HOUSE OF COMMONS
CHAMBRE DES COMMUNES
CANADA

Standing Committee on Environment and Sustainable Development

ENVI • NUMBER 160 • 1st SESSION • 42nd PARLIAMENT

EVIDENCE

Monday, June 3, 2019

Chair

Mr. John Aldag

Standing Committee on Environment and Sustainable Development

Monday, June 3, 2019

● (1535)

[*English*]

The Chair (Mr. John Aldag (Cloverdale—Langley City, Lib.)): Good afternoon, everybody.

Welcome to our environment and sustainable development committee. We are holding a bit of a special meeting today. There was a motion that our committee agreed to a couple of weeks ago:

> That the Committee schedule one meeting with witnesses to discuss disaster mitigation and insurance, in relation to severe flooding, wildfires, and other extreme weather events in Canada.

We have two panels—one now and one at 4:30. First, from Forests Ontario, we have Rob Keen; second, from Quinte Conservation, Bradley McNevin; and last from the Forest Productions Association of Canada, Kate Lindsay.

Welcome to the three witnesses. We have 10 minutes scheduled for each of your opening statements. Once we have had the three opening statements, we'll go to rounds of questions. Our questions are six minutes each. We go from the government side to the opposition side to the second opposition side. We'll see how many rounds of questions we can get in before we get to 4:30, when we need to reset for the next panel.

With that, who would like to start?

Ms. Lindsay, do you maybe want to start? I'll give you 10 minutes for your opening statement.

Ms. Kate Lindsay (Vice-President, Sustainability and Environmental Partnerships, Forest Products Association of Canada): Great.

Can you hear me all right?

The Chair: We're good.

Ms. Kate Lindsay: Good afternoon and thank you, Chair and members of the committee.

My name is Kate Lindsay, and I'm the vice-president of sustainability. I'm pleased to be here to represent the Forest Products Association of Canada as part of your study on disaster mitigation and to provide context on the role of forest management in supporting disaster mitigation and adaptation in the face of climate change.

FPAC provides a voice for Canada's wood, pulp and paper producers nationally and internationally in government, trade and environmental affairs. Let me give you a quick snapshot of how important the forest products sector is to Canada's economy. It is a $69 billion a year industry that represents 2% of Canada's GDP. The industry is one of Canada's largest employers, operating in 600 forest dependent communities coast to coast. We directly employ about 230,000 people across Canada.

The sector is also important when it comes to the Canadian environment. As custodians of almost 10% of the world's forests, we take our responsibilities as environmental stewards very seriously. Canada has the most independently certified forests in the world: 166 million hectares or about 43% of all certified forests. In fact, repeated surveys of international customers have shown that Canada has the best environmental reputation in the world.

Climate change is emerging as a signature issue of our time. To respond to that, the forest product companies have been ahead of the curve by aggressively reducing their carbon footprint and running more efficient facilities. In fact, pulp and paper mills have cut greenhouse gas emissions by an impressive 66% since 1990, an equivalent of nine megatonnes of CO2 per year. The sector does not use coal and barely any oil—less than 1%. We now have more than 30 facilities that generate green electricity from biomass residues at the mill sites.

Following Canada's commitment under the Paris Agreement, the forest products industry pledged in May 2016 to remove 30 megatonnes a year of greenhouse gas emissions by 2030. That's about 13% of the government's emissions reduction target. We call this initiative the “30 by 30” climate change challenge, and we're proud to be part of the solution.

The effects of climate change have had and will continue to have an impact on our sector. Whether negative impacts such as forest fires and insect outbreaks, or positive impacts such as accelerating the transformation of the sector to produce value-added bioproducts, today I would like to focus my comments on the management of our forests to both mitigate climate change and build resiliency and help mitigate disasters such as wildfires and flooding.

Canada's forests are truly an astonishing resource. They represent 348 million hectares of forest land. The forest absorbs a tremendous amount of carbon dioxide, and by doing so, helps regulate the world's climate systems. We are continually looking to support and enable the forest sector to optimize carbon absorption. In some areas of Canada, this will include more active management of forests to sequester carbon: harvest the wood, which locks in carbon, and renew the forest so the cycle can repeat itself. In each forest or forest region, careful planning ensures that features such as wetlands and riparian areas are maintained and managed to allow these features to further enhance carbon mitigation but also to help with flood attenuation and protect drinking water.

At the very same time, the forest industry is utilizing the products from this renewable resource over the working landscape to transition to a low carbon economy with innovative products such as bioplastics, biofuel and tall wood buildings to displace more carbon-intensive products.

To further enhance the carbon sequestration of natural infrastructure such as wetlands, peatlands and watersheds, we have a long-standing relationship with academics such as the Saskatchewan Research Council and partners such as Ducks Unlimited Canada. We have been working with these partners to quantify the carbon sequestered and to codify forest management practices that conserve and enhance these features in providing carbon sequestration as well as the many ecosystem services.

As per the component of your study on the role of nature and natural spaces in mitigating disaster, I would also like to highlight a significant potential unintended consequence of the preservation of nature. As you can appreciate, there's a variety of ecosystems across Canada.

● (1540)

Much of the forested area in Canada falls within disturbance-driven ecosystems. These are primarily wildfires, but also forest pests and wind blow-down. Thus these ecosystems have naturally had stand-replacing fires across much of the forested landscape through history.

In more recent history scientists believe our forests are under greater stresses such as drought and disease, likely due to climate change, and this has resulted in more catastrophic fires such as the fires in British Columbia in 2017 and 2018. Due to fire suppression and forest preservation in the form of protected areas and conserved areas, there are also more forests that are older and denser, producing more fuel for the forest pests and fires. Compound that with the expansion of towns, cities and infrastructure and this is a growing challenge for community safety.

This area, known as the “wildland-urban interface”, will require new and different approaches to management and emergency preparedness.

I would like to highlight one example that illustrates some of the proactive work needed to help mitigate fire disasters. Jasper National Park, located in west central Alberta, is an iconic natural space managed by Parks Canada. For many years Parks Canada and the Town of Jasper have had growing concerns about fire safety. Since 2003 Parks Canada has been managing fuel by implementing a FireSmart plan, for the most part utilizing tree removal and prescribed burns, but the plan was no longer addressing the scale of the risk. Mountain pine beetle moved into the park, with significant damage in 2017-18.

The community was asking for further action, and in March 2018, Canfor, a forestry company located in Alberta, won a bid to use large-scale forest management to create a firebreak above the town of Jasper within the park. It was an unlikely partnership, but over the last year the project has involved careful planning and the harvesting of over 300 hectares of forest. As of this week the project is nearing completion and the objectives have been met. The harvest has significantly reduced the fuel-loading to mitigate for fire for the town residents and park visitors, but also the ecological values, such as maintenance of soil and wildlife habitat, quality have been met.

This is just one example of where the creation of natural spaces such as parks and set-asides have to be considered carefully and/or for which management treatments may be required to mitigate fire and flooding risk in those areas in the adjacent communities.

There are existing broader tools that can be used, such as FireSmart at the community level and vulnerability assessments at the forest management unit or regional level. We encourage governments to look at expanding and supporting these approaches.

We believe there is a responsibility and role for professional foresters to support community safety and stability and we encourage a national dialogue on addressing innovative ways and investments to address wildfire risks in the future.

Thank you for your attention this afternoon. I would be happy to address any of your questions.

● (1545)

The Chair: Excellent. Thank you for those opening comments.

We'll jump right now to Mr. McNevin for his opening 10-minute statement.

Mr. Bradley McNevin (Chief Administrative Officer, Quinte Conservation): Thank you for the opportunity to address the Standing Committee on Environment and Sustainable Development regarding the study on disaster mitigation and insurance.

First off, I would like to formally introduce myself. As mentioned in the introduction, I am Brad McNevin, chief administrative officer with Quinte Conservation. I've been employed in the environmental sector for the past 20 years, working with Fisheries and Oceans Canada, private environmental and engineering consulting firms, and currently with Quinte Conservation for the past 15 years.

Quinte Conservation is one of 36 conservation authorities across the province of Ontario, which is the only province to have these great organizations. Conservation authorities began to be established in the 1940s to address severe flooding and erosion problems. The most severe flooding on record in Ontario occurred in October 1954, when Hurricane Hazel passed through southern Ontario. Eighty-one people died and damages were estimated at $180 million. Following the devastating impact of Hurricane Hazel, a flood forecasting and warning system was established in the province of Ontario. Several flood control facilities were significantly upgraded and constructed. Operational practices were designed to respond immediately to changing conditions. Regulations were put into place to limit and control future development and inappropriate land use activities in flood hazard areas.

As I stand here today, many places throughout Ontario and other provinces have recently gone through significant flooding within the last month or so. In my own region, we are still experiencing Bay of Quinte and Lake Ontario surpassing their historic high-water level that was established a mere two years ago, in 2017. In contrast, the Quinte Conservation region experienced a significant drought in 2016. It impacted many user groups, not just rural residents, with dry wells. In fact, 100% of the Quinte Conservation region was impacted in some way. Drought conditions observed in our lakes and rivers impacted fish and wildlife. Our agricultural community experienced hardship trying to keep livestock and crops watered, which resulted in financial impacts. Homeowners were hit with costs associated with purchasing bulk water to keep their households running. Municipalities had to implement bylaws for restricting water use.

Extreme and unpredictable weather events are occurring frequently throughout the globe. There is no doubt that it is prevalent throughout our region and our watersheds. These extreme and unpredictable weather events can be related to disasters in the form of impacts on our forests, lakes, rivers, wetlands, fish and wildlife, and also, as many people have recently experienced, property destruction.

We can build resilience to a changing climate through proper planning and adaptation. Quinte Conservation developed a climate change strategy in 2016, recognizing the reality of extreme weather events related to flooding, drought and an increase in intense rainfall. Several action items have been developed with the aim of meeting our goal in helping our watershed residents both adapt to and mitigate the impacts of climate change. Natural infrastructure has a pivotal role in preventing and mitigating impacts of extreme weather events.

Collectively, conservation authorities own and protect 150,000 hectares of land, including forests, wetlands, areas of natural and scientific interest, recreational lands, natural heritage and cultural sites, as well as land for flood and erosion control. The forests, wetlands, moraines, grasslands and other natural features and ecosystems found throughout conservation authority lands help to prevent and reduce the harmful impacts of climate change. They protect and improve water quality, reduce flooding, act as drinking-water sources, increase biodiversity and provide healthy habitats for a wide range of wildlife, fish and birds. Conservation authorities play an important role in natural infrastructure protection, restoration and management in Ontario.

We see on a regular basis large-scale deforestation, which takes away the natural ability of water to be absorbed, retained and recharged slowly into the water budget. Protection measures are needed to help preserve forests. Forest cover allows for improved water quality, slows overland flow after extreme and intense rainfall, and in turn promotes infiltration into the groundwater. An increase in forest cover through such properly funded tree-planting programs as "50 million trees" is an important part of disaster mitigation. We have many partners, including municipalities and the private sector, and collectively plant close to 2.5 million trees per year. We partner with Ducks Unlimited Canada and alternative land use service programs to restore wetlands and other natural features.

● (1550)

There is a strong need to enhance and strengthen protection measures for all watercourses, wetlands and headwater drainage features. Wetlands provide benefits during drought and flood events. They store water, recharge ground water, allow sediments to deposit, and provide important habitat for fish and wildlife.

They help to slow water flow, improve water quality and sequester carbon. Urban watercourses in many areas consist of historically constructed concrete channels where water flow is restricted and is encouraged to flow as fast as possible. One step in flood mitigation can be addressed by allowing watercourses to use their natural flood plains, overflow their banks and slowly allow the water to move through the system.

Some areas that have already been urbanized will be difficult to mitigate. We need to encourage all levels of government to put a high priority on reviewing development applications so that development is in the right location. Flood plains and wetlands are not the place to allow development.

Conservation authorities support green infrastructure and low-impact development initiatives. We take a watershed management approach to planning and developing strategies for restoration and management. Disaster mitigation should include recovery programs where if homes are in flood plain areas, the government should require flood-proofing as a condition of funding. Where possible, rather than building on the same footprint, homes should be moved away from current and future predicted flood risks.

Programs should consider relocation funding rather than rebuilding. Investing in flood plain mapping and increasing the coverage of flood plain mapping will help with disaster mitigation and prevention. Some of the flood plain mapping equity conservation is from the 1970s. There have been significant changes in infrastructure and land use, and this impacts the accuracy of existing mapping.

In our region of Ontario, many watercourses do not have flood plain mapping. We require accurate and up-to-date flood plain mapping to guide in decision-making during development reviews.

Flood plain mapping needs to include flood scenarios to assist with emergency responses to public safety. For example, if a known area is susceptible to flooding and we have details regarding what flood levels occur at specific flow events, emergency responders will have the tools and information required to know where to direct resources.

We need to invest in more real-time models to better track specific events and see how storms will affect flood plains and the surrounding landscape, as well as invest in improvements to the existing precipitation, snow depth and flow monitoring networks. In a flood event, precipitation is typically the most unknown quantity and has the largest impact on flooding. Precipitation is the driver of flood events, so let's build a better network to monitor quantities.

Environment and Climate Change Canada is doing a good job with rating curves, which are basically the relationship between water height and flow. However, we need to continue to improve their accuracy and expand the monitoring network. Although dams and infrastructure are not necessarily natural, they play a very important role in disaster mitigation. Investing in flood control and water management structures provides value during extreme events by capturing run-off and controlling the release when appropriate to reduce the timing of peak flows.

They also are important in reducing the impacts of drought when properly operated. However, reservoirs at these structures are limited to specific capacities and cannot be expected to be the only answer.

Dams have substantial public safety and operational risks and liability. Many structures need significant investment to avoid potentially worse flooding and drought impacts. In the Quinte region alone, we have 42 water management structures that require significant investment for major, minor and preventative maintenance. As we explore options for these structures, consideration will be given to de-commissioning and refurbishing to a natural dam design to allow for less financial needs in the future.

In summary, we know that climate change is directly impacting our weather and our communities. There is no better time than the present to start taking the necessary precautions, preparing for these impacts and ensuring that our country is prepared for the future. We need to promote forest preservation, support tree planting programs, and enhance and strengthen protection of watercourses, wetlands and headwater drainage features. We need to ensure that development is located in the right place, not in flood plains and wetlands.

The natural environment has built-in mechanisms to mitigate extreme weather. We need to allow these features to function properly and allow intense rainfall to flow into the natural flood plains of lakes, rivers and wetlands. Urban stormwater management facilities can help, but protection of wetlands and flood plains is a better solution. We need to invest in enhanced and expanded flood plain mapping coverage, continue to invest in improved real-time models to track storm events and continue to invest in improvements to precipitation, snow depth and flow monitoring networks.

● (1555)

Canada needs to be a leader in addressing the impacts of severe weather events. This committee is tasked with an important focus that cannot be ignored.

The Chair: Thank you. There is almost 30 seconds left. We appreciate it.

Mr. Keen, we'll go over to you for your 10-minute opening statement, please.

Mr. Rob Keen (Chief Executive Officer, Forests Ontario): Thank you very much.

It is a real pleasure to be here today. It's a hazard of being the third speaker that a lot of good comments have already been made, so I'll try to avoid stating those yet again.

In terms of a few of the high points, I think one of the things that I'm hoping you heard was the importance of ensuring the natural infrastructure. There are certainly, particularly in southern Ontario, a lot of threats to our natural infrastructure—to our wetlands, to our grasslands and certainly to our forests.

Certainly, here in southern Ontario, we see development pressures and agricultural pressures constantly impeding those natural infrastructures and, as a result, I think, we have seen an increase in the flooding in this particular area. One thing of interest to note is that the flooding situation is not new to Ontario. In fact, some hundred years ago, flooding was a rather natural occurrence. Well, not natural: it occurred because of the heavy deforestation that occurred throughout southern Ontario, with the land being stripped forests and trees. Certainly, thereupon, we saw an increased amount of flooding through much of southern Ontario.

There was a fellow by the name of Zavitz, a forester, who more than a decade ago recognized that the solution to this was to plant trees, so he started planting trees—well over a billion—throughout southern Ontario to address the flooding situation. Today, you can see throughout the moraines that a lot of the sand-flats that used to be there are now treed and moving into natural forests. It has worked. It sustained and reduced the amount of flooding from what occurred back in that period, but we're seeing it again now with the constant influx of development. We're seeing areas stripped away. I see that in eastern Ontario 600 acres of forest has been stripped for agricultural purposes.

This is not sustainable. Unfortunately, these types of cash crops have a long-lasting impact on our natural environment, and there need to be some incentives created to encourage landowners to keep trees on their property and/or to establish more trees on their property.

In Ontario, we certainly have programs such as the managed forest tax incentive program and the conservation land tax incentive program. These reduce the taxes that landowners have to pay for those properties. Also, we had a program called the 50-million tree program, which reduced the landowners' costs of planting trees on their property. From my perspective, if we as a society expect landowners to provide their lands and to put trees on their property and create that societal benefit, we need to encourage them to do so, and that's by reducing the costs for the landowners.

These are the kinds of programs that are essential to making sure that we have that natural infrastructure in the future.

I think we recognize that with wildfires—Kate touched on this quite well—we have seen an increase. Just to speak to that briefly in terms of what can happen, I think there has been an increase in wildfires, primarily because of the increase in drought. As well, we as a society have tried to fight fires for decades by putting out relatively small fires. What's happening now is that we're getting a certain situation where you have drought, high winds and an incredible fuel load, and now these fires are the so-called perfect storm and we can't put them out. We see fires such as Parry Sound 33, which burned well over 11,000 hectares. That was well over 11,000 hectares of fire. There was a fire up in Temagami of about 33,000 hectares.

Although fires are a natural phenomenon in our ecosystems and there are a lot forests that depend on fire, you need to realize that these fires are far more severe than the natural ground-burning type of fires. Because of that, they're scorching the soils and increasing the amount of erosion that will occur after the fire. It's incumbent upon us as a society, I think, to get in there and do something to get those forests established back on that land.

There are various aspects to this that we need to look at. As I originally started to speak to in my comments, in a large part of this, trees are the answer. We've known that trees provide incredible benefits for society, from sequestering carbon, as Kate mentioned—and not just reducing carbon emissions, but actually sequestering carbon out of the atmosphere—to all the other values that they provide. I think it's just incumbent upon us to look towards methods and means to ensure that we keep those forests on our landscape.

● (1600)

Certainly with forest management, utilizing the wood products that come out of our sustainably managed forests.... As Kate mentioned, we have the best-managed forests in the world here in Canada and certainly in Ontario. We should all recognize and be very proud of that. At the same time, we also need to realize that using wood products that are sustainably managed is good for the environment, and so we should be making sure that we promote that every time and at every opportunity we can.

Those are my comments for this afternoon. I tried to keep them brief because there have been some very good statements made already, and I look forward to your questions.

Thank you.

The Chair: Excellent. Thank you to all three of you for those very thoughtful and thought-provoking opening comments. I look forward to some great conversation.

I want to welcome Mr. Shipley to our committee.

It's good to see you back here.

Mr. Bev Shipley (Lambton—Kent—Middlesex, CPC): It's good to be here.

The Chair: We'll start off with Mr. Bossio.

You have six minutes.

Mr. Mike Bossio (Hastings—Lennox and Addington, Lib.): Thank you for those great presentations. It's great to have you here today for this very important discussion.

I'd like to start with Brad. It's great to see you again. I saw you a couple of weeks ago for a great announcement at Quinte Conservation about a $250,000 federal investment being made into drought management to help better understand, manage and monitor the situations that we experienced in 2016. Maybe you can give us a description of why this is so important, especially today with the advent of climate change and as we try to find ways to adapt and mitigate.

Mr. Bradley McNevin: That funding is very important. Our conservation authority is represented by 18 municipalities, and this funding is going to help prepare drought management plans for all 18 of those municipalities, to have them better prepared.

We're in a situation in which the Quinte region has, I'll say, a limited supply of groundwater—there's a lot of fractured bedrock—so most regions really depend on sustained rainfall to recharge groundwater. This funding will allow us to look closely at each of our municipalities and to help them be prepared for the next drought that will be impacting our local residents. We'll look at individual landowners from certain perspectives. The plan is more developed on a municipal basis, but we'll be talking to landowners, forming some steering committees and really reaching out to the public to engage them in the process.

Mr. Mike Bossio: The vast majority of people who live in our region, Hastings County, rely on wells—

Mr. Bradley McNevin: That's correct.

Mr. Mike Bossio: —for their water, so it's vitally important in a region like ours, which has a vulnerable aquifer, to have both a drought and a flood management capability. When we have floods, of course, those wells also become contaminated. They get dry under one condition and then they become contaminated in other conditions. Thank you so much for the really important work that you guys do at Quinte Conservation in helping us to better understand how we can adapt to the changing conditions we're faced with.

I'd like to go to Rob now.

Rob, you talked about the impacts of trees—and actually I want to read a quote, because it's a really powerful quote from you. You said, "We need to realize that to have a healthy economy and a healthy society, we need healthy forests. To have healthy forests for our future, we need to plant more trees."

To date, the 50-million tree program has planted 27 million trees, so you're more than halfway there. With our 15,000 hectares of new forest, on average, every year the program has planted 2.5 million trees on approximately 4,000 properties. According to the environment commissioner's report, average forest coverage in southern Ontario stands at around 26%, with some areas seeing as low as 5% forest cover. The report identified that 30% of lands need to be planted with trees to restore the forest cover in southern Ontario to optimal levels. That equates to 680,000 hectares.

So just how devastating is the cutting of this program? I guess you've talked a little bit about not planting them, and the problem of a lack of forest. Maybe you could expand on that.

● (1605)

Mr. Rob Keen: Sure.

To add a little bit more to the percentages you were providing, Environment Canada put out a report a few years ago called "How Much Habitat is Enough?". It's in its third edition now and speaks to the need for at least 40% forest cover for the forest to sustain itself in a healthy manner. If you get anything less than that, particularly when we see climate change advancing, forests will feel the effects of climate change. They won't be able to adapt as readily to climate change. You need to have that large, healthy, contiguous, diverse forest in order to adapt as we see climate change progressing.

With regard to the cancellation of the 50-million tree program, yes, it's quite devastating. It was the largest afforestation tree planting program in Ontario.

To qualify afforestation from reforestation, the forest industry is required under law, under the Crown Forest Sustainability Act, to regenerate any areas they harvest. Part of that could be due to planting. With the work that we're doing....

That's for Crown lands. That's part of the forest industry. It's just regular business. They'll plant 60 million to 80 million trees per year in northern Ontario on Crown public lands to fulfill their legal agreements.

The areas that we're planting are due to afforestation, which is essentially establishing new forest cover. This is done in abandoned agricultural fields or some municipal lands that traditionally haven't had forests on them. We're creating new forest cover with this program.

Certainly with the loss of the 50-million tree program, there is no other program that services large-scale tree planting to the tune of two and a half million to three million trees per year for southern Ontario to regenerate these areas to get that forest cover up to 40%. It's extremely devastating.

Mr. Mike Bossio: Thank you very much for your testimony.

The Chair: We're going next to Monsieur Godin.

[*Translation*]

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

I want to thank the witnesses for joining us.

In this committee, we want to know what can be done to limit natural disasters. We're aware that climate change exists. You would need to be blind to fail to see or notice it. It's important for you to be here so that we can do our job properly.

I'll start by asking Ms. Lindsay from the Forest Products Association of Canada some questions.

You painted a beautiful picture of Canadian forests. You showed us that Canada has done a great deal in the past to protect its forests. You mentioned some solutions such as bioplastics, biofuel and another item that I unfortunately didn't note. What more could we do? We're leaders, but natural disasters still occur. What more can we do, as federal parliamentarians, to try to protect our planet? I think that forests are an important part of protecting our planet.

[*English*]

Ms. Kate Lindsay: Thank you. That's an excellent question.

I think there is a bit of a paradigm shift that needs to happen. I completely support what Rob has mentioned about trees being the answer. Having productive, working, healthy forests will do a lot to mitigate catastrophic fire and consequential flooding.

Flooding is a bit more complicated. I would suggest that, given climate change, given that we are in these natural disturbance-driven ecosystems, what we've learned from the past is not necessarily going to guide our future.

If we're having hotter fires with more serious burning, I think we need to look at a few things. One is doing vulnerability assessments. This is something that NRCan, Natural Resources Canada, provides some funding for right now. We would encourage it to expand that funding. That is for provinces, forest management companies, regions, community-managed forests, to understand what their vulnerabilities are. That will be different in different regions. It may be drought, it may be wildfire, it may be pest outbreaks, depending on where you are. It may be a combination of those.

It's actually a Canadian Council of Forest Ministers, CCFM, mandate framework vulnerability assessment. It walks an organization through what the steps are: “What are my vulnerabilities, given climate change, and then what are my options to adapt to those to further mitigate them?” Some of them are no-regret options; really, they're just the right things to do. Some of them will require more money, more investment.

Some of them may require policy changes. For instance, some jurisdictions have a fairly prescribed set of what trees you can plant and where you can plant them. Perhaps we may say, let's plant some adapted seed stock that may come from a little further south that we weren't allowed to plant before. We know that particular seed tree is going to be adapted to the future climate. It might be drought resistant. It might be pest resistant, etc. I'm not talking about genetically modified trees; I'm talking about natural seed stock that's been adapted.

I think there are some excellent things we can look at and that the federal government could be supportive of.

Then, I also think we need to look at the FireSmart concept. That's at the community level. It needs to be expanded, because some of those same principles may not apply to a much larger landscape. For instance, when our forest managers go into a community forum to manage forests, particularly in British Columbia right now, communities will say that they have to leave those forests because of visual quality constraints, or they have to leave the trees because of a deer winter range. All of these are important values and what we call “constraints on the landscape”.

However, now the community is saying that they'd prefer to mitigate the risk of wildfire: “I don't want to have to evacuate my town. Can we look at going in there and thinning some of those forests and treating some of those forests, so we have a better mitigation plan so we don't have a catastrophic fire come through?” Some of that wood might be used.... We might pull the residue out, the fuel out, and that can be used for a biofuel or a bioproduct.

I think there are lots of things we can do, but it requires looking at things a little differently from how we have in the past, having an honest conversation about values, and having fire and flooding risk as part of that analysis.

Thank you.

● (1610)

[*Translation*]

Mr. Joël Godin: Thank you, Ms. Lindsay.

I'll hurry up and ask one last question, before the chair calls me back to order.

You spoke of a pilot project that you and a company whose name escapes me launched in 2008 in Jasper National Park, managed by Parks Canada. In 2008, we were already aware of climate change. You said in your introduction that you had achieved your objectives for this pilot project. What were these specific objectives and over how many years did your project take place so that you could measure their achievement?

[*English*]

The Chair: A very brief response. We're at the end of the six minutes.

Ms. Kate Lindsay: Okay.

It's still early, but the objectives set out by Parks Canada were to mitigate the fire risk, and also a number of other values, as far as wildlife habitat, soil, maintenance of soil, coarse woody debris are concerned—a lot of technical aspects.

It was, I would say, an element of a logging operation that took extreme care. The objectives were met in the length of the contract to pull out the amount of wood—the diseased trees—that would mitigate the risk for the town of Jasper. Also, all the follow-up assessments and audits by Parks Canada and the regulators have shown that the operation was done by Canfor in a way that met their objectives as far as maintenance of soil and habitat is concerned.

As far as mitigating long term, I think we'll have to wait and see whether those firebreaks are in fact successful.

● (1615)

The Chair: Okay, thank you.

Mr. Stetski, you're next for six minutes.

Mr. Wayne Stetski (Kootenay—Columbia, NDP): Thank you.

Thank you for being here today.

My rural riding is in southeastern British Columbia. I have over a dozen lumber mills in my area.

Ms. Lindsay, I have some questions about the industry and planning for climate change. There's a lot of concern in my riding about logging and watersheds and potential landslides. There have been some—fortunately not a lot. I'm wondering if the industry is working towards new standards to meet the challenges of climate change, including heavier rainfalls, etc.? For example, have you adjusted standards around steep-slope logging and other potential landslide issues?

Ms. Kate Lindsay: That's great. Thank you. It's a good question.

The industry has been concerned with it for some time. I worked in the industry about 15 years ago, and a slope stability expert was required on staff to do the engineering layout.

In the face of climate change it needs to be further considered, in particular in the community I'm from—I'm from the west coast of Canada— because we are seeing precipitation events, what we call flash-year systems, that occur less often but with more precipitation. Can those systems withstand water inundation? Looking at how you design the culvert sizes, your roads, the layout of your block, etc., is extremely important.

We have expertise through Forest Products Innovations, FPI, a group across Canada that is looking at the engineering innovation side and at adaptation moving forward.

I encourage companies and regions to do baseline studies. I think the point raised by my colleague here is to allow allowing some of those systems to use their natural flood plains and understanding what those are. Having some of those baseline assessments will help determine whether that was naturally occurring, either because of climate change or because of certain developments in the watershed. Having a clear sense of why those...if you have runoff or sediment or washouts, things like that.

We're now finding, and are involved in some research at the University of Waterloo and Trent and others on, post-catastrophic fire. Those watersheds are not.... There are issues for clean drinking water. Is there an opportunity for us to understand that dynamic system naturally, and then how we can conduct forest management so that we mitigate the risk of catastrophic fire and then flooding.

I think it's a good point. I think a lot of work is being done. I'd be happy to follow up with specific changes that may have happened recently.

Mr. Wayne Stetski: It would be nice at some point to see a climate change strategy or plan from the forestry industry in general on what might need to be done differently to accommodate climate change moving forward.

Related to that, when a fire happens currently in an annual allowable cut, what happens to the AAC for that particular area and who's responsible for planting the trees in a fire-killed area in the end: industry or government?

Ms. Kate Lindsay: It's a good question

My understanding is that if it's a certain size, it's the Crown's obligation, so the province is required to re-establish those—

Mr. Wayne Stetski: I understand that we're getting a little behind in our reforestation, partly due to the amount of fire we're seeing.

Ms. Kate Lindsay: Absolutely.

The B.C. government has created the Forest Enhancement Society of BC. I know that forest companies, communities and the province are working through that society to re-establish areas post-fire, post-beetle, similar to what Rob was mentioning, to get some of those areas reforested much faster and back on that trajectory.

Mr. Wayne Stetski: I might come back to that if I get another round.

Mr. McNevin, you talked about the importance of restoring natural water cycles. I absolutely agree with you—I was a mayor, and also with the B.C. Ministry of Environment. How much co-operation are you getting from municipalities with that concept?

● (1620)

Mr. Bradley McNevin: Locally our partnerships with our municipalities are very good. We have some water, rivers and watercourses that routinely flood. We're working on mitigation measures to address those specific areas, but there is a lot of work to be done for some of the smaller rivers and watercourses that don't have flood plain mapping or have inaccurate mapping. I think getting municipalities to help address those concerns is going to be vitally important going forward.

Mr. Wayne Stetski: It's going to be a lot of work for municipalities right across Canada.

Mr. Bradley McNevin: Absolutely.

Mr. Wayne Stetski: Mr. Keen, just quickly, is there any federal funding currently for trees?

Mr. Rob Keen: Not currently, no.

Mr. Wayne Stetski: No? Do you think there should be?

Mr. Rob Keen: Absolutely. The more partners contributing to getting more trees in the ground, the better.

The Chair: That takes you to the end of your minute.

The next members we're going to are Mr. Fisher and Mr. Amos, who are splitting their time. I'm going to give them, at the end of two minutes, the card and at the end of the first three minutes the red card and then it can go to the next person.

Mr. Fisher, pay attention.

Some hon. members: Oh, oh!

The Chair: Over to you.

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

I'll go with Ms. Lindsay if I could. We know that Canada's forests can be altered by climate change, just as certain forestry practices can alter a forest's ability to mitigate climate change. Now in Nova Scotia we have very little Crown land, as most of it is privately owned. That puts a lot of responsibility on woodlot owners and the governments that regulate them to practise good forestry management.

I recognize there are many woodlot owners who positively and sustainably manage their land, but I'm interested in whether you would work with individual woodlot owners to teach these good practices that will allow our forests to serve as a potential means towards climate mitigation.

Ms. Kate Lindsay: FPAC largely represents Crown-managed forests companies in Canada. We do work with some of the woodlot associations as well. We are working on mainstreaming some of these mitigation adaptation practices. From my perspective, in the regulatory context having forest management planning acts in provinces speak to mitigation adaptation opportunities is positive. But the other area is forest certification. Even woodlot owners or managers on private land subscribe to forest certification standards and there are different standards based on the size of the area you manage. We've been working with a couple of those standards to advance some of the mitigation adaptation components into those indicators. I think that's a way to have forest managers more aware of the opportunities before them and then to have an auditing system to verify if, in fact, they are implementing those strategies.

Mr. Darren Fisher: Okay. Thank you.

Now we go over to Mr. Amos.

The Chair: You have a minute left.

Mr. William Amos (Pontiac, Lib.): Thank you, Darren.

Thank you to our witnesses. It's really fabulous to have you here.

I want to jump in on what appears to me to be two levels of government going in totally different directions when it comes to increasing forest cover and increasing wetlands, etc.

On the one hand, you have our government, which has invested historic sums, $1.3 billion over five years, in protected areas and protected spaces and all different forms of terrestrial and marine areas. At the same time, our government has also for the first time opened to provincial governments, through the bilateral infrastructure deals signed with each province, natural infrastructure as a category of available federal financing. So provincial governments that choose to begin open programs that enable natural infrastructure can receive federal financing for that. It's up to the provinces.

I don't believe Ontario has gone in this direction. I'd ask for your correction if I'm not on point. But on the other hand, we have an Ontario government, provincially, that is pulling out of the business of planting trees.

I'm seeing two different directions here and I wonder if you could comment on the importance of both the federal government investing massively in conservation and in natural infrastructure, and also a tag team effort and the fact that there's a real challenge when you have a provincial government going in the opposite direction.

Maybe we could start with Mr. Keen.

● (1625)

Mr. Rob Keen: Sure.

Yes, certainly, I think the notion is that it can't be borne by just one level of government. There need to be multiple partners at the table to work towards this common direction, ensuring the natural infrastructure that we are all, I believe, trying to achieve.

Certainly, with the direction of the current provincial government, that could be questionable just because they have cancelled the 50-million tree program. They're cancelling some other supporting mechanisms that speak to nature, the various endangered species, things like this that seem to be under question.

As I noted earlier, I do think that we can all get our heads wrapped around the fact that we have to have a healthy environment in order to drive a healthy society and a healthy economy, and not the other way around. We can't be all focused on the economy and worry about the environment later. That has tended to be the way things have been for a long time. Hopefully, now we can start to recognize that no, we have to start with that healthy environment first.

Again, governments need to be part of this. I see corporations being part of this too through corporate social responsibility, and certainly the public, and individuals themselves, can contribute to all of us working together to ensure that we have that healthy environment for the future.

Mr. William Amos: Thank you.

Mr. McNevin, with the brief time that is left, would you mind commenting on that.

Mr. Bradley McNevin: I agree that all levels of government...we need support from a conservation authority perspective. The provincial government is looking at reviewing the Conservation Authorities Act and the way it's administered. It's vitally important for conservation authorities that the Conservation Authorities Act is represented to allow us to properly review development proposals and implement measures within the act for the betterment of our environments and to protect people from the effects of flooding and disasters.

The Chair: Thank you.

Hon. Ed Fast (Abbotsford, CPC): Is there any time to ask...?

The Chair: I think there's time for a three-minute round, Mr. Fast, if you want to take that, and then we'll suspend the session and reset and get the next group going.

Hon. Ed Fast: Thank you, Mr. Chair, and thank you to all of our witnesses for appearing here.

I noticed my colleague over here, Mr. Amos, tried to draw you into a political comment. I'm not going to do that. I think this is too important to politicize.

I'd like to talk a bit about the wetland restoration and expansion opportunities that we have to address some of our flooding challenges across Canada.

Mr. Amos already referenced some of the funding that is available federally for infrastructure development. Could you comment on the programs as you see them right now at the federal level that provide support for wetlands management and expansion, especially in the local communities, which is where I see a lot of it happening?

In my community of Abbotsford in British Columbia, there are a number of different urban wetlands that were preserved and that protected against urban sprawl, and today they're serving us very well in addressing flood challenges that occur from time to time.

I'd be interested in any of your comments, and I have one question for Ms. Lindsay.

Mr. Bradley McNevin: I can speak from my watershed perspective. While appreciating the fact that we get funding from the federal government for wetland protection and infrastructure, from our conservation authorities' perspective, we look at trying to protect the wetland before it gets destroyed. So, leave it intact. I'll say restrict development from impacting that development by keeping it outside of the boundaries, so it can function as it was meant to. My point of view would be that it would be better left intact and not to have to reinvent it after it's been impacted.

● (1630)

Hon. Ed Fast: Ms. Lindsay, your organization, FPAC, represents the managed forest sector. Is that correct?

Ms. Kate Lindsay: Correct.

Hon. Ed Fast: In all of the research that your industry has done, when it comes to forest fires and forest fire mitigation, are there some actions you feel the federal government should take that would reduce the incidence of fires within managed forests?

Ms. Kate Lindsay: I think it would build on what I had mentioned earlier. The federal government has a lot of expertise in this area, considerable expertise across the Canadian Forest Service. A lot of the forest experts and fire experts are within many of those research stations across Canada, so I believe there is knowledge that can be shared.

I think a step in that approach is these vulnerability assessments, understanding what the specific vulnerabilities are in your region specific to fire, and then working collaboratively with multiple levels of government to advance those mitigation and adaptation measures, particularly around community safety and emergency preparedness.

There is a lot of great work happening on a small scale right now. Seeing where those opportunities are that could be further invested in and expanded is where I see the federal government taking a role.

The Chair: Thank you.

I'd like to thank our three witnesses for being here today. We realize there is so much more time we could have spent on this, but as we are nearing the end of the session, we wanted to dedicate today to an issue that has been very important to Canadians—we're hearing a lot about it—and we'll have a bit of time on Wednesday on the same topic.

Thank you so much for bringing your thoughts to the table today. It's been fantastic, and this may be something the next Parliament will be able to pick up and really move forward on.

We're going to suspend now and switch out our witnesses, and then we'll get going again as soon as we can.

● (1630)

(Pause)

● (1635)

The Chair: Thank you to our next panel for being here for this discussion today.

From Calian Ltd., we Richard Moreau and Adrienne Ethier, and from FireRein, Quincy Emmons and William Stewart. We also have the Insurance Bureau of Canada, with Craig Stewart.

Welcome to all of you.

I believe that FireRein has a PowerPoint presentation, and we have the technology working right now, so I'm going to start with you for your 10-minute opening statement.

Then, we'll go to the other two and then into the questions and answers, as you just saw with the previous panel.

Welcome. I look forward to the conversation.

FireRein, if you would like to start, please proceed.

Mr. Quincy Emmons (President, FireRein Inc.): We would like to thank the chair, vice-chairs and members of the committee for allowing us to make our presentation.

I am Quincy Emmons, FireRein president and co-founder. Here today with me is FireRein's board chair, William Stewart, a distinguished leader within the Canadian fire service.

FireRein was founded by firefighters who discovered what was really in the firefighting chemicals we were using. FireRein's sustainable Eco-Gel formula is certified a 100% bio-based by the United States Department of Agriculture and by UL Environment, confirming that every ingredient comes from plants. In fact, the majority of our ingredients are grown by Canadian farmers.

Eco-Gel is used with traditional firefighting equipment to create a viscous coating that sticks and stays on horizontal, vertical and overhead surfaces to quickly extinguish fires. We basically make water stick. Eco-Gel can be applied as a fire prevention coating to protect adjacent structures from nearby fires or ahead of advancing wildfires to protect homes and businesses. Eco-Gel is made entirely of plant-based ingredients free of harmful chemicals.

Under pressure, Eco-Gel flows like water, but once that energy is removed, it will set in place within 10 to 15 seconds, allowing the firefighter to control their firewater runoff instead of that runoff flowing into waterways or leaching into the ground. FireRein Eco-Gel quickly cools and excludes oxygen from a fire, resulting in a rapid extinguishment.

Our climate is changing, and these mega-fires are becoming more common. Reports from the devastating Fort McMurray wildfire indicated that embers flying ahead of the fire ignited new fires to homes and businesses, which then required response resources to be pulled from other assignments. That created a snowball-like effect where the problem kept growing until available resources were overwhelmed.

Several reports indicate that carbon emissions from wildfires are significant, and are frequently not reported as they negatively skew statistics.

Currently, there are several long-term fire retardants approved for use in Canada for fighting wildfires; however, they are all owned by one company, just one. Warning labels on these products include comments such as “do not apply to green growing vegetation” and “do not spray in seasonal or year-round waterways.” Several reports, like the one you see there, show the harmful impact of the products currently being used.

The fire service has known for years the impacts of AFFF foams and their linkage to cancer. Firefighting foams are being banned all over the world because they contain cancer-causing chemicals. Firefighting foams are linked to drinking water contamination in hundreds of U.S. military bases, and even some Canadian towns like Mississippi Mills, Ontario.

During fire operations, large volumes of water containing these chemicals are applied. These chemicals bioaccumulate, meaning they just keep building up in humans, animals and ecosystems. They keep showing up many years after being applied. The environmental cleanup and health care cost, as well as potential legal implications, can be staggering, as you can see from some of the headlines.

FireRein is growing a safer and innovative firefighting solution right here in Canada. Eco-Gel is currently in use in multiple municipal fire departments and industrial facilities. FireRein has distributors across Canada eager to introduce it to new communities and new fields of use.

Eco-Gel is proven to be more effective than firefighting foams and gels. Eco-Gel knocks fires down in less time while using less water. Eco-Gel reduces the environmental impact of a fire by controlling firewater runoff and by not adding any harmful chemicals to an already dangerous situation. The ability to stick and stay where applied is key.

FireRein Eco-Gel is the first firefighting gel that is effective at fighting class B fuel fires as well as wildfires and class A structural fires. This gives fire departments a multi-use firefighting and fire prevention tool.

This Canadian report found firefighting gels to be more effective than long-term fire retardants. FireRein Eco-Gel could be used as a chemical-free coating on forests to create fire breaks and to assist fire crews with controlled burns without harming the trees. Controlled burns are needed for healthier forests.

● (1640)

FireRein Eco-Gel is certified safer, and reports show it's more effective.

We need the opportunity to prevent embers from growing fires into megafires, to apply Eco-Gel to land in order to protect property from fires and harmful chemicals, and to apply it directly to extinguish wildfires.

We need support: government support to increase awareness and share our story, government support to encourage agencies to be allowed to use Eco-Gel and government support to amend the rules that were changed in the 1970s and the 1980s to allow the use of chemicals on wildfires. We need help to amend these rules again to allow certified 100% plant-based product to be applied instead of harmful chemicals. Rules should be based on effectiveness and environmental impact.

Thank you again for this opportunity. We are happy to answer any questions you may have.

Thank you.

The Chair: Excellent. That's very interesting, and we look forward to some good discussions on your product.

Let's go to Calian Ltd. next for their opening statements. I'll turn it over to you for 10 minutes.

● (1645)

Mr. Richard Moreau (Director, Emergency Management Solutions, Calian Group Ltd.): Thank you, Mr. Chair and members of the committee, for inviting us today to present our perspective on risk and natural disaster.

My name is Richard Moreau. I'm the director of emergency management solutions at Calian. My work in emergency management over the years has included risk assessment, developing plans, and developing exercise and training programs to assist our first responders in their ability to manage and respond to incidents and disasters, whether they be naturally based, man-based, or large security events. The angle that my colleague and I will be providing the committee with today is from the perspective of a science-based approach to emergency management and structures.

All natural disasters generate system-based challenges—in particular, with our response capacity, an ability to sustain it through the response and full recovery period. Our current structures and systems are not optimized or designed to sustain increasingly long response and recovery periods caused by more frequent and more severe extreme weather events.

One of the best ways to reverse the trend is to focus more resources into mitigation, adaptation and preparedness. The starting point for any appreciation of the natural disaster hazards caused to communities is an all-hazards risk assessment, also know as AHRA. The AHRA process is a systematic way of identifying the hazards that could exist and then defining the risks associated with those hazards. Unfortunately, since the vast majority of communities in Canada do not have an up-to-date all-hazards risk assessment, they don't clearly comprehend the impacts of the risks that are present in their communities.

In addition to the physical hazards, there are other systemic risks and impacts generated by our built environment. I'm talking here about the vulnerability of our infrastructure in the face of the increasing risk from the impacts of climate change. We are seeing an increase in the so-called 100-year events presenting challenges to our infrastructure, most of which was built based on older risk models that no longer reflect the current reality and future trends. Using new risk assessment models and approaches, up-to-date data and modelling tools will allow our emergency planners and decision-makers at all levels to better appreciate the risks and make better-informed decisions about investing in the right areas to better mitigate, prepare for and adapt to a changing environment.

For an example of such successful investment in mitigation, we can turn to the Winnipeg floodway. When it was built in the sixties, it cost about $60 million. It was then further improved with another investment of $600 million in the nineties. Current estimates show that as a result, up to $32 billion was saved in damages, response and recovery costs for that investment—a $44 return on investment. That's pretty good when we compare it with the norm in the industry, which is that for every dollar in mitigation and preparedness, we save $6 in response and recovery.

In addition to physical mitigation efforts, there are also organizational preparedness measures, the means of preparing those who will eventually be called upon to respond. Depending on the scale of the disaster, the response might include resources from all levels of government and also a wide range of external partners. Improving preparedness by all stakeholders requires them to plan and invest time in advance to practice their response. This will allow the time to focus on the problem quickly upon activation. At the end of the day, preparedness is about taking uncertainty from the onset of the event and allowing people to quickly transit into dealing with the situation they're faced with. This is part of a broader need to better prepare Canadian communities to face disasters. To do so, we need to shift our emphasis, currently placed on response and recovery, towards mitigation, capacity, preparedness and adaptation while maintaining a strong response capability.

Investment in mitigation and preparedness will deliver two benefits to improve community resilience. First, it will reduce the impact of disasters. Second, it will reduce the time required for recovery.

● (1650)

As we see an increased frequency in severity of natural disasters, we see some communities that have not fully recovered before the next disaster strikes. Down the Ottawa River this spring, we're seeing all kinds of examples of communities that were barely recovering from the 2017 flood before being hit again by the 2019 flood. This is not a sustainable model.

Emergency management truly requires a whole-of-society approach, meaning that all levels of government, industry, academia, local volunteer organizations and affected residents must be involved in disaster planning, mitigation and preparedness. Building more resilient communities will require a shift from a focus on response and recovery towards one on investment in mitigation, preparedness and adaptation.

I will now turn over the remainder of my time to my colleague, Dr. Adrienne Ethier, who is an accomplished expert in science-based risk modelling, and who will quickly summarize how available models and maps can be integrated to improve our capacity to prepare for and mitigate the impacts of extreme weather events, helping us to make better decisions and to build better for the future.

Dr. Adrienne Ethier (Senior Scientist, Emergency Preparedness, Calian Group Ltd.): I would like to start by thanking the committee for inviting us to attend today.

The visual aids that we shared with the committee weren't available in time, but they'll be available to you later and are intended to provide a sampling of existing data integration and risk communication tools based on validated data collection and/or predictive risk models that can be used to improve public risk communication. My remarks today will focus on how a science-based approach to risk planning adds valuable insights to mitigation and preparedness, and can inform better response plans.

Building on the existing knowledge base, we can improve how disaster is measured, visualized, communicated and understood before the disaster even strikes. To model future risks, environmental scientists and emergency planners should integrate existing science-based predictive models with GIS-based operational environmental maps that include water quality, land use, financial liability, economic risk, watershed characteristics, dams, hydrometric data, snow survey sites, and climate change in order to forecast the risk of floods, fires, and ice storms, and to complement or add to that knowledge with spatial analysis and/or data trends obtained from past disasters and regional traditional knowledge.

The results would be an integrated GIS-based predictive map that would use available data and knowledge on terrain and weather to simulate a range of possible outcomes based on a series of inputs. The current risk assessments generated are generally well understood by emergency planners and environmental scientists. However, the specifics of what that means to homeowners and the public are not well understood. Specifically, there's a gap in translating that risk assessment into information the public can understand. The outputs of science-based risk models should be presented to the public in a way that allows people to better understand the risks. This means using integrated predictive maps that clearly show high-risk areas and how the risk will manifest. This could include showing how high the water will rise in a flood, where the fire could burn, and how long the power could be knocked out based on the distance from the main power lines. The outcome of the natural disaster should be made clear to the public to emphasize exactly how they will be affected.

Any risk communication to the public is not a one-time activity. Therefore, accumulated GIS-based data on things such as snowpack, land-use activity, forest cover and expected water levels should be integrated into predictive models to clearly forecast and show the public the pending or immediate risk.

Once the extreme weather event has passed, the data required should then be used to update the model and risk profile to ensure that the model is and continues to be credible. For emergency managers and emergency planners, scenario-based experimentation is essential to planning for a range of possible outcomes. By manipulating the variables like expected rainfalls, warmer weather—

The Chair: Our translators are having an issue with keeping up, so could you slow down just a little bit? We want to make sure everybody gets the full benefit of what you're saying in both languages.

Back to you.

Dr. Adrienne Ethier: All right.

By manipulating the variables—like rainfall, warmer weather, melting snowpack—faster than expected, emergency planners can visualize a range of scenarios and optimize their planning. This could include prepositioning breakwaters and sandbags, doing rehearsals and preparation, or starting mobilization of volunteer networks in anticipation of the flooding.

Manipulating variables and risk models does not guarantee perfect forecasting of the magnitude of the risk. Nothing does. However, it does allow for a range of plausible outcomes to be presented to planners and decision-makers before a crisis, based on the best science we have available.

There is a cost to developing and working with the models. Data models need to be built and constantly revalidated. Data from mobile sources needs to be collected. Visual analytic products need to be developed. Decision-makers and planners need to be briefed on the range of possible outcomes. However, much of this data is already available for these models, collected by federal, provincial or municipal agencies. It is a question of integration to facilitate robust risk assessments and forecasts. The cost of integrating the risk models will inevitably be lower than the cost of response and recovery.

As we know from Dunrobin, just west of Ottawa, the cleanup of the flood of 2019 will also include cleanup of the last of the 2018 tornado debris. Fort McMurray is forever changed by the wildfire of 2016. Homes destroyed by fires and floods will have displaced entire communities and changed their attitudes and fabric forever. The question surrounding the social damage and social costs cannot be ignored, and neither can they be measured in the same way as money. This must be considered when developing risk assessment tools to improve our collective capacity for emergency management and public risk communication. Houses can be rebuilt. Communities can never be rebuilt the same way.

In conclusion, using integrated science-based predictive risk models and visual GIS-based maps will permit decision-makers and planners to better appreciate the potential risk to communities and individuals situated within their shared watershed. When these results are communicated to the public, they will provide a better appreciation of the complexity and magnitude of these collective risks. The maps and models needed to accomplish this for the most part already exist and need to be used more effectively, especially for public communication. The costs of doing so are marginal compared to the benefits this will provide in our capacity to forecast and plan for disasters.

Based on extreme weather trends that have been observed in the past few years and decades, it is crucial that we adopt a proactive and predictive approach to planning and preparedness and move away from the reactive approach that has been taken in the past.

● (1655)

The Chair: Great. Thank you.

Now, Mr. Stewart, we will go over to you for your 10-minute opening statement from the Insurance Bureau of Canada.

Thank you.

Mr. Craig Stewart (Vice-President, Federal Affairs, Insurance Bureau of Canada): Thank you, Mr. Chair and committee members, for the invitation and opportunity to speak to you at the standing committee today on the subject of disaster mitigation and insurance.

I'm Craig Stewart, vice-president of federal affairs at the Insurance Bureau of Canada, or IBC. We are the national trade association representing Canada's private home, car and business insurers.

Eighteen months ago, after the 2017 floods across eastern Canada, the Honourable Ralph Goodale, Minister of Public Safety and Emergency Preparedness, appointed a national advisory council on flooding, largely embodied by two working groups: one dealing with the financial risk of residential flood, which I co-chair, and another dealing with flood mapping.

Our working group comprises representatives from four provinces, four federal departments, the Federation of Canadian Municipalities, water utilities, several university think tanks, the Canadian Real Estate Association and a number of others. We presented the results of our work to ministers responsible for emergency management last May, and again in January 2019. We have been asked by these FPT ministers to design and cost alternatives to the present ad hoc Canadian system of bailing out those in harm's way with taxpayer dollars. Our report will be released publicly within days.

For context today, I would like to point out several facts. First, Canada has a climate adaptation plan as one of four pillars of the pan-Canadian framework on clean growth and climate change. Although we requested in 2016 that this plan deal comprehensively with flooding and made a thorough multi-partner submission to this effect, it does not do so.

Second, Canada has a new all-hazard national emergency management plan as a result of extensive ministerial and senior official discussions over the past three years. This spring we have already witnessed a much more effective response to the 2019 floods than 2017. The IBC congratulates the ministers responsible for emergency management who collaborated across political lines to make this plan a reality, and Canadians are already benefiting from it.

Third, my industry was founded on addressing the financial risk of fire to both individuals and communities. After 350 years we manage it reasonably well. Almost every single person who was affected in the Fort McMurray fire had insurance and was quickly reimbursed for their loss. Flooding is another story.

Fourth, flooding imperils far more Canadians than wildfire, wind or hail. Here are some numbers. In 2013, 3,000 buildings were flooded across Calgary, Alberta. In 2016, about 2,500 buildings were destroyed by the Fort Mac wildfire. In 2017, 5,300 homes were flooded in eastern Canada, particularly in New Brunswick, Quebec and Ontario. In 2018, the B.C. wildfires that raged all summer damaged 300 homes. In the spring of 2019, this year, 17,500 homes have been flooded across eastern and central Canada. These numbers do not account for the number of people flooded every year, in every province, from extreme rainfall events.

Yes, we do need to improve our response to wildfire. There are health issues from smoke inhalation that extend far beyond the fire zone itself. Wildfire is a growing hazard and IBC fully supports the implementation of the Canadian wildland fire strategy and, specifically, the widespread implementation of FireSmart programming.

Relatively speaking, flooding affects far more Canadians than any other natural peril and we are much further behind in our ability to help Canadians recover. Almost every single individual who suffers direct financial loss from wildfire is covered by insurance. They are not left in financial ruin. Flooding affects more people and, frankly, we do not have a coherent game plan for it.

Some provinces want to stop using taxpayer dollars to repair flooded residences. Others don't. Some provinces want to move people out of harm's way through home buyouts. Others don't. Some provinces still allow for building on flood plains. We have an ad hoc, non-prioritized system of funding flood infrastructure. Beyond improvements to emergency management, our approach to floods is uncoordinated.

Contrast this with the United States, where FEMA runs a sophisticated national high-risk flood insurance scheme run by the federal government; or with Great Britain, where a similar national scheme is run by private insurers. In both cases, funding for infrastructure deployment, strategic retreat options and citizen awareness initiatives are all coordinated with the insurance program. In fact, Canada is the only G7 country without a national coordinated approach to flooding.

● (1700)

Such an approach can only come through federal leadership. We have come a long way in the past two years, thanks to Minister Goodale's leadership, but that leadership must be sustained. This is a complex file.

This is why, as we head into a federal election, IBC is calling for a national action plan on flooding, built on the lessons learned from the work of our National Advisory Council on Flood Risk.

There are approximately one million homes, or 10% of all residences across the country, at high risk. In late 2015 property and casualty insurers brought overland flood insurance to the market and we now estimate that 80% of Canadians do have access to overland flood insurance. However, there are certain areas in Canada where, in many of them, the risks are simply too high for the insurance market to normally support.

IBC believes that a national action plan on flooding should focus on three key pillars: educate, protect and change.

First, on education, governments and the private sector should use flood maps to educate and empower consumers to reduce their own risks. The federal government should make an immediate surge investment through Natural Resources Canada to improve the quality of terrain data, which is the foundation of all flood mapping in the public and private sector, whether you're a municipality or a private insurer.

Our base terrain maps must be improved from 30 metres in resolution to at least five metres. For two straight years the Canadian Centre for Mapping has sought funds for this purpose, but has unfortunately been declined.

Then the federal government should create an authoritative online portal where consumers, businesses, realtors, mortgage lenders and others can access flood maps and convey both the personal level of risk and what can be done to address it. International research shows that if consumers and businesses do not know their level of risk, they're not likely to do anything about it. This past January federal, provincial and territorial ministers of emergency management underscored the urgent need for such a portal.

The second pillar is protection. In short, we should move a few, then insure and protect the rest. Homes at the highest risk of repeated flooding should be relocated or elevated. If they repeatedly flood, they simply cannot be insured. We cannot move one million homes, though, which is why strategic retreat must fit hand in glove with coordinated infrastructure upgrades, such as flood defences and a national high-risk insurance scheme similar to what is offered in Great Britain.

Allow me to spend a minute on this. Insurance, simply put, is a mechanism for risk transfer. If you are at risk of flooding or wildfire, you pay an insurer to take that risk for you, in full or in part. The insurer will then reward you or your community for lowering that risk. If your community builds a fire station or if you install smoke alarms and fire extinguishers, you are limiting the risk to the insurer and the insurer lowers your premiums as a reward.

Insurance is built on a system of incentives firmly rooted in behavioural economics. However, if you rely on taxpayer-funded bailouts there are no incentives to lower your own risk. This is why ministers of emergency management have asked the national advisory council to cost and design a high-risk insurance pool among other possible options for protecting Canadians.

In such a pool property owners would pay premiums that are as risk-based as possible, but to ensure affordability and take-up, these premiums would be capped and subsidized through a range of possible mechanisms. The pool would reward community and individual-level investments in flood defences, and these defences should include consideration of the role that natural infrastructure plays and the means needed to financially incent the restoration or conservation of those wetlands, riparian forests and coastal dune systems where they play a role in protecting us.

You've heard quite a bit about the merits of natural infrastructure, so let me illustrate with an example. Ninety-five per cent of southwestern Ontario has been cleared for agricultural purposes. The highest per capita loss area in the entire country, according to our flood modelling, is Windsor, Ontario. This is not a coincidence.

Financially, we need to develop the explicit mechanisms where natural infrastructure is factored into insurance schemes and communities are rewarded for restoring or conserving the forests and wetlands that protect them, such as how generations ago we incented communities to build fire stations.

● (1705)

Finally, a national action plan on flooding should focus on changing our land use and permitting practices. We should look at the model practice of conservation authorities in Ontario or the Fraser Basin Council in B.C. and determine how to strengthen them and leverage such approaches in other jurisdictions.

We should implement the new climate change considerations being developed for the national model building code in all jurisdictions as soon as possible.

In concluding, thank you once again, Mr. Chair, for the opportunity to present to you today. As we contemplate our approaches to climate change over the next few months, Canada's property and casualty insurers have a clear message. If adapting to flood is not an explicit part of your climate plan, your plan is not relevant to the single greatest climate threat facing this country.

Thank you.

The Chair: Thank you. We really appreciate those opening comments.

I should mention that we're using the same card system as before: the first card will show there is one minute left and that you should wrap it up without cutting off in mid-sentence.

For the first six-minute round, I have Mr. Bossio.

Mr. Mike Bossio: Thank you so much, Chair.

Thank you, witnesses, for being here today. It was great testimony and valuable information for this important study that we're doing, especially at this time of year with the flooding and the wildfires happening at the same time.

Actually, I think it's appropriate that Quincy is between the two of you, because his product can help. Once you guys have identified the risk, his product can help to mitigate that risk; and on the insurance side, he can help to minimize the impact of these wildfires. Sorry, I know it's not a joking matter, but I am so proud to know that there is a company in my riding like FireRein that has created such an innovative and very valuable product, especially given what we're dealing with in climate change.

Quincy, I'm also really happy about the fact that our government helped to provide you and your company with some valuable funds to allow you to continue to develop that product and grow your team, so that we now have this product available today.

Can you give us some understanding of some of the barriers that exist now for innovative companies like yours to be able to get this product to market, and to market quickly?

Mr. Quincy Emmons: Our biggest problem to date is that our product is not a firefighting foam, so there's the box. The tests have to be done for foam and ours is a gel. There isn't a gel test per se. We're in the process of building our own gel test with UL. Unfortunately it has to be done in the U.S. There are no testing bodies in Canada for our product or other firefighting products. Everything goes down to the U.S.

● (1710)

Mr. Mike Bossio: That's what's interesting, because CSA isn't good enough as far as standardization is concerned. You have to get UL, which then forces you down to the U.S.

Mr. Quincy Emmons: Yes.

Mr. Mike Bossio: It delays; and of course the companies you're competing against are American companies, so they don't have as much incentive to get you that UL accreditation as quickly.

Here we have hazardous-based toxic products that are being used, as you know, being a firefighter yourself, and Zachery, your partner in crime, both being firefighters. That's what drove you to create this product. You've seen the impacts of these toxic products first hand.

Mr. Quincy Emmons: Yes, and Bill.

Mr. William Stewart (Board Chair, FireRein Inc.): If I may add this, through you, Mr. Bossio, certainly the impact of firefighting foams is that they, traditionally, have caused numerous cancers in firefighters across the country. Depending on the province, there could be up to 15 or 18 different cancers recognized as being derived from foam.

Certainly the Eco-Gel, the product that we have developed, takes all of that away. It is very effective.

Mr. Mike Bossio: I've been very fortunate to see you in action knocking down a fire in one of your testing processes that you went through for the gel. I was just astounded at how quickly you guys were able to knock down that fire. The beauty of it is that you knocked down the fire. Typically, if you you use another product to knock down the fire, then you've got a toxic mess to clean up afterwards.

Essentially what you guys have is compost—

Mr. Quincy Emmons: Yes.

Mr. Mike Bossio: —after you've knocked down a fire, right?

Mr. Quincy Emmons: It depends on the fire. If it's a wild land fire, yes, you just basically have compost. If it's a class B fuel fire, you have to get it removed mechanically—

Mr. Mike Bossio: But that's because of the fuel, not because of the Eco-Gel.

Mr. Quincy Emmons: It's because of the fuel. You're containing that spill, though.

Mr. Mike Bossio: Oh, right. Yes, because you're stopping the fuel from spreading farther. You've created a barrier with the gel to be able to knock it down.

I also saw some videos and other highlights of your spraying a house to protect it. You were spraying something to protect it. You've applied the flames and all the rest of it, and it's protected. After the flames were gone, you used a power washer to wash it all down. It was just like new.

Mr. Quincy Emmons: Yes.

Mr. Mike Bossio: Once again, there was no impact whatsoever on the building, and there was no impact whatsoever on the environment.

Mr. Quincy Emmons: No. They're 100% food-based ingredients. It's plant based.

Mr. Mike Bossio: It's the same thing if you want to create a forest barrier to a fire. If a fire is bearing down on a town, you're able to circle the town with your product. Right now, we're seeing this in High Level, Alberta; and Slave Lake, which burned down in 2011, is now under threat again, eight years later.

If you had the ability to provide enough gel in the forested areas around the town, do you feel that you would be able to mitigate the impact of the wildfire on that town?

Mr. Quincy Emmons: Yes, you significantly reduce the risk, without any harmful chemicals that could end up harming the trees in the future.

Mr. Mike Bossio: Yes, and once again, if anything, it would help to feed the trees, after the fire has gone through, in their regrowth.

Mr. Quincy Emmons: Yes.

Mr. Mike Bossio: Really, once again, you're providing compost on the ground, and therefore it's food to the trees themselves.

Once again, is there anything you would like to add that you would like to see, such as a barrier removed that would allow this product to come to market more quickly? Is there anything we could do as a government that would assist you in getting this product to market more quickly?

Mr. Quincy Emmons: Encourage the communities that need help and the fire crew leaders in the area to let them know that this product is available.

Mr. Mike Bossio: Actually, you've even offered to provide it for free, haven't you?

Mr. Quincy Emmons: Yes—

The Chair: You're out of time.

Mr. Mike Bossio: Oh, but he should answer that.

Seriously, go ahead, Quincy.

The Chair: Really quickly, we're out of time.

Mr. Quincy Emmons: Okay.

The Chair: Thank you.

Mr. Fast, you have six minutes.

Hon. Ed Fast: Thank you, and thank you to all of our witnesses for being here.

My questions are going to be directed to you, Mr. Stewart. I'm very interested in what you had to say about disaster risk reduction, and specifically the high-risk insurance component that you're asking the federal government to support.

Can you tell us what that program would look like? You've mentioned the United States. Does it actually have a high-risk disaster reduction program?

● (1715)

Mr. Craig Stewart: In the United States, FEMA runs what's called the national flood insurance program, which is a very sophisticated program that's responsible not just for insurance but also for funding flood mapping—they invest hundreds of millions a year in flood mapping across the country—as well as a community incentive system. They award points to communities based upon how those communities de-risk themselves. They essentially are providing a financial incentive to communities that lower their own risk, and therefore can make insurance available to them or more affordable to their residents. It focuses very much on high-risk parts of the country, such as south Florida.

The problem with the program, in our analysis of it, has been that it was susceptible to some major events. Right now, that program is over $20 billion in debt as a result of four major hurricanes that hit the southern U.S. all in one year.

From taking a look at it.... Also, it's run by governments, and government isn't always the most effective way to run such programs, which is why we favour Great Britain's approach in the U.K., which was just launched on April 1, 2016. That is a public-private partnership between insurers and governments in Great Britain. Insurers actually run it. It's transparent to the homeowner. They're just operating through their regular insurers, but behind the scenes, insurers basically collect premiums and remit them to a high insurance pool, which is ring-fenced. It's a non-profit entity. Everybody is offered affordable insurance.

Hon. Ed Fast: Is there a cost to government under the British model?

Mr. Craig Stewart: The government backstops it to a degree, but that particular model is funded through levies applied to insurance policyholders across the country. There's a bit of cross-subsidization from insurance policyholders, but not really from the taxpayers in Great Britain.

Hon. Ed Fast: All right. That sounds like a model we should be pursuing.

Mr. Craig Stewart: It's the model that ministers have asked us to take the closest look at.

Hon. Ed Fast: All right.

You also suggested that homes that are at highest risk of being flooded, those in very clear flood plains, should be removed and the inhabitants moved to other areas.

I'm assuming it's the government that would be expected to cover the cost of that.

Mr. Craig Stewart: Yes. In that case, you do have properties that, as we've seen unfortunately in this region, are going to repeatedly flood. They would drain any insurance pool that you set up, and other policy holders would essentially be subsidizing them for living there, which isn't right.

Those people, who probably shouldn't have been there in the first place, are a liability that the insurance industry really does not want to take on. They should be moved, through one-time programming —

Hon. Ed Fast: Federal programming?

Mr. Craig Stewart: Federal, provincial or municipal. That's a discussion that has to happen.

This is called strategic retreat. You carefully select those communities that should either be moved or elevated. You can elevate these homes as well, either by putting them on stilts or on berms, but they must be moved out of harm's way. You can design this program even as they've done in the Netherlands where they've created sacrificial areas. They've essentially said, “Okay, this whole area, we're just going to move. We're then going to divert water into it, and that's going to reduce flooding downstream and protect communities downstream,” so you can do this intelligently.

Hon. Ed Fast: In terms of the natural infrastructure that you referenced, I'm curious to know to what degree the federal government has actually supported natural infrastructure and disaster mitigation efforts such as wetland restoration and expansion through federal infrastructure monies.

Mr. Craig Stewart: To date, with the disaster mitigation and adaptation fund run by Infrastructure Canada, natural infrastructure is eligible in that program. Unfortunately, the threshold for the program is such that it's quite high. The minimum threshold is $20 million, so you can't apply only for a natural infrastructure project. It's just too high for it, as well as from a cost matching perspective. However, we understand that in the first tranche of applications made to that program, about 30% of them did have a natural infrastructure component, so the demand is essentially there.

We're recommending that there be tweaks made to that program so that very innovative programs such as the ALUS program, which is basically a landowner compensation program, can be made eligible. Much of this natural infrastructure is not on public lands; it's on private lands, so we need to figure out innovatively how we incent people to protect that.

We're recommending that tweaks be made to that. We're recommending that the program be expanded because it's a success, but also that tweaks be made to it, and those conversation have been had with officials at Infrastructure Canada.

● (1720)

Hon. Ed Fast: Thank you.

The Chair: Okay. Mr. Stetski, over to you for your six minutes.

Mr. Wayne Stetski: Thank you all for being here today. Again, I'm going to focus primarily on Mr. Stewart, I think.

I'm curious about the committee that was put together. You said there were four provinces represented on it. I'm just curious which ones they were and how they were selected to be on that committee.

Mr. Craig Stewart: They were self-selected. British Columbia, Manitoba, Ontario and Quebec are all represented. That said, the Province of Alberta has been very engaged, as have the provinces of New Brunswick and Nova Scotia. Those four provinces are officially on it, but it's not limited; it's open to participation by others.

Mr. Wayne Stetski: Okay.

I've worked at the municipal level as a mayor, and I've been with provincial government and now federally. From the Insurance Bureau's perspective, what makes you shake your head and say, “Why isn't the municipality doing this?” What should the municipalities, provinces and the federal government be doing—all three levels—mostly to prevent, but also to help mitigate against, flooding, as an example? We could talk about fires as well. What do you think we should be doing more of at all three levels of government?

Mr. Craig Stewart: We should be collaborating closely; that's the number one thing. That's the municipalities, as well as the provinces and federal departments, with the private sector insurance industry, realtors and banks. It gets to that whole-of-society piece that we talked about.

We need to be engaging together, because this is a complex problem. We should first be working together to prioritize infrastructure spending. There is a lot of money out there, but it should be prioritized to the highest risk and most problematic areas. We should be communicating and sharing flood-mapping data much more than we do.

As insurers, we need to do a better job of recognizing disaster mitigation efforts. When municipalities are investing in disaster mitigation, they should be seeing the return on investment from that in terms of the availability of insurance and the pricing of that insurance accordingly.

Those conversations have begun, but frankly, there is a ways to go. We need to do a much better job of it.

I guess it comes down to that we need to be collaborating.

Mr. Wayne Stetski: Is the Insurance Bureau funding any proactive initiatives related to climate change? For example, would the insurance industry produce best management practices on water management, or any of those kinds of initiatives? Are you putting your money into any proactive things related to climate change?

Mr. Craig Stewart: Absolutely.

We have, just in the last year, funded a workshop and reports on how to incorporate natural infrastructure more effectively into mitigation planning. We've done that in partnership with the Intact Centre at the University of Waterloo and the International Institute for Sustainable Development. We're also in partnership with the Federation of Canadian Municipalities on quantifying the effects of climate change on municipalities. That report is forthcoming.

We have also been doing a fair amount of work with municipal stormwater managers, represented through the Canadian Water Network, on how to better incorporate climate considerations into our risk modelling. Natural Resources Canada has been a partner in that as well.

That's just a sample of what we've been working on.

Mr. Wayne Stetski: I'm very happy to hear that. In the end, we all have the same objective—trying to keep homeowners safe, maybe for different reasons potentially, but that objective is certainly there.

Mr. Moreau, is your company a private company that specializes in emergency management? Is that the context for you?

● (1725)

Mr. Richard Moreau: It's one of the business lines within the company, but certainly emergency management and preparedness is one of our key areas.

Mr. Wayne Stetski: Going back to my time as a mayor, we all had emergency response plans in place.

How do you think municipalities are doing in adapting emergency response plans to the reality of climate change?

Mr. Richard Moreau: The challenge is resources.

Some of the communities that have more risk exposure are not necessarily the biggest or the ones with the deepest pockets, so their ability to maintain their plans and procedures, and to practice them, is very limited. They would benefit from being enabled by some funding mechanism at the provincial or federal level. It's extremely limited.

Mr. Wayne Stetski: As a mayor, I used to be quite insulted, because the emergency plan said that the role of the mayor was to not get in the way of the real work.

I have a quick question for FireRein.

Do you have a cost comparison...? I'm trying to figure out why, if the product is what you say it is, it isn't used more often. Is it a cost thing? Is it a lack of a long-term track record? What's the situation?

So on the cost comparison first of all—

Mr. Quincy Emmons: On cost comparison, we're smack dab in the middle of the firefighting foams. You can get them much cheaper or far more expensive.

The biggest thing is education: teaching the firefighters that this is a different product so there are some slightly different techniques.

Mr. Wayne Stetski: On your track record, is the gel too new to have a track record? Is that another concern?

Mr. Quincy Emmons: We currently have three fire departments on board. We have seven fire departments lined up for training.

Everywhere they are using it, they are very happy. We're implementing truck replacement strategies now for the early departments.

Mr. Wayne Stetski: We can't look back to 10 years ago and say that it was applied and there was absolutely no impact.

Mr. Quincy Emmons: No. We've been in trial with a department north of Napanee, Stone Mills township, for almost two years now.

Mr. Wayne Stetski: That's two years. Thank you.

The Chair: We're down to our last three minutes, and we're going to Mr. Fisher for the final abbreviated round. Then I have a quick announcement that I need to make, and we'll be out of here.

Mr. Darren Fisher: All right.

Thank you very much, Mr. Chair. I'll get right into it.

Thanks, folks.

Over the past two years New Brunswick's Saint John River has seen two hundred-year floods. We heard Mr. Stewart speak to this. Human activity is causing Canada to warm at twice the global average, and this is a very expensive problem for New Brunswick. Last year's flooding alone cost the Province of New Brunswick more than $74 million, and the federal government has spent more in the past six years than it did in the previous 40.

There's a huge cost to inaction, Mr. Stewart, and New Brunswick is suffering from that.

How is climate change affecting and changing the insurance industry?

Do you feel that Canadians are generally aware of the costs that are covered in the event of a natural disaster?

Mr. Craig Stewart: Three years ago our CEO went coast to coast in this country with the message that climate change is a clear and present danger, and that whereas there is a national conversation around mitigating future risk, most Canadians are not connecting the dots and realizing that it's costing them right now.

Our industry saw remarkable change around 2009 when the costs of climate change escalated. Climate change-attributed natural disasters have risen very, very quickly. Last year our losses from an insured perspective were about $2 billion, compared to the hundreds of millions we were looking at each year throughout the 2000s—not billions.

The insurance industry is responding by offering new products, yes, but also by becoming increasingly vocal about the dangers we're facing, not just here in Canada but globally, and the fact that, yes, we need to reduce future losses by reducing emissions. However, we need to realize that it's upon us now, and I don't think anybody in this town could argue with that, after what we witnessed in the last three years. So we're being very vocal about that.

What was your second question again?

● (1730)

Mr. Darren Fisher: Are Canadians generally aware of what is covered in their insurance for natural disasters.

Mr. Craig Stewart: From the work we are seeing, Canadians are beginning to connect the dots, that there is a link between the events they are experiencing and climate change; these aren't just fluke events.

Canadians are not aware enough of what's contained in their insurance policies, and we have been working on better messaging to try to encourage them. A number of our members have gone out with much clearer language policies to try to make sure they understand their policies. I've been out continually talking about the need. Every year when you take a look at your policy upon renewal, you should educate yourself about what's in it and what isn't and make sure you are paying for the actual risk you face.

Mr. Darren Fisher: So the onus is on—

Mr. Craig Stewart: The onus is on both of us.

The Chair: We're out of time.

Thank you to the five of you for being here and being part of this discussion. We appreciate the time and insight you have all brought to the table today.

Concerning the announcement, I know there was enough anticipation about it. It's simply that there's a reception this evening with the David Suzuki Federation for world Earth Day, at 410 Wellington, starting at six o'clock. Joël Godin, Linda Duncan and I are co-sponsoring it, so if anybody has a chance to come by and celebrate World Earth Day and meet some others, please come by.

With that, the meeting is adjourned.