



HOUSE OF COMMONS
CHAMBRE DES COMMUNES
CANADA

Standing Committee on Indigenous and Northern Affairs

INAN • NUMBER 129 • 1st SESSION • 42nd PARLIAMENT

EVIDENCE

Monday, November 19, 2018

—
Chair

The Honourable MaryAnn Mihychuk

Standing Committee on Indigenous and Northern Affairs

Monday, November 19, 2018

• (1535)

[English]

The Chair (Hon. MaryAnn Mihychuk (Kildonan—St. Paul, Lib.)): I call the meeting to order.

Welcome, everybody. Let's get started.

We are on the unceded territory of the Algonquin people here at Parliament, in Ottawa. This is a small piece of the tribute and the effort that all Canadians are moving through for truth and reconciliation. I encourage everyone to research treaties and our relationship and to all become engaged in moving forward finally with reconciliation.

This is our 129th meeting, and pursuant to Standing Order 108(2) we are conducting a study on northern infrastructure projects and strategies.

Today we have with us, from the Office of Infrastructure Canada, Glenn Campbell and Lisa Mitchell. Welcome.

From the Canada Infrastructure Bank, we have Pierre Lavallée. Welcome.

Mr. Pierre Lavallée (President and Chief Executive Officer, Canada Infrastructure Bank): Thank you.

The Chair: The way the process works is that you will have up to 10 minutes. If you use less, it will give us a chance to ask you more engaging questions, so there are up to 10 minutes for each presentation, and then we'll go into rounds from the MPs.

We're going to start with the Office of Infrastructure of Canada.

Mr. Glenn Campbell (Assistant Deputy Minister, Investment, Partnerships and Innovation, Office of Infrastructure of Canada): Good afternoon, Madam Chair and committee members.

Thank you for inviting us to speak before you on the topic of infrastructure, particularly in the north. I am pleased to be joined here today by Mr. Pierre Lavallée, the president and CEO of the Canada Infrastructure Bank, who will speak directly about the role of this new Crown corporation in helping to meet Canada's infrastructure needs.

As past leader of the transition office at Infrastructure Canada, I welcomed an opportunity to contribute to the policy development and set-up of the bank in becoming operational in December 2017. Since then, as assistant deputy minister for Investment, Partnerships and Innovation, my team's role has shifted to providing departmental support to this new Crown corporation into the portfolio under the

Minister of Infrastructure and Communities and collaborating with Mr. Lavallée and his team.

More broadly, we are active in exploring and supporting ways to promote greater private investment in public infrastructure through partnership and infrastructure investment models. The CIB is one tool in the tool kit to help partner governments build more infrastructure, and it plays an important part of the government's Investing in Canada plan.

Please allow me to just briefly highlight some of the points that my departmental colleagues who were here on October 15 addressed, particularly the programs and activities that support infrastructure delivery, and touch on how this impacts the north.

The Investing in Canada plan sets out \$2 billion dedicated to rural and northern communities to address communities' unique needs. This approach is designed to take into consideration the priorities of rural, remote and indigenous communities while helping to grow local economies, build strong and inclusive communities and safeguard the environment and health of Canadians.

Recognizing the federal government's commitment to public infrastructure in rural and northern communities, the government has increased the federal share of project funding to 60% for communities with populations of fewer than 5000 people. Projects in the territories and indigenous community projects are eligible for a higher federal contribution of up to 75%. The federal government's investment includes \$400 million through the Arctic energy fund to help address energy security in northern communities. Just last week, the governments of Canada and the Northwest Territories announced the first investment under this energy fund for the Inuvik wind generation project, which will provide a more efficient, reliable and cleaner source of energy for Inuvik residents.

In the traditional cost-sharing area, under bilateral agreements that are covered by the rural and northern funding stream and the Arctic energy fund that I mentioned, the three territories will receive nearly \$1.6 billion over 10 years dedicated to a broad range of infrastructure projects in those territories, which will create job opportunities and enhance the quality of life for those living and working in the northern regions.

In addition, the federal government is helping to improve transportation infrastructure in the north through the national trade corridors fund that dedicates \$2 billion over 11 years, including up to \$400 million for transportation initiatives in the Yukon, the Northwest Territories and Nunavut.

This set of programs recognizes the challenges that can arise when trying to apply various models of infrastructure delivery to northern conditions, and that is why certain programs under the plan have more flexible conditions, such as a higher federal contribution for rural and northern communities.

While there are challenges in delivering infrastructure, particularly in the north and rural regions, alternative financing models that attract private investment are now actively being deployed. Specifically, the public-private partnership, or P3, model has already been applied successfully to deliver important infrastructure in the north, such as the Iqaluit International Airport. The model is also currently being deployed for the delivery of the Tlicho all-season road project in the Northwest Territories. Both of these projects are supported by Infrastructure Canada. My colleague Lisa Mitchell has joined me here today. She has been directly involved and has been recently up in the NWT helping them launch this project.

The Kokish River hydroelectric project in British Columbia is an example of a first nations government participation in a P3 project as an investor partner. The Namgis first nation partnered with Brookfield Renewable Partners to develop a \$200-million, 45-megawatt hydroelectric generating facility in the design, build, finance and operating phases. These projects are just some examples of private sector interest in partnering with governments to achieve results and outcomes in the public interest.

Earlier this year, together with other senior officials, I participated in the Arctic 360 investment conference at the University of Toronto, which brought together stakeholders from across government, academia, industry, the financial sector and international experts to discuss strategies for more investment in the north to support infrastructure and broader economic and social development.

● (1540)

In terms of other engagement, I had the pleasure of travelling recently to Yukon for meetings at the Carcross First Nation to discuss energy challenges in the north with the Canadian Electricity Association. In fact, the meeting took place in a venue that was newly complete and funded partly through Infrastructure Canada.

I also recently toured the Kivalliq region of Nunavut, visiting communities like Baker Lake and Rankin Inlet as well as the Agnico Eagle gold mines—I understand they were here recently—to talk to community leaders, as well as mining company representatives about infrastructure needs in the north.

We recognize that the north presents unique challenges, but we will continue to engage with northern governments and leaders, as well as academia and the private sector, to work on solutions and generate more interest in delivering infrastructure in the north.

The Canada Infrastructure Bank can help meet part of this challenge, whether it's providing advice to governments and sponsors, structuring and investing in projects, or contributing to evidence-based decision-making through its data and information role as part of its centre of excellence. The bank is about transforming the way infrastructure is planned, funded and delivered in Canada, and can strategically use federal support to make public dollars go further in building more of the infrastructure Canada needs. The bank model can also free up scarce resources for

governments to allocate to projects that are not appropriate for revenue and partnership models.

There are many tools to attract investment to build infrastructure in rural, northern and indigenous communities, and there is a lot of co-operation taking place among many different players to get more infrastructure built in these communities. The federal government is providing new tools to help local communities make decisions about their infrastructure that are right for them.

Thank you again for the opportunity to speak today. I'd like to turn the floor over to Mr. Lavallée. I'd be happy to take questions, as would Lisa, following the presentation.

The Chair: All right. Thank you so much.

Please go ahead whenever you're ready.

[*Translation*]

Mr. Pierre Lavallée: Thank you, Madam Chair.

Good afternoon to you, and to all the members of the committee.

I am pleased to appear before you and I would like to begin by acknowledging that we are meeting today on the unceded territory of the Algonquin people.

Thank you for the opportunity to discuss the Canada Infrastructure Bank, and how we plan to help get new infrastructure built from coast to coast to coast.

A few remarks about our organization and our role will set the stage for our discussion.

I joined the bank in mid-June 2018, and since then, it has been a whirlwind. We moved into our permanent office space, we met provincial and territorial ministers of infrastructure to launch our dialogue on future infrastructure priorities, and we have met with potential sponsors to discuss opportunities in Canada.

[*English*]

CIB is a Crown corporation and our mandate is to invest \$35 billion of capital alongside private investors in new revenue-generating infrastructure that is in the public interest. Our mandate also includes gathering and sharing information on infrastructure projects and practices. This will support better planning and decision-making in Canada. It will also be a key ingredient for us to provide advice to all levels of government.

Whether in the territories or the northern and remote parts of the provinces, I understand that many challenges to economic development revolve around transportation, communication and energy infrastructure.

Experience has taught me that the best advisers are very good listeners. We will listen and learn from territorial and indigenous leaders about the priorities in their communities. Then, we will determine how the bank can assist, either as advisers helping to make projects more attractive to private sector investors, as co-investors in projects that meet our criteria, or to support public sponsors to identify alternative sources of funds.

It's worth spending a bit of time on the main elements of our mandate.

In terms of making investments, fundamentally we're looking to fill a gap that prevents a project from seeing the light of day. The bank was created to complement existing approaches to building infrastructure. Traditional government procurement and traditional public-private partnerships, PPPs or P3s, will continue to happen. Some infrastructure projects will continue to be entirely financed by the private sector, but there are still more opportunities. Many projects can raise some but not all of the capital required from the private sector. This is where the bank can play its defining role.

Since June I've heard many times from institutional investors that they are interested in looking at opportunities for new or greenfield infrastructure. We're promoting innovative models to finance infrastructure with federal, provincial, territorial, municipal and indigenous governments and their agencies. In support of this goal, we offer another option to help structure and partially finance new infrastructure projects. We also offer a way to access the expertise, innovation and capital of the private sector.

● (1545)

[Translation]

Our priority sectors are green infrastructure, public transit, and transport and trade. We can also invest in other areas of infrastructure, if they are supported by government policy.

Each project must pass a public interest test to ensure that the project is well aligned with the relevant governments' priorities and policies, that it contributes to economic growth and that it contributes to sustainability.

Each project must also have a revenue generation component. This could take the form of tolls or shadow tolls, fees, fares, tariffs and mechanisms based on appreciating land values. Revenue generation is important to the financial structure because we expect the private investors to take on some of the revenue or usage risk.

We realize that there are extensive needs for infrastructure in northern and remote communities. In fact, the statement of priorities and accountabilities provided by the Minister of Infrastructure and Communities to our board chair states that:

When assessing potential projects located in rural and northern communities, the Bank should take into account the specific challenges of developing infrastructure in these regions. The Bank should also consider how it can contribute to the government's commitment to achieve reconciliation with Indigenous people through renewed nation-to-nation, government-to-government, and Inuit-Crown relationships.

We are deeply engaged in discussions to structure support for a number of projects across the country.

In recent meetings, we have discussed the challenge of attracting private capital into smaller projects. The most active investors in

greenfield infrastructure are looking for very large potential investments. So, we are looking at ways to support individual projects, which on their own, are too small to attract private capital; but when bundled or aggregated, and with CIB support, might attract the attention of investors.

We are building a project development team, and a key part of its role is to meet with governments and public sector agencies across Canada including in the north.

My team and I will travel to the north over the coming year to better understand the needs and the opportunities for CIB to advise sponsors and to invest.

[English]

As I mentioned earlier, we have an important role to play in gathering and sharing information about infrastructure projects across the country. Our project development team will help to provide greater visibility and insight into projects across Canada by managing a new inventory of Canadian infrastructure projects. It will be a core tool for long-term planning as well as the development of the bank's own investment funnel.

The inventory will rely on input from a broad array of public sector sponsors, including federal, provincial, territorial, municipal and indigenous governments. We expect to produce the first version in 2019.

Alongside sponsors, Canada Infrastructure Bank is setting out to build more new infrastructure for Canadians. We are poised to accelerate our engagement, advisory and investment activities over the coming months.

We acknowledge there are unique challenges and opportunities when it comes to northern infrastructure. I look forward to learning more about regional priorities in order to find ways to deliver on CIB's mandate from coast to coast.

Thank you. I am now happy to take questions.

● (1550)

The Chair: Thank you very much.

Questioning opens with MP Jones.

Ms. Yvonne Jones (Labrador, Lib.): Thank you, Madam Chair, and I want to thank our guests for being here today. We welcome you to the committee on this important study around northern infrastructure.

Just to let you know, I represent a northern region in Canada and I have worked and travelled right across Canada's north in all of the territories. I understand how expensive it can be to do work in the north.

I'm going to start my questions with Mr. Campbell. You recently toured a number of the territories and met with community leaders. What has been the feedback from those regions around the new infrastructure programs that the Government of Canada has designed? Do they see this program as being adequate to meet some of their demands and needs within the communities?

Mr. Glenn Campbell: Thank you for the question, through you, Madam Chair.

I think my first sentiment would be that there are a lot of municipal leaders, elders and people involved in the infrastructure space who are still getting to know the suite of programs on offer under the plan.

As you know, the first couple of years of a decade-long plan is about getting the terms and conditions and then notifying everyone of what the various sources of funding are. I think there's a lot of enthusiasm over the various buckets, particularly those specifically isolated toward conditions in the north. I was recently in Yukon and then NWT and I am appreciative of the terms and conditions that allow for some flexibilities for greater federal investment to recognize some of the costs associated with doing business in the north.

Finally, in the discussions I had in, for example, the Kivalliq region of Nunavut, I learned that some of the mining companies that would traditionally wait or turn to governments for funding were building their own resource roads and their own clean energy and were engaged deeply with the community on making community economic benefits work. I must admit that as a federal official, I was quite pleased and surprised to see how they were making that work.

Ms. Yvonne Jones: We have had some of them present at our committee, and I think we were all surprised with the amounts of investment they have made in the past.

We also heard from many people who presented to us from northern jurisdictions over the last little while, especially companies that are directly related to resource development. They have been indicating that there is a gap in terms of their infrastructure needs to support new resource development.

How do they fit into the programs that might be existing right now? What is the opportunity for them to develop new resources? Mining companies in particular were among the groups. How can we be supportive of them in doing that work?

Mr. Glenn Campbell: I have two comments on that question.

The first involves one potential resource developer. Let's just be generic. In the past, prior to making an investment decision, it would usually go to government and say, "This is what I need in terms of support to access a mine or some development." Under the existing program, territories, for example, have a longer time frame and more money than they had in the past to work with both those resource developers and the local communities to prioritize projects that would both help develop that resource and also help the supporting communities with the decisions on how to prioritize.

Additionally, we have tools like the Canada Infrastructure Bank when we're in discussions with those resource companies that say that if you need a road or resource development, they are willing to participate in part of the cost-sharing or revenue model of a road or

some other access. There's a new tool to at least have a conversation to try to close that gap on some of those resource developments.

Between those two, at least there are more tools in the tool kit to have those conversations with companies that are approaching near-term investment decisions.

Ms. Yvonne Jones: My next question is for Mr. Lavallée.

I'm just wondering what the interest has been from the north around the Infrastructure Bank. I'm always a bit concerned when I see broad government projects that don't target specific funding or budgeting for the north. It's always the most costly place to invest, and it seems like it's always more competitive for us to compete with the larger urban community of Canada.

I ask, first, if consideration is being given to breaking down the program into a northern investment component.

Second, out of the interest you've seen, where is most of that interest coming from? Is it in road infrastructure? Is it in energy infrastructure?

I'm just trying to get a feel for where the demands might be.

• (1555)

Mr. Pierre Lavallée: With your permission, I could tie in the first and last part of your question. We actually have received quite a bit of interest.

Without getting into the specific numbers, if you look at the proportion you might expect of the north—given economic activity versus the rest of Canada—and the number of projects that we have discussed with potential sponsors in the last six months, one might argue that the north's fair share may be a little bit more.

There are a lot of different ideas at different scales, of course. As you might expect, it is concentrated in two of our three priority areas—trade and transport, and green infrastructure in the sense of clean energy.

As you suggested, energy is an area of interest, and obviously fits in with what we're trying to do.

The Chair: We now move to MP Jeneroux. Welcome to our committee.

Mr. Matt Jeneroux (Edmonton Riverbend, CPC): Thank you, Madam Chair. It's a pleasure to be here.

Thank you to the witnesses for being here today.

I do want to start with you, Mr. Lavallée. I ask the question for many stakeholders out there when I ask what the heck you guys have been doing over the last number of months, because there is one project announced through the REM project in Montreal that was a reannouncement of a June 2017 project. Am I correct in saying that?

Mr. Pierre Lavallée: Well, it was a project that the bank was involved with from the time we became operational, which was at the end of 2017. I joined in mid-2018. We announced first—

Mr. Matt Jeneroux: It was in the fall economic statement of 2016, though.

Mr. Pierre Lavallée: Sorry?

Mr. Matt Jeneroux: It was in the fall economic statement of 2016. The bank was in the Liberal Party platform as well, so it was not a surprise that the bank was coming, and yet there is only one project, which is essentially a reannouncement of an initial project. Am I correct in saying it was a reannouncement of an initial project?

Mr. Pierre Lavallée: I would describe it as a project that the bank performed full due diligence on starting in early 2018. This took us several months to conduct, including detailed negotiation with the sponsor and the Government of Quebec, all of which took several months before we were able to agree on an investment, which is a 15-year term loan, as you know. We announced that agreement in mid- to late August.

Mr. Matt Jeneroux: That seems an articulate way of saying “yes”.

However, you did bring up the term loan. It starts at a 1% rate and escalates to the 3% rate. There has been significant criticism that it is essentially the taxpayer who is at risk for that at the end of the day. Can you explain how that rate was decided on for this particular project?

Mr. Pierre Lavallée: The way it was decided in this particular project was the same way that we would look at every project. We start by understanding the economics of the project itself, and we have to convince ourselves, frankly, that the project cannot be fully financed in the private sector, right? We're here to fill a gap and bring a project to life. If we don't come in, the project is not going to be built.

Satisfying ourselves that it could not be fully financed privately, which means not market conditions, leads us to ask what the right instrument would be. Is it debt or equity or variations thereof?

In the case of debt, we ask at what rate the project can actually afford to take on the loan without endangering the project and also without providing the opportunity for equity sponsors of the other parts of the balance sheet to earn a disproportionate return versus the risk that they are assuming.

In other words, we take the project perspective to understand the balance sheet and where we can fill the gap that exists, and how we can best do that to ensure that everybody absorbs the risk for which they are going to be expecting their returns.

● (1600)

Mr. Matt Jeneroux: You say it's for projects to see the light of day. Again, it's still one project and it has yet to see the light of day, essentially which was already planned before you had taken over the role.

In your mandate letter, specifically in annex A, there is a heading, “Forward-looking investment possibilities”, which states:

As the Bank matures in capacity and expertise, it should consider, whether and how it may support investments in smaller projects, or bundling of projects that may not individually have scale to attract investors....

Is it safe to say that building northern infrastructure projects would be a strategy that the bank would consider?

Mr. Pierre Lavallée: I think some parts of northern infrastructure will be scale and would not fall into that group of smaller-scale projects that I think you're referring to. As I said in my earlier remarks, figuring out a way to bring smaller projects together into a form that would be attractive to private investors is something that we're—

Mr. Matt Jeneroux: Do you have a northern strategy right now? Does the bank have a northern strategy?

Mr. Pierre Lavallée: Do you mean a northern strategy specifically? We have not carved out a separate northern strategy. We would look at it more on a project-by-project or groups-of-projects basis.

Mr. Matt Jeneroux: You have \$35 billion. You don't have a northern strategy. You've reannounced a project that had already been announced.

It goes back to my initial question, which is, what have you been doing from that point in time? I'm sorry to be tough on you, Mr. Lavallée. You're the face of it all, but I think there's a lot of confusion out there with many stakeholders as to where the bank fits into overall investment in Canada infrastructure.

Mr. Pierre Lavallée: We have not developed a northern strategy because we do not have specific geographic allocations. We have three sectors that we're focusing on. We look at those sectors on a coast-to-coast-to-coast basis.

In terms of the activity level of the bank, making good investments—

Mr. Matt Jeneroux: Maybe to help you out—

Mr. Pierre Lavallée: —takes some time.

Mr. Matt Jeneroux: When can Canadians expect the next investment?

Mr. Pierre Lavallée: I'm not going to put a specific timeline or a deadline on that.

Mr. Matt Jeneroux: You said “coming months”. Is there—

Mr. Pierre Lavallée: We have, in the course of the last six months, engaged in discussions on over 50 projects, 10 of which we're actively engaged with today. The others are continuing on their path to maturity.

Mr. Matt Jeneroux: “Actively engaged”—does that mean that they have already gone to cabinet for approval?

Mr. Pierre Lavallée: No.

Mr. Matt Jeneroux: Okay.

Mr. Pierre Lavallée: Our board of directors makes the investment decisions.

The Chair: Questioning now moves to MP Blaney.

Ms. Rachel Blaney (North Island—Powell River, NDP): I thank you all for being here with us today.

I'm going to start with you as well, Mr. Lavallée.

I'm curious. Could you explain to me a little bit about how you figure out what the return on investment for the private sector is going to be? How is that negotiated?

Mr. Pierre Lavallée: It's taken from the perspective of a reasonable risk-adjusted return versus other comparable projects that have taken place in the industry more broadly on a global basis.

Ms. Rachel Blaney: In terms of the private sector getting that return on investment, will that be made known to the public, to Canadians, to understand what part was the investment from the government, what part was the investment from private corporations, and what kind of return on investment they received?

Mr. Pierre Lavallée: I can only speak to one specific example. The investment that we've made and the returns of the private investor in that situation of the REM are public and are publicly disclosed.

Ms. Rachel Blaney: With regard to the work that needs to be done in terms of infrastructure in the region that we're talking about, in the Arctic and these really remote northern communities, we know that there's been an infrastructure deficit for a long period of time. How is the Infrastructure Bank going to be a component of supporting and moving forward so that these communities have the ability to move forward for themselves economically?

● (1605)

Mr. Pierre Lavallée: In our contribution to the broader effort—and this is a broader effort, and we're not going to pretend we're 100% of the solution—there are going to be situations, based on discussions that we've already had, where a combination of different levels of government and the interests of private investors, coupled with the CIB's ability to play a flexible role within the balance sheet of a project, will mean that we can be part of the solution.

Ms. Rachel Blaney: What we've heard again and again is that housing is a huge and significant barrier, and when I think about infrastructure projects, I think that housing would also create another barrier. How is the Infrastructure Bank going to be in any way able to move forward with projects if there isn't sufficient housing for people to work there, and also housing for the worker base?

Mr. Pierre Lavallée: Housing is not one of our three priority sectors. There are other instruments that are expert and better suited to address that specific issue, knowing that it is obviously connected to the rest of the ecosystem to have a vibrant economy.

Ms. Rachel Blaney: In terms of the private sector addressing issues and looking at viable projects, this presents risk. I'm wondering, when you're working with them as they propose, if you look at these type of projects to address that issue of housing, because it does increase risk.

If you'd like to jump in on that, I'm fine.

Mr. Glenn Campbell: Are you referring to the ability to house people adjacent to infrastructure, say, in the north?

Ms. Rachel Blaney: We want to house people, but we are also looking at how we're going to support people who are living in housing that is completely overrun, where the infrastructure is falling down and people are getting sick. In the case of projects, businesses are looking at the risk. This is part of the risk for them. I'm just wondering how this was being addressed.

Mr. Glenn Campbell: The more macro issue of housing is certainly occupying a lot of time among officials. Canada Mortgage and Housing Corporation is spending a lot of time as the vehicle to look at that issue. In their engagement with the private sector, they are looking at infrastructure development. Regardless of the tools they use, particularly in the north, they're thinking a lot about their workforce.

In the projects I just toured up in Kivalliq, they spent a lot of time thinking about how to employ the regional workforce, how to get them to and from home so that culture shock caused by how long they were away did not affect their ability to participate. Modular housing was something they could bring in and remove if the mine ever closed so that there would be no legacy environmental impact. I can say that I was quite impressed with how much they were thinking about how to get people in, how to get them out, how to get them living closer to the infrastructure asset they're building. I think they're encouraged to make that part of the overall business case.

Ms. Rachel Blaney: Thank you.

Mr. Lavallée, one of the things you talked about in your report to us was looking at supporting individual projects that were too small to attract private capital by bundling them together with CIB support and how that might attract investment. I'm wondering if you have any examples of bundling together projects that you're undertaking or looking at right now.

Mr. Pierre Lavallée: We haven't announced an investment in that area yet, but I can give you a couple of examples that would normally fall below the scale threshold. It's not that they're not important to the communities; it's just that they fall below the scale threshold for private investors. That would be in water and wastewater treatment or in distributed power generation and microgrids. Both of those areas we think have some potential in terms of bundling them, aggregating them—I'm not sure exactly what the right word is, but I think you get the image—that will make them attractive for private investors.

Ms. Rachel Blaney: Thank you.

My last question is to Mr. Campbell. I understand that the Canada Infrastructure Bank is now in place, and PPP Canada, the Crown corporation, is being closed. Can you tell me the difference between those two Crown corporations?

Mr. Glenn Campbell: PPP Canada was a Crown corporation engaged in supporting public-private partnerships that were availability-based procurement models. That's when you're working with a jurisdiction and using the contract model of how projects are designed, built, financed, operated and maintained. It's a traditional procurement model that largely involves governments being the funders of all of that asset, and it's related to the amount of taxpayer support over a period of time. There are benefits to that model in construction, design, operation and maintenance. After 10 years, that model has now become prevalent across the country. Many provinces have now created their own agencies. It's embedded. Even federally, many of our own departments are using their own P3 models.

The federal government decided that it need not be in that space. Former elements of PPP Canada are now at Infrastructure Canada—the P3 Canada Fund, all those projects—

• (1610)

The Chair: Thank you.

Mr. Glenn Campbell: —and a lot of those employees have been brought in.

Pardon me, Madam Chair.

The Chair: I know there's a lot to talk about on this issue.

The questioning now goes to MP Robillard.

[Translation]

Mr. Yves Robillard (Marc-Aurèle-Fortin, Lib.): Thank you, Madam Chair.

I thank the witnesses for their excellent testimony, and for the excellent French translations of their texts.

My questions will be in French, of course. The first one is for Mr. Campbell.

What long-term strategy should the federal government adopt to correct the problems related to the infrastructure deficit, which is hindering development in the Arctic?

[English]

Mr. Glenn Campbell: From the government's point of view, the Investing in Canada plan recognizes that nationally and in various regions there is an infrastructure deficit. The government has put forward a 12-year plan with a lot of money as part of \$186 billion allocated by province, by theme, by territory, putting more money on the table for local decisions to be made about how best to fill that gap.

The government has put in what it believes is a sizable amount, tripling it over 10 years and using various tools to bring as much as it can of that infrastructure gap to a close. It recognizes, however, that it's an unsustainable burden on the taxpayer to fill all of that gap. That's why the government has been employing both P3 models and Canada Infrastructure Bank models to see if we can, where appropriate, bring in the private sector to help fill that infrastructure gap, whether it's south of 60, north of 60 in the Arctic, or anywhere in Canada, frankly.

[Translation]

Mr. Yves Robillard: Thank you, Mr. Campbell.

My next question is for Mr. Lavallée.

Does the Canada Infrastructure Bank have an Arctic-specific or indigenous-focused team?

Mr. Pierre Lavallée: Today, the bank's team is always growing and learning. Since it is very small, we have not divided it up according to files, but rather according to projects.

I alluded to the number of projects of interest in the North and remote areas. Our teams are busy with a combination of projects of that type established in the North, and on other projects, but the teams are not divided up and do not have different mandates. This allows us to be more flexible and to allocate resources to projects of interest, rather than having certain teams with fewer projects to accomplish, teams that would be less busy while others would be overwhelmed. Dividing up the tasks per project according to the availability of our teams allows us to react more quickly.

Mr. Yves Robillard: How will the organization prioritize investments in the Arctic to meet the needs of communities?

Mr. Pierre Lavallée: Over the years, we will seek to fully understand local, regional, provincial and territorial priorities in order to guide our activities and align them with the governments' priorities at all levels. It is not up to the bank in its wisdom to determine and impose what Canada or a given region needs. We are trying to establish the opposite approach.

Mr. Yves Robillard: What sources of revenue does the Government of Canada expect to accrue from the bank? Will revenues be passed along to citizens or the private sector? Are there any points you did not have time to mention in your testimony?

Mr. Pierre Lavallée: The revenues accrued by the bank, for instance interests on loans the bank invested in, will return to general government revenue. It will then be up to the government to decide whether it wants to return that capital to the bank or direct it to other programs.

• (1615)

Mr. Yves Robillard: Would you like to add anything you forgot to mention earlier?

Mr. Pierre Lavallée: Regarding revenue, specifically?

Mr. Yves Robillard: Yes.

Mr. Pierre Lavallée: I want to make sure I've properly delineated the various concepts.

There is revenue attached to infrastructure projects, which will be used to fund the projects themselves. Part of this funding will return to the bank. That is a different revenue concept. The bank's revenues will come from the return on investments we've made, rather than direct income to the bank from users' fees, for example. We are not directly connected to that revenue at the source.

Mr. Yves Robillard: Thank you.

[English]

The Chair: I have a question to both groups. In the case that the territorial or provincial government does not have the will or ability to participate in an infrastructure project—for example, a road—could the community work with the private sector without the territory or province and access federal money?

Mr. Glenn Campbell: In the first instance, we would anticipate that the community would prioritize a lot of infrastructure and then determine where it can allocate their resources. In many of those cases, they will be contributing to projects even if the bank comes forward.

In certain circumstances, if the local communities are the public sponsor and are part of that entity, they can work with the private sponsor and come forward to the bank under an unsolicited proposal channel, or a community could go forward to the territory or province as a municipality, or some other form of government, to put forward that project. Both the bank and the government would look at it and determine whether that project is in the public interest. Is there a public sponsor somehow attached to the project that differentiates it from a private sponsor?

All projects need not have both territorial and municipal sponsors. It could be an indigenous government in a community coming forward with a project, either with private sector players or on their own, to interface with a number of these programs that are in play.

The Chair: Questioning now goes to MP Jeneroux.

Mr. Matt Jeneroux: Thank you, Madam Chair.

The last minister was in place when you were hired, Mr. Lavallée. He was then unceremoniously turfed because, quite frankly, he couldn't get infrastructure spending out the door. The Prime Minister said it himself in the mandate letter. There's now a new minister in charge, saying many of the same things that the last minister said. You told us that you have 10 projects that you're excited about with the Infrastructure Bank, but yet you can't tell us what any of those projects are. Why can't you tell us?

Mr. Pierre Lavallée: In the investment business, which I've been in for a long time, it's generally accepted that disclosing and discussing publicly the investments that you're looking at making is not advantageous to any investor, or I would add in this case to the project itself. It creates a whole different dynamic that is frankly just not helpful to anyone, and if anything would slow us down.

I know your goal is to get more done more quickly, which is also part of our goal. That being said, we also want to do it well. We want to make good investments as stewards of a very large amount of capital that is public capital.

• (1620)

Mr. Matt Jeneroux: Can you give us a ballpark figure and potential dates for when we could expect one of these 10 to be announced? I say this because I meet with a number of stakeholders every day, who quite frankly are confused as to whether or not a project fits within the Canada Infrastructure Bank portfolio.

There are the three pillars that you're essentially responsible for, with \$15 billion from those. I don't know what to tell them, and they're quite frankly looking for something to be announced. I'm sure the minister in a very political way was hoping that the REM project

would stop all of this; however, it hasn't. If anything, it has just confused the process even more. I'll put a potential scenario to you, and tell me if you've heard this or not.

I'm from Alberta, a province that depends on the energy sector significantly, on oil and gas pipelines. The government has recently purchased the Trans Mountain pipeline, and as good stewards of public money, it seems to fit in some sort of mandate of the Canada Infrastructure Bank to look at funding the Trans Mountain pipeline. Would you agree?

Mr. Pierre Lavallée: I would, Madam Chair, go back to the top of your question or some of your comments that people are not clear about what the bank's mandate is, and I understand that. We've had over 120 different meetings in less than six months with people, and this the first question: "We've read the material, we've read the announcement, but what does it really mean?" I understand the question. I would say that announcing our first investment has sent a signal to the market. When we said we would be flexible, we would do either equity or debt of various forms, I think that message has been anchored by the one announcement. One announcement on one investment when our scope of activity is going to be relatively broad runs the risk of limiting peoples' imaginations to whether they need a project that needs a 15-year term loan, and the answer to that is no.

I would make a suggestion for those people who are asking you that question about what is possible with the bank: Don't wait for more announcements to come out. Call us now if you have a good idea and you think that the CIB can help you bring it to life, and we'll engage in a discussion that will be specific to the project.

Mr. Matt Jeneroux: Is the Trans Mountain pipeline a good idea?

Mr. Pierre Lavallée: The Trans Mountain is already an asset that the government has purchased that we're not involved with.

Mr. Matt Jeneroux: In terms of leveraging private capital into the Trans Mountain, have you been approached with regard to the Trans Mountain pipeline?

Mr. Pierre Lavallée: We have not....

Mr. Matt Jeneroux: It seems to fit your mandate, I would just assume.

Mr. Pierre Lavallée: Actually, our mandate is to invest where private capital is insufficient to bring a project to life. In that case, it was not a lack of capital that led the government to purchase the asset. It was a different set of circumstances.

Mr. Matt Jeneroux: I think the government often says the—

The Chair: I'm afraid that we've run out of time. On this round, we only have five minutes.

We're going to wrap up with MP Amos.

Mr. William Amos (Pontiac, Lib.): Thank you to our witnesses.

I appreciate that this is a challenging conversation across Canada, because the needs in the north are just so great. Private capital is willing, but sometimes the willingness has limits.

What's the basis upon which an initiative that is proposed for infrastructure in the north...? What is the core set of criteria that will be applied that may be different for the north than for, say, a public transit project in the south? From the perspective of the Canada Infrastructure Bank, is there not a different way of looking at northern infrastructure?

This is directed to you, Mr. Lavallée.

Mr. Pierre Lavallée: I think it's fair to say that we look at every potential project on its own merits and in its own circumstance. Arguably, the urban transit circumstances in Vancouver, Toronto, and Montreal are very different from one another. A project on a road in British Columbia in the south versus the north or the territories would be different. The economic environment around it would be different. We need to factor in all of these elements as we look at the viability of a project and its ability to attract private investors.

In short, we have to look at the specific circumstance of every project, including, therefore, projects in the north and in remote communities.

•(1625)

Mr. William Amos: I understand the case-by-case aspect, but what I'm not hearing, though, is that there is a specific set of criteria applied to northern projects. It's really.... Every project is evaluated on its merits. What's not clear to me is what the evaluation criteria are.

Mr. Pierre Lavallée: At a high level, the project has to fit within our mandate. It has to be within our priority sector; it has to be in the public interest.

To be in the public interest, it has to fit the priorities of the various levels of government where the project will take place. In that sense, those lenses—the northern, territorial, and indigenous communities lenses—would be put against the evaluation of the project.

In that sense, it actually is quite specific to the situation.

Mr. William Amos: Madam Chair, for the remainder of my time, I'd like to give our colleague Mr. Tootoo an opportunity to ask any questions he may have.

The Chair: Welcome, Hunter. Go ahead.

Hon. Hunter Tootoo (Nunavut, Ind.): Thank you, Mr. Amos and Madam Chair.

Welcome to both of you. It's good to see you again.

In your comments, Mr. Lavallée, you said that “the bank should take into account the specific challenges of developing infrastructure” and that “the bank should also consider how it can contribute to the government's commitment to achieve reconciliation”.

What specifically are you looking at in those areas to take that into account? It just says “should”; it doesn't say “shall”.

Mr. Pierre Lavallée: That may be my fault.

Hon. Hunter Tootoo: No, that's a quote from the minister.

Mr. Pierre Lavallée: Remember where I come from. The “should” and the “shall” may be just the translation from French.

More seriously, the process that we go through is one that starts by listening to the local authorities with regard to what the priorities are and where we should focus our attention and energies. If we do that well, I think that we'll achieve what you're looking for.

Hon. Hunter Tootoo: Thank you.

Mr. Campbell, you said you were recently up in my hometown of Rankin Inlet. The folks from Agnico Eagle were here presenting before the committee, along with—at a different time—the Kivalliq Inuit Association. One of the projects that they're looking at moving forward is the Manitoba-Kivalliq hydro and fibre project. One of the challenges was being able to attract some private sector investment. They've indicated that they have that. I'm just wondering if that's something that's moving along through either of your processes to be considered.

Mr. Glenn Campbell: Without commenting specifically on any one project, I can say we are familiar with projects that are coming through various pipelines. I think the comment we will make is that the earlier project proponents come forward, whether they are with the government or with the private sector and they are using the bank, potentially, or even government, in an advisory capacity...I think what's often overlooked is that many of these projects take a long time to develop. Those that involve the private sector in revenue are more complex and take longer, and there's value in a feasibility study to structure them in the right way.

When the local communities come forward with some of those projects—whether they're coming to the department or going to the Infrastructure Bank—we'd like them to surface and come forward. Then we'll figure out the best tool and really scrutinize those projects and see if they can be pulled forward or get off the ground.

It's dialogue and process that we really need to encourage. I'm glad to see that's playing out fruitfully in Nunavut.

The Chair: That runs out our time.

Thank you very much for coming out and taking the afternoon to spend this time with us. We appreciate it. *Merci. Meegwetch.* We'll take a short break and then reconvene for our second panel.

•(1630)

(Pause)

•(1635)

The Chair: Welcome.

Engineers Canada and the Yukon Chamber of Commerce are with us. We have them on video conference.

I'd like to remind MPs to please direct your questions to specific persons, whether it's to the video conference or to those here in person.

I'd also like to offer a special recognition to Engineers Canada as a former member of the family. It's good to see you. Engineers and geoscientists are all paired up now. I just wanted to disclose that we had some relationship.

We've wasted enough time. I know that our MPs are anxious to ask you questions. We have an enormous task in front of us in looking at northern and Arctic infrastructure. It's not as though we can ever forget Yukon. We're very happy that you're here.

We're going to start with Engineers Canada. You have up to 10 minutes. If you take less, you'll have more time with the MPs.

You can start whenever you're ready.

Ms. Annette Bergeron (President, Engineers Canada): Thank you very much, Madam Chair, for the opportunity.

On behalf of Engineers Canada, I am very pleased to discuss the engineering profession's efforts towards safeguarding Canada's northern infrastructure in the face of Canada's changing climate. I'm also here to tell you about the profession's work in assisting indigenous and remote communities build capacity to achieve their desired outcomes for the planning, design, construction and operation of northern infrastructure projects.

Engineers Canada is the national organization that represents the 12 provincial and territorial associations that regulate the practice of engineering in Canada and license the country's almost 300,000 engineers. Together we work to advance the engineering profession in the public interest.

Canada's most severe infrastructure gaps can be seen in the northern, remote and indigenous communities. In 2017, Indigenous and Northern Affairs Canada calculated that the infrastructure gap across first nation reserves alone would reach \$9.7 billion by 2018.

Although the frequency of climate-related disasters is expected to increase, northern, remote and indigenous communities are far from prepared to adequately withstand climate-related risks, thus further widening the infrastructure gap in these communities. This stems not only from inadequate national climate data, but also from the lack of consistent assessment procedures to properly address climate risks to infrastructure.

This brings me to our first recommendation: that climate vulnerability assessments be carried out on northern, remote and indigenous infrastructure projects to inform and prioritize adaptation actions that address potential risks associated with a changing climate.

Resilient infrastructure is the driving force behind productive societies, stable industries and increased public confidence. With objective climate vulnerability assessments, infrastructure owners and managers can gain an early awareness of the potential impacts that extreme weather events could have on infrastructure serving indigenous, remote and northern communities.

Engineers Canada, in partnership with Natural Resources Canada, developed a climate risk assessment tool that greatly enhances the resilience of infrastructure projects. The public infrastructure engineering vulnerability committee protocol, also known as the PIEVC protocol, systematically reviews historical climate informa-

tion and consequences to define current climate risks and vulnerabilities. It projects the severity and probability of future climate extreme events.

This information can be used to make informed engineering judgments to prioritize what components require adaptation, as well as how to adapt them, such as making design adjustments or changes to operational or maintenance procedures.

The PIEVC protocol has already been applied to select northern and remote infrastructure projects, including Yellowknife's Highway 3, as well as the Moose Factory first nation's water and waste-water infrastructure. It has also been used to assess climate risks to three northern airports, located in Churchill, Inuvik and Cambridge Bay.

Engineers Canada takes pride in working alongside first nations communities and indigenous engineers to develop local capacity to plan, design, construct and operate climate-resilient infrastructure. One recent example is our work alongside the Mohawk Akwesasne reserve in Ontario to apply the PIEVC protocol to assess climate risks to their water and waste-water infrastructure in collaboration with the Ontario First Nations Technical Services Corporation. This work included the development of a first nations tool kit that incorporates climate risk assessments as a part of indigenous community asset management plans.

We strongly believe that the federal government must work to build the capacity for indigenous communities to assess, plan and manage their infrastructure.

In addition, Engineers Canada is currently working on initiatives that promote diversity and inclusion in the profession and reflect Canadian society. This includes supporting programs that increase the number of indigenous people entering, thriving and remaining in the engineering profession.

•(1640)

Madam Chair, the PIEVC protocol has received national attention. The government's recent climate lens lists Engineers Canada's PIEVC protocol as one of three methodologies for assessing climate change resilience that is consistent with ISO 31000. While this investment is an important first step, Engineers Canada encourages the federal government to adopt assessment and prevention tools, such as PIEVC, to be a condition for funding approvals across all federal government departments that own or operate infrastructure or provide services to others. We also urge the requirement for climate risk assessments to become an integral part of environmental impact assessments for northern, remote and indigenous infrastructure projects.

This brings me to my final recommendation: that licensed engineers in Canada be included in the design, maintenance, rehabilitation and decommissioning of Canada's northern, remote and indigenous infrastructure.

In Canada, engineering is regulated under provincial and territorial law by the 12 engineering regulators. The regulators are entrusted to hold engineers accountable for practising in a professional, ethical and competent manner and in compliance with the applicable provincial or territorial engineering act, code of ethics or legal framework in place. Technical and professional standards of conduct are set, revised, maintained and enforced by the regulators for all professional engineers in their jurisdiction. Engineers are required to work with the public interest in mind and to uphold public safety.

For this reason, Engineers Canada strongly supports and encourages the direct involvement of licensed engineers in the design, construction, maintenance, evaluation, use and alteration of all engineering work related to the northern, remote or indigenous infrastructure in Canada—not only to increase transparency and public confidence, but also to uphold public safety and accountability on all infrastructure projects.

Madam Chair, thank you for allowing Engineers Canada to present to the committee today on this important topic.

We hope the committee recognizes the integral role that engineers play in Canada's northern infrastructure.

•(1645)

The Chair: Thank you.

Now we go to Yukon, and we have Peter Turner and Kells Boland. Welcome.

You can start whenever you're ready.

Mr. Peter Turner (President, Yukon Chamber of Commerce): Thank you very much, Madam Chair.

My name is Peter Turner. I'm president or executive director of the Yukon Chamber of Commerce. The Yukon chamber develops policies and positions through a number of sector-specific policy committees, including our transportation and infrastructure committee, which is chaired by Kells Boland. Kells will speak in a moment.

In the absence of a comparable territorial chamber in Nunavut, and until very recently an unstaffed Northwest Territories chamber, the Yukon chamber also provides a pan-northern voice, perspective,

and engagement on subjects impacting northern businesses. For example, we are currently working with Global Affairs Canada and the Arctic Economic Council to help recruit council members for the AEC.

This pan-northern perspective extends to some of the work that our transportation and infrastructure committee undertakes, and I'd like to introduce the chair of the committee, Kells Boland. Mr. Boland is a principal of the Calgary- and Whitehorse-based PROLOG Canada, which focuses on transportation infrastructure across Canada. I'll turn it over to Kells at this point.

Mr. Kells Boland (Vice-Chair, Transportation and Infrastructure Committee Chair, Yukon Chamber of Commerce): Thank you, Peter.

Good afternoon.

I'd like to confirm that you have a copy of my PowerPoint deck that I can refer to as I go along.

The Chair: We do. Thank you.

Mr. Kells Boland: The Yukon Chamber of Commerce has recommended a pan-territorial transportation strategy with a territorial corridors coordinating agency. That recommendation has been adopted by the Canadian Chamber of Commerce through its territorial policy committee.

I would like to give you a bit of background for that strategy recommendation we put forward, and to do that in terms of current and mid-term future Arctic ports and corridors, all in light of the context of a warming north.

You can turn the page to the first slide. That is illustrating that a warming north means a longer navigation season, which is attracting more ships to the Arctic. I'm sure everybody's aware, but I will just repeat that in Canada, our Northwest Passage cannot really compete with the equivalent, which is the Russian Northeast Passage or the Russian Northern Sea route, as a shortcut between northern Europe and northern Asia. However, we are seeing an influx of what is known as destination shipping. From our perspective, that's resource shipping, shipping that's going from resource development projects, or will go from future resource development projects, in the Arctic to offshore export positions.

In this picture here is Milne Inlet. That's the port for the export facility for the Mary River Mine at the top northern tip of Baffin Island and for Baffinland mining. That facility right now, over the summer period, which is about two and a half months, is moving about one shipload a week. That's a huge increase in the amount of traffic on the eastern side of the Northwest Passage into the eastern Arctic.

We have other projects as well that have tested the full transit. *Nordic Orion* took a bulk shipment of coal from the west coast of Canada to Finland in 2013. In 2014 *Nunavik* took a nickel shipment from Voisey's Bay to Japan. Ships are testing out the prospects of the increasing viability of what amounts to an Arctic seaway across our northern coast.

We've also seen more Arctic cruises moving up to the very large cruise ships. The *Crystal Serenity*, with 1,600 passengers, did a full transit in both 2016 and 2017, and it will probably be back with more.

In addition, we're seeing increased Chinese and Russian research voyages based on their icebreakers moving through our Northwest Passage, and potentially migrants, smugglers, and worse could be increasing the concern with the threat of marine activity in the Arctic.

The next page shows you that the Russians remain at the forefront of Arctic marine transportation for the same reasons we're going to be experiencing more marine transportation, not because of their shortcut between northern Europe and northern China but because they too are exporting their resources from the Arctic through their Arctic marine seaway, which is the Northern Sea route.

This is the Yamal Peninsula LNG project. It's not dissimilar to the prospects we have for the Mackenzie Delta or that Alaska has for the North Slope. At some point in the future, we might well see Canada and Alaska mimicking the investment of the Yamal LNG project in Canada with this sort of LNG tanker and terminal technology.

The next slide basically shows that we're going to have increasing requirements to support what amounts to an Arctic seaway. That's in terms of ice navigation and escort assistance for search and rescue, salvage and spill response, and surveillance and interdiction. The Royal Canadian Navy has under construction a fleet of Arctic offshore patrol ships, the first one of which is already in sea trials. We're looking forward to the Coast Guard bringing in a heavy icebreaker, the *Diefenbaker*, at some point, and meanwhile leasing some icebreakers that will provide some interim capability in the north.

You get a sense of the requirement: It's not just seeing a lot of commercial ships, but the need to provide some support for those commercial ships by protecting this new seaway.

- (1650)

If you look at the next page, you'll get a sense of the infrastructure we have in place, and that is basically two ports, Milne Inlet and Nanasivik, which is a repurposed mine site that is now a naval refuelling deepwater facility.

In addition, Iqaluit is getting a deepwater dock, and Churchill has just been reconnected with the Hudson Bay Railway.

In essence, our only deepwater facilities in the Arctic are in the eastern Arctic. If you turn the page, you'll get a sense of the void that we have in the western Arctic. If any of these ships—whether they're navy ships, Coast Guard ships, or commercial ships—is in trouble, there is no place to find deepwater east of Baffin Island, and that is all the way across the north coast of Alaska right around to Dutch Harbour in the Aleutian Islands.

Three potential places for deepwater in the western Arctic are Grays Bay in Nunavut; Tuk, which is problematic because of the long channel entrance; and King Point on the north coast of Yukon.

I'll just come inland for a minute and talk about how the warming north is impacting what was, and still is, a Canadian innovation,

which is ice road extensions of all-weather roads. This is the Tibbitt to Contwoyto Road, which goes out to the diamond mines on the border between the Northwest Territories and Nunavut. The season for that winter road is contracting. As a result of that, especially fuel may have to be flown in, as it was in one of the years in the past when the season was extremely short.

The next page shows you that we are transitioning from these winter road extensions to all-weather roads; that's a picture of the construction of the Inuvik to Tuk highway, which is now complete.

If you turn the page again, you'll get a sense of the wish list of new highway corridors connecting to current and future Arctic ports. If you start over in the far west, there's the Dalton Highway, which goes to Prudhoe Bay in Alaska. There's our Dempster Highway that goes through Yukon to Inuvik and now extends to Tuk. Then you have the Mackenzie Valley highway. That's on the wish list of new highways to Arctic ports.

I mentioned Grays Bay before. There's the Grays Bay port and road project that would connect Yellowknife right through the Slave Geologic Province, where all the diamond mines are, as well as some base metal mines further north in the Kitikmeot region of Nunavut right to Grays Bay.

In Nunavut itself, the Nunavut-Manitoba highway connects the Kivalliq region of Nunavut to the Manitoba highway system. I've shown there in Milne Inlet, in the Baffinland mines, the Mary River Mine. They want to go closer to all-season production. They're currently at four million tonnes a year and they'd be going to 12 million tonnes a year, and they would build a railway to do that. They'll replace the 100-kilometre tote road that trucks iron ore to Milne Inlet with a railway that does that, and ultimately goes to Steensby Inlet, which is a port they propose for their ultimate expansion in Foxe Basin.

As I just mentioned, the technology is available. Railway technology is old technology, but you can certainly upgrade it, and the Baffinland mines corporation is actually doing that with respect to the Mary River mine. On a broader scale, we're looking at crude by rail, bitumen by rail, and that's available to us now as an alternative to pipeline.

Part of the impetus for that, which I'm sure you're familiar with, is that the oil sands in Alberta are constrained by pipeline access. They cannot access world markets through export pipelines. Again, bitumen by rail is the prospect that the Alberta government has looked at, a railway from Fort McMurray through Yukon to Delta Junction and then the Alaska pipeline down to Valdez and their export access to world markets and world market prices for bitumen, which they cannot achieve at the moment.

•(1655)

On the other hand, maybe it's pipelines that go northbound instead. Everybody is familiar with the Mackenzie pipeline that was proposed in order to bring delta gas into the south. Maybe it should be the other way around. A pipeline could move bitumen to the north. It could also pick up the Canol shale prospect, which is right adjacent to Norman Wells. Then we're into Arctic ports for the export of oil and gas resources.

If you turn the page one more time, you'll see a myriad of possibilities. My time is almost up, so I won't go through each one. The point is that the myriad of possibilities is a myriad of planning lapses. I'll just touch on these: Arctic ports and northern corridors suffer from dis-integrated plans; northern infrastructure investment is unfolding somewhat haphazardly; projects are often multi-jurisdictional, but they lack a coordinating entity.

The last page contains our recommendations for a strategy: umbrella planning in a territorial corridors coordinating agency; incubating seaway, port and corridor authorities; and collectively advancing northern infrastructure with multi-user, cross-jurisdictional cost-sharing.

I hope I didn't exceed my time by too much. Thank you.

The Chair: It's just good that you had such pretty maps, Mr. Boland, and that I like maps, because you definitely exceeded my timeline.

Voices: Oh, oh!

The Chair: I'm sure I'll hear about that.

You did a wonderful presentation with a regional overview. We found it very fascinating, I think, so I really appreciate it.

We'll start our questioning with MP Bossio.

Mr. Mike Bossio (Hastings—Lennox and Addington, Lib.): Thank you, Chair.

Thank you, presenters, for being here today. We've heard from quite a few presenters over the last number of weeks and sessions.

To the Yukon chamber, in the age of climate change, climate resiliency and adaptation, and our concerns about our ability to meet our GHG emissions targets under the Paris accord, a lot of the suggestions you have here are very driven by oil and gas and infrastructure. This is in an age when we're trying to move away from subsidizing that sector to the level we have in the past.

I guess I'd like to know your thoughts around that and your justification for putting federal money towards further subsidies to the oil and gas sector when there have already been significant subsidies there and we've committed to phasing them out by 2025.

Mr. Kells Boland: I'm not an apologist for the oil and gas sector, but if they're going to come through our backyard, we have good ways of accommodating that. The ports that I mentioned are not necessarily oil and gas ports. LNG is not as emissions-intensive as bitumen and crude oil. We have a resource in the Mackenzie Delta that is available for LNG export, which is attractive in Asia.

I think that's a little bit of a different aspect, although maybe not the answer you're looking for, with regard to zero emissions. What we didn't touch on is—

•(1700)

Mr. Mike Bossio: In a sense, I'm also looking at this aspect. Considering we're essentially moving in that direction as a planet, I want to see the types of development we're doing that look more into the long-term future. What could some of the other uses of the ports be?

You spoke about cruise ships. I think tourism is absolutely an aspect of it. That's one side. I would have thought that one area you really would have focused on here, being the chamber and being a multi-faceted organization, was digital infrastructure. I do think that is absolutely an area that's very much under-resourced and that needs some significant investment.

Mr. Kells Boland: Well, we certainly support what amounts to a redundancy for Yukon with respect to fibre optic, and that will be a fibre optic cable up the Dempster Highway that ties into the Inuvik Satellite Station. It provides redundancy and it provides a lot of community connection that wasn't available before. Also, it works for both NWT and us.

With respect to greenhouse gas emissions, what we haven't touched on here—because we're starting from Arctic ports and coming with the southbound corridor—is a national program of hydroelectric transmission lines that extend into the north. If the federal government were to bite off that kind of nation-building investment when we have barely 40,000 ratepayers in Yukon and not all of them are grid-connected, so they can't afford that kind of a connection—for example, to Site C in B.C.—then if that were there, we'd be talking about having no need for a reduction of greenhouse gas emissions in the north and not providing the support that you're concerned with to oil and gas.

Mr. Peter Turner: Could I add to that, please?

Mr. Mike Bossio: Sure, please do.

Mr. Peter Turner: I attended a workshop in Iqaluit in August of this year, and one of the main elements that came out of it was a recommendation to look at a hard connection for Internet. What I'm really talking about is an undersea fibre optic cable to Nunavut.

The reality is that it's going to cost a lot of money, probably the better part of \$1 billion, and I recognize that it services a relatively small population. However, if we are not going to leave them on the far side of the digital divide, it's going to have to become a reality at some point. The current solution, which is just to build more satellite dishes, is scalable, but there are absolutely no economies of scale in satellite connectivity for Internet. The rest of us depend on fibre optic cable, where the more traffic there is, the more that cost is amortized over the infrastructure, but we will never gain those economies of scale with satellite transmission, so we are fully in support of this.

Mr. Mike Bossio: I'd like to pursue our discussion of the ports, gentlemen. Once again, beyond the single use you had proposed—oil and gas—what other opportunities for long-term economic development are available? What are the other areas we could look to?

Mr. Kells Boland: Exactly what is required is a seaway that supports research efforts, which are currently based on icebreakers. However, we're seeing a lot of other non-Arctic countries taking an interest in the Arctic. They need a base for their research activity, so this allows them to become more efficient and safer in that sort of activity.

Ultimately, whether it's oil and gas or subsea minerals, there needs to be a land base for that sort of exploration and development. That's an aspect of it.

As I started out saying with regard to the whole cruise ship thing, the ports aren't to encourage cruise ships; it's more in terms of protecting the safety of navigation for cruise ships. In two cases, there are no communities where these ports are going to be located. There's no place to host 1,600 people off a cruise ship. They would be the sort of facilities where, if 1,600 people on a cruise ship were in some way *in extremis*, they would have the ability to evacuate them en masse. They don't currently have this.

It's much more about safety of navigation in terms of an emerging seaway, which is going to see commerce that may or may not originate in Canada but will go through Canada. I see that as the equivalent of the St. Lawrence Seaway, and it's something that could be looked at from a cost recovery point of view, with tolls for other ships going through it. That would be the economic activity associated—

• (1705)

Mr. Mike Bossio: I'm sorry. I wanted to ask one more quick—

Oh, I'm done.

The Chair: I'm sorry. I did give you extra time, since I...

Mr. Mike Bossio: That's understood. That's fine.

The Chair: We're going to move on to MP Waugh.

Mr. Kevin Waugh (Saskatoon—Grasswood, CPC): Thank you, Madam Chair.

Thank you to those on teleconference as well as to those here.

I'll go to the engineers first.

Your speech seemed to tell me that the engineering is being left out. You made a plea to those of us around the table to not forget engineering. That tells me you think you are being left out. Where are you being left out?

Ms. Annette Bergeron: Part of my testimony was to ensure that licensed engineers are included for assessments of climate vulnerabilities in the various aspects of infrastructure projects. It's not always a federal government requirement to have licensed engineers. Our request is that you actively use licensed engineers, who are held to ethical standards, in the deployment of these projects.

Mr. Kevin Waugh: Do you have an example for us of a project that was completed that did not have your association involved, and that now has issues?

Ms. Annette Bergeron: Remember, our association is an umbrella association of the regulatory bodies, so the regulatory bodies would probably take enforcement or disciplinary actions if

somebody were found to be practising engineering where they were not licensed.

David, can you think of any specific examples?

Mr. David Lapp (Manager, Globalization and Sustainable Development, Engineers Canada): Not offhand, but we can look into that with our regulators.

Mr. Kevin Waugh: Do you have 290,000?

Ms. Annette Bergeron: Yes, we do.

Mr. Kevin Waugh: How many know about the Arctic? How many actually come from there and can have their A game?

Ms. Annette Bergeron: We have two territorial associations that regulate engineering, in both the Yukon and in Yellowknife—

Mr. Kevin Waugh: So you have none in Nunavut.

Ms. Annette Bergeron: I don't think so, no.

Mr. Kevin Waugh: Okay, so you have two of the three areas.

Keep going, then.

Ms. Annette Bergeron: Yes, that's right. They're fairly small memberships.

Mr. Kevin Waugh: How many?

Ms. Annette Bergeron: I would guess they have fewer than 500. Typically, though, they're also licensing engineers from other provinces. There's a lot of mobility among engineers between the provinces. They may be engineers who are residing in the territory or they may be engineers who are coming in to complete an infrastructure project and need to be licensed in that territory.

Mr. Kevin Waugh: Okay. How many are specialized? I guess that's what we're looking at, because you have all these projects being talked about in these areas.

Ms. Annette Bergeron: We're providing some training right now on the PIEVC protocol. I'll turn to David to talk about that.

Mr. David Lapp: Yes, we're giving protocol training to a number of engineers who reside in the north. We've probably done in the order of a couple of hundred, because we've done a series of workshops over the years. As Annette mentioned, there are also engineers who are located in the southern provinces but work in the north. They do field projects in the north—that sort of thing—so we get them familiarized as well.

We have probably trained a couple of thousand engineers in the protocol across the country, and we have about 20 companies in the consulting world that have worked with the protocol and then applied it in their work around design and construction—that sort of thing.

I have one little side comment. I am an engineer who has worked in the north for more than 20 years, even before I was at Engineers Canada, so I have a great love of the north. I worked at the Nanisivik Mine. I worked up in Resolute and up at Canarctic Shipping when they were shipping out of Nanisivik, so I have a pretty good grasp of some of the issues of the north as well that I can bring to the table.

• (1710)

Mr. Kevin Waugh: Is there an education facility up there for engineering, or is it all done in southern Canada?

Ms. Annette Bergeron: Yes, it's in the south.

Mr. Kevin Waugh: Then that's an issue.

Ms. Annette Bergeron: That's an issue as well, yes.

Mr. Kevin Waugh: Okay.

I want to turn to the Yukon Chamber of Commerce. I want to congratulate both of you on the maps. We've had a number of groups through here in the last two to three weeks to talk about Churchill—Murad Al-Katib and so on. It looks like the railway's okay for the next month or so. We're not sure, but they had the big announcement up there last week.

Let's talk about Churchill. Part of the problem, if you don't mind my saying so around this table, is that all of a sudden you have people pushing Churchill, and then you are pitching Yukon and wanting a different area. You understand the money difficulties that we have in both parts of the north, and while some are promoting Churchill, we've also heard about Whitehorse and up through Fairbanks as another one with LNG. You've talked about hydro, which, quite frankly, doesn't seem to match the cost, whether it's from Manitoba or from British Columbia. I think it's a fallacy that hydro is coming up north any day soon.

Just talk about the north, if you don't mind, both of you. Let's start with you, Kells. We have the icebreakers here. We're not sure that they have enough icebreakers up north right now to accommodate what some of your maps show.

Mr. Kells Boland: That's the whole point.

From my perspective, there has to be a focus on the Arctic coast that we haven't had before. We've always had the Northwest Passage, but it's been ice-blocked. Now the ice is melting. That doesn't mean you can just go through with any kind of ship; you still need an icebreaker to escort you, because the melting ice breaks off into bergs or bits or smaller chunks of ice that you still have to get out of the way of large ships.

Icebreaking is a big part of that. You can't send the icebreakers up there, much less the Canadian Navy Arctic offshore patrol vessels, without some way of replenishing short of Nanisivik. Nanisivik's in the eastern Arctic and this Arctic seaway extends all the way past the coast of Alaska.

That's our message. There's an emerging Arctic seaway through the Northwest Passage that's now becoming navigable on an extended basis.

Mr. Kevin Waugh: I'd agree with you.

Grays Bay and Tuk were here. Iqaluit is also struggling with its new port. Give us insight on how we deal with this. First of all, it's such a vast area up north, right? Where should we direct our attention?

You've got a great map here, but I can tell you right now that we can't service what you've shown us. Give me one project that we need to go forward with.

Mr. Kells Boland: With respect, that's exactly what I don't want to do. We recommend a pan-territorial corridors coordinating agency that would look at what's best for the whole of the territories, not just

at the politically attractive project of the moment for an individual territory.

I could select a project—King Point is a great project for you to fund—but the real point is to step back a bit and look at all the requirements of this emerging seaway and the economic development of the north and see what makes best sense by looking at the whole of the territories across the north in terms of the infrastructure investment you require and the money you need. Canada may not have the money that we need for that sort of investment. Well, there are other options.

As I mentioned, you can't get across the coast of Alaska—there's no place you can find deep water, and they will need it—until you get down to Dutch Harbor and the Aleutians. Why don't we talk about maybe joint venturing with the United States to develop some of these projects and take some of their money? They have an equal concern with some of the ships that will be coming through there.

The Chinese have what they call the Arctic Silk Road. They want to invest in circumpolar infrastructure to support their international waters in the Arctic around research activities. They're doing that in Russia. We could accept some of their money, or maybe that compromises our sovereignty.

The conversation has to be there. How do you fund expensive projects in the Arctic that benefit the international community but are in our sovereign waters? That's what our recommendations on the last page are all about.

• (1715)

The Chair: MP Blaney is next.

Ms. Rachel Blaney: Thank you all for being here.

I'm going to start with the engineers. I think it's called the PIEVC protocol. Did I get it right?

Ms. Annette Bergeron: Yes. Excellent. It's hard to get.

Ms. Rachel Blaney: You have a lot of important things to talk about in terms of climate vulnerability and climate resiliency. If we start out with the protocol, could you tell us a little more about how it actually works and how it's being implemented?

You talked about it receiving some national attention. I would appreciate if you would you expand on that a little bit.

Mr. David Lapp: This protocol has been applied to over 50 projects in Canada, at all levels of government. These are owners of infrastructure. We've done federal, provincial and municipal infrastructure.

It's a screening-level qualitative risk assessment process that involves not only engineers but other professions and disciplines. First of all, you need the climate scientists. Climate data is extremely important, and you have to work with the climate scientists to figure out how often certain climate events are going to exceed the capacity of your infrastructure. For example, if you get 150 millimetres of rain in five hours, is that going to have an effect on that infrastructure? What are the chances of that happening now and in the future? It kind of gives you the probability side of the risk equation.

Then you use experts and data—if you have data on operations—on the infrastructure to determine what the consequences are if that threshold is exceeded. It could be damage, failure, loss of service or reduced service. There are different levels of consequences. You get a triage of risks: high, medium and low risks.

High risks are all you need to know. If it's high risk, you go forward with action. It helps you to prioritize where you should spend your money to make the infrastructure and the system that supports it more resilient. It's all about levels of service and making sure that you're keeping people safe and that they can continue to work and have their quality of life. That extends not only to southern Canada but of course to northern Canada too.

Ms. Rachel Blaney: One of the things you said in your presentation is that there's inadequate data. Could you tell me a bit about what we're missing and where it could possibly come from?

I'm keeping you busy.

Mr. David Lapp: That's okay.

Climate data is always a challenge, because climate is a highly variable parameter. To give you an example, I think it was about 13 years ago that in Toronto there was a big failure on Finch Avenue. That failure was from 150 millimetres of very localized rain. At the same time that rain was falling there, at the Toronto airport there was 30 millimetres of rain. There are highly local variations, and we don't necessarily have enough measuring stations to acquire enough data to understand the local situations.

Often the climate scientist has to use proxies, noting that this is the closest station we have and maybe there's a hill or a mountain in between, and then through professional judgment they can make some projections, but it's never a correlation.

The other aspect is, of course, information around water flows and that sort of thing. Our stream flow data network has declined over the years, and we need to beef that up again because with water, there's both the supply and the flooding. You need to work out models, and these models need data. If you don't have the data, then you have to put in proxies. It creates more uncertainty, and uncertainty creates more risk. That's the notion.

Ms. Rachel Blaney: You talked about several projects that are using this process, but obviously not everyone is using it, which is a concern.

Is there an example of a country in the world that's doing more of this work, and how is that working out for that country?

Mr. David Lapp: It's an interesting question, because we actually have been applying the protocol internationally in some other

countries. In this particular space, a lot of the countries around the world are just realizing that they need to do this kind of work.

Costa Rica is one country we've done a lot of work with. Costa Rica has a national adaptation plan that includes infrastructure planning and that sort of thing, and they're assessing risks. We're working with them to apply the protocol, and they want to adopt it as their national tool to do their infrastructure.

I think there's a recognition that it's needed. I attend a lot of the United Nations framework convention meetings. It's just coming around to be realized that this work is an early step. If you want to assess climate as a black box, how do we start to understand it? Let's understand our risks first. Then we can decide what kind of actions to take, instead of just this brute force idea of "Let's just try to spend a lot of money, and maybe it will work and maybe it won't." Let's be smart about it.

Because of all the uncertainties of future climate, we don't know how fast it's going to happen and how much is going to happen. We have models and all that, and they're working on it, but there's still a lot of uncertainty. We have to find ways to deal with that. Risk management is becoming more and more of a standardized practice in engineering, because that's just the way the world is going.

● (1720)

Ms. Rachel Blaney: Yes, because of all the climate change.

You talked a lot about working with indigenous communities and being able to do assessments of the vulnerability within those communities. Are you called in to do some of those assessments so that those communities and others can apply for extra resources to deal with some of those infrastructure concerns?

Mr. David Lapp: Go ahead, Annette.

Ms. Annette Bergeron: We would like to see capacity built within those communities. Second, we'd like to see more indigenous engineers reside in the communities. They would have the best knowledge for how to proceed with infrastructure projects and on climate vulnerability.

The Chair: Questioning now moves to MP Robillard.

[*Translation*]

Mr. Yves Robillard: Thank you, Madam Chair.

I thank all of the witnesses for their excellent testimony.

My questions will be in French and are addressed to Ms. Bergeron, who is the president of Engineers Canada.

Could you provide examples of innovations in the engineering field that could help improve Canada's transportation system in the North?

[English]

Mr. David Lapp: I think you have to be strategic about it. An example is that there are a number of resource projects in the Northwest Territories that exist where, if you had a road that connected all of these projects and went up to a marine terminal on the Arctic coast, that could stimulate a huge amount of economic activity. I know of at least five or six mines that basically just need this road. If you can then create that road, it creates the opportunity for economic development of those mines to finance that road and to also create a transportation corridor, that sort of thing, for those particular projects.

I think you have to sort of tie a number of things together. The other aspect is, of course, the ice roads that were mentioned. Climate change is definitely reducing the effectiveness and the duration of ice roads. They have been a good mechanism to enable cost-effective transport to some of the mines, but I think, again, if you had this permanent road that went through—and I know that the Northwest Territories government has done some studies on that—to where that route would take it, that's a backbone for transportation.

As far as marine transportation goes, I think the comments of Yukon are well founded, based on my knowledge of that industry. We need to make sure, from a sovereignty perspective, that we are providing those services. If we don't provide those services, we're negating our sovereignty, and there's also the environmental impact and that sort of thing.

I think some of these aids to navigation need to be put in place to enable more effective transportation.

• (1725)

Ms. Annette Bergeron: Very briefly, we've mentioned the highway from Inuvik to Tuktoyaktuk, and that's an award-winning highway. It recently won an award. It might not seem that innovative, but these highways are very challenging to build. It was an award-winning highway, according to peers.

Mr. Yves Robillard: Thank you.

[Translation]

How could the engineering profession help develop and modernize the government's plan?

[English]

Ms. Annette Bergeron: I think one of the initiatives that I mentioned in my testimony, the adoption of this new protocol, is one of the three methodologies listed as part of the new climate lens. I think the climate lens will be one of the modernizing aspects of how we move forward on climate vulnerability.

David, do you want to add to that?

Mr. David Lapp: Yes, I think having that vulnerability assessment piece enables us to determine the issues and the problems that need to be solved with innovation and technology that engineers can provide. Also, I think studying the performance of existing highways is important. I know there are certain issues around the Dempster Highway, for example, that need to be lessons learned, and that sort of thing, so that engineers can learn from that and then bring it into the standard of practice.

Mr. Yves Robillard: Thank you.

I will share the rest of my time with colleagues.

The Chair: We're going now to MP Will Amos. We're at the end of the meeting, unless we wish to...

Mr. William Amos: Thank you.

This is less a question to our witnesses and more of a point of information and a bit of a statement at the end, because we are, as our chair always notes, on Algonquin territory.

In the past few days, a witness who came before us in the last year, Chief Harry St. Denis from the Wolf Lake First Nation, one of the communities in the Algonquin nation, passed away. I thought it would be appropriate to remark on the local leader and regional leader who had given so much not just to his own community but across the Algonquin nation, and to our country, frankly, because contributions like his in the context of our study on specific land claims really help us to move this process of reconciliation forward.

Let's have a moment of respect, if you would, for the late Chief Harry St. Denis.

Thank you, Chair.

[A moment of silence observed]

The Chair: Thank you.

I'd like to thank our presenters for coming in and for coming to the video studio.

We've had an interesting debate. All your comments and your briefs will be included in a report that each member of Parliament will have a copy of and the government will be responding to.

Your comments and advice are taken very seriously. We really appreciate your co-operation and your participation.

[Translation]

Thank you. *Meegwetch*. Goodbye.

[English]

The meeting is adjourned.

Published under the authority of the Speaker of
the House of Commons

SPEAKER'S PERMISSION

The proceedings of the House of Commons and its Committees are hereby made available to provide greater public access. The parliamentary privilege of the House of Commons to control the publication and broadcast of the proceedings of the House of Commons and its Committees is nonetheless reserved. All copyrights therein are also reserved.

Reproduction of the proceedings of the House of Commons and its Committees, in whole or in part and in any medium, is hereby permitted provided that the reproduction is accurate and is not presented as official. This permission does not extend to reproduction, distribution or use for commercial purpose of financial gain. Reproduction or use outside this permission or without authorization may be treated as copyright infringement in accordance with the *Copyright Act*. Authorization may be obtained on written application to the Office of the Speaker of the House of Commons.

Reproduction in accordance with this permission does not constitute publication under the authority of the House of Commons. The absolute privilege that applies to the proceedings of the House of Commons does not extend to these permitted reproductions. Where a reproduction includes briefs to a Committee of the House of Commons, authorization for reproduction may be required from the authors in accordance with the *Copyright Act*.

Nothing in this permission abrogates or derogates from the privileges, powers, immunities and rights of the House of Commons and its Committees. For greater certainty, this permission does not affect the prohibition against impeaching or questioning the proceedings of the House of Commons in courts or otherwise. The House of Commons retains the right and privilege to find users in contempt of Parliament if a reproduction or use is not in accordance with this permission.

Also available on the House of Commons website at the following address: <http://www.ourcommons.ca>

Publié en conformité de l'autorité
du Président de la Chambre des communes

PERMISSION DU PRÉSIDENT

Les délibérations de la Chambre des communes et de ses comités sont mises à la disposition du public pour mieux le renseigner. La Chambre conserve néanmoins son privilège parlementaire de contrôler la publication et la diffusion des délibérations et elle possède tous les droits d'auteur sur celles-ci.

Il est permis de reproduire les délibérations de la Chambre et de ses comités, en tout ou en partie, sur n'importe quel support, pourvu que la reproduction soit exacte et qu'elle ne soit pas présentée comme version officielle. Il n'est toutefois pas permis de reproduire, de distribuer ou d'utiliser les délibérations à des fins commerciales visant la réalisation d'un profit financier. Toute reproduction ou utilisation non permise ou non formellement autorisée peut être considérée comme une violation du droit d'auteur aux termes de la *Loi sur le droit d'auteur*. Une autorisation formelle peut être obtenue sur présentation d'une demande écrite au Bureau du Président de la Chambre.

La reproduction conforme à la présente permission ne constitue pas une publication sous l'autorité de la Chambre. Le privilège absolu qui s'applique aux délibérations de la Chambre ne s'étend pas aux reproductions permises. Lorsqu'une reproduction comprend des mémoires présentés à un comité de la Chambre, il peut être nécessaire d'obtenir de leurs auteurs l'autorisation de les reproduire, conformément à la *Loi sur le droit d'auteur*.

La présente permission ne porte pas atteinte aux privilèges, pouvoirs, immunités et droits de la Chambre et de ses comités. Il est entendu que cette permission ne touche pas l'interdiction de contester ou de mettre en cause les délibérations de la Chambre devant les tribunaux ou autrement. La Chambre conserve le droit et le privilège de déclarer l'utilisateur coupable d'outrage au Parlement lorsque la reproduction ou l'utilisation n'est pas conforme à la présente permission.

Aussi disponible sur le site Web de la Chambre des communes à l'adresse suivante : <http://www.noscommunes.ca>