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Chair

Mr. James Maloney

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● (0830)

[*English*]

The Chair (Mr. James Maloney (Etobicoke—Lakeshore, Lib.)): Good morning, everybody. I call this meeting to order. I'm going to be very brief in my introductions this morning because we had to move up the start time of the meeting from 8:45 to 8:30 because we need to be out of here before 9:45. I appreciate everybody's co-operation in getting started early and I thank all of the witnesses for joining us this morning.

Mr. Pakalnis is from MIRARCO Mining Innovation, and we have two witnesses from the Klondike Placer Miners' Association, who I know made great efforts to get here. We're very grateful for that. Mr. Gibson is from Laurentian University. Each group will have up to 10 minutes to present, and then we're going to open the floor to questions.

With no further ado, we'll start with Mr. Pakalnis.

Mr. Vic Pakalnis (President and Chief Executive Officer, MIRARCO Mining Innovation): Good day, *bonjour*, Mr. Chair and honourable members. Thank you for the opportunity to speak on the urgent matters confronting the mining industry in Canada. There are going to be three areas, which I will develop in my presentation, that I would like you to consider. The first one is the government's role in supporting one of Canada's key economic drivers. The second one is the role of first nations in the mining industy, and the third one is the position of the Ring of Fire on the national stage.

Before I expand on these recommendations to the parliamentary committee, I would like to give you some background. Every speaker who appears before you on this subject will have a unique perspective. My perspective is based on over 60 years in the mining industry. I know you're thinking I look pretty good for a guy of 80, but let me explain. I was born in the gold mining town of Malartic, Quebec. My father was the chief mining engineer for a dozen mines up there, and also in Ontario and British Columbia. My earliest memories are of prospecting in the bush on his shoulders and doing summer jobs in the various facets of the mining industry. My brother is a mining engineer. It's in our blood. It's no surprise that I chose mining engineering as my career path.

I have worked for many of the major mining companies, such as Kerr Addison, Inco, Iron Ore Company of Canada, and Falconbridge. I have spent the bulk of my professional life in the Ontario public service. I was the chief mining engineer for the Province of Ontario. I've held various executive positions within the Ontario Ministry of Labour, and I've served all three political parties. I've taught in the school of policy studies at Queen's University, as well as in the Buchan department of mining as the Kinross professor of mining and sustainability. I am presently the president and CEO of MIRARCO Mining Innovation in Sudbury and the associate vice-president of mining innovation and technology at Laurentian University.

Why have I told you so much about myself? I want you to know that my perspective is broad. I have the public sector experience, as well as industry and academic experience. I feel very strongly about the importance of mining to Canada, not just its past but more importantly its future. I hope that during the question period today you'll ask me questions about the mining industry, mining research, and public policy. I just attended the World Mining Congress in Rio last week, and what's happening in the rest of the world might be of interest to you, as well.

Mining research in particular in Canada is in grave danger. We were once the best in the world, but no longer. The decrease in investment dollars in mining research demonstrates this dramatically. Australia invests over $2.7 billion in mining research and innovation, while Canada invests about $550 million. The Canadian Chamber of Commerce report in 2013 offered recommendations that deserve more attention and more consideration than they received at that time. It's not too late to implement them, as well.

There needs to be a harmonization of federal, provincial, and territorial regulations, and incentives for research and innovation. The slides that are being translated, which should be available to you in the package later this week, contain excerpts from a KPMG report to rationalize mining research and innovation in Ontario. I believe this report needs to be supplemented by the inclusion of a federal component to assist all provinces and territories to maximize our efforts in research, innovation, and commercialization. Years ago, Canada negotiated mineral development agreements with each province and territory. In the absence of a national consensus, the federal government may wish to bring these back. We should also use policy instruments, such as the highly successful Canada-Ontario collaborative public service agreements, which were negotiated very quickly in the past.

Supporting the mining sector in Canada is not a partisan issue. It's important to our economy and our jobs, particularly in the north. Our world standing as a mining country will be enhanced.

● (0835)

I want to mention a couple of facts here. The World Economic Forum listed Canada's financial and banking system as number one in the world. We're also number one in post-secondary graduates, but we're 26th in innovation. We clearly have the resources and the educated population, but we're missing the target to put the innovative spark back into mining.

Toronto is the mining financial capital of the world. Over 60% of all international deals are made on Bay Street. We need to protect and grow this position, and in addition, we need to promote and support our mining suppliers and service companies that do work around the world.

We need world-class research and development to support our mining industry, and to provide highly qualified persons and innovations that will make our industry the safest, most productive, and most environmentally sustainable industry in the world. We need a coordinated mining research and innovative strategy to maintain our position on the world stage.

I'm going to turn briefly to the Ring of Fire in the James Bay lowlands of northern Ontario. It has been estimated to be worth over $60 billion. There's another Sudbury Basin sitting up there, maybe two, and it's just waiting to be developed.

The Ontario Chamber of Commerce estimates it would sustain 5,500 jobs permanently, and of course, the construction phase would be a whole lot more. I believe it's much more, and I would like you to consider the Canadian Chamber of Commerce resolution that just came out a couple of weeks ago to make the Ring of Fire a national priority. It contains copper, nickel, zinc, platinum, palladium, uranium, and gold, along with the largest deposit of chromite in North America. Chromite is a major constituent of stainless steel.

Finally, the first nations people of this country need a strong economic base in order to develop their full potential. In particular, we need programs in all mining schools, at universities and community colleges, to provide aboriginal access to science and engineering. There are some programs, Manitoba, Queen's, but every mining school should have these programs and should be encouraging them.

MIRARCO Mining Innovation at Laurentian University is proud to have graduated the only first nations Ph.D. mining engineer in Canada last year. We're proud of it, but we should have dozens graduating across this country. We should have dozens in graduate programs, and more importantly, hundreds at the undergraduate level.

The mining sector employs more first nations people than any other sector in Canada. First nations people make up about 10% of our workforce. It's one of the only areas where we actually beat the Australians. They're at 6%. My feeling is that we could get it to 20% if we had the will and the resources to do that.

Thank you for your attention and for acting on behalf of a great industry that is so important to the economy of this country. We are in a downturn at this present time. I've been through five of these downturns. The mining industry is a cyclical kind of industry and it has been a lot worse. I've survived when there were 20% interest rates, if you recall, in the eighties. We'll get through this but unless we invest in this industry, we won't be there for the boom times.

Here are three recommendations I urge you not only to consider but to act on. First, recognize and support mining as the key economic driver for Canada's economy. I believe that we can contribute even more than we have to date at 4%. I'm sure that we can get it to 8% by 2030. Second, enable first nations to benefit from better educational access to science, engineering, and management. We need to double the first nations participation rates in the mining labour force from 10% to 20% by 2020. Finally, we recommend making the Ring of Fire a national priority.

Thank you very much for your attention and I look forward to your questions.

● (0840)

The Chair: Thank you very much.

We'll move to Mr. McDougall.

Mr. Mike McDougall (President, Klondike Placer Miners' Association): Mr. Chair, honourable members, thank you for the opportunity to speak here today.

My name is Mike McDougall. I'm the president of the Klondike Placer Miners' Association. With me is Jonas Smith, our executive director.

Our organization represents approximately 160 family owned and operated placer mines in the Yukon territory and an industry upon which the modern Yukon was founded. I'm a multi-generational placer miner. My father was a placer miner. My wife, of course, is with me in the operation, and so are our children.

Since the days of the great Klondike gold rush, our industry has consistently provided a solid foundation for Yukon's economy. We've delivered employment opportunities for Yukoners and we generated tax revenue for government. Unlike many Canadians in the resource sector this year, many of our members have had a good season primarily due to a low Canadian dollar and a reasonable U.S. dollar price for gold. However, the current low oil prices have also played a significant role as the placer industry consumes a considerable amount of fossil fuels.

Now a brief note about placer mining. The business of placer mining is to recover gold that is free in gravels, and the gold has been placed in those gravels by natural processes over many millennia.

Miners use heavy equipment to remove the overburden and we process the underlying gravels to recover the gold. Gold is separated from the gravels by using water and gravity methods alone. We're significant users of diesel fuel in our processes not only for our heavy equipment but also to run the generators, power our camps and places where we prepare food for our families, but also to enjoy hot showers sometimes after a day in the pit. Solar and micro-hydro options are utilized where possible, but there's currently no alternative, economic or otherwise, that could displace the fossil fuels from our industry.

We're very concerned about the potential detrimental effects a carbon tax would have on our industry and on the economy of Yukon.

We support initiatives to promote efficiency and innovation, but making our cost of living and doing business more expensively will not reduce our consumption of fossil fuel. It will just make it harder to provide for our families and to contribute economic opportunities to our communities. If the federal government is truly interested in reducing emissions, we would like to see a focus on fewer financially punitive measures to encourage increased efficiency and reduce consumption.

Canada and Yukon are blessed with an abundance of natural resources, including our human resources. Our land has endowed us with raw materials that are sought after across the globe. We have the ethical and environmental workplace standards as well as the ingenuity to be world leaders in responsible resource extraction. Our placer industry has developed and incorporated cutting-edge technologies and environmental reclamation techniques as it has evolved over the last century.

We would like to see our government utilize tax cuts as opposed to tax increases as a means to incentivize further improvements. Programs such as educational opportunities to teach miners about new technologies and access to low-interest loans to take advantage of such technologies, or to upgrade to more efficient equipment, would all be options that we would like to see explored.

Almost a half of all first nation self-government treaties in Canada are with the Yukon first nations. This creates a unique set of opportunities for the first nations involvement in resource development in Yukon. First nations citizens are fully integrated into our workforce, in our communities, and really in our families as well. Their participation in resource development is also enshrined in Yukon's environmental assessment process, which is defined in the land claims agreements.

This legislation, the Yukon Environmental and Socio-economic Assessment Act, YESAA, came into force in 2003. YESAA defines much of how the placer industry's operations are assessed for impacts and how these impacts are mitigated. Placer mining is the single-largest client of the Yukon Environmental and Socio-economic Assessment Board.

In 2015, the former Conservative government passed amendments to YESAA that were intended to address issues with the assessment process that have compounded since its inception in 2003. However, due to a lawsuit resulting from failure to properly consult first nations, our Yukon member of Parliament, the Honourable Larry Bagnell, has campaigned successfully to rescind them, and Bill C-17 is currently awaiting second reading in the House of Commons.

To be clear, the KPMA respects and fully supports the Yukon first nations' position to be meaningfully and adequately involved in the consultation process. However, what was lost in the process and the politics is the pressing need for these changes.

● (0845)

Issues such as costly and time-consuming reassessments for unchanged projects, inconsistency and lack of accountability between designated offices, and a lack of clear timelines all leave our industry with uncertainty. The amendments were meant to bring YESAA into line with the other Canadian jurisdictions, provide certainty for investment, and allow the Yukon to be competitive. As the government is now prepared to amend this legislation once again, we would like to see these issues addressed in the amended bill.

The federal government has heard the concerns of the first nations. As the number one client and end-user of the YESAA process, the KPMA expects that government will engage with us prior to finalizing any amendments.

I would like to thank all honourable members again for the opportunity to speak today. I look forward to expanding on my comments in responding to any questions you may have.

The Chair: Thank you, Mr. McDougall.

Mr. Smith, are you going to add anything now?

Mr. Jonas Smith (Executive Director, Klondike Placer Miners' Association): No, thank you, Mr. Chair.

The Chair: Mr. Gibson, I'll turn the floor over to you.

Professor Harold Gibson (Professor and Metal Earth Director, Mineral Exploration Research Centre, Laurentian University, As an Individual): Good morning, *bonjour*. Mr. Chair, honourable members, thank you for this opportunity to speak on the challenges facing the mining industry in Canada.

I will focus on exploration, the process of discovering the new resources required to build Canada's new mines, and on the research tools that are required to provide for exploration and discovery. Exploration is the scientific R and D component and first phase of a sustainable mining cycle, which starts with exploration, then development, mining, and reclamation. During each phase, environmental concerns are first and foremost.

I'll first present some significant facts about exploration, the mining industry, and research in Canada. I'll present some of the challenges. Then I'll make some recommendations for your consideration.

To tell you a little about myself, I was born in the north, in Sudbury. I was employed by major and junior mining companies for 10 years, where I worked with an exploration team across Canada and globally. I joined Laurentian University in 1990. I'm the director of Laurentian's mineral exploration research centre, or MERC. I'm also a director of metal earth, a new $104-million research project supported by the Canada first research excellence fund. Metal earth is the largest exploration research initiative in Canada ever. It will transform how we explore for metals.

With regard to some facts, a healthy mining industry is essential to Canada. Exploration is essential to a healthy mining industry. Without exploration, there will be no new resources, no mining, no sustainable northern development. Exploration is key.

Mineral resources are essential to Canada, comprising about 18% of our exports and about 4% of our GDP. Mining is, and will continue to be, a driver of the Canadian economy. It is the only real economic driver for Canada's far north development.

The mining industry, as I said, is the largest employer of first nations people in Canada. The exploration sector is often the first opportunity for first nation communities to interact with the mining sector.

Historically, exploration research in Canada has been the of the highest quality and excellence, but it is fragmented, poorly funded, and distributed throughout the university system. In Australia, mineral exploration research over the past two decades has been focused by their government to key university research centres, allowing them to tackle the big science questions, the big challenges facing the mining industry. Canada has now slipped behind Australia, but hopefully not for long.

With regard to some challenges, I'll refer to graphs that you have in the handout.

The decline in Canadian metal resources is a threat to global sustainability and security. Since 1980, the most dramatic decline has been in lead, 97%; zinc and nickel, 82%; silver, 80%; and copper, 36%. Virtually all of the zinc and lead that is mined is used for electric cars and anodizing, rust-proofing. Essentially, they're green metals. There's been no new discovery of any resources of either commodity for the past 20 years.

The real challenge is that the need for metals is going to grow exponentially, due to increasing globalization and the resulting shift in the economic status of billions of people. We need to discover the new resources now for global sustainability, security, and growth.

In figure 2, you'll see that in the period from 2005 to 2010, there's been an unprecedented drop in the number of significant discoveries, despite very large exploration expenditures. Every discovery is important, but world-class discoveries are essential. There are 80% of the world's global resources contained within 20% of the deposits. Real economic and societal impact only comes from the discovery of world-class deposits.

Metal deposits are rare. You have to increase the metal concentration by a thousand times their average crustal abundance. They're small, and essentially more difficult to find than the proverbial needle in a haystack. For example, the surface expression, or footprint, of an underground mine is less than three city blocks. To compound this, new deposits are more difficult to discover. They're deeply buried, they're covered, and the resources in existing mining districts are finite.

● (0850)

Exploration in remote greenfields, the only place we're going to find the new world-class deposits, is challenging, and the success rate there is less. This in part reflects our poor understanding of the geology of Canada's north and far north and the fact that we do not have adequate tools for exploration. We clearly need new tools and concepts to identify the most prospective areas in Canada for exploration in our far north.

Exploration dollars are leaving Canada. For decades Canada was the global destination for exploration expenditures. From 2003 to 2013 exploration expenditures in Canada dropped by 40%. That's $18 billion in lost investment that has gone elsewhere, compared with 24% for Australia, our closest competitor. Australia is now the preferred destination for exploration dollars. Fewer exploration dollars spent in Canada means fewer discoveries and fewer mines.

Ninety per cent of Canada's known resources are of south of 60 degrees latitude, and 95% of the mines are south of 55 degrees, yet the same geology extends to the north. How do we focus our exploration in such a vast area as Canada's north and far north? We really do need to increase discovery rates.

There are hundreds of millions of stranded economic base and precious metal resources in Canada's far north, for example, the Selwyn Basin in Yukon and Hackett River in Nunavut, which would be developed if there were adequate infrastructure and a return to more reasonable metal prices.

Our recommendations include the following. First, we need to upgrade our fundamental geoscience database coverage. The existing 1:250,000 geological mapping that is present and is currently under way, although welcomed, does not have the resolution needed to guide exploration. We need higher resolution mapping in areas with known resources and areas with high prospectivity. This will require increased funding to support geoscience and targeted mapping surveys, which is traditionally done by NRCan and the provincial and territorial surveys, or we have to look at new mechanisms, perhaps through university research centres.

Second, remove roadblocks to global exploration investment in Canada such as secure land tenure and accessibility by reducing land withdrawn from exploration or lands encumbered by first nations issues. An example would be the Ring of Fire that Vic talked about. First nations need to be recognized as co-owners of Canada's northern mineral resources. For example, in Nunavut the Inuit own many of the known mineral tenures, and the mining industry works successfully with them. In the U.S. a native group is co-owner of the world-class Red Dog Mine, the largest zinc producer in the world. We cannot have first nations feeling solely as adversarial owners of environmental protection. Co-ownership of mineral tenure would broaden their perspective.

Third, provide industry with the new tools, protocols, and models needed to make the next generation of greenfield discoveries in Canada. This cannot be done by traditional ore deposit research or by individuals working alone. To be successful, to innovate, we need to financially support and grow our research centres such as the mineral exploration research centre at Laurentian University and the mineral deposit research unit at UBC, as they can assemble, grow, and sustain the multidisciplinary teams needed to solve fundamental research problems and to innovate.

An example of this would be MERC's metal earth program, which will change our understanding of the processes responsible for the economic concentration of metals during our planet's evolution, but it will also transform how we explore for metals by providing new knowledge and new tools to the sector.

Fourth, we need to increase government funding directly or through federal agencies such as NSERC to leverage the industry dollars to support exploration and research within the university-based research centres and to directly support applied exploration driven by industry itself such as the footprints project through the Canada Mining Innovation Council.

The big-science multidisciplinary mineral exploration research programs such as metal earth, conducted by university research centres such as MERC, provide the only mechanism to bring the best minds in Canada and globally together to solve industry problems and to provide students, our future, with the education and training needed to become Canada's leaders in mineral exploration research. Young graduates with the appropriate education and skills are key to the future discovery of future mines.

Fifth, we need new funding to develop programs that target aboriginal youth at the high school level. We need to target them for careers in the mining sector and to develop and support new mining and related programs at both colleges and universities. It's really important, and we need to develop indigenous access programs that provide transitions and pathways into the fields of geology, engineering, and environmental science for first nations people. Although they constitute 10% of our workforce, there are very few in the mining engineering and geology fields, and we desperately need them. We have to target them, and we have to target them when they're at the high school level.

Lastly, I would like to thank you for this opportunity, for your attention, and for your commitment to the mining sector in Canada. It's an essential driver for our economy. It's going to be our future.

Thank you.

● (0855)

The Chair: Professor Gibson, thank you very much. Thank you all of you. That's the first time we've had three witnesses who have come in under time. We appreciate that, especially today.

I'm going to turn the floor over to Mr. Serré who's first up.

Mr. Marc Serré (Nickel Belt, Lib.): Thank you, Mr. Chair.

Thank you to the witnesses for taking the time to come here today and also for all your hard work in the past and moving forward. In the mining industry, obviously, we have a lot of good things happening. The downturn is cyclical, as we talked about, but we're getting out of it and your work is going to help to achieve this.

My question is for Vic. I'm going to ask my first question on the innovation side.

We've heard at the committee from COSIA on the oil sands and the importance of investment in innovation. You've indicated, obviously, Australia, and we were a leader there, and now we're 26th.

Can you give us some specific recommendations of what the federal government could do to support the mining industry, just targeting on the innovation side itself? Maybe we could utilize best practices from Australia, because they've taken some of our best practices in the past.

Mr. Vic Pakalnis: We can learn from other countries, absolutely, but maybe they can learn from us as well.

There are some interesting things that I learned at the World Mining Congress, which just happened last week in Rio. With the UN sustainable development goals and all the discussions happening there, we have some unique kinds of things to offer the world. I think the world needs more of Canada.

There were people from the World Economic Forum and the World Bank who were interested in what was happening, for instance, in Sudbury, with the innovation on rehabilitation. When I started out in Falconbridge, the air was absolutely thick with sulphur dioxide. We've cleaned up that entire thing. The air there is better than Ottawa's or Toronto's. The water has in fact come back. The acid rains have been turned around, and we have 300 lakes that have fish you can eat. We have two million trees planted. There is a lot of stuff that we've done research on. The grass seed that we use is used in Norilsk to do that.

It starts right from exploration, the stuff that Harold mentioned. We can develop innovative techniques in geophysics and ways of targeting ore bodies. You all have this pamphlet. You know that a meteorite hit 1.8 billion years ago and created the largest concentration of wealth. That's a good signal for maybe looking at other possibles. There is also the type of targeting that Harold is turning his mind to.

Research and innovation cost money, though. It takes time; it can't be turned around in one quarter or two quarters. If you look at the various parts of this, it goes through the operational cycles. We need better mining methods. Back in the eighties, Canada produced five or six mining methods that are used around the world. We were giants. We had the largest research facilities, Noranda Research in Montreal and Sheridan Park. We had a variety of things like that.

These are different times. Maybe we can consolidate some of that stuff. I am looking at a possibility of Sudbury being a centre that we can consolidate. That innovation can go right across from geology to rehabilitation and close-out.

● (0900)

Mr. Marc Serré: On that point, on the next step, we've talked about clusters and ecosystems, and I'm sure Mr. McDougall also has experience in this. The commercialization piece is missing in a lot of the innovation. We'll do the R and D. We'll do the research, but then we are kind of missing the private sector component of the commercialization.

What can we do as a federal government to help that out? I'd ask you to answer quickly, a minute each.

Mr. Mike McDougall: Thank you very much for the question.

I like to say, in the roughest terms possible, that we turn gravel and gold into money, as placer miners, so we do the commercial part of it. The challenge for us is permitting, so we need to work on making sure that our permit processes are as seamless as possible and that there is a minimum of duplication. As was mentioned before, we need to make sure that the first nations are partners in that and integrate them into the permitting process so that we don't have problems of jurisdiction along the way. I think that's critical.

I'll leave my remarks at that.

Mr. Vic Pakalnis: We have about 3,000 manufacturers, suppliers; this is SAMSSA and CAMESE. They could be doubling, tripling their exports. Some of the stuff takes time to develop. They don't have the resources individually, and if there were some money, some bank, some source of funding to commercialize some of the research we've already done.... I have a solution to diesel emission problems. Diesel emissions are carcinogenic. We spent $6 million at Vale and Glencore to find a solution. I can't get it commercialized. I'm going to Germany to try to get somebody to commercialize the damn thing.

We've already got some goods, and we need more of those discoveries. To be able to commercialize the stuff we've already produced, you're absolutely correct, there needs to be some strategy. The minister announced the $800 million in clusters that are going to be developed. I'm hoping this committee will recommend that mining be one of those sectors that's going to be targeted as a priority.

The auto sector is probably first in line coming to you guys, but mining has always been a very insular group, and we don't usually ask for help. This is a time when we are asking for help because we want to be a bigger portion of this economy. If you could help us on the commercialization, on the research, it will pay off in the long run.

The Chair: Thank you.

Mr. Strahl.

Mr. Mark Strahl (Chilliwack—Hope, CPC): Thank you, Mr. Chair.

Thank you, everyone, for coming, especially our witnesses from Yukon. As I'm sure Larry can tell you, it's not always an easy trip. It's getting easier, I think. There are more flight options now, but I bear the scars of being the parliamentary secretary for aboriginal affairs and northern development when Bill S-6 was passed, and we had a day in the Yukon when we talked with placer miners, the mining associations, and with Ruth Massie and the Yukon first nations.

Obviously, things were proposed in Bill S-6. There were time limits on the review process to bring it in line with the rest of Canada, exempting projects from reassessment unless there's been significant change, allowing the federal minister to provide binding policy direction, and the ability to delegate to the territorial government on certain issues, so I think those were the four main issues at play.

Have you been consulted? You mentioned in your brief that you'd like to be consulted. Obviously, you weren't consulted before the current Bill C-17 was tabled in the House. Has the government reached out to you to get your point of view subsequent to that tabling, and do you have any comments on those four issues, which are the most important to the placer mining industry, in terms of what was in Bill S-6 and what is proposed to be removed in Bill C-17?

● (0905)

Mr. Mike McDougall: Thank you for that question.

You're right. The four contentious issues were the delegation of authority, the binding policy direction, the fixed assessment guidelines, and the projects that had been previously screened with minor changes not requiring reassessment. If we had to pick from them, we feel that the ability for binding policy direction for the designated offices is critical because of the disconnect between YESAB and the designated offices. As well, the reassessment piece would be important for our members.

Many of our miners are multi-generational and many are still mining in the same place they were 15 or even 20 years ago, so they've been through two or three or four assessments with no change in the overall scope of the project.

Hopefully that answers your question.

Mr. Mark Strahl: I think it's very important. Also very important, I think, was your commentary that no matter what the level of taxation that's applied to your fuel, for instance, you still have to use it to run your equipment. It's an emissions-intensive, trade-exposed industry; that's the language I've learned.

It's our job here, we're talking about opportunities, threats, or concerns in the mining sector. If the price of your fuel goes up, that just means your profits go down. I don't see how running a D8 or D10.... I don't know what size you're running up there, but it runs on diesel. You can't electrify it. What will this do except be extremely punitive to your industry by raising the cost of your fuel?

Mr. Mike McDougall: That's a very good question, because you are exactly right. We are bulk material handlers. Although the industry has changed dramatically from my father's time to now and we are using more efficient methods, we still require bulldozers for some of our processes and we still use large amounts of fuel. Unless we have an ability to pass on the cost, if there is an additional cost for a tax, then it comes out of our bottom line. It affects the profits of our family operations and it means less profit for those operations.

We're certainly very much encouraging government to look into innovative ways to apply it as an encouragement rather than punitively. Our industry is certainly well disposed to adapt to new technologies that will save the amount of fuel used, but at the end of the day, we still need to move a large amount of material and we still need to use diesel fuel to do it. Anything that increases the cost of the fuel reduces the profitability of the industry.

Mr. Mark Strahl: Do you have estimates, not for the whole association but for your company? If you don't mind sharing, what volumes are we talking about? What are your energy inputs, your fuel? You can just ballpark what your fuel bill would be in a season.

Mr. Mike McDougall: We're a small family-based placer operation, so we fall into the lower third in size of operations. We'll annually use anywhere between 75,000 and 100,000 litres of diesel fuel in our operation. You can do the math very quickly. If the fuel costs an additional 25¢ per litre, then there's an immediate reduction in my profits of that much.

Mr. Mark Strahl: Right.

Mr. Mike McDougall: Those numbers have remained constant for us over the last seven years. It's fairly constant.

In orders of magnitude, we are smaller than the largest operators. They would use two million litres, plus or minus. There's an enormous amount of fuel used to produce this gold.

Mr. Mark Strahl: Mr. Pakalnis, I thought the year that you used was interesting. You said you'd like the sector to increase from 4% to 8% by 2030. As you know, 2030 is also the Paris accord target year. In terms of what the government has indicated, how would you propose that the mining output would double while our emissions, which we've just talked about in the mining sector as pretty constant, would be doubling, if not close to it? How do you think we can say, “Let's double mining output”, but at the same time, deal with another 2030 target that is consistently talked about, certainly by the other side?

● (0910)

Mr. Vic Pakalnis: Thanks for picking that out. It's very sharp.

Nuclear energy costs five times less than diesel. Did you know that? Diesel creates greenhouse gases; nuclear doesn't. Last night I was talking with Bruce Power about a research project on small modular nuclear batteries, so to speak, 20 to 30 megawatts, where you can put them in a small mining operation. Then you can mine it out, and you can put it somewhere else. In other words, you would not have all the transmission lines that have to be built. If we develop that particular source of energy, we'd be able to meet those greenhouse gas targets, and if Harold does his magic, we'll be able to increase our production as well.

I think we need to be more innovative in terms of our energy sources. Right now, we need to also manage the transition. You can't go cold turkey. We still need oil. We still need gas. We still need all the components right now, but then we need to ensure that we are innovative.

We used to be really big in nuclear energy. The CANDU reactor was one of the safest around the world. I think it can be that way if the proper research is done in that area. That's my answer to that question.

The Chair: Thank you.

Mr. Cannings.

Mr. Richard Cannings (South Okanagan—West Kootenay, NDP): Thank you all for coming here today.

I want to start with both Mr. Pakalnis and Mr. Gibson, because you both brought this up, about first nations capacity and education. I wonder if you could comment on the role the federal government should be playing in increasing access to education from elementary school on up to post-secondary for first nations. We've heard from many witnesses how important first nation communities are to the mining industry, how people are working and there is very good co-operation.

The subject keeps coming up again and again, so I wonder if both of you might want to comment on that.

Mr. Vic Pakalnis: First of all, it has to be on many levels. There has to be revenue sharing with the first nations community both federally and provincially. I know that we're looking at it through the Mining Association of Canada and also the Ontario Mining Association has recommendations to the Ontario government on this subject. It starts right at the grassroots. If you've never been subjected to engineering or mining, how do you know it's something that you want to get into?

Part of the aboriginal access to engineering that Queen's University, for instance, developed was getting into the kindergarten, grade 1, grade 2, grade 3, having materials, activity books explaining how the world works, that if you can't grow it you have to mine it. The whole of civilization depends on having a properly executed mining sector. It also would be helpful to create some incentives at the universities and colleges to be able to give access. Some of the high schools that are in the rural areas.... I come from a rural high school and frankly when I went to McGill I had a heck of a time with the math and physics. It's just the quality of education that sometimes is found, so you need to have access programs. The best one that I saw when I was looking at these is probably at the University of Manitoba.

As far as what the federal government can do, it is to incent those kinds of access programs, provide financial assistance to master's and Ph.D. programs in the type of research that we're doing in geology and in mining engineering, and other fields. I have to tell you that MIRARCO has been given $5 million over two years to help build capacity within first nation communities in Ontario so that they can take advantage of the cap and trade to maybe convert from diesel to other sources, all of these kinds of things. What I think we're doing in Ontario could be done on a federal level. It could be done nationally as well. I think this is a great opportunity for the first nations, if we do it right.

● (0915)

Prof. Harold Gibson: I would like to build on what Vic has said. You've really asked a very difficult question and there's no single solution. Let's start at the very beginning. I think the very first starting point, as Vic said, is that indigenous people have to have co-ownership in the resources. With co-ownership, like for all of us, comes responsibility. Once we're given responsibility it becomes important. This filters down into the first nation communities.

What we're seeing right now is that the earth sciences—what I specialize in, geology—should be a 1:1 meld with the first nation communities because it's understanding the earth. I'm a geologist and what I study is earth's history and earth as it is now. Then they can bring their traditional values to this. But it's not important to them. If you look at most first nation students they're going into law, some into the environment, into business. They're not being drawn to this sector whatsoever. I can't find students from first nation communities to take on the projects that I have in science. It's a real concern of mine and it shouldn't be that way. They need to be partial owners of those resources. If they take responsibility, they become important to the first nation communities. Their children realize that, and then we can move forward. That is the first step. Then we need to have programs that allow them to enter into streams at universities and colleges, really important access programs, and I think that's really important.

In the metal earth science research project—it's not an outreach program; it's a science program—I want my young post-docs, my Ph.D. students, my master's students, my bachelor's students to go into first nation communities and excite them. I don't want old guys like me going in to tell them about the careers in the mining sector. I want young kids to go in and get them fired up, but they need to have that at home and it has to have value. When you have ownership it has value. That I would say is a fundamental step.

Mr. Richard Cannings: I would just like to follow up about the metal earth project. One of the biggest employers in my riding is the Teck smelter in Trail.

Prof. Harold Gibson: Yes.

Mr. Richard Cannings: It's one of the biggest lead-zinc smelters in the world, as you were saying. I'm just looking at your graph and lead and zinc seem to be the ones in deepest trouble. I know they're getting most of their stock right now from Red Dog in Alaska, and I believe the Selwyn Basin would be a possible source of more lead and zinc.

Prof. Harold Gibson: Yes, it would be.

Mr. Richard Cannings: You talked about metal earth and you talked about the scale of mapping. What is the scale of the metal earth research project? What would that cover and how long would it take to do?

Prof. Harold Gibson: Metal earth is a start. Even though it's $104 million, it's still a start. We have a long way to go.

The metal earth initiative seeks to understand how metals were concentrated during our planet's evolution. That's the scientific goal. The applied goal is to understand the processes responsible for differential metal endowment. We have vast areas of Canada's north and far north that are geologically similar but do not have the same metal endowment. They don't have the same metal concentration.

What metal earth aims to do is to understand why, and then to provide industry—and this is where the innovation comes in, and it's fundamental—knowledge converted to tools to target the most prospective areas, and to take a vast area of Canada's north and far north and be able to say that we can narrow it down to these areas to explore. That also helps governments with their policies.

Essentially that's what metal earth is meant to do. It's a start. It's not going to be the end; it's the beginning. It's the first time we've ever had the funds to undertake this project, one of this magnitude in Canada. It's only seven years, but we want to build it and we want to sustain it. That's what it's about. We want to be able to provide industry...so they can go in, and use new techniques and new tools. The surveys can collect the appropriate data.

We may not be collecting appropriate data during our surveys up north to actually help industry, but the whole idea is to understand why deposits are there and how to target them. We're going to be working mainly in northern Ontario and Quebec, but we're also going to be working in Nunavut and NWT in this first seven-year phase.

● (0920)

The Chair: Thank you, Professor Gibson. I'm going to have to cut you off there.

Gentlemen, Mr. Lemieux is going to be asking questions next.

Mr. Lemieux.

[*Translation*]

Mr. Denis Lemieux (Chicoutimi—Le Fjord, Lib.): Thank you, Mr. Chair.

I would like to thank the witnesses for their presentations this morning.

My first question, which is for Mr. Gibson from Laurentian University, is sort of along the same lines as the question my colleague Mr. Cannings asked.

Clearly, we need to give priority to research in mining to help the mining sector in Canada. Your university launched a research initiative over seven years to help the mineral industry to make investments in exploration. An investment of nearly $50 million was awarded by the Canada First Research Excellence Fund.

Could you tell us how this investment is important for your exploration research program at Laurentian University?

[*English*]

Prof. Harold Gibson: I didn't get any of the translation, I'm sorry.

Mr. Vic Pakalnis: It's how you're going to use the Canada first excellence research fund to further exploration in Canada. How are you going to use that?

Prof. Harold Gibson: We plan to look at four different activities. The first activity is large-scale controls on ore deposit formation. Then we're going to get into transect scales, much closer scales than deposit scales, and then data-analytic scales. The key premise behind metal earth is understanding endowed versus less endowed. Research is going to begin, again, at various scales in endowed areas, where we have known metal resources and have an understanding of the geology and all the features responsible for that metal endowment. We'll be doing geological, geochemical, and geophysical surveys.

The idea is to produce MRI-like images through the crust, just like when your spouse is going for an ultrasound. Sound waves bounce back and you see your new child. We want to visualize the earth in that manner, but apply geology and geochemistry to it, so we have a complete view, a virtual MRI, of endowed areas. Then we're going to go to areas where it's geologically similar, but less endowed, and we're going to measure and do the same rigour of science there, so that we can do a comparison. This has never been done in the research before, mainly because we haven't had the dollars to do it.

By making that comparison, we'll be able to identify the key features that are responsible for metal endowment and then we can understand the processes and develop new tools to explore. These tools will certainly be usable in our Far North where the geology is the same, but we just don't know it as well, and although they are developed in Canada, they will also be used globally.

This endowed versus less endowed comparison will provide us with the criteria we need and the new tools to export exploration to Canada's north and Far North. That's how we plan to use it. At the same time, we're going to be training 80 post-graduate students, 107 bachelor students, and 80 post-doctoral students. These will become the next generation of leaders in mineral exploration research in Canada.

Metal earth is a consortium of 21 partners. We have five universities besides Laurentian. We have six geological surveys in all the areas as partners, representing 70% of Canada's land mass. We have industry and we have research centres, so this is a consortium. This is about building the strength we need. This cannot be done at any one single university. It cannot be done by any individual. This is why we need research centres where we can build the teams to undertake these types of problems. This is a consortium that's built and a consortium that will last. That's how metal earth will address this problem in the first phase, over the first seven years.

I hope I've answered your question.

● (0925)

[*Translation*]

Mr. Denis Lemieux: This interests me a lot, actually, since I'm an engineer by training, too.

We were speaking earlier about first nations.

Of the 80 students you will train at the master's and doctoral level, how many first nations people are you expecting?

[*English*]

Mr. Vic Pakalnis: How are you going to make sure you have first nations people among the students you have?

Prof. Harold Gibson: That is a difficult question.

Basically, the pool of first nations students who are available is very small. We're going to do our best to hire qualified first nations people, but the number of students at the undergraduate level in earth sciences across Canada is very low. We will be advertising for them. We'll be specifically looking for them. We're making that effort.

But this gets back to the original question of how we attract first nations students into these areas. We will be doing that from a science perspective. For all these positions requiring training at the the bachelor's, master's, and Ph.D. level, we'll be preferentially targeting first nations students and equity in general.

In the field, we will be consulting with first nation communities and trying to have them help us with our collection of field data, but that's of limited scope in this project. At the advisory board level, we will be building an advisory board—the metal earth project just got the announcement of funding on September 6, so we're still building—and we plan to have first nations representation on our advisory board to help us move forward in that direction.

On the operational side, we have an indigenous access outreach program committee, which will be staffed by first nations people and our people, to try to operationally incorporate as many first nations people as we can into the operations of the metal earth project, on the ground in their traditional lands.

Again I would state that we really need to attract more first nations people into the earth sciences and into mining in general. The numbers are very low, and that makes it very difficult for us to fill these positions, or even some of them. I would estimate that we will probably fill fewer than 5% of these positions, because people aren't going to be available. This can't happen again. We need to have first nations representation in these areas.

The Chair: If you have another question, I'll give you a bit of extra time because of the difficulty we had with the translation.

[*Translation*]

Mr. Denis Lemieux: No, that isn't necessary.

[*English*]

The Chair: Mr. Barlow.

Mr. John Barlow (Foothills, CPC): Thank you very much, Mr. Chair.

I want to thank all the witnesses for taking the time to be with us today. You have provided some great information from across the country. It's great to have such a diverse group with us today.

I want to talk initially with Mr. McDougall and Mr. Smith by picking up on some of the questions my colleague had, specifically about some of the numbers. You weren't able to do the math, but I did some quick math for 100,000 litres of fuel. The numbers we've seen show that diesel will go up about 14¢ a litre by the time the carbon tax is fully implemented, and I don't know whether this will include B.C.'s own carbon tax or whatever the Yukon will do, if anything.

For your family operation, that's an additional $14,000 a year, and up to $280,000 a year for some of the larger mining companies. That would be money that could very well have been invested into innovation or other projects and research but now will not be available to be invested. We've heard from other stakeholders over the last couple of weeks that the carbon tax is going to make the difference in determining whether or not they actually proceed with projects, proceed with expansion, or even put a shovel in the ground, and that some projects simply will not happen because the economics aren't there.

What was the level of consultation with your group from the federal government before implementing the carbon tax, if any? Was there some consultation with the mining associations in the Yukon before moving ahead with the carbon tax at the federal level?

● (0930)

Mr. Mike McDougall: Our organization, the Klondike Placer Miners' Association, has had no consultation on it. The broader umbrella group, the Yukon Chamber of Mines, may have, but I can't speak for them. Certainly we've not been consulted on it.

Mr. John Barlow: I appreciate what Mr. Pakalnis said about not having to go cold turkey and about having some great innovations. We've heard from both of you that they're on the horizon, but we still need these resources to get us to that horizon. I don't see why we have to put punitive taxes on the existing industry now and still pretend that we're not doing innovation and research. That doesn't make a lot of sense to me.

Mr. McDougall, you said in your presentation that you would look at options to facilitate research and innovation other than a carbon tax. We have other programs in place: flow-through shares, a mining exploration tax credit. What would be some options other than a carbon tax? Would it be tax incentives? What would be some options other than a carbon tax that in your opinion would achieve the same goal but not be a punitive tax on the industry?

Mr. Mike McDougall: Thanks for the question.

Currently, just to back up a bit, there are no carbon taxes implemented in the Yukon at this point. In terms of alternatives to a carbon tax, I mentioned things like low-interest loans to upgrade equipment for more fuel efficiency. That would be one of the ways. Another is to allow us an accelerated capital cost allowance on the new equipment purchases. Those have been used in the past and could be used again.

There could also be low-interest loans for micro-hydro or for solar. Some of our operators have, at personal expense, invested in solar panels. They use a cogenerator, a small diesel generator to back up their solar. That is effective but it has large capital costs. There could also be pilot projects with new technologies, if we have innovative ways of developing our ground, of exposing our resources, something that we haven't come up with yet; but it goes more to what my colleagues have been speaking about in research and development.

Finally, there could be educational programs so that we can disseminate that information to our miners. We're a wonderful, industrious bunch but we're also really hard to get to. It's really important to communicate these innovations to our miners.

Mr. John Barlow: I really appreciate your coming to the table with options, other ideas. I think that's something we don't hear enough of. It goes to the fact that you're saying that whether it's the small nuclear plants that we can somehow get up to the north at some point in time.... But as of right now, today, and in the foreseeable future, you don't have any other options in the remote north in these mines, where we've heard several times the future of mining in Canada becomes more and more remote. We're not 100 kilometres from Toronto or 100 kilometres from a major centre. As of right now, you don't have any other options than fuelling your business with diesel.

Mr. Mike McDougall: That's correct. Most of our mines are well outside of the traditional grids, if you will. Our only option is using diesel fuel to develop that.

The Chair: I'm going to have to stop you there. We're going to move to the next person.

Just so everybody knows, we are going to be able to go until 10 o'clock this morning.

Mr. Rusnak, go ahead.

Mr. Don Rusnak (Thunder Bay—Rainy River, Lib.): I don't know if you're familiar, in talking to Vic and Harold, with the New Gold project in my riding. Rainy River will be Ontario's newest gold mine. I've paid a visit to the site several times and they work very well with the first nations in the area. You said that Laurentian and your organization are making an effort to engage first nations. Can you explain the effort that both your organizations have been making with first nations?

● (0935)

Mr. Vic Pakalnis: The first thing is we're a bilingual university, tri-cultural. We have a very strong aboriginal program at Laurentian. As far as the programs go, we're talking about access. We're developing those, trying to get more of that. Our primary target is of course northern Ontario. The ministry of aboriginal affairs gave us the $5 million over two years to help with developing capacity within the first nations. This is to deal with the cap and trade that's coming in January or February. Hopefully, they'll be able to use that capacity to take advantage of some of the revenues flowing out of cap and trade.

The company you mentioned is one of the better ones, in fact, on dealing with first nations, providing community support, a variety of things—absolutely. You should know that the mining industry in Ontario takes this very seriously. We have an aboriginal affairs committee at the Ontario Mining Association that's looking at capacity building, looking at developing policies around revenue sharing, all of these areas. The mining companies are very much in favour of this. There are no laggards who are fighting it, or whatever else. I see that we're heading in the right direction. We just have to keep encouraging people, as in Rainy River and elsewhere.

Prof. Harold Gibson: I would echo everything Vic has said. We have the Vale Living With Lakes Centre, which is an environmental group that is incredibly involved with first nations peoples, especially from the water quality perspective. They're working in the Far North. We have great working relations with them.

At the mineral exploration research centre, where I am the director, every year we offer a first nations workshop on exploration. We bring first nations community representatives of first nation communities in, and industry in, and we have a discussion on what's gone right and what's gone wrong with the consultation process, and how we move forward. I did this for the education of our undergrad students, because I want our students to understand that this is one of the most significant issues they're going to face as they leave and head into the workforce. We're engaged that way.

The metal earth project has now provided us with another tool we never had before. It's another means to do this, so we're building. That's all I wanted to say.

The Chair: Mr. Serré, you were going to use the balance of Mr. Rusnak's time.

Mr. Marc Serré: Thank you, Mr. Chair.

Mr. McDougall, are you part of the Canadian Mining Association?

Mr. Mike McDougall: We're not part of the Canadian Mining Association. We're primary producers, but placer is unique in the Klondike, unique in the Yukon, and in Canada.

Mr. Marc Serré: I wanted to follow through with a comment from Vic and also look at your operations, because we've heard from Goldcorp, for example, that they're moving forward to an all-battery mine. There are batteries today in heavy equipment. We have a company in Sudbury selling batteries for heavy equipment in Russia and all over the world. There are alternatives today that are quickly moving forward. I How can we capitalize on that?

Vic, you talked about the need for more R and D and how to utilize some of that R and D, which you already have developed, to commercialize. Can you expand on that?

Mr. Vic Pakalnis: There is no doubt that we're going from diesel to electric. Diesel particulate matter is a known carcinogen, and we have to move from diesel underground to all electric. There are a number of companies that are already starting to supply different types of scooptrams and a variety of different vehicles.

Tesla, if you give them a little poke, will probably solve a lot of problems for the type of electric-powered equipment, but we have a transition issue. We have thousands of pieces of equipment that cost a fortune. One scooptram underground costs you a million bucks, so you're not going to just discard that, especially when the mining industry is in tough shape right now because of the commodity prices. You have to develop a transition plan.

Eventually, new mines will probably go all electric, but in the meantime we have to get to cleaner diesel filters and that sort of thing. We have to come up with a practical transition plan.

● (0940)

The Chair: Thank you.

Mr. Vic Pakalnis: You're right though. There are emerging manufacturers—

The Chair: Excuse me, sir. I'm going to have to stop you there.

Mr. Vic Pakalnis: Yes, sorry.

The Chair: Maybe we can get back to that in a moment.

Mr. Strahl, I understand you're going to take the next segment, for five minutes.

Mr. Mark Strahl: Thank you, and Ms. Stubbs certainly would ask questions if she were feeling better today.

To follow up with Mr. Serré's point, I think it is fairly evident that batteries don't work as well in cold weather, and you are dealing with some of the most extreme temperatures in Canada. While Tesla might work nicely in Toronto and Vancouver, battery-powered D10s are not on. Obviously, there's room for improvement, but to suggest that an entire fleet of heavy equipment can be switched over to battery power, I think, is...certainly not in the short term, and not with the current technology that we have.

I wanted to go back to the proposed changes in Bill C-17. I'm a bit concerned that the Klondike placer miners were not consulted on the carbon tax being imposed on their industry, and they were not consulted, as well, on the Bill C-17 changes to repeal a number of improvements to the regulatory regime in the Yukon.

Could you give me an indication of what is the current average time frame for a project for your industry, if you're going into a new area or if they're reconsidering putting you through the wringer again for a project that has not had a significant change? What are the current timelines from the time you submit your application until you would expect to receive final approval to proceed?

Mr. Mike McDougall: Currently, the permitting process that a placer mine goes through in Yukon consists of an assessment through YESAB, and then an application for a water licence through the Yukon Water Board for the final operating permit. Because of an artifact of federal legislation being taken over under devolution, those processes aren't parallel; they're consecutive. Right now, the consecutive process can last up to six or eight months for a placer mine to go in. It sounds short when you're talking about metal mines, but contrast that with what we had prior to bringing in YESAA, when our process took up to 30 days to receive a water licence. The timelines have grown considerably for us, and with the timelines grows uncertainty.

Mr. Mark Strahl: All right. I'll go back to Mr. Pakalnis.

Our next study is on nuclear power, so perhaps we will expand our horizons on that. How far off do you think that technology is? I can think of many concerns from many communities about having mobile nuclear plants inserted in the north, or in any region. We have enough concerns—I'm sure we'll get into them—about the disposing of nuclear waste.

I agree with you that it is obviously something that needs to be discussed, but often, the people most concerned about reducing emissions are also some of the people most opposed to nuclear power. How do you suggest that government or Parliament navigate that? Is there anything you're working on currently that might help address the nuclear waste issue? I can think of problems of security. I can think of many problems, but perhaps that is the wrong way to look at it. I want you to expand because you got cut off a little bit the last time.

Mr. Vic Pakalnis: First of all, I'm a mining engineer. I'm a rock mechanics engineer. In fact, I specialize in that kind of area. Nuclear waste disposal is not an issue. We could dispose of the nuclear waste very easily. The problem is social. Where are you going to put it? Nobody wants it in their backyard.

There is also a lot of emotional reaction, and some of it has to be addressed. Of all the power and all the energy we have, 60% comes from nuclear reactors. Most people figure that somehow it's going to disappear. No, in fact it's one of the most sustainable energy sources that we have, and if we want to save the globe in terms of global warming, we have to embrace it.

There is a lot of research happening. We've had small nuclear plants running around the world—nuclear submarines for instance. We have some research on the books that you'll probably hear about from the nuclear experts at Chalk River for instance. They want a demonstration site to show how a portable modular plant can work. It is something that you can put in and use for 20 to 30 years, or whatever the life of the mine is. Then you can take it out, refurbish it at some other location, and use it again elsewhere without having to have a permanent storage at that site.

In terms of the research that's being done, my organization, MIRARCO is doing work with the nuclear waste disposal group in terms of ensuring that—

● (0945)

The Chair: Mr. Pakalnis, I hate to keep doing this but I'm going to have to cut you off there. My apologies.

Mr. Vic Pakalnis: It's solvable.

The Chair: We have some time limits we're notionally following.

Mr. Vic Pakalnis: You're right.

The Chair: Mr. Serré, I understand you're going to ask the next set of questions for five minutes.

Mr. Marc Serré: Thank you, Mr. Chair. I just wanted to follow-up on a few things.

Harold, I just wanted to congratulate you and Laurentian University for taking the lead on the metal earth project. As you indicated, it received $109 million, and it's the only federally funded project across Canada from NSERC in the mining industry. That's something that I think is important to note.

Because this project is important, you have an individual.... I just wanted to ask you a question about Mr. Harquail. Some of you may know that he provided a personal donation to this project of $10 million, just to show how important it is. Has Mr. Harquail followed up? Are you looking to see how it could be worked with other institutions and integrated within Canada to share the knowledge you're gaining right now?

Prof. Harold Gibson: Yes, David Harquail generously provided $10 million to the department of earth sciences, which is now the Harquail school of earth sciences, and metal earth. He provided the dollars before he knew that we were going to be successful with metal earth. He saw the need to support mineral exploration research centres, and the one at Laurentian, especially, to be successful.

We cannot just have individual research done. There's research done by individuals at every university, but to do the big science projects that tackle major problems, we need research centres. David Harquail saw that, and he also saw the need to train the next generation of geoscientists. That's why he saw us.

We are moving forward with other companies now in metal earth. I would like to say that metal earth is not a seven-year wonder. We want to see that it continues beyond that. We're now looking at using industry dollars to leverage government dollars through NSERC—hopefully there will be more dollars in that pot—or direct funding from government to leverage those industry dollars. This would enable programs to be run that are parallel to metal earth, that don't leverage metal earth dollars but run parallel and tackle those same problems, so we can continue to have mineral exploration research done at this scale in Canada.

We're in the process of doing that. We have four companies now interested in participating, in addition to the companies we have.

Mr. Marc Serré: Thank you.

Mr. Pakalnis, I just want to ask about the first nations aspect. Mr. McDougall indicated consulting and talking to first nations, but then we also talked about—as did your presentation—the ownership aspect, the engagement, and how our first nations should be partners. Consulting is probably the old way of doing things. Now we need to move towards a new relationship, to look at how they can be part of the mining project. I just wanted to get your comments on what we could do better on that, and linked also to the Ring of Fire.

● (0950)

Mr. Vic Pakalnis: Let me start and others can join in.

I'm glad you brought up the Ring of Fire. Basically, that's a major opportunity, but we've had an impasse. We need to move more quickly on these kinds of developments. If we can't unlock that logjam, and there's federal-provincial and inter-ministerial...it's a quagmire in terms of getting a permit to mine. It has to have the support of the first nations, who could benefit amazingly in what can happen up there, but we need to resolve the mistrust that I think has happened over the years. I think it's happening.

We did some work for the Assembly of First Nations on building a resource centre that would be trusted by the first nations. If you're negotiating these various deals, sometimes it depends on who's on either side to be able to make the deals. As I mentioned, both at the Mining Association of Canada and the Ontario Mining Association—I'm a member of both—there's a great realization that the relationship has changed. It's improved.

On my board of directors, I have Glenn Nolan from Noront, who's one of the greatest guys. He used to be the president of PDAC, the prospectors and developers, and he is first nations himself. He's a vice-president at Noront. They're starting the first operation. I think they're going to show the model of how to move forward.

The federal government has to come in with the partners there, the 13 first nation communities, to figure out the go-forward plan so that we don't miss the next boom cycle. If we miss that, basically, there are other areas in the world that are already working really hard. We're going to miss a major opportunity, and it won't come for another decade or two.

The Chair: Mr. Pakalnis, please don't take this personally, but I'm going to have to stop you there.

Thank you, Mr. Serré.

Mr. Cannings, you have three minutes.

Mr. Richard Cannings: I would like to ask Mr. McDougall about the follow-up on the carbon tax issue. I'm from British Columbia, as is Mr. Strahl, and we've had a carbon tax there since 2008. When the government introduced the tax there, they made it revenue neutral by reducing the corporate income tax so that companies such as those, if this were the model in Yukon, would receive a concomitant drop in income taxes. That way the carbon tax could provide the market signal to spur innovation and spur moving to less carbon-intensive operations, if they could.

You talked of members who are trying to do good things in that regard. I wanted to know if you think that would be a model that would work because, from my understanding, the federal government is looking to B.C. as a model for the carbon tax, if provinces bring that on.

You mentioned that Yukon is unique. I believe there is some placer mining in Atlin, though I don't know how those operations are faring there, but if they are they've been operating under that carbon tax for the last eight years.

Mr. Mike McDougall: That's right. Currently we are paying a certain amount of carbon tax in British Columbia because, of course, trucking firms are bringing the product that we consume up through B.C.

In answer to your direct question, yes, some form of...because we can't pass our tax on since we sell an international commodity. Our gold is sold and always priced on the international and we can't pass any costs on. Any costs accrue to our bottom line.

Any opportunity for governments to either charge us a tax and then rebate it to us in either equal part, as you say, as a reduction in income tax or, more importantly, as an incentive in some other form to try to reduce our use of fossil fuels, understanding of course that we're never going to be able to go to a total battery, much as we'd like to. We have to use the fuels.

I would say yes to some form of being able to provide incentive but not to penalize the industry for the total amount of the tax.

● (0955)

Mr. Richard Cannings: I understand. That's the model we've used in British Columbia and, in my opinion, it has worked quite well.

The levels of emissions have been rising in the last couple of years, since the government has stopped raising the carbon tax incrementally, but when we've been talking to other industries here, each representative of those industries has said that a carbon tax is the first step and the simplest economic step to achieving some sort of reduction in our carbon emissions. I was wondering if this kind of model would work for you.

The Chair: I'm going to give you 30 seconds to answer that, then we're going to have to stop.

Mr. Mike McDougall: The challenge is that we can't pass our costs on, so we need to have an encouragement rather than a penalty. We need to have it as an incentive to comply, rather than just a straight tax on the industry.

Mr. Richard Cannings: The reduction in corporate income tax would help.

Mr. Mike McDougall: Part of it would help.

Mr. Richard Cannings: Thank you.

The Chair: Thank you, Mr. Cannings.

Gentlemen, thank you all very much for joining us today. I apologize I had to keep interrupting, but that's my job at this end of the table.

Your evidence will prove very helpful to what we're doing today. Again, on behalf of the committee thank you for coming today.

The meeting is adjourned.