HOUSE OF COMMONS
CHAMBRE DES COMMUNES
CANADA

# Standing Committee on Transport, Infrastructure and Communities

TRAN • NUMBER 077 • 1st SESSION • 42nd PARLIAMENT

**EVIDENCE**

## Thursday, October 26, 2017

## Chair

**The Honourable Judy A. Sgro**

# Standing Committee on Transport, Infrastructure and Communities

**Thursday, October 26, 2017**

● (1535)

[*English*]

**The Chair (Hon. Judy A. Sgro (Humber River—Black Creek, Lib.)):** I'm calling to order meeting number 77 of the Standing Committee on Transport, Infrastructure and Communities in the 42nd Parliament.

Welcome, everyone. Pursuant to the order of reference of Wednesday, October 4, 2017, we are studying Bill C-48, an act respecting the regulation of vessels that transport crude oil or persistent oil to or from ports or marine installations located along British Columbia's north coast.

We have witnesses today. From the Canadian Association of Petroleum Producers, we have Nancy Bérard-Brown, manager. We also have, from the Canadian Energy Pipeline Association, Mr. Bloomer, president and chief executive officer; from the City of Victoria, by video conference, Councillor Ben Isitt; and from the City of Burnaby, Mayor Derek Corrigan.

We welcome all of you. Thank you very much for taking the time to join us today.

We'll open it up with Ms. Bérard-Brown.

[*Translation*]

**Ms. Nancy Bérard-Brown (Manager, Oil Markets and Transportation, Canadian Association of Petroleum Producers):** Good afternoon dear members of the committee.

My name is Nancy Bérard-Brown. I am speaking to you on behalf of the Canadian Association of Petroleum Producers.

I sent copies of our brief and of our presentation to the committee, as well as copies of the comments we submitted to the Honourable Minister of Transport in 2006. The documents are in both official languages.

[*English*]

Prior to introducing the oil tanker moratorium act in May 2017, Transport Canada undertook very brief consultations. CAPP did not support the proposed moratorium because it is not based on facts or science. There were no science-based gaps identified in safety or environmental protection that might justify a moratorium.

It is worth noting that Canada has an outstanding record on marine safety due to its stringent regulatory, monitoring, and enforcement regime and good operating practices deployed by industry. Canada has extensive experience in moving crude oil and petroleum products by sea.

The federal government has been a leader in ensuring that Canada has a world-class marine safety system that continues to evolve over time. Many safety measures have been implemented over the last number of years.

The government set up an independent tanker expert safety panel to review the Canadian regime. That panel concluded that the regime is fundamentally sound and it made some recommendations, which were all endorsed by the federal government. The national oceans protection plan launched by the Prime Minister will continue to ensure that Canada remains a leader in marine safety.

[*Translation*]

The bill as it stands would prohibit maritime access for a large range of hydrocarbon products. The moratorium would close the most economical route toward Asia, in addition to sending the message to the community of investors that Canada is not open for business.

Our production of oil and natural gas continues to increase. Canada has to expand its energy markets beyond the United States. The very broad definitions in the bill could exclude future condensate shipment opportunities from natural gas deposits that are rich in liquids and light hydrocarbons in the first stages of development.

Results have been very promising up till now.

[*English*]

My comments today will focus on the various definitions of oil and the need for science-based research.

As written, the regulations would prohibit the transportation of crude oil, persistent oil, or a combination of both.

First, the definition of crude oil is very broad and essentially includes all hydrocarbons. On the other hand, a list of persistent oils included in the moratorium is provided in the schedule. Having a “persistent oil” and a “crude oil” definition is confusing. If an oil product is not listed in the schedule, that does not necessarily mean that it could be transported, because it may fall under the definition of “crude oil”.

CAPP, respectfully, would recommend that the bill include only one definition of persistent oil, which links to a schedule that can be modified by regulation. Alternatively, CAPP would recommend that the crude oil definition be amended to say something like “any liquid hydrocarbon designated by regulation”.

The concept of persistent and non-persistent oils is very important, as it informs the response required in the event of a spill. The distinction is based on the likelihood of the material dissipating naturally. As a rule, persistent oils contain a large proportion of heavy hydrocarbons. They dissipate more slowly and require cleanup. In contrast, non-persistent oils are generally composed of lighter hydrocarbons, which tend to dissipate quickly through evaporation.

I would like to note that in the schedule, “condensate” is defined as a persistent oil in accordance with the ASTM D86 method. While distillation thresholds have been broadly used to define persistence, there are other key physical properties that should be considered in determining persistency.

Of note, definitions of persistent oil do vary. For example, Australia relies on standards that refer to API gravity and viscosity, in addition to alternative distillation.

Of note, western Canadian condensate is a unique, light hydrocarbon, which has very different properties and behaves differently from heavier crude oils. The timeline for condensate persistence in a marine environment is often hours or days.

● (1540)

CAPP would recommend that alternative definitions of persistent oil and thresholds be explored further. CAPP is also seeking consideration for alternative treatment of condensate from the list of persistent oil products.

[*Translation*]

The safe and reliable transportation of all of our products is critical for our members.

More scientific analyses are needed in order to better understand the changes and behaviours of various oil types. The industry is meeting that need. Our association and the Canadian Energy Pipeline Association have commissioned a study which should be completed in 2018.

We recommend that the federal government undertake a science-based risk assessment related to oil tanker movements along the British Columbia north coast.

We also recommend that you examine scientific research regarding the fate and behaviour of oil products under the Oceans Protection Plan.

[*English*]

**The Chair:** I know you are finishing up. Could you get your last comments in?

**Ms. Nancy Bérard-Brown:** Yes.

In conclusion, CAPP does not support the moratorium because it is not based on science. Recognizing the intent of the government to proceed, CAPP seeks to eliminate the confusion of overlapping definitions of persistent and crude oil, encourage further evaluation of the relevant characteristics of persistence, and have the flexibility to revise the scope of persistent oil through regulation consistent with future learning.

We also seek some clarification as to what factors would lead to the moratorium being lifted for any type or all types of crude oil.

[*Translation*]

Thank you.

[*English*]

**The Chair:** Thank you very much.

Mr. Bloomer, you have five minutes, if you can, please.

**Mr. Chris Bloomer (President and Chief Executive Officer, Canadian Energy Pipeline Association):** Good afternoon. Thanks very much for the opportunity to speak with you today.

I'm Chris Bloomer, president and CEO of CEPA, the Canadian Energy Pipeline Association. We represent Canada's 11 major transmission pipeline companies. We transport 97% of Canada's natural gas and crude oil production. Our members have delivered oil and gas products with a 99.99% safety record for over a decade, a record we consistently improve through collaborative initiatives such as our integrity first program.

Our members are committed to public accountability, environmental stewardship, transparency, and continuous operational improvements through the application of management systems and evidence-based practices. We're global leaders in pipeline operations, technology, and innovation.

Although the approval of two pipelines by the federal government was a positive step for Canada, the cumulative effects of the many policy and legislative changes that directly and indirectly impact our industry are of deep concern and will determine whether or not we will be competitive in the future. This includes, but is not limited to, the potential for a complete overhaul of the system regulating and assessing major projects for interprovincial pipelines, the extent of proposed methane emissions reductions regulations, ambiguity about how indigenous people will be included within regulatory frameworks, and the fact that even recently approved pipelines are subject to further reviews and additional consultation requirements.

The proposed oil tanker moratorium act, Bill C-48, is yet another change that will compound uncertainty and negatively impact investor confidence in Canada. In his mandate letter, the Minister of Natural Resources was directed by the Prime Minister to introduce “new, fair processes” that will ensure that decisions for energy projects “are based on science, facts, and evidence, and serve the public’s interest”. This is the foundation from which we reasonably expect the government to legislate on critical matters of national importance like market access.

If passed, Bill C-48 will ban the shipping of crude oil to or from ports located on the northern British Columbia coast, restricting market access for one of Canada's high-value resources. This is perplexing given that Canada currently imports approximately 400,000 barrels a day of foreign oil into our eastern ports. CEPA strongly believes that, given the profound impact of this bill, more thought must be given to scientific analysis and achieving a broader consensus. Currently, Bill C-48 does not do this, despite claims to the contrary. Bill C-48 appears rushed, and CEPA is concerned about its content and disregard of Canada's world leadership on maritime safety.

For example, the low-carbon condensate from the Duvernay and Montney plays are of great economic and environmental significance and contribute to the government's strategic goals for wealth and job creation. However, Bill C-48 is unclear on whether they could be included in the definitions for banned oil products. The lack of clarity on this is alarming, especially given the inherent global opportunities that condensate represents for Canada.

Canada's history with marine oil transportation also contradicts the need for this bill. A 2014 Transport Canada report noted that, between 1988 and 2011, significant work by the government had improved the protection of marine safety. Since the mid-1990s, Canada has not experienced a single major spill from oil tankers or other vessels in national waters on either coast.

Additionally, this government has announced $1.5 billion in funding for a national oceans protection plan to strengthen Canada's leadership as a world leader in marine safety. It is fair to ask the question: what are the safety gaps this moratorium is supposed to restore?

In conclusion, the consequences of potentially drastic policy changes for future energy projects have instilled uncertainty within the regulatory system, adding additional risks, costs, and delays for a sector that the Prime Minister publicly acknowledged has built Canada's prosperity and directly employs more than 270,000 Canadians.

The approach to policy-making represented by the development of Bill C-48 contributes to this uncertainty and erodes Canada's competitiveness.

Thank you.

● (1545)

**The Chair:** Thank you very much, Mr. Bloomer.

We're on to Mr. Corrigan, mayor of the City of Burnaby.

Welcome, and thank you for joining us.

**Mr. Derek Corrigan (Mayor, City of Burnaby):** Thank you very much for the invitation to appear before the committee. It is a real privilege.

I've been a member of Burnaby's city council for 30 years, and I'm now in my 16th year as mayor. I'm very pleased to represent the City of Burnaby at this committee meeting, and I am most certainly in support of the moratorium on oil tankers provided in this bill to the north coast.

I am experiencing the problems associated with oil tanker traffic right here in our city. We are threatened by the imposition, against our will, of a significant new shipping risk on our shores from oil tankers, which includes the new risk of oil spills from crude bitumen oil, often, in the vernacular, called “dirty oil”.

I certainly believe that the environmental values of British Columbia's coastline in the north are worth protecting. It shows that the federal government has the power and the will to do the right thing in protecting our coast for future generations. The ban should be extended to our harbours in Burrard Inlet. The environmental values of our southern coast are at least equally deserving of protection as those in the north. In our case, we are dealing with protection of the lands and waters of a dense, urban population of nearly two and a half million people. Our citizens deserve equal protection.

This bill should also consider the risk of barges, which, under the bill, would not be included, yet pose a realistic risk to our coast. The dilemmas faced by Canada in dealing with the Enbridge northern gateway project and the Kinder Morgan Trans Mountain project are similar. They show the problems that arise with an NEB process, where proponents drive the options that are considered, rather than common sense choices of the best option. They show that corporations, sometimes foreign ones, whose sole interest is profit do not have the best interests of the people of our country or our environment in mind.

One of the things that interested me most in entering this process.... I did not want to learn as much as I've had to learn about the transportation of oil through our country, and the potential for the transportation of oil along our coast. When the issue of the Kinder Morgan pipeline came up, I began to get educated. One of the first things I did was go to the National Energy Board and ask it about its policies, about the strategic plan that was being considered in regard to the options it was choosing.

We, in cities—and I'm sure Ben will support this—are always planning. We're also looking forward, thinking of ways to protect the interests of our citizens in an organized way, in a way that makes people believe there is certainty in the future. I wanted to see the plan and the policy for this. I was truly shocked to find out there was no national oil policy. There was no national strategy. The National Energy Board was making it up as it went along, essentially on the basis of the submissions that came from individual pipeline procurers and the oil industry.

The situation is one in which the National Energy Board simply considered what Kinder Morgan wanted, and then both the National Energy Board and the Governor in Council decided they would proceed, even though they would go through the heart of metro Vancouver, Burnaby, Surrey, New Westminster, and Coquitlam, to a tank farm next to family neighbourhoods and an elementary school, on the only evacuation route for Simon Fraser University. They would then require the loading of tankers at the back end of Burrard Inlet, a location that certainly would never reasonably be considered for any new facilities, the busiest port on the west coast.

I certainly think this is a situation close to lunacy. It does not show a sensible planning process. My entire city has been concerned about this issue. Throughout the Lower Mainland, we've had the support of other jurisdictions, including metro Vancouver, in opposing this pipeline coming through Burnaby, Burrard Inlet, and along the southern coast.

If we have a pipeline to tidewater for bitumen oil that is in the national interest, it should be part of good public policy to choose a shipping route that causes the least risk and the least damage. That is not a choice that should be made for us by the oil companies.

● (1550)

In our case, the National Energy Board refused absolutely to consider any alternative routes, and refused to even allow Burnaby to ask for evidence of alternatives. Both Canada and the National Energy Board argued before the Federal Court of Appeal just two weeks ago that a process that fails to consider alternative locations is perfectly lawful.

It is a shame—

**The Chair:** Mayor Corrigan, if you could just wrap up, please....

**Mr. Derek Corrigan:** Yes. I say that if this is upheld by the Federal Court of Appeal, it will certainly destroy people's faith in our system.

Again, I applaud the government for the measures in this bill. We shouldn't have to choose between a healthy environment and a healthy economy. We know that here in the city of Burnaby and throughout British Columbia.

Thank you for this opportunity.

**The Chair:** Thank you very much, Mayor Corrigan.

Now we move on to Councillor Isitt.

**Mr. Ben Isitt (Councillor, City of Victoria):** Thank you very much for the invitation to present to the committee.

On behalf of Mayor Lisa Helps and the council for the City of Victoria, I provide the following remarks as acting mayor of Victoria.

Victoria is located on the southern tip of Vancouver Island. The shipping lanes of tankers carrying petroleum products from the Trans Mountain pipeline and other fossil fuel ports in the Pacific northwest pass offshore within several kilometres of our community. Victoria is also the capital city of British Columbia and the urban centre of the Capital Regional District, which is comprised of nine first nations, 13 municipalities, three unincorporated areas, and approximately 380,000 people.

The capital region includes more than 1,500 kilometres of marine shoreline in the area known as the Salish Sea, adjacent to southern Vancouver Island. This includes the Juan de Fuca Strait, which connects the Pacific Ocean to Burrard Inlet, and other inland waters. It includes the shoreline frontage of the 13 municipalities of greater Victoria around Sooke Harbour, Esquimalt Harbour, Victoria Harbour, the Saanich Peninsula, and the Saanich Inlet. It includes several hundred islands and surrounding waters in the area known as the southern Gulf Islands.

These coastal waters are vital to the economic and social well-being of our region: tens of thousands of jobs in tourism and related sectors, the property values of more than 100,000 residents and property owners who have made investment decisions in relation to their proximity to a healthy marine and shoreline environment, and also the health and wellness of all residents of the region, including their recreational options and their quality of life.

In addition, the coastal waters of the city of Victoria and the capital region are of vital importance from the standpoint of biological diversity. They provide vital and fragile habitat for species, including the southern resident killer whale population, an endangered species that has now been reduced to 75 surviving animals on the southern coast of British Columbia, concentrated in the tanker shipping route surrounding the capital region.

Risks associated with the shipment of bitumen include substantial emergency response and spill cleanup costs imposed on local government through inadequate federal safeguards, and the delegation of responsibility to a third party entity controlled by the petroleum exporters.

One final factor I wish to note is the impact of fossil fuel exports and tanker shipping from the standpoint of climate change, which Canada has recognized as a signatory to the Paris agreement. The consequences of climate change are already being felt around the globe and within Canada's borders, including within the capital region, in terms of volatile weather patterns, extreme storm surges resulting in flooding, and rising sea levels that impact property values, as well as public and private infrastructure.

Even if everything functions according to plan with the petroleum product being transported from its source to the end consumer with no loss into interior coastal waterways, there is still an unavoidable negative impact from the standpoint of climate change. The fuel is burnt by the consumer, and it is spilled into the atmosphere, contributing to global warming and threatening the ability of humans to survive on this planet.

For these reasons and others, the City of Victoria and the Capital Regional District have adopted a position of opposition to infrastructure or policies that will result in an increase of fossil fuels transport through the fragile coastal waters of the Salish Sea. I, therefore, wish to reiterate the mayor of Burnaby's request that consideration be given to extending the application of this legislation to the shipment of crude petroleum products in the southern coastal waters of British Columbia, including the Salish Sea and the Juan de Fuca Strait.

Thank you.

● (1555)

**The Chair:** Thank you very much.

Now it's time for questions.

Mr. Lobb, you have six minutes.

**Mr. Ben Lobb (Huron—Bruce, CPC):** Thanks very much.

I have a couple of comments to the councillor and mayor who are here today. Thanks for appearing.

I appreciate your comments, and I assume you're doing the best you can for your constituents. How do you square this argument that you make on one hand with the tanker ban and then on the other hand with this historical track record of sewage spills in the area? How do you square that argument for us here today?

**Mr. Ben Isitt:** That's a good question.

**Mr. Derek Corrigan:** I'd say that in metro Vancouver, we have invested hundreds of millions of dollars in secondary treatment to ensure that our outfalls are of the highest environmental standards. It's one of the primary responsibilities.

In fact, right across our region, in the case of the north shore Lions Gate treatment plant, we joined to seek federal funding to assist in ensuring that we have the highest level of protection for Burrard Inlet. We are very conscious of and very responsible in regard to those issues.

But as we all know, nobody is ever perfect, which is one of the things that concerns—

**Mr. Ben Lobb:** To that point, though, sir—and I'm not here to debate this, to be quite honest—at one point you're saying that nobody can be perfect, but then you're expecting the tankers, which have an almost perfect track record, to be more than perfect.

For somebody sitting here—and I'm not from British Columbia, I'm from Ontario, but I am along a Great Lake, so I appreciate the importance of clean water and safety and so forth—I scratch whatever hair I have left and wonder how we can say, on one hand, tankers be perfect, yet we will spill sewage into our waterways almost in perpetuity in those areas. I can't understand that.

Anyway, we'll move on. I want to ask the Canadian Association of Petroleum Producers a question on the schedule that's listed in the bill.

Is it your argument that there should be certain types removed from the schedule now? Do you want certain ones taken off now, or are you saying that further science and research should be done immediately to make the argument for them to be removed?

**Ms. Nancy Bérard-Brown:** Thank you for the opportunity to clarify.

What CAPP is seeking at this point is twofold. There needs to be some consideration as to whether or not condensate does belong on the list of persistent oils. Also, as I indicated a bit earlier, what we want to ensure is that as a result of further science becoming available, it is important to us that if there is any change required to any of those products listed here, we have clarity about how we can go about having those removed from the list.

The issue that we saw, as well, with the definition is that currently you have the list of persistent oil in the schedule, and it can be amended by regulation. However, the definition of “crude oil” within the text, and “oil”, does not allow for any changes. We think that it is important.

With all respect, we understand the determination of the government to proceed, but we want to ensure that if there is any persistent oil that doesn't belong there, that we have the ability and the clarity on which principle is going to be followed, which science and criteria, in order to remove any or all of those from the list of persistent.

● (1600)

**Mr. Ben Lobb:** I have one last question to the councillor from Victoria.

I wonder what your thoughts are with the government leaving a huge loophole in their ban, in the fact that they allow supertankers with light diesel fuel, gasoline, propane, etc. A supertanker can carry 318,000 metric tons of that product, yet only 12,500 metric tons of oil.

There has to be a study put forward to justify this. What are your thoughts and what are the thoughts of your constituents on this loophole here?

**Mr. Ben Isitt:** I'll preface my remarks by pointing out that I'm not a marine biologist or a chemical engineer.

My understanding is that crude products, particularly bitumen, are particularly harmful to the marine ecology and particularly challenging to recover by authorities entrusted with cleanup operations. I think, at a minimum, those products cannot be permitted.

My understanding is that as the refining process is advanced, the opportunities for the product evaporating or being recovered in other ways increase, so there could be some rationale...but generally I think we have to strengthen regulations of the transport of all petroleum products, including the refined products you mentioned.

I do have a brief comment in relation to your first question.

Certainly the absence of proper sewage treatment infrastructure in the core area of the capital region is a major problem. For 40 years, federal and provincial authorities allowed greater Victoria to dump raw sewage into the Juan de Fuca Strait. About two-thirds of our population rely on this unacceptable situation. One-third of our population of the region is covered by about 10 waste-water treatment plants.

Fortunately, the previous Government of Canada pledged approximately a quarter of a billion dollars to build proper waste-water infrastructure for the core area. This commitment was honoured by the current government, and construction is now under way for a proper tertiary waste-water treatment system for the core area of greater Victoria.

I want to acknowledge the contribution by both of those governments to this vital partnership to clean up the marine environment.

**The Chair:** That's good. Thank you very much.

Mr. Hardie.

**Mr. Ken Hardie (Fleetwood—Port Kells, Lib.):** Mr. Floatie's going to be out of a job? Is that what you're saying? That's an inside-the-ballpark joke.

Mayor Corrigan, who would have known 18 years ago that you and I would find ourselves in this connection today? I have to acknowledge the fact that out of everybody here, you and your city have had the most direct experience with respect to crude oil ending up where it shouldn't be. I'll give you some time to elaborate on what happened and what it meant when that pipeline burst.

**Mr. Derek Corrigan:** One of the realities of the pipelines in Burnaby is that they were originally part of a co-operative that served refineries along our coastline in Burrard Inlet. Five or six refineries have now been reduced to a single refinery. Over the course of many years though it became incredibly difficult, as a result of geographical changes, to be able to determine where the original pipelines were laid. In each case, the National Energy Board has required that at any point you were doing any excavation near those pipelines, you were required to have staff from the transmission company available to supervise.

In the case of the oil spill we had in our residential neighbourhood in Burnaby, that supervision was not done. It was not properly executed when a contractor worked on sewer lines and a pipe was broken. That broken pipe, instead of being turned off at the point of the tank farm, was turned off at the tanker, which exacerbated the huge flow of oil into our neighbourhood, costing residential damage in the millions of dollars, and ecological damage, as that oil flowed into Burrard Inlet. It was catastrophic, and it literally took years to clean up the mess that was left for us.

That direct incident in our community, and the way it was handled by Trans Mountain in the course of their dealings with it was extremely disappointing. It brought to the attention of all our residents that these accidents do happen, and when they do happen there are severe consequences for the surrounding community and for the ecology of our city.

It's going to be even worse if we're looking at bitumen products coming through our community because, in reality, if we are going to export oil, I believe very strongly that we Canadians should be refining it here in Canada. We should be sending refined products to any place in the world that wants to purchase them and not crude oil. I'm very disappointed in it.

● (1605)

**Mr. Ken Hardie:** I'd like to ask both our pipeline representatives, why not refine it here? There's an easy way around this if you have the right product, a safer product, to ship out of our ports.

**Mr. Chris Bloomer:** I think it's a matter of economics and markets. I think the cost to refine in Canada to be competitive and have those products delivered to the relevant markets is.... You just mentioned that three refineries were taken out of Burnaby. There was refining in the past, and there's less refining now because of the economics.

**Mr. Ken Hardie:** What does that say about the long-term economics for your product to ship through Prince Rupert? You would either have to have a pipeline or a pretty massive rail shipment of the product. Is there a world market for that level of additional product coming out of Canada? What is your long-term prognosis about the investment you'd have to make to make that happen, even if we did allow it?

**Ms. Nancy Bérard-Brown:** If we look at the most recent forecasts that have been prepared by the International Energy Agency out of Paris, there is growing global demand for oil. The purpose of producers, and our desire to reach tidewater is to be able to satisfy those markets.

In response to your earlier question, our expertise is to produce the resources. If there's a desire and a demand and a refinery to purchase our product, we would be indifferent. My understanding has been that the reason refineries close is that the price differential over the last number of years has not justified having a refinery built. From a producer's perspective, we have growing resources, and if there's a demand, we are prepared to sell our resources and fetch market prices independent of the purchaser.

But there's definitely a growing demand, and I know that all our exports are currently to the U.S., so we need to diversify.

**Mr. Ken Hardie:** On balance, there's also a demand, though, that this be done carefully. The experience they had in Burnaby said that even crude oil, which I understand you'd like taken off the regulated list, can create one hell of a mess—pardon my French—and it's the type of thing this moratorium is meant to address.

**The Chair:** Could you provide just a short response, please?

**Ms. Nancy Bérard-Brown:** I just want to clarify that the reconsideration we've asked for is for condensate, which comes from the production of natural gas. It is not a heavy oil or comparable to a dilbit.

**The Chair:** Thank you very much.

Mr. Cullen.

**Mr. Nathan Cullen (Skeena—Bulkley Valley, NDP):** Thank you, Chair.

I want to put on the record my apologies to all our witnesses for being late. To our friends from Victoria and Burnaby, hello as well.

Madam Bérard-Brown, I'll start where we just ended, if you don't mind.

I represent northwestern British Columbia, the place for much of the conversation around the northern gateway, and for the last 40 years, the conversation around whether supertankers can move safety through our waters with oil.

One of the questions that came up consistently, that even just recently I'm still not able to get a sufficient answer from the government on, is the nature of diluted bitumen and the nature of diluted bitumen when it touches water, salt water and fresh water. Do either of your associations have research that tells us what that nature is?

Of course, answering that question first dictates how we manage, how we do safety protocols, cleanup protocols. Parenthetically, that was never answered through the entire northern gateway process, yet the government of the day still released approval despite not knowing what we would do if a cleanup was required. Do we have research from industry?

● (1610)

**Ms. Nancy Bérard-Brown:** That is a very excellent question.

As I mentioned, there was a significant gap identified. The Canadian Association of Petroleum Producers and the Canadian Energy Pipeline Association, a few years ago, commissioned the Royal Society of Canada to conduct a study and to explore what was the state of the literature in terms of fate and behaviour of various crude oils. They identified a gap. That is the study that I referred to earlier in my remarks.

We have undertaken jointly to hire a consultant to proceed and do some further research on the fate and behaviour of crude oil under various environments. Those results will be available next year and they will be public.

**Mr. Nathan Cullen:** Just to be clear, is it crude oil or diluted bitumen? It's an important distinction.

**Ms. Nancy Bérard-Brown:** It will include crude oil that currently moves through North America, so it will include some light, heavy, medium, conventional, unconventional, bunker C fuel, and condensate.

**Mr. Nathan Cullen:** And dilbit...?

**Ms. Nancy Bérard-Brown:** Yes, dilbit, synbit, and dilsynbit.

**Mr. Nathan Cullen:** It's an interesting process that we have in Canada. We've been moving diluted bitumen for not a long time but quite a while now, and the prospect of going through Mayor Corrigan's part of the world is to move more of it in large quantities. This is product from northern Alberta that's put in with condensate and allowed enough viscosity to move it through the pipeline, yet changes the composition and nature of the product, it is fair to say, especially if the product goes into water and is then weathered.

Mayor Corrigan, has this been brought up in the conversations within your community, and between your community, your office, and the federal government, in the way that we have done the environmental assessment with respect to the next pipeline, the Kinder Morgan project, and the Liberal government's decision to approve that?

**Mr. Derek Corrigan:** It has been a subject of great concern in our city because little is known about dilbit and the ultimate impact of dilbit if there is a spill. Certainly the condensate is said to be a proprietary secret as to exactly what chemicals are in the condensate that allows them to have the viscosity to move through the pipe, which is again an issue of significant concern because there are a great many unknowns as to the impact this might have on our ecology.

Ultimately, the federal government does have the power to do this. You heard the industry saying, "Well, if someone is going to refine it and we can sell it to the refinery, we'll do that," but the problem is that there's no responsibility being taken by the industry for building the infrastructure here in Canada. It would provide a secondary industry, and one that would make products safer to move, wherever it was going to go. I don't think there has been an adequate explanation of why we shouldn't take the environmental responsibility for making that product safe to use right here in the country that's producing it.

**Mr. Nathan Cullen:** Isn't this just about money—

**Mr. Derek Corrigan:** Yes, it is all about money.

**Mr. Nathan Cullen:** —why we don't refine, why we haven't built any significant refinery infrastructure?

We've built one significant refinery and one upgrader maybe in the last 35 years in this country, while the number of millions of barrels of export has gone up quite a bit.

To Councillor Isitt in Victoria, the connection through now turns primarily to salt water; if we go to the interior, it's fresh water.

Do the conversations you have with residents in Victoria and the greater Victoria area reflect some of the conversations that Mayor Corrigan talked about, in terms of imagining Kinder Morgan going ahead? It has been approved by the federal Liberal government. Tankers start plying the waters in sevenfold increase, and what do we do if an accident happens? Can we clean it up, given the nature of dilbit?

**Mr. Ben Isitt:** The short answer is no, and that is why the City of Victoria and the Capital Regional District have adopted a position of opposition, both to the Trans Mountain pipeline expansion project application and to other policies or infrastructure that would result in increased fossil fuel transport along the coast.

We've heard from our fire chief that coordination between government agencies is wholly inadequate. The current model of federal oversight of fossil fuel shipments is totally inadequate, in terms of Transport Canada and the Canadian Coast Guard delegating and abrogating responsibility to Western Canada Marine Response Corporation, which is controlled by industry. By its very structure, its interests are aligned with industry, rather than with the public interest of protecting people, property, and the natural environment from harm.

● (1615)

**The Chair:** Thank you very much, Councillor.

We are moving on to Mr. Sikand.

**Mr. Gagan Sikand (Mississauga—Streetsville, Lib.):** Thank you, Madam Chair.

My first question is for Mr. Bloomer.

You mentioned that your success rate of moving oil is 99.9%. Is that right?

**Mr. Chris Bloomer:** There is one more nine.

**Mr. Gagan Sikand:** That's what I thought.

The odd time, the 0.01% when something goes wrong.... Actually, I'll just backtrack. What is that based on, the volume or the number of shipments? How is that percentage calculated?

**Mr. Chris Bloomer:** It's calculated based on the actual volume. Annually, there are about 1.2 billion barrels of oil shipped, and about five and a half trillion cubic feet of gas. That's what the numbers are based on.

**Mr. Gagan Sikand:** The odd time there is a disaster or something goes wrong, do you have numbers associated with that—cost of cleanup, damages?

**Mr. Chris Bloomer:** The most recent was in 2010, in Kalamazoo, Michigan. It was in the billions-of-dollars range, but it was cleaned up. It's back to its original state.

**Mr. Gagan Sikand:** When something goes wrong, is it often in that range, in the billions?

**Mr. Chris Bloomer:** No.

**Mr. Gagan Sikand:** Okay. It's an exception.

To our municipal counterparts.... I guess I'll start with the mayor.

Do you have money allocated in your budget for cleanup, if something were to go wrong?

**Mr. Derek Corrigan:** No. In fact, we don't even have the money to deal with the issues surrounding the tank farm, in a potential conflagration at the tank farm. The expectation of the Kinder Morgan corporation is that somehow our firefighters will look after their tank farm, even if there is a major incident. We don't have the capacity. Our firefighters have said that it is impossible to deal with this and it would require simply burning out. That is a tank farm right below Simon Fraser University.

The concerns for us are that there has not been the level of study in the protection in case of incidents that would allow us to feel confident that the federal government has this issue under control.

**Mr. Gagan Sikand:** Councillor, you mentioned that you have a position of opposition. Did that come from the council? Were there town halls held? Was it from the residents? How did that come about?

**Mr. Ben Isitt:** That's a good question. All the data is available on the City of Victoria website, and also the Capital Regional District website.

It began by way of a notice of motion and a resolution adopted by our council. We proceeded to have a town hall meeting on the issue of the Trans Mountain pipeline application. We heard overwhelmingly from the public that this application was not supported.

That public input formed a part of the city's contribution when we were an intervenor in the National Energy Board process. There were ultimately resolutions, by both the city and the regional district, adopting that position of opposition and calling on the National Energy Board and the Government of Canada to decline the application.

In terms of your question to Mayor Corrigan around cleanup, it's thinking about things like needing police officers to go down to the beaches to prevent members of the public from trying to walk, or children from trying to play, in dirty sand that's made toxic by bitumen. It's literally hundreds of millions of dollars of cleaning up the intertidal areas—

**Mr. Gagan Sikand:** I apologize. I'm going to cut you off because I only have six minutes here.

Ms. Bérard-Brown, I completely understand the hindrance that you face in reaching your markets, but at the same time, I don't know if that can necessarily come at a detriment to our planet or the environment.

You said a whole bunch of stuff that I want to clarify. You were asking for an exemption, and to the best of my knowledge, an exemption is based on dry material. You were also talking about how some of this is persistent. You talked about the viscosity. Could you dive into that a bit and describe what would be a dry material in order to get an exemption?

**Ms. Nancy Bérard-Brown:** I'm sorry. For clarity, I did not refer to a dry material. What I was trying to elaborate is that there is a distinction between a persistent and a non-persistent oil, and currently, the definition used refers to the distillation curve. What I was saying is that there are other factors that should be taken into account when considering the persistence. For example, if there were a spill, whether it's dilbit or a conventional oil, all oils would weather. That means it changes composition based on the environment, the temperature, or if there's a tidal wave in the environment. That's the purpose of the studies we're undertaking. We're trying to better understand how that changes over time, how that affects the behaviour of the crude oil, and what the best measures are that we can take.

The consideration of looking at condensate is that many experts would consider condensate to be non-persistent. We're just asking that there be further exploration as to whether or not condensate belongs on that list.

● (1620)

**The Chair:** Thank you very much. Sorry, Mr. Sikand.

**Mr. Gagan Sikand:** No, you just pre-empted my last question, so that's perfect. Thank you.

**The Chair:** Mr. Badawey.

**Mr. Vance Badawey (Niagara Centre, Lib.):** I want to drill a bit deeper with respect to the emergency resources that are not available and emergency preparedness protocols. I'm going to ask the question of the mayor and the councillor, as well as the industry, with respect to this specific area.

In my former life as a mayor for many years, as Mr. Lobb described, we had incidents happen on the Great Lakes. We take our water from the Great Lakes into our inflow treatment plant and of course out to the taps, bathtubs, showers, and sinks of our residents. There are a lot of challenges attached to that, especially when it comes to an incident, and of course then there's the shutting down of a treatment centre and getting back online within the minimum time of a week.

With all that said, what is in place currently, from the municipality's standpoint, with respect to your emergency preparedness plans and the protocols attached to it? I'm going to ask the industry the same question.

We'll start off with the mayor.

**Mr. Derek Corrigan:** Obviously, we have general emergency preparedness plans that would deal with any kind of emergency or disaster in our community, but this is outside the scope of anything we could anticipate. First of all, the reality of the tank farm, which is situated on Burnaby Mountain above residential areas and schools, is one that causes me loss of sleep on a regular basis. I worry about what would happen to our citizens and to the university if that facility went into a major meltdown.

As far as Burrard Inlet is concerned, no one in their right mind would be building a facility to transport oil in the deepest part of our inlet, through two narrows, at this stage. The reality is that it was built some 50 or 60 years ago, when circumstances in Burrard Inlet were significantly different. Now you have this incredibly busy port, where Aframax tankers are going to be going through two narrows. If, in fact, there is an accident in that heavily trafficked area, it would be impossible to clean up. It would be 1,000 years before we'd be able to clean up the mess that was left for us. The impact here in the Vancouver area, on tourism and our economy, would be devastating. The problem, even though they keep telling you it's a minimal risk, is that the consequences of the risk are so devastating that it would be impossible for us to recover or to cope with it.

There are no plans in place and no plans available. They previously decimated the Coast Guard. There are not any plans from the federal government to deal with it. They've passed it on to industry to look after it.

**Mr. Ben Isitt:** Similar to Burnaby, we have formal emergency management plans in place. It's under the authority of our fire chief, who reports to council. Prepare Victoria is an agency of the fire department that has three employees and about 100 volunteers. They primarily respond to fires and residents who are displaced by fire. They put a lot of attention into seismic risk, which is a major risk on the west coast of Canada, as it is in the Ottawa Valley. There has been an exercise in the last year with Western Canada Marine Response Corporation, the Coast Guard, and Transport Canada, which is the operator of the port of Victoria.

**Mr. Vance Badawey:** That's great. I'm going to move on to the industry. I only have about a minute left.

**Mr. Chris Bloomer:** It's incumbent upon the shippers, the pipelines, to have emergency response plans in place. There are two things. There is a requirement for the companies to have the financial resources to be prepared and be able to cover anticipated or possible emergencies. There is mutual aid amongst the industry. If there is an incident, then the pipelines that are part of CEPA, the transmission pipelines—

● (1625)

**Mr. Vance Badawey:** Are those plans that you have applicable to this area?

**Mr. Chris Bloomer:** Yes.

**Mr. Vance Badawey:** Due to the fact that they have very few resources available to them...?

**Mr. Chris Bloomer:** The industry does emergency response exercises. They have the resources. The government has put in place additional resources, and that's going to be taken care of.

**The Chair:** Thank you very much, Mr. Badawey.

We go to Ms. Block for five minutes.

**Mrs. Kelly Block (Carlton Trail—Eagle Creek, CPC):** Thank you very much, Madam Chair.

I'd like to thank all of our witnesses for joining us today.

I don't have as much time as my other colleagues did, so I'll get right to the point. Given that this bill, Bill C-48, as was discussed in our last meeting and confirmed by departmental officials, does nothing to change the voluntary agreement that was put in place in 1985, and given that this current government has killed the northern gateway pipeline project, do you believe there is a pressing need for Bill C-48 today?

This is to either Ms. Brown or Mr. Bloomer.

**Mr. Chris Bloomer:** I think there is a need to go back and do more consulting, more science, and more evaluation of what this really means and what the implications are. I think there's not a consensus around whether or not the folks in northern B.C. should have access to tidewater to produce resources and so on. More work needs to be done on this.

**Ms. Nancy Bérard-Brown:** I would concur. I think that there needs to be more scientific evidence. There needs to be an identification of the gaps and maybe potential mitigative measures in order to address the need.

I think what you referred to a bit earlier is the exclusion zone. I'd just like to point out that it was in place for production coming from Valdez for the lower 48. It does not apply to any vessel moving in or out of Canada.

**Mrs. Kelly Block:** Right.

**Ms. Nancy Bérard-Brown:** It is separate and distinct. I know from my dealings that there is sometimes confusion.

As I mentioned earlier, too, there was very brief consultation, and I think in light of the impact that it may have on our ability as producers of both natural gas and oil to reach tidewater, there would be some significant economic impacts if the bill were to proceed.

**Mrs. Kelly Block:** Thank you.

I'll follow that up with another comment and question. There's no question in the minds of those of us sitting here representing our Conservative caucus that this is not a moratorium on oil tanker traffic, but it's a moratorium on the production of the oil sands and on a port. This definitely addresses, as you've said, the loading and unloading of oil on tankers in that area, so I'm wondering if you could tell us how Canadian laws and regulations regarding the loading and unloading of oil tankers compare with other countries?

**Mr. Chris Bloomer:** In terms of the maritime movement of oil cargo and so on, there are international standards and there are processes. Canada abides by them. The international shipping coordinators and regulatory bodies have those regulations in place. There are thousands of vessels all over the world moving in and out of ports, moving hydrocarbon and oil on water all over the planet, so Canada will fit within that framework, and as we usually do, we'll be the best at it.

**Ms. Nancy Bérard-Brown:** I may not be able to offer some specifics. The danger that I foresee is that when you're making a policy or a significant action that is not based on science, there's a danger of creating a precedent. There's also I think a danger in terms of reputation. Canada is party to international agreements, so we know that it has not been very well received because they are perceiving this as a restriction of movement to and from Canada.

In terms of loading and unloading, I would not be able to offer you any specifics. It is not within the sphere of my expertise.

● (1630)

**Mrs. Kelly Block:** Thank you very much.

**The Chair:** Thank you very much, Ms. Block.

To our witnesses, thank you very much for helping us out today as we continue on with our study of Bill C-48.

We will suspend while we switch our video conference folks around and our witnesses.

● (1630)

(Pause)

● (1635)

**The Chair:** We'll call the meeting of the Standing Committee on Transport, Infrastructure and Communities back to order.

Welcome to our witnesses. We have Janet Drysdale, vice-president, corporate development at CN. Nice to see you again, Janet.

We also have Ross Chow, managing director of InnoTech Alberta; Scott Wright, director of response readiness, Western Canada Marine Response Corporation; Kate Moran, president of Ocean Networks Canada; and Greg D'Avignon, president and chief executive officer, Business Council of British Columbia.

Welcome to all of you. Sorry for the delay of a few minutes. We had to get everybody connected.

Ms. Drysdale, we'll start with you. If you could keep your comments to five minutes or less, it would be appreciated.

**Ms. Janet Drysdale (Vice-President, Corporate Development and Sustainability, Canadian National Railway Company):** Good afternoon.

My name is Janet Drysdale, and I am vice-president of corporate development and sustainability at CN. I am making this opening statement on behalf of both CN and our research partner InnoTech Alberta, which is represented via teleconference by managing director Ross Chow. We appreciate the opportunity to appear today to add our perspective to your study of Bill C-48.

CN is the only railway that services the ports on the north coast of British Columbia. The Port of Prince Rupert is an important and rapidly growing part of CN's network, and over the past 10 years it has become a key gateway for Asian goods moving to the North American market. In addition, we serve the port of Kitimat, also on the B.C. north coast.

CN currently moves intermodal traffic, coal, grain, wood pellets, and lumber through terminals at Prince Rupert, and we are in active discussions with customers interested in moving a variety of other export products through the port. We also operate a rail barge service out of Prince Rupert, which serves the Alaska Panhandle. CN does not currently move any product to the B.C. north coast for export that would be affected by the provisions of Bill C-48.

For the past three years CN has been working with InnoTech Alberta to develop a process to solidify bitumen. InnoTech is part of the Province of Alberta's research and innovation effort and is an industry-leading expert in the fields of energy and the environment. Together, CN and InnoTech looked at many different ways to solidify the entire barrel of bitumen, with no refining involved. Frankly, nothing worked.

However, in reviewing the numerous methods we tested, we realized that if we combined several processes, we could create the solid, transportable product we were seeking. Through this research, we have now developed a patent-pending process to successfully solidify bitumen.

The process involves adding polymers to the bitumen to form a stable core and then creating a polymer shell around the bitumen-polymer blend, enabling us to create something that loosely resembles a hockey puck. Importantly, the bitumen-polymer blend is easily separated back into its bitumen and polymer components. The process does not degrade the bitumen, and the separated polymer can be subsequently recycled or reused in the solidification process. We have named the product “CanaPux”.

The key point for this committee is that CanaPux will not require tank cars for movement by rail, and the product will not move in ocean tankers to end markets. CanaPux will be transported much as are any other dry bulk products, such as coal and potash, in gondola cars on the railway and in the hull of general bulk cargo ships. At ports, CanaPux could be transported to ships utilizing existing bulk-loading infrastructure.

From a safety and economic point of view, CanaPux do not require diluent in order to be moved. As I am sure you are aware, diluent—or condensate, as it was referred to earlier—is a lighter, more volatile petroleum product used to dilute bitumen in order to make it easier to move in pipelines.

Unlike pure bitumen, the inclusion of the polymer ensures that CanaPux float in water, making recovery in the case of a marine spill straightforward. I do have a sample with me, if anyone is interested in looking.

To date, we have successfully proven the chemistry and the concept of CanaPux. In addition, we continue to work with InnoTech on scientifically confirming the environmental aspects, including its fate in the environment, as well as the GHG life cycle.

Of course, we also need to demonstrate the commercial viability. In other words, we need to show that we can create CanaPux at high speed and high volume. This is essentially a straightforward manufacturing question, and CN is currently leading the development of a pilot project that will answer that question. The pilot will allow us to demonstrate the technology to interested producers and global refiners. It will also allow us to quantify the actual costs involved and will create scalable engineering work that can be used to commercialize the technology.

We believe the pilot will demonstrate that CanaPux is a safe and competitive way to move bitumen from western Canada to offshore markets.

We briefed various officials from numerous departments in the federal, Alberta, and British Columbia governments before moving forward with the patent process.

Given that CanaPux would move in freighters rather than tankers, it is our understanding that the movement would be permissible under Bill C-48, thereby allowing the safe movement of bitumen while extending market options for Canadian producers. We believe that, given the environmental properties of CanaPux, this is appropriate.

Environmental protection of our coastlines is extremely important. Market access for Canada's rich natural resources, which provide economic opportunity for all Canadians, needs to be balanced with that protection.

● (1640)

CN and InnoTech are very proud to have taken the lead in the development of CanaPux. We believe that the safety and environmental benefits of the product will be of great benefit to Canadians.

We thank you for the opportunity to comment.

**The Chair:** Thank you very much, Ms. Drysdale.

You said you have a sample here for the committee?

**Ms. Janet Drysdale:** Yes.

**The Chair:** We will pass that around for the members.

**Ms. Janet Drysdale:** It is in a zip-lock bag because it is oil and it smells like oil, so you can open it, but that's the disclosure.

**The Chair:** Thank you very much.

All right, let's go on to Kate.

**Ms. Kathryn Moran (President and Chief Executive Officer, Ocean Networks Canada):** Sure.

**The Chair:** Please go right ahead. That's a beautiful background behind you.

**Ms. Kathryn Moran:** I thought I'd bring the ocean to you since you're talking about the ocean.

I'm appearing today representing Ocean Networks Canada. I'm the president and CEO. I've been in this position for five years. Prior to coming to Victoria, I served for two years in the U.S. as an assistant director in the White House Office of Science and Technology Policy, serving under President Obama's science adviser, John Holdren. During my secondment there, I was selected to be on Secretary of Energy Steven Chu's eight-member science team that oversaw shutting down the flow of oil from the *Deepwater Horizon*.

At Ocean Networks Canada, I lead an exceptional team that operates the world's leading ocean observing systems. Ocean Networks Canada delivers the Internet-connected ocean by observing and monitoring primarily the west coast but also assets on the east coast and in the Arctic. These are observatories that continuously gather data in real time for scientific research, but they are also important in helping communities and managers make decisions and, for example, in informing decisions such as those you're making today with regard to Bill C-48. These decisions are really important to protecting the ocean now and in the future.

The locations, as you know well, that would be most impacted by an oil spill accident are our oceans and coastlines. At best, coastal oil spill cleanup tools recover less than 10%, sometimes up to 15%, of the oil spilled, which everyone agrees is a pretty dismal record. These facts alone provide support for the intention of Bill C-48.

Seven years ago, the blowout in BP's *Deepwater Horizon* opened up that spouting spigot of oil into the Gulf of Mexico, marking the beginning of the world's second-largest oil spill. We all watched oil spew from the spigot on 24-7 cable news. I was watching it as we were trying to shut it down. That lasted for months, with feelings of both aversion and shame. After months of work, the spigot was shut, but not before almost five million gallons were spilled. Now, this is totally different from what we're talking about here in terms of tankers, but just bear with me as I talk about these other accidents.

Over 20 years earlier, the *Exxon Valdez* spilled 42 million litres of crude oil in offshore Alaska, which remains today one of the most devastating spills because of its remote location, the type of oil spilled, and the negative impact on the area's rich biodiversity. Most coastal waters in B.C. resemble those in Alaska where the *Exxon Valdez* spill occurred. They are remote, the waters are relatively cold, slowing down the breakdown of crude oil, and they consist of many narrow inlets and channels characterized by large tidal ranges and strong tidal currents. These waters are similar to those in B.C. that are home to seabirds; salmon, and other harvestable fish species; sea otters; seals; and resident migrating whales, most notably gray, humpback that are increasing in numbers, and both orca and transient orca whales.

To pause there for a moment, in response to the *Exxon Valdez*, the tanker industry has done considerable work in reducing accidents with tanker spills, which I'm sure you've heard from other people appearing before you. There were many lessons learned from the *Exxon Valdez*, which have reduced the risk of tankers going aground in these kinds of waters.

Let me talk about, most recently, the tug *Nathan. E. Stewart*, which foundered and sank along the rocky coast of B.C. Although the fuel barge it was powering was empty, the tug itself carried 220,000 litres of diesel fuel, and thousands of litres of petroleum-based lubricants. The result is that the pristine coastline and the Heiltsuk First Nation have been negatively impacted, and that impact is still being assessed. We don't know the full impact of that, but certainly the first nation is claiming that there was a significant negative impact.

How could these accidents have happened? When I worked on the BP accident, I was stunned at how the oil industry assured us—as they do today—that their technology advances allowed for safe development and transportation of oil and gas even in the most challenging environments. The simple answer is that each of these disasters was caused by a combination of human error, weak regulations, and a paucity of oversight that relies on robust monitoring.

I think Bill C-48 begins to strengthen the regulation gap and is a positive move forward. It supports, perhaps for the first time, Canada's use of the precautionary principle outlined in the London 1996 protocol to the Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter.

Ocean Networks Canada recently completed—

● (1645)

**The Chair:** Ms. Moran, I'm sorry to interrupt. Could you make your closing remarks, and then get some of those other comments in when you're responding to members?

**Ms. Kathryn Moran:** I'm sorry. I've gone over time.

**The Chair:** Maybe you can just get everything added in. I'm sure you'll get lots of questions from the committee.

**Ms. Kathryn Moran:** Okay.

**The Chair:** Whatever you weren't able to get in, we could get in at the committee level.

**Ms. Kathryn Moran:** My main point is that Bill C-48 doesn't change anything that's now existing in terms of our tanker traffic on the coast. It doesn't impact the small communities in terms of needing oil, but we do see significant traffic of car carriers and cargo. Those are the ones that are most at risk.

● (1650)

**The Chair:** Thank you very much, Ms. Moran.

Mr. Wright, director of response readiness, go ahead, please. Please try to keep your presentation to five minutes or less if you can.

**Mr. Scott Wright (Director, Response Readiness, Western Canada Marine Response Corporation):** I'm here today to talk to you about marine spill response in Canada.

We are here neither to support nor to oppose the tanker moratorium. Our mandate, under the Canada Shipping Act, is to be prepared for spill response on the west coast of Canada regardless of where the spill happens. While we neither support nor oppose the bill, spill response and our ability to handle spills have played a central role in the conversation around energy export, market access, and shipping volumes.

In 1976 WCMRC began as an industry co-op under the name Burrard Clean Operations. At that time, it was our duty to provide spill response within the Port of Vancouver. Following the *Exxon Valdez* incident in 1989, the Canadian government established a public review panel on tanker safety and marine spill response capability.

The panel's first report included 107 recommendations that ultimately informed amendments to the Canada Shipping Act in 1995. The changes created an industry-funded and government-regulated spill response regime for all of Canada's coastal waters. WCMRC became the only dedicated response organization on the west coast.

Our state of preparedness is funded by membership fees from shipping companies and oil-handling facilities that operate on the west coast. Vessels greater than 400 tonnes are charged an annual membership, whereas charges for oil carried for commercial trade are based on volumes. In the event of a spill, the polluter is required by law to pay for cleanup costs. Should the spiller be unable to pay, there are international and Canadian funds available to pay for spill cleanup and claims related to spills. Those funds are the result of levies placed on industry.

The Canadian government sets the standards, and industry pays for the response organization, the role of which is to meet and exceed the standards. The Government of Canada requires them to pay for it so that Canadians do not have to.The spirit of the regime is that Canadian taxpayers are not responsible for the cost of response. For those who are concerned that industry ownership somehow impacts our ability to respond, know that the federal government sets standards and provides oversight to the regime and response. It is an excellent model, and the federal government is in the process of improving the regime.

The Canada Shipping Act requires that we recover up to 10,000 tonnes of oil off the water in 10 days. Tiered response times are also defined by the Shipping Act. For example, within the Port of Vancouver, WCMRC is required to be on scene responding in less than six hours. Currently, the Port of Vancouver is the only designated port on the west coast. WCMRC exceeds those planning standards on every level. Our average response time in the Lower Mainland over the last 10 years has been 60 minutes.

WCMRC has offices and warehouses located in Burnaby, Duncan, and Prince Rupert, and more than a dozen equipment caches strategically located along B.C.'s coast. We have a fleet of 42 vessels and booming capability along more than 36 kilometres. We have a skimming capacity of 550 tonnes, which is 20 times the Canada Shipping Act standard. WCMRC has successfully responded to both light and heavy oil spills. We have a range of skimmers that can handle all types of oil transported on the coast. We also train hundreds of contractors every year.

In the event of a spill, our organization is contracted by the polluters to clean up the spill on their behalf. The entire response is managed by a range of federal, provincial, and municipal partners, including first nations, health authorities, the Department of Fisheries and Oceans, Environment Canada, the B.C. Ministry of Environment, and others. The Canadian Coast Guard monitors the response and takes command if the polluter is unknown, or unable or unwilling to respond.

Currently, Transport Canada and the Canadian Coast Guard lead four pilot projects in Canada to develop area response plans based on risk assessment.

● (1655)

In B.C., the pilot project is focused on the southern shipping lane and includes partners from Environment Canada, Fisheries and Oceans, and the B.C. Ministry of Environment.

The development of—

**The Chair:** Excuse me, Mr. Wright, but I have to cut you off. Please try to get your comments added on to the members' questions.

We now have Greg D'Avignon, president of the B.C. Business Council.

Please go ahead, Mr. D'Avignon.

**Mr. Greg D'Avignon (President and Chief Executive Officer, Business Council of British Columbia):** Thank you, Madam Chair.

Thank you, standing committee, for the invitation to present today.

My name is Greg D'Avignon, and I am the CEO of the Business Council of British Columbia. We are in our 51st year. We are an organization of 260 firms that have assets and operations in the province, including leading firms in every sector of the economy, including our post-secondary institutions.

My comments today are really reflective of two key areas. One is related to the context of global and domestic energy demand and innovation and the role that Canada can play in meeting our obligations from an environmental and marine protection perspective. The other has to do with seizing the opportunity to export Canadian products to the benefit of the economy and the peoples of British Columbia and Canada.

These objectives were articulated in a submission in September 2016, but they bear repeating for the committee today. As the committee is aware, the International Energy Agency in its latest report showed that the global demand for hydrocarbons continues to grow and is projected to grow by one-third until 2040. Energy demand will be satisfied by a global mix of energy products, including renewables, but for decades to come it will involve primarily energy sources based on fossil fuels.

Canada, in our view, can choose to shut itself off from this demand and these market realities and forgo the benefits, including investment, taxes, jobs, and innovation that flow from our energy sector, which comprises today 10% of our GDP and most recently up to 25% of the capital investment in Canada as a whole, or we can choose to participate by contributing lower-greenhouse-intensive oil and natural gas products based on our baseline approach and innovations, as you heard about a moment ago, and drive change globally through a Canadian impact.

This is a unique proposition, particularly in British Columbia where we have the ability and today are integrating electrification in the upstream and downstream natural gas and oil production. These efforts are reducing by as much as half the carbon intensity of a barrel of oil, compared with the average in the U.S. The irony is that Canada today imports over 400,000 barrels of U.S. oil, while landlocking our Canadian product.

Canada's high environmental standards play a role in this, and Bill C-48 helps to strengthen it. Frankly, however, we have concerns with respect to our ability as the fourth-largest oil producer in the world, and given the innovations in electrification taking place in the market, to actually take advantage of the opportunities we have. The legislation in its persistence levels and schedule preclude both the innovations around the CanaPux, which we heard about earlier, and the opportunities that will arise out of natural gas production, which will include the production of light tight oil, condensate, and methane.

The British Columbia Business Council's concern is that the public narrative has not actually captured the voices of all indigenous peoples either. While many indigenous communities have the right to oppose the ability to ship, particularly diluted bitumen, from their traditional territories, the committee has heard from a great number who would like to seize those opportunities in environmental, traditional, and sustainable manners. This includes the supply chain through British Columbia, Alberta, and Saskatchewan.

Ironically, the oil industry and the energy sector in Canada is among the highest employers of indigenous peoples, creating self-determination, financial independence, and jobs for the future of those communities.

The opportunity for us in Canada is to seize these markets, to build on our innovation, to drive down the carbon intensity of our products, and, most importantly, to make sure that we create economic and cultural opportunities for all Canadians through the energy abundance we enjoy in Canada.

I'll conclude with some suggestions. While we are not in support of Bill C-48, we recognize the government's interest in moving forward with the legislation. Therefore, we would suggest the following. First, despite our views on the potential negative and unintended consequences of the legislation, permitting the export of products of less concern and less persistence than diluted bitumen through our northern deepwater ports must be recognized. Initially, the conversation on this legislation started around diluted bitumen, and, unfortunately, it has captured a much broader array of products and opportunities than was originally envisaged.

Second, reviews within the next 12 months of the legislation being passed and seeking royal assent should focus on the persistence level of products aimed at increasing the precision of in-out definitions, particularly given the Canadian Energy Pipeline Association's independent study on this topic, which is targeted for completion in 2018.

● (1700)

Third, the technology developments and other response capabilities should be reviewed within 24 months of royal assent of the legislation, particularly through the oceans protection plan and some innovations we heard about earlier, such as the CanaPux, to see whether the legislation continues to remain relevant.

**The Chair:** Thank you, Mr. D'Avignon. Can we get your last point into one of our members' questions and answers?

**Mr. Greg D'Avignon:** Certainly.

**The Chair:** We'll move on to Mr. Chong.

**Hon. Michael Chong (Wellington—Halton Hills, CPC):** Thank you, Madam Chair.

If you will permit, I'd like to split my time with Madam Block. I have a comment. I don't have a question.

My comment concerns the international aspect of this bill, which I don't think any of our witnesses have talked about, so I want to put this on the record. Bill C-48 concerns boundary waters for which we are in dispute with the United States. It involves the disputed waters around the Alaska Panhandle and also the waters around the Dixon Entrance, as well as issues concerning innocent passage, freedom of navigation, and the like.

The United States is not a party to UNCLOS, the UN Convention on the Law of the Sea, and it's also a global maritime policing power, through the U.S. Navy, that has always been very clear about its determination to protect flag rights. Since the 1890s Canada has claimed these waters, both Dixon Entrance and Hecate Strait, believing they're internal to Canada. That's a position I support, but the U.S. doesn't recognize our sovereignty here.

As I understand it, the Government of Canada's foreign policy priority right now is protecting NAFTA, and I believe the Government of Canada should have a whole-of-government approach in ensuring that every resource of the Government of Canada is used to fighting for and protecting NAFTA, which is so vital to the approximately one-fifth of the Canadian economy that relies on trade exports to the United States. One of the things I have a concern about with this legislation is that it potentially will provoke the Trump administration while at the same time we're trying to get their attention and their support for the protection of Canadian jobs and Canadian interests in NAFTA. In that context, I think it's important for us, as members of Parliament, to put this on the record.

I think this is not well timed, and I don't believe it fits into what I believe should be a whole-of-government strategy to focusing every aspect, every department, every minister, and every part of the Government of Canada on the single biggest need, which is to protect our interests in NAFTA and to ensure that we can convince the Trump administration to come around to our point of view.

**The Chair:** Thank you.

I'm trying to give everybody only five minutes, so we can get as many questions as possible out there. Two minutes remain.

**Mrs. Kelly Block:** Ms. Drysdale, I'm very interested in this new technology, this new product that has been worked on. It was discussed in a media report that CN was in talks with Transport Canada for an exemption from the oil tanker moratorium for CanaPux.

How far have these discussions advanced and what proof of concept has been required from Transport Canada?

● (1705)

**Ms. Janet Drysdale:** We have not requested an exemption. Our understanding, from the proposed legislation, is that this product would be excluded from the legislation.

**Mrs. Kelly Block:** Okay, thank you.

**The Chair:** Mr. Hardie, you have five minutes.

**Mr. Ken Hardie:** Thank you, Madam Chair.

I asked CN to be here because the CanaPux program seemed to be fascinating and perhaps to give Mr. Chow an opportunity to speak to this. Obviously, commercial viability is going to be crucial. What timeline do you have in mind to bring this process to the point where it makes the whole conversation we're having here moot?

**Mr. Ross Chow (Managing Director, InnoTech Alberta):** We're working very closely with our partners at CN, and in terms of technology development, this one is moving quite quickly. We're ready to put the pilot together sometime next year. I think after the pilot, we're going to be moving that into the demonstration phase, so you're probably looking at a two-year development timeline before we look at a commercial application or a commercial trial of this particular technology.

**Mr. Ken Hardie:** Are there other technologies? Are you aware of any other technologies that are also being examined here?

**Mr. Ross Chow:** As a first part of a study that we did with CN, we reviewed all the current solidification technologies for bitumen, and actually none of them met all the requirements for solid transport. A large part of that had to do with the strength required to take the handling in freighters and then the loading into rail cars.

**Mr. Ken Hardie:** I want to “lift the green curtain” a little bit here, if I can use that analogy.

Mr. D'Avignon, we talk about reducing the carbon intensity of products that we have some control over. However, if we're shipping any of this stuff offshore, be it CanaPux, or diluted bitumen, or anything else, it's going to end up being processed and used somewhere else in the world where we don't necessarily have any say at all over the standards that they apply and the emissions that they put out.

Do we not actually have to take more of a global responsibility for the use of our product?

**Mr. Greg D'Avignon:** Mr. Hardie, I think that's a good question.

I think in the prescribed five minutes, we would tend to glaze over some of the complexities of the question you just asked. In British Columbia, as you might be aware, and certainly in Alberta, because of the plentiful supply of electricity that is based on renewable provision through B.C. Hydro, we're seeing electrification of the upstream extraction of natural gas and light tight oil. In the case of liquid natural gas, which isn't covered under the bill, we're also seeing the electrification potential for downstream movement of the products, as well.

The consequence of electrification in the domestic extraction is that its carbon intensity is half of that of the average U.S. barrel. Within Canada's borders, we're already a 50% lower carbon contributor to the global supply chain moving forward.

I can't speak to your point on offshore refining costs. However, the reality is that, in the case of British Columbia, where the Government of Canada has supported the LNG industry through both environmental assessment approvals and offtake approvals, with that technology we have the potential for up to a million barrels of light tight oil and condensate a year, which requires very little refining and which would have no market off the north coast.

Moreover, what you would find, despite the protections that we're investing in the oceans protection plan and the investments we've made in infrastructure, Prince Rupert on the north coast, is a day to three days closer to the markets with the highest demand moving forward. That in itself in the supply chain also reduces transportation GHG emissions as well as costs and the impacts on the environment.

I have every confidence in the ability of marine tanker safety moving forward, but within the walls of Canada, we already have the ability with technology today, let alone tomorrow, to reduce our carbon footprint and to make a bigger global impact on GHG reductions.

● (1710)

**The Chair:** Thank you very much.

Go ahead, Mr. Cullen.

**Mr. Nathan Cullen:** Thank you, Chair.

Thank you to our witnesses.

I'll start with Mr. Wright.

I still think of you as Burrard Clean, but I believe it was you folks from Western Canada Marine Response Corporation who did the *Nathan E. Stewart*cleanup. Is that right?

**Mr. Scott Wright:** That's correct.

**Mr. Nathan Cullen:** How easy was that cleanup on a scale of one to ten? It wasn't a particularly large spill in global terms. Is that fair to say?

**Mr. Scott Wright:** The spill from the *Nathan E. Stewart* was refined product. It was in a coastal, nearshore environment. During that response, we did not see recoverable oil coming from the vessel. We did take on strategies to protect certain sensitivities around the casualty site, so that was basically the strategy that we undertook during that response.

**Mr. Nathan Cullen:** Just in terms of scale, in terms of global spills—I know your company works around the world—would that be seen as a major, medium, or minor-sized spill?

**Mr. Scott Wright:** As I pointed out, it was a significant quantity at risk. The oil on the water was non-recoverable. It was a significant response.

**Mr. Nathan Cullen:** I have put this question to the government and to other witnesses. As we contemplate these tanker bans and how to manage the risk versus reward for the government—and just parenthetically to Mr. Chong, I'm not entirely sure what provokes Mr. Trump from day to day, and I don't think anybody necessarily does, including Mr. Trump, it seems—the link into NAFTA is an interesting stretch.

The question I have around this bill and your company—because you're the experts—is that we're trying to find out from industry and from the government the very nature of the product that we're talking about in water, whether a saltwater or a freshwater environment, because one contemplates both, of course, with regared to a proposal like Kinder Morgan or Northern Gateway.

Do you have any science you can provide to the committee as to what happens to diluted bitumen once it enters the marine or river environment?

**Mr. Scott Wright:** We have experience with a product very similar to diluted bitumen, synthetic Albian crude, which we responded to in 2007. During that response we saw oil on water for a number of days. That oil behaved exactly as do conventional crude oils, as well as bunker, which is commonly in and around the marine environment. It didn't present any unique challenges.

**Mr. Nathan Cullen:** Sorry, you called this synthetic Albian crude. Is this one of the condensate and oil mixes? I'm not familiar with this.

**Mr. Scott Wright:** That's correct. It's a product that's very similar to diluted bitumen.

**Mr. Nathan Cullen:** Beyond the field experience, has your company done any empirical research to understand the weather? I know spill to spill things are very different in terms of wave action and in terms of weathering, all of these factors that we deal with on the north coast.

**Mr. Scott Wright:** Yes, absolutely. We have been involved with Natural Resources Canada on undertaking studies, in which we look at the behaviour, the weathering of the product, and how it affects our ability to recover it in those types of circumstances. We want to understand the product and how it behaves on water. We've been part of a number of studies by industry and government.

**Mr. Nathan Cullen:** From an industry perspective, I've had dealings with your company in its former iteration and the current one. I've heard various numbers as to what a successful spill recovery looks like for recoverable oil. Of course we had the extremes of the *Valdez*, where very little, a single-digit percentage of the oil, was ever recovered. In 2017, what is considered the gold standard, what is considered a silver, and what's terrible with respect to an oil spill recovery rate?

**Mr. Scott Wright:** That's a difficult question to answer, but certainly there are lots of data out there that suggest that mechanical recovery is not always very effective. We have seen instances in which we're highly effective when we're recovering product, and we've seen instances in which we are not recovering a great percentage of the product. We focus on the sensitivities, how we can protect those, and how we can contain and recover oil. Those are our strategies.

● (1715)

**The Chair:** Thank you very much.

We will go now to Mr. Sikand for five minutes.

**Mr. Gagan Sikand:** Thank you, Madam Chair.

My first question is for Mr. D'Avignon.

You mentioned that the dependance on hydrocarbons is going to go up by one-third. Is that right?

**Mr. Greg D'Avignon:** That's correct. The International Energy Agency, in its most recent report, shows that hydrocarbon consumption is going to continue to represent a significant portion of global energy demand, particularly with an emerging middle class, particularly in south Asia, central Asia, and Asia as a whole.

**Mr. Gagan Sikand:** What's the baseline? What's the starting number on that?

**Mr. Greg D'Avignon:** I don't have that information in front of me, but I'd be happy to forward the International Energy Agency's most recent report to the committee.

**Mr. Gagan Sikand:** Could you, please?

Do you happen to know what our contribution is currently to the global demand?

**Mr. Greg D'Avignon:** Globally, the only customer for Canadian fossil fuels is the United States. They are now a net exporter of oil, including an exporter to Canada, in excess of 430,000 barrels per day. We are the fourth-largest supplier of oil in the world, but to one customer.

**Mr. Gagan Sikand:** You also mentioned capital investment. I missed your point on that. Were you saying that there was foreign capital investment?

**Mr. Greg D'Avignon:** If you were to quantify the total capital investment that is placed in Canada by the private sector in any given year.... In 2015, 25% of that capital investment came from the energy sector in Canada. It has since been reduced, given the lower price of oil. It's about 19% today, but at its height it has been 25%. Currently, the entire energy sector, from a private perspective, is just over 10% of the national GDP, and by province it's obviously significantly higher or lower, depending on the basket of energy products.

**Mr. Gagan Sikand:** Thank you.

My other question is for Ms. Drysdale.

With regard to your CanaPux—that's a great name, by the way—I know the minister said that there would have to be testing for it to be considered a dry good and that the technology is encouraging, but I think that's just one aspect. You also have to have producers producing it, and refiners with the ability to actually refine it. Has there been any movement in that space? Are you in dialogue with either of those?

**Ms. Janet Drysdale:** We are in dialogue with a number of Canadian producers, all under non-disclosure agreements. We also have had initial discussions with people who could potentially refine it on the other end. At this point, I would say that there is strong commercial interest in the product and in following its development.

**Mr. Gagan Sikand:** That's good to hear.

Ms. Moran, I know you got cut off there. If there's anything you want to add to your remarks, you can add that now, and I have a question as well.

**Ms. Kathryn Moran:** I think one of the most important things is to actually monitor shipping on the northern coast. One of the biggest risk areas is really from other kinds of ships that don't have to follow the voluntary exclusion zone that tankers do. We have demonstrated over the past six months that tankers are following the voluntary exclusion almost to the letter of the law, but in fact, the other ships actually have a higher risk level. Therefore, we are advocating, as a world-leading observatory, that we should begin to monitor shipping in a much closer way and to provide alerts to prevent accidents. We've talked about response, but the best thing we can do is prevent accidents. We're advocating that robust monitoring be in place to prevent all accidents, particularly in ships that do travel very close to the coast, have high windage, and if they lose power, can readily go aground on the coastline.

**The Chair:** Thank you very much.

Mr. Badawey.

**Mr. Vance Badawey:** Thank you, Madam Chair.

First, I want to give some clarification to some comments that Mr. Chong made earlier with respect to Bill C-48 and dealing with disputed marine borders. Bill C-48, just to be clear, does not deal with disputed marine borders. It's a land-based moratorium. I think that was made clear at the last meeting.

I do want to congratulate CN for taking a forward-looking approach, for looking at not just the moratorium we're dealing with and, of course, the possibility of it then moving forward, but also at taking it steps further than that and coming up with new products and new approaches to the impact of this moratorium.

● (1720)

**Ms. Janet Drysdale:** Thank you.

**Mr. Vance Badawey:** With that, I'm going to give you time here, Ms. Drysdale. You're about corporate development; I get that. I know you want this time to communicate the business plan, the approach that you're going to take to attempt to put a positive business approach on all of this moving forward with respect to the movement of this product.

**Ms. Janet Drysdale:** The next key step is really this pilot project we are undertaking. We have gone out to the marketplace to look for an engineering, procurement, and construction firm to help us in that endeavour. We are rapidly advancing that and narrowing in on the chosen provider. As Ross mentioned, we would be gearing up to do a kind of pilot project at some point next year. Our goal is to have a type of demonstration facility, if you will, that would be located at one of our distribution centres in Edmonton. I kind of liken it to a model house in a new condo development, or something along those lines, where people can come and see the product actually being solidified and reliquefied.

We are progressing in our discussions with interested producers. I will say that those who are interested are the ones who are not currently connected to pipelines and who probably don't have much reasonable probability of having a pipeline connection.

In terms of the end market, we've done some initial analysis on our own, and certainly Asia would appear to be the strongest end-market possibility, not only for the bitumen but also for the polymer once it's separated out. There are end markets, certainly, in Asia for that polymer if it's not used in a closed-loop cycle to bring it back.

I would just caution the committee that it's early days. This is really true R and D work, but as we've taken every step in this process, every step has been very encouraging.

**Mr. Vance Badawey:** That said, and looking at the R and D side unfolding and accruing over time, are you working with folks such as the business council? Are they aligning with you with respect to moving in a strategic business direction? Utilizing the resources and as an enabler, as you are, but also within industry, is there a discussion now happening on aligning?

**Ms. Janet Drysdale:** We haven't engaged yet in terms of business councils. Certainly our focus has been on the R and D side. Ross can speak to some of the partners we've been engaging with in our fate-in-the-environment study and greenhouse gas life-cycle study. Our engagement on the commercial side has really been with interested producers at this point. We've shared some of our economic assumptions with them. They've built up some of their own models. They've looked at the analysis. Those are the discussions really, from a pure business development point of view, that are most promising.

**Mr. Vance Badawey:** I would encourage not just you at CN but also the business council to have those discussions with the federal government and with the BDC or EDC with respect to how we can move those agendas forward. It could be a whole new market for all of us.

Well done. Good job.

**Ms. Janet Drysdale:** Thank you.

**The Chair:** Mr. Lobb.

**Mr. Ben Lobb:** Thank you very much.

Just out of curiosity, I don't have the numbers in front of me here, but for CN's projected capacity for the rail lines you have in Prince Rupert and Kitimat, what kind of volume would be an equivalent in barrels per day?

**Ms. Janet Drysdale:** Off the top of my head, I don't have that number, but certainly in terms of capacity constraints, the network that goes to Prince Rupert, for example, is high-quality rail. There is capacity on it. Certainly with the appropriate lead time, we have the ability to add incremental capacity to our network. To the extent that this moves in large volumes, it would move potentially in unit train service, open gondola railcars, very similar to the way that we would move coal today. Even at the port, the port handling would be very similar to the way that coal is shipped off the coast as we speak.

**Mr. Ben Lobb:** Okay, and quite likely there would be enough capacity if new refineries were built in either port area, enough volume to meet the requirements they would have.

**Ms. Janet Drysdale:** Yes. With enough lead time, we could bring the capacity required.

**Mr. Ben Lobb:** I know it's your position that you would be outside the schedule and therefore exempt from Bill C-48, so maybe you don't want to say this right now, but inside the bill, is there any issue with how you would actually prove that you shouldn't be put in the schedule?

I know the minister made comments back in February when you made this announcement, that they were still working on the criteria regarding how that would be done. Has there been any discussion since February on how you would be able to prove out this product so you wouldn't find yourself on the schedule?

● (1725)

**Ms. Janet Drysdale:** Yes. We have done some work. In the product context, I don't think we necessarily have more information in the context of the bill itself. The key parameter of the bill that makes us outside the bill is really that the product would move in bulk freighters. It would not move in a tanker.

**Mr. Ben Lobb:** Madam Chair, that might be something on which, as we come to concluding our study, we could have the department officials come back to give us a better idea about the governor in council on this, and the regulations they plan to build into this on that. We'll have the legislation, but the department is going to build in the regulations on how this done.

For a corporation such as yours, if you do find you're on the schedule, you're going to want to be able to have a clear way to find yourself off the schedule, not in 10 years but in a timely fashion.

**The Chair:** I'll make sure we take care of that.

Mr. Fraser.

**Mr. Sean Fraser (Central Nova, Lib.):** Thanks very much.

I've been unusually silent this meeting. I have two quick questions and only a couple of minutes to get them answered.

First, assuming that with your partners you can produce the CanaPux at volume and in a commercially responsible way, can you get them to an export market on the west coast of Canada at a price that can compete with the current cost of getting Canadian petroleum products to export facilities that exist today?

**Ms. Janet Drysdale:** Every indication is that we can. The producers we've worked with so far, who have put the numbers in their own model, feel the same way.

The key thing is that it's comparable to the crude oil that's moving in a pipeline in which the diluent can be 30% to 40% of the product shipment. We have polymer instead of diluent. Polymer is much cheaper than the diluent. We can even use recycled polymer. It takes up much less space.

**Mr. Sean Fraser:** Are you looking at somewhere in the range of $4.50 for a barrel, or less, potentially?

**Ms. Janet Drysdale:** We think we're competitive, definitely.

**Mr. Sean Fraser:** Just to change gears, Mr. D'Avignon, I agree that we have to take advantage of ways in which we can get our resources to market, of course, in an environmentally responsible way. I spent some time working in the energy sector in western Canada. One thing that hasn't entered into this discussion to date is really our ability to produce versus our ability to export. If I look at CAPP's projections to 2030, I see that they're suggesting we're going to be just north of 5.1 million barrels a day.

When I look at our present export capacity and I factor in the Keystone—and it looks as though it's going to be going ahead, and the Trans Mountain project has been approved—I see our combined export capacity as somewhere in the range of 4.9 million barrels a day and our domestic consumption would easily make up the balance, I'd suggest. If there is a moratorium here, are we really limiting our export capacity or am I missing something? It seems as through it's spoken for with projects that are already in the pipeline, so to speak.

**Mr. Greg D'Avignon:** I think you asked one of the fundamental questions in front of government and the committee itself. Canada is resource rich. We have 172% more energy than we need to satisfy domestic demand. In the case of fossil fuels, we have one customer, which is the United States. Their exports to Canada have increased 10% in fossil fuel alone in the last decade. They built the equivalent of seven Keystone XL pipelines in the U.S. under the Obama administration and are net exporters, as of 36 months ago, to global markets.

The consequence is that there's a global competition for energy supply. Canada isn't playing because of the lack of access to markets and particularly with long-standing trading customers in Asia and South Asia that have relied on Canada and Canadian products for decades.

To your point, Mr. Fraser, I think the ability of this legislation to deal with diluted bitumen, which is a concern off the north coast.... I recognize that, particularly for first nations. The schedule actually precludes a variety of other products that have persistence levels much lower than those of diluted bitumen, which are being caught up in the legislation, and those include light tight oil as I referred to earlier.

The export capacity of another million barrels a day of that light tight oil—which has very low persistence but also very low refining requirements—means that could serve a market in Asia and South Asia that would be happy to take on that product with lower carbon content at a competitive price. It would mean economic benefits and also the ability for Canada, frankly, to continue to brand itself globally as a climate leader that is contributing to a lower GHG impact on energy consumption.

● (1730)

**Mr. Sean Fraser:** Thank you.

I think there's one minute left. Mr. Graham, I think, had a quick question if he can squeeze it in.

Sorry, David.

**The Chair:** There's about 45 seconds left.

**Mr. David de Burgh Graham (Laurentides—Labelle, Lib.):** I'm known for brevity, so that shouldn't be too much of a problem.

In the last hour, the Canadian Energy Pipeline Association said that they move about 1.2 billion barrels of oil per year with a success rate of 99.9% by volume, which I figure gives us a loss rate of about 120,000 barrels of oil. If we consider that's an awful lot of oil that could just go missing, your product of CanaPux is quite interesting. I find it fascinating. I know I have only about 10 seconds left. In practical terms, how easy is it to transport it? You just passed that around. It looks as though if you put a bit of pressure on it, it would pop and spray everywhere.

**Ms. Janet Drysdale:** No, actually the way it's packaged, there is actually air inside here and that helps with the compression in terms of the transportation. I could cut this open and there'd be no leaching. I could cut it into 20 pieces, and every individual piece would still float and wouldn't leach.

**Mr. David de Burgh Graham:** How long would that last? If you left a couple of container loads of this in the ocean for a few years, sitting there in bad weather, what would happen to that?

**Ms. Janet Drysdale:** Let me turn it over to Ross. That's one of the studies we're looking at.

**Mr. Ross Chow:** Absolutely. That's part of the phase of the environmental study that we're conducting right now. Unfortunately, we've not completed it yet but that is actually one of the key pieces we're looking at, its fate in the environment. In the next phase, we're actually going to reach out to the federal labs and look at the fate in marine environments.

**The Chair:** Thank you, all. Thank you very much to all of the witnesses and to the committee.

Thank you for your patience.

The meeting is adjourned.