new development or a retrofit?

Mr. Randal Froebelius: As we were discussing, yesterday I attended the NRCAN workshop at the EY Centre out by the airport. One of the things that was a common theme was the many new technologies that are on the cusp: air-source heat pumps, advances to ground-source heat pumps, and a lot of condensation or condensing-type boiler systems, etc. The example given was that people are worried that if they adopt those systems, insurance companies will still insist that there's a backup of a more traditional system.

The audience yesterday included people like me, but also contractors and designers. The feeling was that we have these technologies that are on the cusp—they might not be ready for tomorrow, but they're coming—but that an insurance company, a household insurance company, might say they love it and it's great that you're putting in that system, but they want you to have a backup as well. If you put in the backup, then you've really just duplicated what your original cost was.

The message I got yesterday was whether we can somehow make allowances or encourage someone like insurance providers to adapt to that type of situation. Is there a way we can bring everyone to the table to say that we're going to do this, but they're willing to accept the risk or something like that...?

Mr. Mike Bossio: Quickly, on the passive homes side, the first time I read about passive homes was in George Monbiot's book *Heat*, back in 2005. He was talking about Germany and the explosion of passive homes there. It really addresses a lot more of the new home side. In Germany, I guess 33% of the energy needs to come from solar in new builds. Do you see, feasibly, from both a new home side and a retrofit side...do we have passive standards now for the retrofit side?

Mr. Rob Bernhardt: Absolutely, and that's always been a fundamental component. In a few weeks I'm moderating a policy panel with the European Union in Munich on that very subject. With retrofits, you only get periodic times in the life cycle of a building to really work on the fundamental efficiency of the building, and then the key is to invest wisely so that you don't lock in emissions through half-measures. If you're going in and improving the envelope of the building, it's going to stay there for a long time. If you only go halfway, you've locked in high emissions. On the cost, once you're going in and redoing the cladding and so on, it doesn't cost much more to do it well. It costs a lot of money to do it, but not much more to do it well.

Mr. Mike Bossio: We have the passive standard and we have the BOMA standard. Should they both be written into the building code?

Mr. Benjamin Shinewald: Go ahead.

Mr. Rob Bernhardt: The code typically deals with building rather than operating, but with regard to commissioning and emissions and so on, that may be....

• (1145)

Mr. Benjamin Shinewald: I would agree for sure.

Mr. Randal Froebelius: Thank you.

The Chair: Go ahead, Mr. Godin.

[Translation]

Mr. Joël Godin (Portneuf—Jacques-Cartier, CPC): Thank you, Madam Chair.

Gentlemen, thank you for being involved in this exercise. We are aware that this has been done in very tight deadlines, and we really appreciate your availability. You know your subject well, and we are very pleased.

My first question is for Mr. Hill from CMHC.

You mentioned in your presentation that CMHC is encouraging the development of green housing and that it has a premium refund program for borrowers of up to 25%.

How long has this program been around?

[English]

Mr. Duncan Hill: The mortgage loan insurance refund program has existed since 2010 for the MURBs, I believe, and since in 2012 for the single-family homes. Essentially, CMHC offers up to a 25% refund based on the level of energy performance in new builds and retrofits for energy performance. We coordinate the program with Natural Resources Canada, which provides us with its EnerGuide rating systems. People just need to produce their rating system for their home, and then CMHC and NRCAN have a seamless system between the two organizations that allows us to acknowledge the increase in energy efficiency through a mortgage loan insurance rebate.

[Translation]

Mr. Joël Godin: The conditions to reach this 25% are determined by very specific eco-energy criteria. Have I understood that properly? I see that I have.

Is this program currently effective? Surely you have amassed some data since 2010. Is there a good claim rate by clients?

[English]

Mr. Duncan Hill: I can provide you with an indication of uptake.

For the multi-unit sector, since 2010 through the early days of 2018, the number of apartment buildings—we call them files—that have been through amounts to 181 projects, and we've refunded close to \$7 million. This is across about 17,500 dwelling units. If you take those figures, you'll see that we've provided, per dwelling unit, about a \$400 refund for the property owners in those units on that side.

On the single-family homes, between 2012 and 2017 we had 4,200 houses through the system. The total refund was about \$5.4 million, which amounts to about \$1,200 per application.

[Translation]

Mr. Joël Godin: Okay.

Madam Chair, is it possible to ask Mr. Hill to provide us with a table containing this data or to give us the source, so that we can have access to this information?

[English]

Mr. Duncan Hill: Certainly.

[Translation]

Mr. Joël Godin: I will continue along the same lines because I want to put things in perspective.

CMHC is a player, but we need to tackle the problem in a more solid way. I have one last question for you, Mr. Hill.

For us to get an idea of what that represents, do you know how many residences and dwellings there are in Canada? The figures presented are relative because we don't have data on the entire housing stock in Canada.

[English]

Mr. Duncan Hill: Are you referring to the number of houses constructed each year or the total population of the dwelling units?

[Translation]

Mr. Joël Godin: I'm talking about the current total number of housing units. In fact, I would like to know the number of buildings, residences and apartments. Do you have that data?

[English]

Mr. Duncan Hill: Yes, we certainly have that information.

In terms of the number of units that are constructed and on the market now, we can include that to provide perspective to the figures that we can give you on the mortgage loan insurance refund project, just to provide perspective to the impact.

[Translation]

Mr. Joël Godin: Thank you very much.

I would like to finish on this topic. In your presentation, you said that the national strategy will meet the needs of 530,000 households and halve chronic and episodic homelessness. Efforts are being made. CMHC is a player, but we need to adopt broader, more significant and more accessible measures for all Canadians, in terms of residences, industrial buildings and buildings.

I'm trying to demonstrate today that CMHC is an important player. But the problem is much larger and needs to be addressed.

• (1150)

Are there other organizations abroad that are similar to BOMA BEST? What is your position regarding leadership around the globe?
[English]

Mr. Benjamin Shinewald: Since we only have a few seconds, I'd like to answer in English.

In just a few seconds, I'll say that we are the only organization that looks at the operational efficiency in the sense of sustainability efficiency and environmental efficiency for every existing commercial or institutional building on the face of the planet. There are other organizations that will look at different aspects, such as new construction and core and shell, and there are organizations that look only at certain kinds of existing buildings. We are an answer for every commercial and institutional building on the face of the planet.

The Chair: Thank you very much.

Mr. Randal Froebelius: Can I add one quick comment?

The Chair: Very quick.

Mr. Randal Froebelius: Many of the members that take advantage of the accreditation system, the program, use it as a training tool as well. It's a web-based system that lets you come back regularly and update it. As you achieve your results, you can update it, and it improves your score. It's a training tool as much as a one-time accreditation.

The Chair: That's great. Thank you.

Go ahead, Ms. Duncan.

Ms. Linda Duncan (Edmonton Strathcona, NDP): Thanks.

I wonder if Mr. Hill could advise us on this. The premium is refunded up to 25%, and what is it based on? If you're more energy-efficient, do you get more back?

Mr. Duncan Hill: Yes.

Ms. Linda Duncan: Okay. What is the difference between the energy efficiency standards or rating that you do and the national building code?

Mr. Duncan Hill: On that relationship and what the CMHC uses currently, we spring off a number of different energy efficiency programs that are out there, such as BuiltGreen Alberta and R-2000. We've done the equivalencies between some of the commercial energy efficiency programs and the EnerGuide rating system that NRCan uses. If a person buys a house and it's R-2000 certified, say, that gets them a certain level.

We've done the equivalency across the different commercially available programs that are out there right now. All of those programs are ahead of the building code, so you're not getting an incentive from CMHC to be energy-efficient if you just build to code.

Ms. Linda Duncan: Okay. I would appreciate it if you can explain this to me. By and large, except for individual smaller companies that are building individual homes—we have this big battle in Edmonton about infill, when it is and when it isn't—most of

the housing is being built by big companies such as Christenson and, a big leader in Canada, Landmark.

I'm not sure how these two work together: if you get a CMHC mortgage to buy something that is built by one of these builders, where do the energy efficiency standards come in? We have a massive amount of housing being built by major construction firms. It's not like the individual person saying, "I'm going to build a house, and I'm going to be energy-efficient and then get a CMHC mortgage." How do these work together?

Mr. Duncan Hill: We largely work through the lending organizations. The lenders, when you're going to get your mortgage loan insurance, would say that you're buying a Landmark home and ask you if you know that they're net-zero ready or some level of performance on the EnerGuide rating scale. The lenders, the mortgage loan professionals, and the real estate agents are the ones who usually make the connections for the buyer if the buyer is not already aware of the availability of the CMHC's incentive to move up the efficiency scale with their purchase.

It's up to a builder to demonstrate that they've met a level of performance. That level of performance is then provided back to the homeowner and CMHC, and the appropriate refund on the mortgage loan insurance is issued. It comes into play in the mortgage loan insurance application process, which arguably is a behind-the-scenes sort of program that consumers don't necessarily come across until they're actually in the homebuying process.

• (1155)

Ms. Linda Duncan: That's exactly my concern. Do we really still have the tools sufficient to drive that new housing being built in terms of adopting the best energy efficiency that's affordable?

My next questions are for BOMA. It's great to see you again. I used to be on the government operations committee.

Mr. Benjamin Shinewald: I remember meeting you.

Ms. Linda Duncan: We had your testimony there, and we had a great report. You told us then that BOMA was actually hired by NRCan to upgrade their buildings according to BOMA rating.

I'm wondering if you could tell me what is going on now with this. We had a terrific report, and we discovered, because of testimony from organizations like yours, how much taxpayers' money could be saved when we're building new federal buildings or retrofitting federal buildings. I wonder if you could speak to that and also to the commercial buildings. I shared with you before that I've heard from the realtors' association in Ottawa, which leases commercial buildings, that they're having a better chance of leasing buildings that are energy-efficient.

Mr. Benjamin Shinewald: That's 100% the case.

Ms. Linda Duncan: I wonder if you could speak to whether or not energy efficiency is starting to be a major factor in leaseholds and also to what is happening at the federal level since our last review.

Mr. Benjamin Shinewald: Yes.

Randal, do you want to talk about the private side? I'll talk about the feds.

Mr. Randal Froebelius: Sure. Start with the feds first or we'll run out of time, unfortunately.

Mr. Benjamin Shinewald: To steal two seconds from Randal—

Mr. Randal Froebelius: You're out of time.

Voices: Oh, oh!

Mr. Benjamin Shinewald: —the private sector is way ahead of government. There are governments at the sub-federal level that are leaders—some provinces and municipalities—and also some university campuses. The University of Alberta is certifying its entire massive campus with our program, which is fantastic.

In general, I think, the federal government is spotty, and it's the biggest player on the block. I believe DND is the single largest real property owner in the country, which no one really knows about.

I think it's an opportunity for leadership in a few different ways. I think the politics are great, irrespective of party. I think they're great because sustainability is not going anywhere, and I think different parties are grappling with it in different ways.

Ms. Linda Duncan: We need action.

Mr. Benjamin Shinewald: The issue is there, but I also think there's been a shift, to use the metaphor of 24 Sussex Drive that I wrote about in the *Globe* this week. I think the public has shifted away as well. I look at the beautiful job done here on this building. I used to work at PCO down the street, and I'd walk past all the cladding. The public actually wants value for money now. Gone are the days where people wonder why you spent an extra 10¢ a square foot.

I'll quickly wrap up by saying that I think you can use not just your policy leadership but your market leadership to certify your buildings. You guys lease millions of square feet. Demand in your leases that the buildings be energy-efficient according to the BOMA standards. That will transform the marketplace, and that will save oodles of taxpayer dollars.

Ms. Linda Duncan: Do you get two seconds, Randal?

Mr. Randal Froebelius: I think it's important to note that the reason commercial real estate is a little different is that in Canada a lot of it is driven by pension fund ownership at this point. Many of the investment firms demand sustainability. Their investors want and demand it. They actually compete among each other with ratings, so a lot of your investment return is based on whether your building is sustainable. The stakeholders in those investments and pension funds are demanding it from their ownership and their managers. That drives it a lot.

At the mid-market and lower end of the scale, there's a lot of low-hanging fruit there for smaller owners. There's a big possibility for that.

Ms. Linda Duncan: Thanks.

The Chair: Thank you so much for your line of questioning.

Mr. Fisher is next.

Mr. Darren Fisher (Dartmouth—Cole Harbour, Lib.): Thank you, Madam Chair.

Thanks, folks, for being here. It's a very exciting topic. BOMA, I've never heard of you guys, and some of your testimony was really good.

I'm going to try to bring some of my scribbles together here. My first question would be for CMHC.

• (1200)

Mr. Benjamin Shinewald: Time.

Some hon. members: Oh, oh!

Mr. Darren Fisher: He was waiting for that.

The Chair: I'm leaving now, so you can all...

Mr. Darren Fisher: Are you able to adapt? We heard the comment from Benjamin that the private sector is way ahead of government. Is CMHC able to adapt to the industries and the innovation that's going on in retrofitting and energy efficiency projects for homes, commercial buildings, and multi-units? Do you feel that in your application process you're able to react as quickly as the industry and the innovation that's out there?

When people apply to you and they come forward with something that is so up here, are your application forms down there—i.e., you maybe don't give credit to someone who comes forward with something that's much more energy-efficient?

Mr. Duncan Hill: We have moved on raising our energy efficiency standards, largely because the code is moving, as I think this committee is aware, in terms of energy efficiency. We float above it, and—

Mr. Darren Fisher: But industry is moving faster than the code as well, correct?

Mr. Duncan Hill: Yes, but we find that our float point is appropriate for trying to attract people into the market as willing participants without scaring them away.

Now, it's interesting that you raise this issue of performance. Under the national housing strategy, and particularly through the programs that CMHC will be launching whereby we'll be directly funding affordable housing projects, both renewal and new construction, there is a minimum standard they will all have to meet that is 25% above the model national energy code for buildings. That's already above the building code, in many locations.

Our baseline is quite high, but buildings that go beyond that will score additional points in the system, and that prioritizes them. In this way, we'll get leaders floating to the top in our selection process for funding for this program, which will offer both better-than-competitive interest rates to incent the construction along and forgivable loans for higher levels of performance.

Therefore, through the national housing strategy over the next 10 years, yes, you'll see CMHC and the projects we're involved in leading, particularly through the national housing co-investment fund.

Mr. Darren Fisher: Wow. That's good news.

On the 25% refund through NRCan, is that regionally applied, or are there times when it's based on applications and it might get eaten up by the big centres? Does it make it to some of the smaller areas in the territories? Do you guys save a little bit of money for all the areas of that, or is it based on application?

Mr. Duncan Hill: I can't speak to the prioritization for the mortgage loan insurance refund project, but certainly for the funding that's coming forward on the national housing strategy, we're going to make an effort to make sure we get regional impacts so that we don't lose the small providers. There will be a giant sucking sound, there's no doubt about it, from the GTA and Vancouver.

Mr. Darren Fisher: Yes.

Mr. Duncan Hill: We realize that regions are different. They have different priorities and different challenges. We'll be there for them.

Mr. Darren Fisher: Over and above the 25%, do you know of any other loans or grants through CMHC that would bring that total over 25%?

Mr. Duncan Hill: Not directly, other than, as I mentioned, through the national housing strategy.

Mr. Darren Fisher: Okay.

To BOMA, I don't have enough time to go over all the things I wanted to—

The Vice-Chair (Ms. Linda Duncan): You still have two minutes.

Mr. Darren Fisher: I have two minutes?

Is your motivation with your organization based on a return on investment first, or is it a bunch of environmentalists who want to do the right thing? I'm not going to get to Rob, but we heard him talk about that sweet spot. As I mentioned at committee a couple of days ago, there are people out there who want to do great things for the earth. Then there are people out there who want an energy-efficient home, but if there's no return on investment, they're not going to do it.

You have an association of 3,000 building owners. Are they motivated by a return on investment? I assume the answer is yes.

Mr. Benjamin Shinewald: The answer is yes and yes. The industry is motivated. It's a for-profit industry, so they want to get the highest financial returns. It is an extremely engaged industry on sustainability. I didn't come from the industry. I was wowed when I first came into it. They really live it. Part of it is because at the end of the day a lot of pensioners are demanding it.

It's a wonderful industry, in part because, unlike some other industries, there is often a straight-line correlation and causation between energy efficiency and financial efficiency. It's a very easy—

Mr. Darren Fisher: It's starting to happen.

Mr. Benjamin Shinewald: Yes, for sure.

Mr. Darren Fisher: Have you heard of Green Power Labs in Dartmouth, Nova Scotia? They go to a business, basically align the system so that it will save the business a lot of money, and then they take their pay out of the savings. You should check out Green Power Labs. They do some amazing things.

•(1205)

Mr. Randal Froebelius: I would just add, though, that the other motivation for us is frankly very basic. It starts at tenant satisfaction. Many of our owners are renting out their properties. Again, tenants demand sustainability, so we are responding to tenant demands. A happy tenant translates into renewals, which translates into a better bottom line. We are very service-focused, and—

Mr. Darren Fisher: Is that my time, Madam Chair?

The Chair: You're done. Thank you very much.

Go ahead, Mr. Viersen.

Mr. Arnold Viersen (Peace River—Westlock, CPC): Thank you, Madam Chair.

Thanks to our guests for being here today.

I come from northern Alberta, where the Town of Valleyview is building a new town hall or office building. It's net zero, and they're really excited about that. However, if you go just down the highway to Fox Creek, 10,000 people sleep in Fox Creek every night, and yet they cannot.... They have to bus in people to work in the hotels. They bus people in to work at the gas station. They bus people in to work at Subway. It's a common problem.

If you build a house in Fox Creek and you follow all the guidelines—the building code, the zoning requirements, and everything like that—you cannot produce a house for less than \$350,000 in Fox Creek. The people who are working at Subway don't make enough money to be able to pay for that house. That's a frustration of mine. The mayor says, "How do I attract people to come and move to my town?" I say, "You have endless forests in any direction. Give them an acre of land and tell them that as long as the sewage doesn't land on their neighbour, they'll be okay."

The zoning restrictions and the building code and all of this just make the houses so expensive. How do we bring that down? I want to hear a little bit more about that sweet spot thing you were talking about in terms of how we get there.

Mr. Rob Bernhardt: Buildings do cost money. Different forms of buildings will cost different amounts. I don't know how to make them cheap according to the standards you may be referring to, with the land and the servicing and all these costs, but they're real.

Our expertise is not in the built environment, not in urban design, and not in land use decisions. What we can offer, and what this building standard offers, is the cheapest option if you're going to build. If you're going to build a house, if you're going to build a high-rise, if you're going to build whatever it is you're going to build, on any sort of reasonable life-cycle analysis, these buildings will be the cheapest option. Once the market matures—even now the incremental cost is tiny—the savings are very, very quickly recouped. That's what we can say.

I was sitting on the City of Victoria's housing affordability committee earlier. There are big factors there around transportation. You're building parkades, and people need their own cars. That's a big piece of affordability. There is much more to it than the building itself. That's why I kind of defer to the people who are in the urban planning field. That may be a bigger piece of the answer.

Mr. Arnold Viersen: To BOMA, on the affordability side of it, one of the things I have noticed is that when somebody owns their own home and they pay the gas bills, they close the door and those kinds of things. In other places, where they don't necessarily own their home, that becomes a bit of a challenge. I see it in my own riding. With all-in rent, the building manager suddenly becomes part of that equation. How do you guys deal with all of that?

Mr. Randal Froebeli: A big trend is right now is metering. In a commercial building, the trend is to try to get as many suites, as many spaces, as possible within a building metered so that the occupants can see for themselves what their energy costs are. That's the easiest way to start getting your energy costs under control without changing to LED lights or upgrading your HVAC systems or anything.

Mr. Arnold Viersen: But often they don't care. They just say, "Hey, I'm not paying for it. It doesn't matter to me."

Mr. Randal Froebeli: Most of our industry has moved to what are called "net leases". The electricity is extra. The janitorial is extra. You pay a base component of rent, but then you pay an operating cost component. That includes a myriad of things, one of which is your electricity, but it's reconciled. We meter it and then we reconcile it. Measurement Canada has a whole regime for making sure you're metering fairly and things like that. That's a big part of it.

• (1210)

Mr. Arnold Viersen: Benjamin, you talked a little bit about how stuff that's existing is more valuable than future stuff. We see that all the time. My brother is a plumber. He talks about how the older furnaces last longer and the newer furnaces last three years. We put them in the landfill and then we put in new ones. He says that yes, with the total energy cost saving over the life of that new one, you're probably paying for half of the newer, more efficient one just by the reduced energy costs, but you're replacing it every three years. The old one we were replacing once in 15 years. He says the cost-benefit analysis on that doesn't necessarily line up, just in terms of filling the landfill with these old devices that wore out, broke, or whatever the case may be.

Can you comment on that a little bit?

Mr. Benjamin Shinewald: I see we're low on time.

I think it's a question you should put to the manufacturers and distributors of those devices. We buy them, and we buy the best ones we can. I'll be doing it in my own private home pretty soon, as I was saying before.

My point about the existing building always being the greenest is just that if you want to solve the problem, you can't just look at future buildings being built. Whatever metric you use—the number of buildings in five, 10, 50, or even 100 years—almost all of them are already built, so you have to look at the operation, maintenance, and retrofit of the current stock as well.

Mr. Arnold Viersen: Thank you.

Mr. Randal Froebeli: Can I add one little thing just very quickly?

The Chair: Very quickly.

Mr. Randal Froebeli: In many industrial buildings, the landlord or the owner of the building provides the HVAC unit that's on the roof, but the tenant pays the utility costs. It's a bit the reverse of what you said, but it's the same problem. Most of those rooftop units operate at between 50% and 60% efficiency right now, so you're burning gas, but new technology is coming that will deliver up to 80% or 90%. With existing technology you can get it up to 80%, but when the unit fails, the owner of the building doesn't have an incentive to replace it with a more energy-efficient unit because the tenant's paying the utilities. The tenant's complaining that their unit's broken, so they just change the unit out as cheaply as they can; they don't really have to recognize that the tenant is going to pay for the utilities. One of the ideas proposed yesterday was to put incentives in place so that owners can change those units out more easily, taking advantage of incentives, so the tenants end up with lower energy costs and lower greenhouse gas emissions.

The Chair: Thank you.

Go ahead, Mr. Aldag.

Mr. John Aldag (Cloverdale—Langley City, Lib.): Welcome. It's a very interesting panel, and thanks for what you've shared.

I want to start with Mr. Bernhardt.

I recognize that we need to talk about federal jurisdiction, but when you were talking about permitting and the work that you're seeing happen, it struck me. When I was first elected, a gentleman came to see me. He was a retired commercial pilot who wanted to give back to the environment, so in his retirement he set up a solar installation company. In the Lower Mainland, in three years of operations, he'd been able to install zero solar panels because of the permitting costs. He came to me and said, "Well, can the federal government help with anything?" He was saying that in many of the municipalities throughout metro Vancouver, it was anywhere from \$3,000 to \$5,000 to get a permit to install solar panels on a detached house.

All of his business was off the grid, in fishing camps and those types of things. There's a municipal piece, but are you seeing that with the kind of permits that you were speaking about? Are there disincentives to doing the kind of greening initiatives within urban areas? Are there areas that are leading, and is there a role for the federal government to deal with organizations such as FCM to try to make it easier to permit for energy retrofits?

Mr. Rob Bernhardt: There's a myriad of barriers and tripwires through the regulatory environment at all levels. With time and experience, we anticipate working through all of them.

Although permitting is done at the local government level, in our view the federal government has a key role. In our view, government is about taking leadership, setting an example, being the voice, setting the vision, and letting people know where we're going. That is hugely influential. Something like the federal-provincial agreement we have now on the building strategy is a massive step forward. It's that kind of momentum, that bigger vision, being clear about where we're going and being clear in the messaging, that allows us to overcome all of those tripwires. There are hundreds of them, and we hear about them all the time. We can't get into all that detail here. We just know that it's out there. When you get into the details of the building code, you see it's all through there. We have committees working on that, but I would suggest at this level that we set the vision and say this is where we're going.

We're on a good track. Canada has the potential to be a world leader. It's very clear. We listen to the BOMA folks too. We shouldn't underestimate the ability we have to take a leadership role globally. There aren't that many countries that have the systems in place, the federal-provincial agreements—this is a big deal—and the standards of professional practice and institutions like the NRC. If we deploy these tools effectively, we can do some amazing things. We have people around here. We're hearing about building owners. The leaders like this stuff. They want to do it, and they'll invest hundred of millions to do it.

• (1215)

Mr. John Aldag: That's great. Thanks for those insights.

I want to turn to BOMA. You see how quickly the time goes.

The thing is, as I was listening to you, I was thinking yes, the energy gains we can make through operations are huge. I reflect on the number of buildings I've been to that have installed programmable thermostats that have never been programmed or, as you said, operators that change. Is there any way of quantifying the level of savings we can make by operating more greenly? As we're making these investments, we can green buildings, but if we're not following through....

I've heard landlords say that they have invested so many thousands of dollars into a green system, but they haven't saved any money. You see the windows open in the wintertime or thermostats that haven't been programmed. How do we actually quantify the investments and what we can save through operation?

Just to let you know where I'm going with that, you said there may incentives, federally or from other levels of government, in training and those types of things. Where is the return? What can we actually achieve through better operations?

Mr. Randal Froebelius: I'll start with just one point, which is that when you are presenting an energy-saving project to an owner for approval, oftentimes you'll use a very simple payback analogy. If you say it's going to cost \$1 million for this retrofit, rightly or wrongly, a lot of owners will say, "Okay, what's my payback?"

Usually the benchmark is less than three years, and if they're going to get that money back within three years, then it's usually an easy approval. If you think longer-term than that... A three-year payback is a pretty incredible ROI. You could ask why a four- or five-year payback isn't okay. Many will do that if it's the right thing,

if they're going to be doing a renovation anyway, but for a million dollars to be paid back in less than three years, you'll have instant approval.

With respect to longer-term operating costs, the number 15% to 20% has come out before. For a lot of the operating costs that I referred to earlier, energy can be a third of that, easily, depending on the type of building. Again, tenants don't want to pay higher operating costs, and if you can start to erode those costs down, then that's a win-win for everybody. As well, a lot of those retrofit costs are called recoverable expenses in buildings too, so owners are incented, because not only are they going to reduce energy consumption but they can also recover the cost of their retrofit. They can still recover that three-year payback from the tenants themselves within their rents.

You couldn't ask for more things to be in place to make it worthwhile to take advantage of doing it. Again, it comes down to tenant satisfaction. If tenants, when they go home at night or they drive by at night, see that the lights are off, they get a good feeling. They feel as though they're not paying for those lights, or they know that the temperature is being turned down.

What tends to happen is that overall comfort in the building improves when people are running the buildings better. When they're starting to think about things like that, during the middle of the day the building is that much better as well.

• (1220)

Mr. John Aldag: I'm going to add just two seconds, to say that there is no finish line.

Mr. Benjamin Shinewald: Right.

Mr. John Aldag: For your constituents or whatever, it's not about getting from here to there; it's about ongoing continuous improvement. You can always drive more efficiency.

The Chair: Thank you very much.

Mr. Bezan is next.

Mr. James Bezan (Selkirk—Interlake—Eastman, CPC): Thank you, Madam Chair, and I'm glad to be back at committee. It's been quite a few years. I used to chair this committee. It's been quite some time since I've been sitting at the table here.

I've been listening with a lot of interest.

To get a better picture here, BOMA, you have your BOMA BEST program. I've always been familiar with the LEED standards of gold, silver, and bronze. I know those are focused mainly on new buildings. I suspect BEST is for new and for retrofits as well.

Can you give us what the linkage is and why BOMA BEST is best?

Mr. Benjamin Shinewald: Sure. That question I'm thrilled to answer. I get that question all the time.

I'll let those from the organization that runs the LEED program speak for themselves. I want them to represent their message themselves.

Our members are common members. The guy on my board is down the hall from a guy—I mean “guy” generically—on their board. The LEED program has, I think, 14 or 16 different areas of assessment—new construction, community design, on and on and on—only one of which is existing buildings. We are focused only on existing buildings in our program. We have a tenant module about to relaunch, so there will be an inside-the-building module coming very soon. They do a whole series of areas. We look only at the existing sector. That's because they're a bit more of a movement about green buildings and we're an industry association. We represent corporate Canada in a very large way on the built environment side.

They did an outstanding job of branding, and that's why their name is so well known. They only certify the top quartile of buildings. Their idea is to deliberately try to pull the market from the top. Ours is a more broad-based, inclusive approach. Any building can do it. We believe that even the poorest-performing building in the country should start doing it, period. In fact, the last time I looked, in Canada I believe there were about 120 LEED certifications for the existing building module. As I said, we're around 2,800. Even in those 120 or so LEED certifications, I'll bet that north of 100 of them are also certified by us, because our program is really about the building operator and the property manager doing a better job. Theirs is a bit of a different focus.

Mr. James Bezan: You're providing it on the commercial side.

Mr. Benjamin Shinewald: Yes.

Mr. James Bezan: You also mentioned that federal buildings should be BOMA BEST certified.

Mr. Benjamin Shinewald: Absolutely.

Mr. James Bezan: Do you know what percentage of the current federal buildings are?

Mr. Benjamin Shinewald: Not many. It waxes and wanes over time. I can get back to you with a firm number after the meeting.

We did put through about 52 or 53 buildings in Atlantic Canada last year. That's a lot of buildings for that region. PSPC is doing it. We have had agreements here. PSPC has done other buildings in the national capital region and elsewhere. We've had engagement with Parks Canada over the years, with Transport Canada and remote airports. Those have all expired, to the best of my recollection.

It's really quite scattered. I will get you a very clear answer on that, but there's tons of space to go. It's not only about certifying your owned buildings, whether they're managed or not; it's demanded when you lease space. Frankly, it's likely that the space you're leasing is already certified by us, because everyone else is demanding it. That's a place you shouldn't forget about.

Mr. James Bezan: If you think about it from a federal standpoint, the most immediate impact we can have is on our own buildings.

Mr. Benjamin Shinewald: Yes, that's 100% right.

Mr. James Bezan: First and foremost, national building codes apply to federally regulated industries and our buildings.

Mr. Benjamin Shinewald: We are relaunching a new program soon, called BOMA BEST sustainable workplaces. Probably one of the key areas in the commercial side is tenant engagement on these issues. Guys like Randal spend half their day trying to talk to their tenants. Their tenants aren't really on their radar.

They want to do it for a whole bunch of reasons, one of which is that tenants are the final frontier in sustainability. There are tons of stories. I used to work at a law firm that wouldn't have dreamed of being in a non-green building. They lease the space, they fit it up, and they think they're done. That's like driving a Prius off the lot with the windows down and air conditioning on. Turn the computers off at the end of the night. Recycle your garbage and your waste. Have an e-waste policy. This new program, BOMA BEST sustainable workplaces, which is available now but will be relaunched in the next two or three months, will be targeted at tenants to do their share as well.

● (1225)

Mr. James Bezan: Let's look at the overall federal policy. You guys are talking incentives. We have the codes, which are the stick. Rob's been talking about collaboration and having different types of partnerships and agreements in place. How do we bring this all together? What do the incentives look like? What do we have to do federally to get the proper framework of policy in across the country, especially when property is so solidly a provincial jurisdiction?

Mr. Benjamin Shinewald: There are a bunch of different answers to that. My answer, very quickly, is that Randal talked about three-year paybacks. Incentivize it to four and that will make a huge difference right away, because that's a one-third increase on the paybacks.

Randal runs MaRS, the innovation hub in Toronto. There are tons of Canadian entrepreneurs working on this kind of stuff in the building, the massive heritage modern structure he works in. Get those guys moving and you have a win-win as well, because you help Canadian entrepreneurs too.

The Chair: Does anybody else want to chip in? Okay.

Mr. Rogers is next.

Mr. Churence Rogers (Bonavista—Burin—Trinity, Lib.): I want to go back to the CMHC piece and the 25%. I have a couple of questions.

You mentioned the 4,200 single homes that took advantage of that program, and the 181 projects and so on. When you do that program, does CMHC have a target for it? Is the target driven by dollars or by budget, or is there a targeted number that you have for it across the country? How do you allocate the money regionally across the country? Is it done proportionally? How is it done?

Mr. Duncan Hill: To my knowledge, we have no targets, and I can confirm that when we come back with the confirmation of the numbers on the MLI program. Thus far it's been application-based, so when the applications come in, we deal with them. We haven't run out of money yet to fund the program, so we've been taking applications as they come in.

Mr. Churence Rogers: The other part of that question is, in terms of promoting the program, who are your key partners? Are they the provincial governments or the municipalities, or is it the private sector? Who's involved in promoting that program?

Mr. Duncan Hill: If you're referring to the Green Home program and the multi-unit residential energy-efficient mortgage loan insurance refund program, the primary agent we've been working through is the mortgage loan insurance industry, through the lenders, the realtors, and the agents, largely because they're probably the first point of contact that a buyer would have when they're going to buy a new home or going to their bank to set up a loan for a renovation. It's a strategic decision, largely because the CMHC's commercial side deals with that industry.

I do know that an effort was going on later in 2017 and is going on in 2018 to try to broaden the base by spreading the knowledge around to the energy-efficient builders out there by saying, "By the way, if you buy my product, there are utility incentives and a CMHC incentive and there's an NRCan..." Whatever it is, the range of incentives could be presented at the point of purchase before they actually start thinking about finance, but by and large, to date we've been working with our partners in the mortgage loan insurance and lending industry.

Mr. Churence Rogers: Thank you very much for that.

For BOMA, when you did your presentation, on question number three, you said that "government should incentivize energy efficiency".

Can you give me some specifics on that? Is that meant to be dollar-driven, or is it in terms of technology or training? What do you mean?

Mr. Randal Froebelius: It's an extension of what Benjamin was saying. Is there a way to tie this all together and add training to some of these more targeted kilowatt hour reductions and that type of thing? Is there a way that we can extend payback periods, as he also mentioned?

There are often programs that are limited in length, for example. Should there be an office of incentives, perhaps, that would make it easier and be more of a clearing house that owners could get access to? I think there's some work to do on how we administer these incentives, beyond just adding another incentive.

• (1230)

Mr. Churence Rogers: Thank you for that.

Madam Chair, all the other questions I had have been asked and answered, so I'll pass it on to your next speaker.

Thank you.

Mr. William Amos (Pontiac, Lib.): Madam Chair, I will occupy the rest of his time, if that's...?

The Chair: You have two minutes.

Mr. William Amos: Thank you.

My question is for you, Mr. Bernhardt.

Thanks for the presentation. Are there mechanisms already available whereby Canadians can access passive house builders and net-zero builders? Is there a clearing house or somewhere where

people can go to learn what their options are? I'm just not aware of that. Whether you're looking at large-scale buildings or on an individual house level, it doesn't seem to me that the information is out there for the consumer.

Mr. Rob Bernhardt: You're not alone in being unaware of that, of course. On our website, we provide that type of information, with listings and a project database. It is limited by our resources, but that type of information would be incredibly useful. These resources are available in almost every location. They're more common in some locations, but the services are more available than most people realize. The communication point you're raising is a good one. I think it's a good area to focus on. It's something that could be relatively easily remedied.

Mr. William Amos: Does Passive House communicate in Quebec?

Mr. Rob Bernhardt: We do, but we started in the west, as BOMA did, so we're very new. We just became a proper national organization a little over a year ago. We're acquiring the bilingual staff and we have members in Quebec, but it's small, so it needs to build.

Mr. William Amos: Is membership a limitation in some senses? A lot of construction happens by regular Joes just doing some building, so how does that...?

Mr. Rob Bernhardt: You need to buy a membership in our association, but the whole ethos behind Passive House is that it's not a proprietary branded standard. It's building science. It's open source. The energy model is an Excel spreadsheet. Anybody can buy it and anybody could do it, but it is very difficult to do without knowing what you're doing. The training is always an element.

The Chair: Thanks very much.

The committee is interested in having a very quick round of questions. I do need 15 minutes for committee business at the end. We have a couple of things we have to do. You have three minutes; we'll add two, so you'll get five, and then we'll do two and two and two, and then we'll call it off. Thank you.

Go ahead, Ms. Quach.

[Translation]

Ms. Anne Minh-Thu Quach (Salaberry—Suroît, NDP): Thank you, Madam Chair.

Good afternoon, everyone.

I'm not a regular member of the committee, so I apologize if my questions have already been asked. I'm replacing Linda Duncan, who left.

As I understand it, you are already working in the foreground. I had met Normand Mousseau, a researcher from the Université de Montréal, who works in the field of climate change. One of the things he told me was that there was a lack of coordination at the federal level, and even at the provincial level, in Quebec. He mentioned that several measures have not been included in federal policies, for example with respect to the use and reuse of local business materials for waste reclamation and construction in a circular economy. These measures are not enshrined in the building code standards that apply to the construction sector.

In your opinion, should the standards of the National Building Code be changed? What should be added with regard to the circular economy?

You talked a lot about passive heating, and we heard a lot about biomass or biofuel. Is this part of your initiatives? In order to reach our greenhouse gas reduction targets by 2030, should this be imposed by the federal government?

My question is for all of you.

• (1235)

[English]

Mr. Randal Froebelius: Am I first, or is Mr. Hill?

Mr. Duncan Hill: I muttered first, so I guess I'm up.

Good question on what you were referring to as the life-cycle energy use and life-cycle impact of buildings. CMHC has done studies of life-cycle impacts, environmental impacts, of highly energy-efficient buildings. We did them on our 10 EQUilibrium housing projects that I mentioned previously.

We are aware that there are significant impacts between the time you extract materials and put them in a home, and there are the life-cycle costs associated with trading out furnaces or the other things that were mentioned during the meeting. However, over the life cycle of a building, the operating costs and the energy impacts typically swamp the amount of energy and impact that go into the building materials.

It's not to say that we should ignore them, but it is to say that I think the codes currently are appropriately focused on operating costs and lowering operating costs. As we move toward 2030 with a pan-Canadian framework and with co-operation between the federal and the provincial-territorial governments on advancing the code toward net-zero-ready projects, we're going to have more and more room to look back and catch this other life-cycle element.

In my view, the current code focus is a good one. That's not to lose track of the life-cycle materials—we should continue to focus on that—but there's a lot of work to do on operating costs, first in existing buildings and then new buildings.

I don't know if any of the other panellists have other views on that.

Mr. Rob Bernhardt: I could perhaps offer just a few comments.

I would agree with Duncan that with the building stock we have and the standard of efficiency we are accustomed to building, the operating energy dwarfs the embodied energy within the building, but as we approach the level of efficiency that the codes are moving towards, that actually changes, so embodied energy becomes a big deal.

Our experience is that getting the operating energy down to the levels we need to get it to is difficult. It requires changing how we design and build, whereas the embodied energy is often a fairly simple decision of changing building materials, being careful about recycling, and that type of thing. Those steps could perhaps be done in conjunction with, but are not part of, Passive House, but in our experience, they're pretty simple things for developers to add to the mix.

Mr. Randal Froebelius: On the reuse of materials, I'd add that part of the LEED process when you're building a LEED building is that you have to commit to handling waste and recyclable materials in a certain way. I've done a lot of work on the construction side as well. I'd have to say that when LEED was launched, industry in Canada really stepped up and put in processes that address waste production from the construction process. It's been pretty amazing to watch that. When you think of everything that gets brought to a construction site, unpackaged, and thrown out, when you're doing it on a LEED basis, it really is incredible how much detail gets put into that process.

I'd also add that I know that—

The Chair: You're going to have to cut it really short, because I'm trying to get the second round in.

Mr. Randal Froebelius: Okay.

I would just add that there are regional issues on the code side, and I think there are many differences across the country. Yesterday at NRCan we had a fellow from the Northwest Territories on the energy side. They face totally different issues up there. Costs are so incredible there. You might have different things. I think you have to be careful with that.

The Chair: Thank you very much.

Mr. Godin, go ahead for two minutes.

[Translation]

Mr. Joël Godin: Thank you, Madam Chair.

My first question is for the BOMA group.

In concluding your intervention, you said that it was better to restore buildings than to build new ones. I know that LEED certification, which competes with you, let's say it like that, applies a lot to new construction, whereas you are doing building restoration instead.

Have you measured the impact of waste and residues? You talked about the packaging of new construction, but the residues of materials used in the 1950s are probably less controlled and less environmentally friendly. This waste also has an impact. Have you demonstrated it? That's my question.

[English]

Mr. Randal Froebelius: Do you mean the production of the waste and what happens to that waste when you demolish? Is that what you're referring to?

Right now when you do any renovations, you do a hazardous material assessment of your building before you even engage a contractor. That audit of the asset becomes kind of the foundation for what you're going to do. I would say that our industry—and I'm sure some of it is driven by regulation—has adapted. I don't have any percentages or numbers for you, but certainly the industry is focused on what happens to that when we do a renovation versus what would happen if we tore down and started new. The argument is always for renovation, though, I have to say, but you might build on top.

• (1240)

Mr. Benjamin Shinewald: It's not because of LEED. We have a co-operative relationship with them. It's not competitive at all.

It's what Rob said a few minutes ago. There's already embedded energy in the existing structure. The trucks came. The mixture was mixed. All that work and energy happened when this building...and this building had asbestos in it at one point, back in the day, so to knock it down brings new embedded energy. To haul it away brings new embedded energy. To build a new one brings new embedded energy.

The Chair: Mr. Bossio, go ahead.

Mr. Mike Bossio: Mr. Hill, I want to take a different tack here as quickly as I can.

As you said, we have a new housing strategy, a \$40 billion investment. My chief concern is that under the criteria for funding those affordable housing units are municipal services and public transit. I would say that from a building code standpoint and energy efficiency standpoint, in rural areas you get far greater efficiencies through a well and a septic system, and you get far greater efficiencies because you have lower costs for land and you can put up solar and do ground-source heat. There are also so many other aspects, but those aren't considered part of the criteria. Would you say that moving forward, we should be looking at those as part of the criteria for affordable housing funding?

Mr. Duncan Hill: Definitely. I don't know of anything in the national housing strategy that would preclude the use of on-site systems like those you refer to, such as ground-source energy, a well, a septic system, etc. I think we're okay on that.

Mr. Mike Bossio: But requiring some of the key components of the criteria to be public transit and municipal services for the building automatically creates a disadvantage on the rural side. Should we try to balance that?

Mr. Duncan Hill: Yes, and there is prioritization going to be looked at for remote and rural communities to balance that. We do recognize that there's not a bus in every rural community so that we can put a bus stop beside the building. Yes.

Mr. Mike Bossio: Finally, concerning energy efficiency versus energy production, we always talk about efficiency, but we don't talk about ensuring within the building code that we're not just looking at the efficiency of the building—this gets to your point earlier—but also at the capability for production of energy. Should we be building that into the code, the ability to quickly adapt buildings for production rather than just efficiency?

Mr. Rob Bernhardt: Understanding that, I know that is in discussion in the code committees. It's something they're evaluating, and it's a live point. It's a good point.

The Chair: I am most grateful. We've had a really good round, with lots of good questions.

There are things that were asked that I believe you're going to be providing us. You may reflect on the questions and have more to say than I gave you time to be able to say. We would love to have that as quickly as possible. It is a fairly short study, so we'd like to get anything extra in quickly. Our focus is on recommendations we can bring forward at the federal level.

There is a lot of work already going on. We could have just said that we're not going to do the study, that it's all being dealt with, but I think we wanted to get this work into the public in a way that only committees can, and we wanted to be able to see how we can help.

If there is something that we can help with—it's always good to have more support for things—let us know, and we will then consider that for our recommendations in our report. That's where we're looking. How can we help this very great process that's under way across the world and in Canada?

Thank you.

I'm going to suspend. We'll take a couple of minutes to clear the room and go in camera.

Thank you.

[Proceedings continue in camera]

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