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Chair

Mr. James Maloney

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● (0845)

[*English*]

The Chair (Mr. James Maloney (Etobicoke—Lakeshore, Lib.)): I call the meeting to order.

Good morning, everybody. Welcome back. Thank you for joining us. This morning we have Mr. Jim Keating from Nalcor Energy, who is from Newfoundland via Texas. I hope I have things correct. Is that right?

Mr. Jim Keating (Executive Vice-President, Corporate Services and Offshore Development, Nalcor Energy): That's correct.

The Chair: Can you hear and see us with no problem?

Mr. Jim Keating: That's fine.

The Chair: Great.

The process is that our first hour this morning is going to be dedicated solely to you. The way that's going to play out is that you'll have up to 10 minutes to do a presentation and then we will open the table and you will be asked questions by people around this room. My job is to keep track of time and make sure the process is followed as best we can. I understand that you have a recording that you would like to start off with, before you deliver your remarks.

Mr. Keating, thank you for joining us. The floor is yours.

Mr. Jim Keating: Thank you.

[*Video presentation*]

● (0850)

The Chair: All right. Mr. Keating, the floor is yours.

Mr. Jim Keating: Thank you for the kind invitation to speak to you this morning from Houston. I'm here as part of a Canadian delegation promoting our offshore. You've pretty much seen a sample of that in that video.

The story I have to tell this morning is going to be one of geoscience and how the acquisition, interpretation, and dissemination of geoscience have really transformed our offshore in just a couple of years.

I have some prepared remarks. I'll go through those and then I'll be open to your questions.

Offshore oil was first produced in Canada—in Canada, of course, it's the "other" oil and gas industry, the offshore—20 years ago. Since then, over $120 billion in value has been created through investments of about $56 billion. From this, Canadians have received over $30 billion in tax and royalties, and many thousands and thousands of high-paying jobs. Those reserves are now more than half depleted, so what's next? Is there more oil to find, and how can we continue to attract exploration investment? How can the national energy data strategy help?

First, let's take a little closer look at those investments. Of the $56 billion in private sector investment, the most important type of expenditure by far is the one that carries the greatest risk. That is the exploration expenditure. Nearly $9 billion has been spent on exploration in our offshore over the last 50 years. These are expenditures that often have only a 15% or 20% chance of success. That's a significant level of risk. It's not often that you want to spend a dollar thinking you have only a 15% chance of getting a return.

Geologic risk, then, is the foundational risk. No other investments will occur unless this risk has been addressed and reduced to an acceptable level. Through the state-led provision of high-quality, timely, and competitive geophysical data, barriers to investment are lowered, timelines to development are accelerated, and safer, environmentally responsible operations can be undertaken.

There are more than 70 countries with some form of offshore oil and gas industry. That's 70. Annually, some 25 to 30 hold licensing rounds or land sales to compete for scarce dollars. Many of them are providing geoscience data and analysis to support those rounds. There is an intense competition for an annual investment pool of some $100 billion of exploration expenditures alone globally. More and more countries compete with Canada for this investment. They have recognized this and have ushered in an era of precompetitive geoscience gathering, processing, and promotion in order to attract investment through the reduction of risk.

For me, an oil industry veteran of some 25 years, it's problematic to consider that with the longest coastline in the world, Canada's offshore industry has hardly attracted any significant investment to date. In the 20 years prior to 2010, of the $100 billion potentially available, we had only attracted $100 million per year on average.

Historically, Canada has been a laggard, primarily because so little was known about our geology. What was know was tightly held by a few pioneering companies. In fact, a new investor considering Canada up to very recently would have only had access to 15- to 20-year-old seismic data captured with inferior technology, in limited areas, and made available only in paper format. Of course, this is a product that is essentially useless today.

Add to that no formal and predictable land tenure system, and Canada lost out on billions and billions of resource revenue and fell some 30 years behind Norway and its trillion-dollar pension fund.

However, since 2011 my company, Nalcor Energy, which is a crown corporation of Newfoundland and Labrador, has initiated a seismic program that today is one of the largest in the world. We have captured in six years as much data in our offshore as was captured in the previous 20. To complement this, in 2013 our regulator with both levels of government adopted a scheduled licensing round system that works hand in hand with this data acquisition to create a predictable process through which the resource potential can be delineated in advance of licensing rounds, allowing companies to prepare internationally competitive bids and through which this country can realize its maximum return for its acreage.

● (0855)

The result has been astounding. We've identified over 650 leads and prospects, including one we call Cape Freels, this being the closest landmark near this huge prospect. This prospect is estimated to hold over 12 billion barrels in place and has been called the most attractive undrilled prospect in the world today.

In these past three years, we have had over $2.6 billion in licence round bids since 2014, which is equal to the total amount of all bids received in the previous 30 years. This has been primarily as a result of our geoscience program.

We have also doubled the number of globally competitive oil and gas companies from just seven to 14 in those three years. This was all made possible by a subnational energy data strategy; what we need now is a national energy data strategy.

Further to the subsurface risks, we have now embarked upon the next phase of risk reduction by looking at the above-ground risks, as you have seen in the video, through data capture, interpretation, and sharing through our system called NESS. NESS provides key information about the province's basins, including weather patterns, historical well data and discoveries, and more, through a web-based interactive map that's freely accessible by everyone. You can check it out on your phones after this meeting. This is delivered at no cost to the user.

What can Canada do in this area of national energy data? I would recommend, and I strongly support, that in the formation of a new Canadian energy information agency, this agency co-operate with the provinces in the creation of a digital data repository based on the best practices seen in leading international jurisdictions.

One such system is the Norwegian Diskos Data Repository. This is a unique system that provides for an online downloadable interface for all sorts of data, and even acts as a functionality for data trading among member oil companies, which now number over 57.

In this system, the general rule is that all companies on the Norwegian continental shelf are required to submit copies of all raw data related to seismic activity and drilling to the Norwegian Petroleum Directorate, the NPD. The companies have to cover the cost of entering the data into Diskos, but this allows them to avoid the expenses of storing and administering the data on their own. All members have access to their own data in Diskos, and the data and licences in which they have an ownership interest. The authorities also encourage different licensees that are drilling in the same geological formations to exchange information they collect from their subsurface activities. This is a win-win for all parties.

The idea behind Diskos is that the oil companies should co-operate on storing and exploring for data and compete in the interpretation of this data. The more raw data that's collected and shared, the greater the possibilities for the bright minds in each company, and indeed for the authorities, in the effective management of their offshore.

The Norwegian authorities' overlying resource strategy lies behind the rules of data confidentiality. To encourage investors to conduct as much activity as possible, the investors gain exclusive rights to the data for certain periods. When the owners have extracted what they believe to be the true potential of the data, others can reuse that same information, reinterpret it, and reuse it to establish new plays.

The reuse strategy has been highly successful and has contributed to several major discoveries in recent years. More importantly, it allows new entrants to be more productive sooner.

In closing, the systematic and scientific approach to evaluating Newfoundland and Labrador's frontier basins identifies and addresses critical knowledge gaps that may exist and highlights key risk areas holding back industry investments. Providing a comprehensive data package to industry allows companies to plan for long-term exploration strategies to access new acreage.

These are early days, and there is much left to do. Nalcor will continue to make these investments and design geoscience programs to address key risks in a basin-by-basin approach. By guiding investments and activities strategically, Nalcor is positioned to make the right investments at the right time to unlock the next areas of offshore Newfoundland and Labrador that contain material prospectivity, ultimately delivering new resources for the benefit of Canadians.

● (0900)

Thank you.

The Chair: Thank you very much, Mr. Keating.

Mr. Whalen, you're going to start us off.

Mr. Nick Whalen (St. John's East, Lib.): Thank you, Mr. Chair.

Thanks, Mr. Keating, for joining us today.

In our hearings to date, we've primarily heard about the use and sales of energy and its effects downstream in terms of CO2 reductions. Your organization uses the data on the opposite side of the spectrum to determine how we can extract the energy value of the resources that Canada has. Could you speak to us a little bit more about this notion that people are paying to share their data in Norway, and that they're sharing their data in order to be permitted to participate in the offshore industry there? I think a little more clarity on that would help us understand how Canada might be able to pay for a data exchange system.

Thank you.

Mr. Jim Keating: One of the basic principles of geoscience gathering and licensed concession-making that is common in all offshore jurisdictions—and Canada and Norway are no different—is that when a government gives licence and access to its resources, to its land, it gives an exclusive right to explore and develop for resource extraction. What does Canada get back in exchange? Obviously, on the successful discovery, it hopes to get jobs, revenue, taxes, and royalties, but even in the pursuit of those development projects—and there are many wells and many geoscience programs that are unsuccessful—what else can the country get from that concession, that exclusive right?

They can get the underlying geoscience. They can get the stories that are to be told. They get to plan how to open their offshore, how to progress it, and how to manage it. It is important to know that companies understand that globally, and they actively participate by providing that raw data. Our petroleum boards do collect data, but it's antiquated in both the style and frame by which they acquire it and in they way they make it available, to the extent that it's not really used.

In my mind, Norway has a tremendous advantage, in that it's created a business opportunity. It says, “It costs money to acquire and share data, so on a multi-client basis you can share as many companies' data as you can. You can make your own commercial relations with them to acquire that data, but we will provide the platform on which to acquire it.” Why is that? It's because Canada can get that for free, as Norway will, because that is in the terms and conditions for getting the licence. What they do is simply make a portal where, for a fee, they upload their data. It self-pays. They freely to do that, and in return Canada gets great insights into all the offshore area, while individual companies can use this as a platform to look at not only their own data but data of their neighbours and freely exchange, share, and trade data in other areas.

Mr. Nick Whalen: Thanks, Mr. Keating.

In terms of the rights to get this data, from your perspective, do you believe that it would require any legislative changes or regulatory changes federally or provincially, or is this something the C-NLOPB is already authorized to do, should it put the rules in place for data sharing and confidentiality for a certain period?

Mr. Jim Keating: All those rules are in place today. It's just that the opportunity is being missed.

Mr. Nick Whalen: How does NESS implement that opportunity? Do you see NESS as something that could be expanded to include the Nova Scotia offshore, any future Quebec offshore, and the B.C. offshore?

Mr. Jim Keating: Absolutely. Again, it's a simple database. We work with many service providers to populate the database. This is data that's common to all jurisdictions. It is just people in the business understanding the relevance of certain data and making it available in a format that users will appreciate and value.

It is really a platform that you can copy. We make it free for use because we're trying to lower the barriers, and it's a modest cost to maintain. It's a fraction of the cost of the revenue of a barrel for us. When our business is to create the production of more revenue for our province and for our country, it's a small investment that has a tremendous levering effect.

Mr. Nick Whalen: You mentioned that $9 billion was spent in the Newfoundland offshore just in the exploration phase. Do you have any sense of how much of that was spent for Canadian jobs? Is this mostly foreigners who are coming in to do the drilling, or do Newfoundlanders have these jobs?

Mr. Jim Keating: Rules of thumb would say about 30 cents of every exploration dollar is retained in-country, and that goes up to about 50% of every development dollar and as high as 90% of every production dollar. When I say $9 billion, 30% of those dollars are retained in the pockets of Canadians, from folks who work on the supply boats, the helicopters, the drill rigs, stevedores, and so on. It's a tremendous value creator on top of taxes and royalties, of course.

● (0905)

Mr. Nick Whalen: There's a question that I've been asking all the witnesses: how many people in your organization are involved in this data acquisition and exchange? Also, if there were a national system, do you feel that you might lower your head count there, or would you have to increase it to participate? What's your view on that?

Mr. Jim Keating: It's very modest. We have just 16 people responsible for this exploration strategy. Through just 16 people, we've now levered about a quarter of a billion dollars in partner investments. For us, 16 people is about the right number, because we are kind of sized to our offshore. Of course, if you're expanding offshore, you expand the work scope. Really, the people who and the data management are a small impact compared to the real value that the data itself creates.

Mr. Nick Whalen: In terms of standards for data exchange in your sector, have they been established? We saw the menus that showed up in the little video. Are those menus used in data exchange services around the world, or are they a bit bespoke? Also, do more standards need to be developed for geologic data exchange in the oil and gas extractive sector?

Mr. Jim Keating: It varies around the world. Every country has some commonalities, but in most cases it's driven around precompetitive data provision. Effectively, precompetitive data provision is a country going forward and saying “here is our data catalogue”, in whatever shape or form it is. If you want to attract investment, this data catalogue has to be readily accessible, be easy to use and search, and be of high quality. If so, I will come and knock on your door, but if that data catalogue is scattered, missing, has gaps, or is antiquated, then I won't knock on your door. I'll knock on the next country's door.

I read about a study some years ago in which the Chevron oil company looked at a global geoscience team. They found that 60% of the geophysicists' time was spent in looking for data and 18% of their time was spent in analyzing and assessing the data. Since that study came out, which was maybe some 15 years ago, most countries have taken notice of it and are asking how they can lower the barrier to get that investment.

Remember, the investments we're looking for are not so much about the dollars. The dollars flow after the people. It's about the geoscience teams in these global oil and gas companies. They're human beings. They want to be able to access vast amounts of geoscience data in a searchable and prioritizing way and in a readily available and easy format that they can download, so that they can say, “Look, boss, I want to put my team on this, because in six months I can deliver a good story to you. I can't do it for country A, B, C, or D because it's going to take too much time and effort.” Once you get that team of 15, 16, 20, or 30 geoscientists, you will get the hundreds of billions of dollars of investments that follow. It's a very simple strategy.

Norway does it expertly. I mentioned the Diskos system. They adopted this system way back in the mid-1990s and they've refined it —ironically, with Canadian tech help—in terms of the database. They now have the gold standard. My sense is that if we were to even look at and model on that system.... I think it's very modest in terms of the people who run it. Maybe some 20 to 30 people run it, and the oil companies largely pay for it. It's a very successful—

The Chair: Mr. Keating, I'm going to have to ask you to wrap up very quickly, please.

Mr. Jim Keating: Sure.

Mr. Nick Whalen: Thanks, Mr. Keating. I agree that better data means better decision-making. That's what we're looking to do. Thank you for your time.

The Chair: Thanks.

Ms. Stubbs, I believe you're next.

Mrs. Shannon Stubbs (Lakeland, CPC): Yes. Thanks, Chair.

Mr. Keating, thank you for joining us.

As a first-generation Albertan who has some experience in the oil sands and with heavy oil development and the Alberta government there, but also as a person who has a Newfoundland mother and still lots of family in Newfoundland, I just want to say that I'm always happy to hear from witnesses like you. I'm happy to hear about the great successes and incredible risk-taking and innovation of unlocking offshore oil and gas reserves in Canada. I want to thank you for being an ambassador on behalf of Canada and all of our world-leading expertise in the United States.

I should put on the table in this discussion that I think certainly, and on behalf of Conservatives, that we support responsible resource development of all types of energy in all sectors, across all provinces, to the benefit of all of Canada. I would suggest that things like the five-year offshore and gas drilling ban in the north, which clearly afterwards caught the premier of the Northwest Territories off guard, isn't the greatest signal for a government to send in terms of certainty and predictability and being a champion of offshore development and all kinds of energy development right across the country. Of course, I hope that isn't a measure that impacts your company directly, but certainly I think it does impact confidence and certainty in Canada, whether or not we're open for business. Our governments are really championing offshore oil and gas drilling in all of its potential, as you've outlined here.

I'd like to get into another aspect with you here. I of course completely and totally understand, as I think everybody does here at the table, the importance of the kind of data that you're talking about, and the availability of that information. Particularly in your field, where there is high risk and big costs and not necessarily certainty of success, the kind of information you're talking about being available is clearly required for investors and proponents to decide whether or not to go ahead. I think, though, that probably partially what the government's aim is here is to also get at data systems that reflect information about individual projects, about energy efficiency, maybe energy or cost inputs, about emissions, about the environmental footprint of their individual projects. Potentially, as we've seen, there's a growing push from the government about the social impacts of energy development in individual projects. As a promoter of Canadian energy, I'm not against this in principle, although I don't think it should be a determiner or a condition for the economics and the opportunities of individual projects.

I'm bearing in mind your comment about an energy data strategy being very different from a new stand-alone bureaucratic agency requiring additional costs of reporting and things like that from the private sector. Also, StatsCan has said that they do have single information hubs for different kinds of information that could be duplicated for energy and that the legislative framework already exists to gather that data, but obviously we have some work to do there.

Could you walk through what the requirements are for your company in terms of the existing provincial and federal regulatory process and information requirements and inputs, and whether or not there would be any proprietary or competitiveness issues in that regard?

● (0910)

Mr. Jim Keating: One of the more sensitive aspects of any discussion around data.... You mentioned operational data, CO2 emissions and so forth. I will address that briefly first.

The oil and gas industry realizes that it actually only uses 3% to 5% of all the operational data. As you produce oil or gas, there are all these sensors and recorders and transmitters and whatnot in all these offshore and onshore facilities, but we only really utilize a small percentage, so we're overloaded with data. There's a whole area of effort now in tapping into that and artificial intelligence and so on, as well as preventive maintenance strategies to reduce costs and make it more efficient and more safe. That's something that my company, like others, is keenly watching.

However, when we look at data in itself, we see that the oil and gas industry—like most industries, I guess, but probably particularly so here—is highly competitive around proprietary processes. Proprietary processes are largely driven through the collection, acquisition, and interpretation of data. My experience is that all companies realize that they will be able to maintain and keep their particular proprietary processes, but what they realize is that keeping the raw data secret is not helpful to most companies or anyone. It's the provision of the raw data, the raw digits, that allows multiple users—almost in a crowd-sharing way—to look at innovations, look at innovative ways to solve problems and enhance oil recovery or improve maintenance and decrease emissions and so on.

My sense is that the industry is changing its tone over the last several years. It'll protect its processes, but maybe it can make the data a little more freely available. Thematically, I've experienced that in the last several years.

● (0915)

Mrs. Shannon Stubbs: As I'm sure you know, there's a background of that kind of collaboration happening even among competitive proponents and developers in the oil sands industry. Certainly unlocking in situ development in the oil sands in the early 2000s was being done actively between the private and public sector, academics, pioneering investors, and oil and gas developers. With their technical alliances and their innovation alliances, a lot of them are doing that kind of work collaboratively, where they can, already.

I would want to avoid duplication of information that a company like yours or other oil and gas developers are already providing and feeding into provincial and territorial regulatory systems. What I'm trying to get at is that if this is really just a function of the federal government—a mandate or instruction, as you pointed out, working collaboratively with these other levels of government just to say.... Obviously in the front end they've got to work with private sector companies to determine what would be proprietary and what wouldn't be. Then maybe is it just that the feds have to give the instruction that they are looking for this information, and when it is submitted through the provincial and territorial regulatory process, they should just shoot it over to the feds, to whatever hopefully existing department?

Mr. Jim Keating: In provincial governments, particularly in the offshore, because it's jointly managed, it's a facilitator. All the rules are in place to acquire any and all manner of data. That's one thing that I think Canada does well. It has provisions in the legislation and regulations to acquire all sorts of data. The question is this. The data comes in maybe in nonstandard formats that may be particular to companies. We could do better at standardizing. We could also do better at keeping it central and not replicating it in different departments and divisions and areas. Then you make the access level transparent and you have a fair playing field.

Again, you'll see in that context how Norway has evolved far more collaboratively. It has looked at this huge opportunity to acquire data. The authorities have realized that no one private sector company or group of companies is going to sit down and do what they need to do, which is provide the common platform. The authorities are the platform. They're the Google, if you will.

The Chair: I'm going to have to stop you there. Thanks very much.

Mr. Johns, thanks for joining us today. The floor is yours.

Mr. Gord Johns (Courtenay—Alberni, NDP): Thanks for having me. I'll follow a bit more along the thread that Ms. Stubbs was on.

You talked about better standardization and becoming more transparent in terms of the common platform. Maybe you could elaborate a bit more about that. Certainly I think we're all interested in hearing how Norway does things. We're always opening our eyes around their trillion-dollar pension fund that we certainly don't have here in Canada. Maybe you could speak about that.

Mr. Jim Keating: I'll be brief.

Transparency on data is so important. In particular, if you have an industry that has pioneering companies that have been here for 20 and 30 years and have largely been the first movers, have invested a lot, have amassed their own data trove, then by all means they should be enabled and thanked for that level of investment. However, how do you lever, how do you grow, and how do you create a level playing field, such that a new company that has never done business in Canada can come in and compete on adjacent lands?

Well, one such way is to do what we've done. We've followed a multi-client data strategy. Multi-client means you shoot for the geoscience data once and you make it available at the same price, amount, and formats to all. That's a transparent way of creating the understanding that no company around the table has any better competitive opportunity than any other. That's totally reassuring.

By the way, the older, established pioneering companies appreciate it too, because they won't spend 100% of the dollar on data. They'll maybe only spend 20¢ of the dollar on data, and that is actually a reward of being a pioneer. They will benefit from new entrants to lower their costs as time goes forward. That's from the element of transparency.

Just to bridge to the $1-trillion growth fund, Norway has seen the opportunity in their prospectivity through geoscience some 20 or 30 years ahead of Canada. I know the world of offshore oil and gas, I know geoscience pretty well, and I know the scale of our offshore, at 1.8 million square kilometres, is twice the size of Norway. Geologically, it has the same play types. For me, it's highly unlikely that we will not have ultimately the same geologic success that Norway has had. We have only really drilled and produced from 0.5% of our offshore area. Norway is into about 12% to 14% of its offshore.

Our days are yet to come, then. We just don't know if we have the time to get there.

● (0920)

Mr. Gord Johns: I appreciate you sharing your vision of where we can go.

Can you explain what the barriers have been up to now for us to get to where you say we can go—the vision?

Mr. Jim Keating: On the good hand, it's a laissez-faire approach to encouraging private sector investments. You make the rules, you step back, and you let the best of the private sector find the right opportunities. That works well, but only if you have a significant cluster of participants with some common resource knowledge.

Canada's challenge has been twofold. One is that we have little knowledge about the offshore in particular. We have more knowledge about the Alberta foothills, the oil sands, and so on. There's a big cluster of hundreds of companies there. In the offshore context, we've had but five or six, and over 30 years most of those companies acquired exclusive data that they only use themselves. We need to unlock that and we need to demonstrate that prospectivity. With the demonstration of that prospectivity, you will attract the investment.

Our barriers have been that we didn't have a really good data repository, so we didn't encourage multi-client investment and we didn't have scheduled licensing rounds. Scheduled licence rounds are the key, because that gives you a predictable way in which to plan for your very specialized geoscience teams to work for six months, to prepare a bid for two months, and to make a bid in the following year. When you don't have that calendar of events, you won't get that investment and you won't get those people to work their area. We've changed that in 2013, so our trajectory is markedly up, but we've had 30 years of a pretty flat growth profile.

I'm happy. We're positioned well. However, there's still much more opportunity to follow some best practice.

Mr. Gord Johns: Has there been much push-back from the private sector to go down the path you're promoting?

Mr. Jim Keating: The push-back is usually from the pioneering companies, because as they see it, they're the first movers and they have the knowledge, so competition is probably not something they would appreciate.

However, I think invariably most of those first movers do appreciate competition, as they have embraced it now, over the last couple of years, mostly because it's a sharing of risk. Oil and gas is joint venture driven. Sharing of risk and sharing of ideas unlock new play types and new opportunities. Therefore, what might have been a little bit of resistance and wariness in the beginning is now wholly embraced.

As well, all companies are now actively participating and have licensed my data. When I say “my data”, this is the Nalcor-driven data set. We went from seven companies to 14 companies, but over 30 companies have actually licensed the data. There's another pool of some 15 companies that could potentially enter in Canada's future offshore licence rounds.

Mr. Gord Johns: Maybe you can speak a little more to how we can reduce those roadblocks and what can be done in the next steps.

Mr. Jim Keating: Just last year, studies ranked Newfoundland and Labrador's offshore as fourth-best in the world in terms of all oil and gas attractions. We're very happy about our position in terms of competitiveness. However, in recent months, we've gotten a pretty big setback, and this has been in an area that is topical now in Houston, where I go to meetings. It is in the formation of marine refuge areas and marine protected areas.

Right at the moment, we are putting licence rounds out in a methodical two- and four-year horizon, which is decided by ministers of NRCan and natural resources in the province, but they are under strategic environmental assessments. We now have pockets of marine refuge areas, which I think were formerly fisheries exclusion areas, that overlap existing licences where companies have made hundreds of millions of dollars of bids and sit on some of the most prospective acreage anywhere. That's a barrier.

The geoscience barriers are being addressed. It's the above-ground barriers now we need to address, and most of those are policy-related.

● (0925)

Mr. Gord Johns: Thank you.

The Chair: Thank you.

Ms. Ng is next.

Ms. Mary Ng (Markham—Thornhill, Lib.): Thank you so much, Mr. Keating, for coming in and joining us today.

I'm going to share a little bit of my time with Mr. Serré.

It's interesting in terms of the data set that you've created. Of course, the study is about looking at opportunities to have readily accessible data to enable good decision-making, not only on the part of policy-makers but also by those who want to invest in Canada and those who want to participate. The gathering of the data for your organization will help the private sector in making those decisions for investments.

Can you talk a little bit about the use of that data on the environmental protection side and how, as we move to a world where we are looking at resource development, no question, we can ensure that we are being responsive to climate change, etc.? How can this data set be leveraged and used in a way so that...? The example you shared earlier shows that through data, companies, investors, and government can also afford that kind of planning and that kind of consideration so that in the future it is in respect of both.

Mr. Jim Keating: Here are a couple of examples.

We've been working very closely now, in the last several weeks, with the Department of Fisheries and Oceans. As we understand it, they have a parallel process. They're drawing maps, and we are drawing maps. We are drawing maps of where the oil and gas should be, and they're drawing maps of where oceans need to be protected.

We just get together now, and we meet. We tell them that we know about where all the treasure is buried along our eastern coast. We know where all the highly prospective areas are, and we also know where maybe oil and gas opportunities don't exist.

They also have a sliding scale from the very sensitive areas all the way to the sort of benign areas, so we collaborate. We show them our maps, they show us their maps, and we just overlay the maps. We just work together to make sure that we protect as much of Canada's offshore as we can and also see to it that, on average, we make available some of the most prospective acreage. In this case, fisheries interests and oil and gas interests can cohabit, as they have been doing in Newfoundland and Labrador now for some 25 years or so.

That's an example of where our dataset can illuminate the Department of Fisheries and Oceans' initiatives. That wouldn't happen if the data were private. It's only because we're a subnational government, with the ability and the interests we have that are common to us and Canada, that we'll make our data set available to DFO and will try to avoid one another in terms of where licences go for offshore drilling and where marine protected areas are. That's number one.

Number two is that the method by which we collect our data is multi-client. Rather than have 14 companies out with their own seismic vessels shooting their own seismic packages, as they would have done in the past, we do it now for everyone. That eliminates a number of interactions.

Finally, we look at all sorts of data. We look at pore pressures, biostratigraphy, and all the below-ground risks that you need to be aware of if you're drilling a well so that you are prepared for a tricky well, a well that you need to be wary of and for which you will need extra equipment. We gladly and freely provide all this safety-related geoscience data—weather data, wave, wind, fog, visibility—to lower the risks to both people and the environment.

Again, though, it's because it's a national database. It's in our interests. We basically drop it from low-flying aircraft and have no issues with it. That's not necessarily going to be the case if it is only done and held by private sector interests.

● (0930)

Ms. Mary Ng: Okay.

I am sharing with Mr. Serré.

Mr. Marc Serré (Nickel Belt, Lib.): Thank you. I have about two minutes left here.

Thank you, Mr. Keating, for your presentation and expertise.

I want to go back to your original statement. You mentioned that from an investment pool, there's about $100 billion available, and that over the last 20 years—not the last two years, but over the last 20 years—we haven't been able to access hardly any of that. You referenced about $100 million.

From a federal government perspective, linking back to the study here on data, what would be your one or two recommendations for the federal government in supporting the industry to acquire the type of data you would need in order to access those dollars?

Mr. Jim Keating: In short form, for a real market share, if you will, of that $100 billion for Canada, for our geography, for our frontier, a place along the curve, we should be targeting 4% or 5% of that market share, realistically. We're getting less than half of 1% today.

The bids in the last couple of years indicate that trajectory can be met if we continue to get companies interested and bidding at that level. We have five companies now planning to drill offshore. Plans are in various phases of CEAA as I speak today. In Nova Scotia, BP is actually drilling in one of their more interesting prospects.

This is good so far. Really, with the provision of geoscience and making it broadly available, Canada needs to look at this type of Norwegian Diskos system, whereby it basically provides a platform. It has the regulation to require the data; it just needs the apparatus—the shell, if you will, the front door where companies put the data in. Someone sits behind the front door and validates and verifies that it is received, which we do today in the different petroleum boards, but then it's to add that extra special layer, which costs not a lot at all, actually. It just takes some ingenuity, and you can get a lot of best practices from our Norwegian colleagues.

It's to find the system of access to that data and protection of the data that would work well for us and put it in as many hands as possible, so that I can download it here in Houston, Kuala Lumpur, London, or Oslo and see the same data set that my colleagues can see halfway around the world and do it electronically and quickly.

That does not exist. If there ever is a role for Canada.... It has joint jurisdiction over Nova Scotia, Newfoundland and Labrador, and all our offshore. It is the pre-eminent regulator. There is a great place for Canada to be that data repository, to be that Google of offshore data of all sorts. That's a modest investment, looking at the investment in total, and I think it'll be the most levered of any dollar that you can spend. We know it.

Nalcor Energy spends $20 million of Newfoundland and Labrador's taxpayer money per year for our geoscience program. We know that with the bid levels that have been received to date, if even no drilling is ever done and all these companies walk away from every dollar that they bid, 25% of that $2.5 billion is kept. It's defaulted to the government. We've more than paid for it. Canada has more than received, as Newfoundland and Labrador, its investment already.

It's very easy for me to argue, model, and articulate a strategy for a data repository similar to Norway's when you look at that level of investment.

The Chair: Thanks, Mr. Keating.

Mr. Falk, we're over to you for a five-minute round.

Mr. Ted Falk (Provencher, CPC): Thank you, Mr. Chair.

Thank you, Mr. Keating, for attending committee today and for providing us with this very interesting and valuable information.

I have a couple of questions just to get started.

You made a comment that you didn't know if we had the time to get there. I'm wondering if that was in reference to some of the barriers to exploration you're experiencing, if it's in reference to the protection of resource access.

What did you mean by that comment, sir?

● (0935)

Mr. Jim Keating: Obviously we understand that we're in a transitioning economy. Oil and gas as we know it, depending on which analysts or what crystal ball view you take, may have decades of opportunity.

My interest is like, again, the Norwegian interest. Norway has found a great duality. It is a leader in climate change and climate change technology and innovation and renewable science and renewable energy. As an example, the highest penetration of electric vehicles is in Norway, yet it continues to open new areas for oil and gas exploration. It is a paradox.

Norway does it because it believes it will produce the most responsible barrel of oil or litre of gas of anyone in the world. They do it today. They have the lowest CO2 emissions per barrel in any jurisdiction because of their regulation and their technologies.

Canada's offshore, by the way, or Newfoundland and Labrador's offshore, is the second-lowest. We have small gaps to close, and it's mostly at an operational level.

I would like to see in the hydrocarbon era, whether it be measured in decades.... Remember that the offshore is long play. It takes two or three years to plan to drill. It takes five to six years to build the asset and 30 years to operate. There are not going to be many opportunities to get that trillion-dollar pension fund for Canada from the east coast, and I don't think that's going to really happen, quite frankly, but there is an opportunity in the hydrocarbon window for us to really stimulate our offshore in a responsible and balanced way and to make sure that, as Norway believes, if the last barrel of oil produced should be a Norwegian barrel, why can't it be a Canadian barrel?

Mr. Ted Falk: Good. Thank you very much, Mr. Keating, for asking that question.

I'm going to just shift away from the discussion that we've been having so far.

To come back to you, Mr. Chair, I want to move the motion that I provided notice of motion for on Friday to this committee.

I do it as a matter of urgency. In light of the discussion we've been having with Mr. Keating this morning, I think it's very important that this be done now.

The crisis with which we are currently tasked and consumed is the Trans Mountain pipeline expansion—

The Chair: Mr. Falk, can I just explain to Mr. Keating what's going on here?

Mr. Ted Falk: Okay.

The Chair: Mr. Keating, we're changing course a little bit. You can expect to be sitting here listening to something other than questions, I suspect, for the balance of your time. If we're still on this path in about 10 minutes, I'll thank you then and you can carry on so you don't have to listen anymore.

Mr. Ted Falk: Yes, Mr. Keating, I want to apologize for cutting into your time, because it's been very interesting. I gave you as much time as I could while still giving me the time to put this motion forward, because it is important. Data collection is important, and it will be important moving forward in this industry of oil and gas exploration and development.

However, given the enormous importance of the Trans Mountain expansion to the Canadian economy, and given the failure of all major pipelines to go ahead, I move that this committee proceed with a study to find solutions to this growing crisis that threatens to affect all of Canada.

Mr. Chair, the urgency of this matter is highlighted by the Kinder Morgan deadline of May 31. Today is May 1.

Greg D'Avignon, president and CEO of the Business Council of British Columbia, has expressed why this is an urgent matter requiring immediate attention:

> We're here today because the organizations and individuals in communities and businesses across this country believe we are at a point or crisis of confidence in Canada. A crisis that needs leadership and immediate attention to resolve.

The business community is nervous about this inability of the pipeline to be built. Mr. D'Avignon is not the only concerned business leader. Laura Jones, executive vice-president of the Canadian Federation of Independent Business, has said:

> If uncertainty is allowed to continue, it risks doing serious damage to this country's reputation. We need to find a better path forward and we need to do it now.

As was noted earlier in this committee by my honourable colleague Shannon Stubbs, the member for Lakeland, the Trans Mountain pipeline expansion crisis is an emergency. It has been reinforced by Parliament with emergency debates in the House, the Senate, and even by cabinet. Parliament has called it an emergency. Business leaders have called it an emergency. Kinder Morgan has deemed the situation an emergency, as they have suspended non-essential spending until the situation is resolved in a concrete manner and in a way that makes the project tenable.

Mr. Chair, I would say that this committee needs to declare this an emergency. I believe this committee needs to take responsible action and do an immediate study. The urgency of the situation requires us to do this. It falls within the scope and mandate of this committee's job. I think this is something that we need to prioritize. We need to get pipelines built so that we can get our oil to markets. These markets are desperate to buy our oil. Pipelines are the safest, most efficient conduit for Canadian oil, but we're unable to build a pipeline to get the oil to market, which will have serious consequences for Canada as a nation.

The Department of Natural Resources has indicated that Canada has the third-largest oil reserves in the world. In fact, Canadian oil reserves account for about 10% of the world's proven oil reserves. Energy production counts for about 7% of Canada's nominal GDP, according to the Department of Natural Resources. Oil is essential to our economy. Canada is the sixth-largest energy producer, the fifth-largest net exporter, and the eighth-largest consumer. Canada is a big player worldwide in terms of energy. The United States, currently our largest market, accounts for only 2.3% of the world's proved oil reserves, which puts it at tenth place.

Canada and the United States are the only two free democracies on the list of top 10 proven reserves. Other countries include places like Venezuela, Libya, Saudi Arabia, and Russia. Despite all of our oil, due to our nation's geography we have only three major directions to export this vital resource, which is needed to lift many people out of poverty—to the south to our American friends and neighbours; to the Pacific and to hungry Asian markets; and to the Atlantic, where we have refineries and access to Europe.

Unfortunately, the route to the Atlantic through the TransCanada energy east pipeline did not proceed. This major nation-building exercise failed. That failure has cost Canada its truly most precious resource, and that is its unity. Oil in Canada is a resource, but the pipeline dispute is more than simply about energy: it's about national co-operation. It's about western Canada and eastern Canada working together. In fact, it was oil revenue and the strength of our exports that allowed our nation to emerge from the recession in relatively good shape compared with our peers. This is now being taken for granted, and our development and investment are falling behind.

● (0940)

One CEO was quoted in the *National Post* by John Ivison as saying, "The level of foreign investment has never been so low and continues to fall off a cliff. There is a real, genuine, honest, non-partisan concern that Canada is so completely out of touch with the real world."

Foreign investment drives innovation and drives development, and I think we've heard testimony to that here this morning by Mr. Keating. Our oil sands were and are a source of tremendous innovation. Oil should not be seen as a dirty resource that we are ashamed of, but as a source of wealth that not only provides good, high-income jobs in the private sector but also funds our strong and talented public service.

I would like to quote from Dr. Kevin Milligan, a professor of economics at UBC's Vancouver School of Economics. In an April 16 submission to *The Globe and Mail*, Dr. Milligan argued that it is natural resources, particularly energy, that is growing and sustaining the middle class in Canada. He puts his argument forward very well, and I quote:

> Opinions on pipelines are flowing around Canada more quickly than the oil. The ultimate decisions on natural resource projects, however, ought to derive from facts. As an economist studying income inequality over the last 15 years, I can offer a key fact to the debate. In my view, nothing has contributed more than natural resources to buttressing the Canadian middle class against the rapidly changing global economy of the 21st century.

Mr. Chairman, in a rapidly changing global economy of the 21st century when so many Canadians are turning to the gig economy to make ends meet, it is natural resource jobs that provide good-income jobs. Natural resources are good for all Canadians and for Canada as a country. Natural resources, especially oil, are vital to good, sustainable, long-term growth, which creates middle-class jobs. Dr. Milligan puts this in context, and I'll quote him again:

> The impact of natural resources is not just on those who work directly for natural resource companies. There are large wage-spillovers to others working in resource communities in construction, transportation and services. Moreover, resource-derived tax dollars fill up government coffers to support strong compensation in middle-class public sector jobs in nursing, education and transit. And what's more, these benefits don't only help provinces with plentiful resources, since our equalization formula uses the federal purse to top up provinces without comparable resource-revenue streams.

What that means and what it should mean is that projects like the Trans Mountain pipeline expansion are good for the national interest. Yes, Alberta is a prosperous province in no small part due to oil revenue, but it also contributes greatly to national equalization payments. Equalization payments allow for all provinces and regions of Canada to share in our natural resources. Oil revenues fill government coffers across 10 provinces and three territories. If we lose the ability to export our oil or we lose the opportunities that oil revenues provide, our nation will be poorer both in dollars and in national unity.

Oil provides for the most vulnerable, supports first nations communities, strengthens the middle class, and helps everyone get along. Dr. Milligan highlights some of the benefits of oil to Canadians all over the country. He has said:

> We also must count the Canadians living in First Nations communities near resource developments. In British Columbia since 2009, we have developed a system of Economic and Community Development Agreements that share resource revenue with nearby First Nations. This structure allows the legal certainty that resource companies need to proceed with long-term investments and the sharing of economic benefits that First Nations deserve for the future of their communities. This kind of agreement is another way natural resource revenues are dispersed across our economy.
>
> Around the world, the relentless pressures of technology are hollowing out middle-class employment, leading to stagnating middle-class incomes and exacerbating social tensions. These same pressures appear in Canada too, but resource development has allowed the Canadian middle class to push back on these pressures better than almost any other advanced economy on earth.
>
> The stakes we face are high. To maintain public support for pro-growth initiatives such as trade agreements and for doing Canada's part in limiting climate change, we need to ensure that economic growth is felt by everybody in society. Economic growth that brings everyone along gives all families a stake in Canadian economic success. This increased economic security energizes social forces that pull us together.

That's the end of his quote.

What he does not say is that decreased economic security also energizes social forces, but social forces that pull us apart and threaten national unity.

● (0945)

This is, unfortunately, happening.

British Columbia and Alberta are engaged in a fierce fight over pipelines. The federal government, which is the government with the actual authority to act on this matter, has been largely silent. The silence has allowed B.C. and Alberta to fight a battle they have no real business fighting.

Kinder Morgan's Trans Mountain pipeline was a federally approved project, yet the debate and protests over this project have turned this pipeline dispute into a debate on national unity. The only reason this could have turned into a debate on national unity is the lack of leadership from the federal government.

The NEB is a federal regulator. When the NEB grants its approval on a project, the project is and should be ready to go. The federal government maintains the right over the transport of energy between provinces. Trans Mountain—

Mr. Marc Serré: Mr. Chair, I have a point of order. We have witnesses who have travelled and have taken the time and expense to come to present to us. I just want to see if Mr. Falk is wrapping up on this important issue. We have some witnesses here who have been scheduled.

The Chair: We have one here and one by video conference. Should we release them, or should we keep them here?

Mr. Ted Falk: You can do whatever you like, sir.

The Chair: I'm in your hands in terms of timing. If you intend to speak for the better part of the next 50 minutes, then I think that in fairness to them, we should release them, but if you tell me you're going to be done in 10 minutes, then we'll keep them.

Mr. Ted Falk: It would be about 10 or 15 minutes, sir.

The Chair: Then we'll keep them. Thank you.

● (0950)

Mr. Ted Falk: The federal government, which is the government with the authority to act in this matter, has been largely silent. The silence has allowed B.C. and Alberta to fight a battle that they don't have any business fighting.

Kinder Morgan's Trans Mountain pipeline was a federally approved project. The debate and protests over this project have turned this pipeline dispute into debate on national unity.

The NEB is a federal regulator, as I previously said. When the NEB grants its approval on a project, the project is ready to go. The federal government maintains the right over the transportation of energy between provinces. Trans Mountain was approved, and the law is clear: the federal government has jurisdiction. The Government of British Columbia hijacked the process, and the federal government did nothing. This lack of action has allowed a constitutional crisis to develop. Because of this unnecessary crisis, Kinder Morgan has said that unless the situation is resolved by May 31, they will pull out of the project.

CEO Steve Kean said:

> A company cannot resolve differences between governments. While we have succeeded in all legal challenges to date, a company cannot litigate its way to an in-service pipeline amidst jurisdictional differences between governments.

In other words, Mr. Chair, unless the federal government steps up and asserts its rightful authority, there will be a vacuum in terms of leadership. Disputes cannot be resolved, particularly not contentious ones, if the federal government does not assume its proper and correct role as the ultimate say. This should not be a difficult issue, given that the movement of energy product between provinces is a federal jurisdiction. If the federal government does not act upon its responsibility within clear federal power, then Confederation will constantly be threatened by every dispute. This is not an acceptable state of affairs.

In fact, the Government of British Columbia is playing a very dangerous game. They are risking the unity of our Confederation by refusing to accept federal jurisdiction. By deliberately and willfully flouting federal direction, B.C. has opened up a constitutional mess. An April 19 editorial from the *Waterloo Region Record*, republished by the *National Post* on April 20, concludes its analysis of the situation very skilfully:

> Why would any other province takes Ottawa's leadership and authority seriously when there are no meaningful consequences for ignoring it? Why would any international business invest in a country where legally-approved projects can be derailed so easily? Canada's credibility, as well as Trudeau's, is on the line.

In fact, Mr. Chair, this hit to our credibility is already happening. In an April 9 press release, The Explorers and Producers Association of Canada has attacked the lack of federal action. They say:

> The Explorers and Producers Association of Canada expresses our deep concern with the announcement by Kinder Morgan that it is suspending all non-essential activity and spending related to construction of the Trans Mountain Expansion Project.
>
> This critical national project, approved by all relevant regulatory authorities and the Federal Government, has been allowed to be frustrated, harassed and blocked by the abject failure of the Federal Government to provide effective national leadership and government for all Canadians, particularly those in Provinces who need access to our national seaports to support their economies and their citizens.
>
> Kinder Morgan's statement that it is unwilling to risk billions of dollars of its shareholders money without a clear path forward is yet another devastating critique of Canada's growing reputation as a state where the rule of law is not respected and enforced by national and subnational governments. Private sector investment is a key determinant of future economic prosperity yet Canada today ranks near the bottom of virtually all leading industrialized economies on this measure.
>
> EPAC, on behalf of its 150 member companies, who invest billions of dollars each year in Canada, employ tens of thousands of Canadians and deliver one fifth of the nation's oil and natural gas supplies, calls on the Federal Government to step up to show true leadership and deliver on its constitutional responsibilities.

They're calling upon the federal government to show true leadership and deliver on constitutional responsibilities, but how will they do this? The government talks about getting the pipeline done, yet has not indicated how it is intends to do so.

I believe that Mr. Dwight Newman has some good thoughts on the matter. Mr. Newman is a Munk senior fellow at the Macdonald-Laurier Institute, and a professor of law at the University of Saskatchewan. He has argued that the solution to the pipeline crisis is very simple. It is my hope that during our study, we can see if the methods that Mr. Newman recommends will be useful to our proposes. He said:

> The logical, legal responses that create pipeline certainty are much simpler than many are assuming. They don't involve anything so exciting as launching a new Supreme Court reference, reviving the long-dead federal power to [disallow] provincial laws, or invoking the Emergencies Act to bring in the military.
>
> They involve simply implementing appropriate federal legislation and/or regulations that take control of the situation.
>
> If the federal government in the coming weeks passed through Parliament a bill designed to achieve more certainty on implementation of the decision to construct Trans Mountain, the resulting law would take priority over any provincial law that exists now or were adopted in future. British Columbia could talk about whatever it wanted, but any lingering legal uncertainty that British Columbia is playing with right now would be wiped out.
>
> An Act to Facilitate Pipeline Construction could set out to entirely regulate all environmental matters related to pipelines in a manner that would make clear that no provincial laws operate in this context. It could even contain extra rules and powers related to sensible balances on protest activity in the vicinity of pipeline construction.

● (0955)

Mr. Chair, to date we haven't seen any of that.

Getting this pipeline built is not a matter of the federal government coming up with an elaborate scheme but simply applying the law as it exists. Mr. Newman's recommendations could form the basis for an effective government response to this pipeline crisis. His solution is a simple bill to make it clear that the federal law will always trump provincial law in the matter of building pipelines.

This is a simple solution to a problem that has become far greater than it needs to be. Leaving this crisis any longer is unacceptable. Mr. Chairman, this is an emergency. The future of our country depends upon the actions taken today. If the committee does not undertake this study, then there's a serious risk to not only our short-term economic output but also our mid-term levels of foreign investment and the long-term health of the Canadian federation.

I urge all members to vote in favour of this study. We must do it now before we run out of time. May 31 is only 30 days away. Therefore, with my Conservative colleagues, I would like to urge all members of this committee to adopt the motion for the good of this country.

I want to read the motion, and then I'll conclude, Mr. Chairman. The motion says, quite clearly:

> That, pursuant to Standing Order 108(2), the Standing Committee on Natural Resources immediately undertake a study to find solutions to the obstacles facing the approved Trans Mountain Pipeline expansion; that the Committee consider factors such as the May 31st deadline issued by the proponent; the potential economic, socioeconomic, investment, and government revenue losses, and impacts on market access for Canadian oil, related to the potential cancelation, especially on Indigenous communities; municipal, provincial, and federal jurisdiction as it relates to the project; potential points of leverage between the federal and provincial governments, and potential fiscal, constitutional and legal solutions; that the first meeting take place no later than May 8th, 2018; that the witnesses include Kinder Morgan, Dr. Kevin Milligan, and Dwight Newman; that all meetings be televised where possible; and that the committee report its finding to the House.

I so move.

Thank you, Mr. Chair.

The Chair: Thank you, Mr. Falk.

Next is Ms. Ng.

Ms. Mary Ng: Mr. Chair, I move that the debate be now adjourned.

The Chair: Thank you.

All in favour of Ms. Ng's motion....

Mr. Whelan, are you going to join us at the table, please?

Mr. Ted Falk: He actually doesn't need to.

The Chair: I'd feel better about it.

Mrs. Shannon Stubbs: Can we have a recorded vote?

The Chair: Sure.

All in favour of Ms. Ng's motion, please indicate.

(Motion agreed to: yeas 5; nays 4)

The Chair: We'll get back to regular committee business.

We'll suspend for a minute to get the witnesses ready to start their statements.

● (0955)

(Pause)

● (1000)

The Chair: Thank you everybody. We're set to resume. We have two witnesses for the second segment of our morning.

From the Canadian Council on Renewable Electricity, we have Patrick Bateman and John Drexhage.

From IHS Markit, Mr. Kevin Birn is joining us by video conference.

The process is that each set of witnesses will be given up to 10 minutes to make a presentation, which you can do in either French or English or both. Following that, you'll be asked questions by members from around the table.

Gentlemen, since you're here, why don't we start off with you?

By the way, thank you for your patience. We're running a little bit behind.

[*Translation*]

Mr. Patrick Bateman (Director, Canadian Solar Industries Association, Canadian Council on Renewable Electricity): Mr. Chair, ladies and gentlemen members of the committee, good morning.

I would like to begin by thanking you for inviting us to testify before you today. My name is Patrick Bateman, and I am the director of Market Policy and Development at the Canadian Solar Industry Association, the CanSIA.

However, today I am representing the Canadian Council on Renewable Electricity, the CanCORE. This is a collaboration between the four key national professional associations involved in renewable electricity: solar energy, wind energy, marine energy and hydroelectricity. Together, our members account for 65% of all of Canada's current electricity production.

● (1005)

[*English*]

CanCORE's overarching goal is to ensure that Canada moves toward achieving our national non-emitting electricity target of 90% by 2030 and close to a 100% non-emitting electricity grid by 2050 to ensure that Canada meets our national climate action and clean growth objectives and our international obligations under the Paris Agreement.

As the rate of technological change increases and as our need to act more and faster on climate change increases, it is CanCORE's view that an enhanced government role for the collection, analysis, and dissemination of information about energy production, transmission, use, future trends, and associated greenhouse gas emissions is critical to support the decision-making of investors, policy-makers, regulators, utilities, and all electricity sector stakeholders moving forward.

There is currently a significant data and analytical gap for renewable and non-renewable electricity. There have been some notable contributions in recent years, including the National Energy Board's new annual electricity reports and NRCan's new clean energy map. However, there continues to be no Canadian data source that is as comprehensive as what we're seeing in other jurisdictions, and as a result, we are frequently relying on foreign sources for Canadian data.

Examples of data that would be valuable include granular renewable energy resource data; future electricity demand projections; supply mix considerations, including planned capacity additions and retirements and associated greenhouse gas emissions implications; the size, location, and operational attributes of existing and planned electricity generation facilities; sector-specific economic data, including labour force size, investment, and contribution to national GDP and to the local economies in which they are situated; and also historical and projected generation cost trends.

CanCORE views the Energy Information Administration and the National Renewable Energy Laboratory in the United States as good examples of best practices for Canada's study as we design and implement our national data strategy.

I look forward to any questions that you have.

[*Translation*]

Once again, thank you for inviting us to testify before the committee.

[*English*]

The Chair: Thank you.

Mr. Birn is next.

Mr. Kevin Birn (Director, Energy, IHS Markit): Thank you. Dear committee members, it's a pleasure and honour to be here today with you to discuss your important study into the state and future of Canadian energy data. My only apology is that I could not be there in person to join you.

I work at IHS Markit, an international data analytics and insight company. IHS Markit works with governments and industries around the world to help them make informed decisions. We service sectors across the economy, including finance, automotive, aerospace, defence, maritime, technology, geopolitical risk, and energy, which includes power, gas, renewables, oil, and climate change issues.

IHS Markit has a strong presence in the Canadian marketplace, with over 400 of my colleagues based here. Our two primary offices, located in the Toronto area, are focused on financial intermediary services and automotives, and our office in Calgary is focused on finance again, as well as energy.

I am based in Calgary, where I lead our western Canadian crude oil market research. We make extensive use of Canadian energy data and commodity data to deliver insight and analytics to our clients around the world. We also, through a unique service, make some of our oil sands research public.

My focus is on supply and demand fundamentals of Canadian oil and its role in the global oil market, which includes energy policy. It is from this perspective that I will share with you some thoughts that I hope you will find relevant to your study.

First, we believe considerable energy data does exist in Canada. However, it is often dispersed among federal and provincial governments, departments, ministries, agencies, and regulators. This complex web of sources can make it difficult to locate relevant data, to understand what data is available, and to interpret this data. This can lead to confusion and misinterpretation.

Having data is one thing; understanding and using data is another. Expertise is required to understand the data, appreciate any limitations, and identify any errors or gaps. Much of this expertise has been taken on by provincial governments, which collect different data for different purposes. This will likely always be the case, because provinces have their own interests in the data they collect. Some reasons include royalty purposes, regulatory processes, and environmental assessment and monitoring.

Some provincial data sets are very robust, such as the Alberta Energy Regulator, which makes much of the Canadian upstream industry data available. However, there are different priorities between regions. What one region collects, another might not, or it might not be presented in the same way, which can cause alignment issues between regions. These issues can generally be overcome, but they also complicate accessibility for the average Canadian.

Duplication of provincial data by the federal government may be counterproductive. This has the potential to lead to further alignment issues between series and/or confusion if multiple series exist.

As for the data itself, today, federally the key data sources we use in my shop are Statistics Canada and the National Energy Board. Provincial major sources of data are the Alberta Energy Regulator, the Government of Saskatchewan and the Government of British Columbia, and the Newfoundland offshore board. Over time, the availability of some of this federal data has declined, particularly around natural gas liquids, refined products, and interprovincial transfers.

It is also important to acknowledge that accessibility of some data has improved. For example, the National Energy Board has expanded its coverage and made accessible greater detail on crude-by-rail exports and pipeline exports as well.

Generally, the best way to view Canadian hydrocarbon data is that we have, through a network of various actors, a pretty good understanding of what is produced and what is exported. Where we see gaps is in what we consume as Canadians and how it comes and goes within Canada. Recognizing this patchwork of actors, there is a possible role for a national aggregator, one that recognizes the importance and the interests of the provincial governments in having expertise in collecting data sets and also in helping with alignment. Moreover, alignment can help identify future data needs and ensure consistent methods are established in other regions across Canada.

It's important to underscore that data gathering is only one factor. The other two important factors are expertise and accessibility. There is a need to understand the uses, limitations, errors, and gaps in the data. At the federal level, some of this expertise already exists with the National Energy Board, Natural Resources Canada, and Statistics Canada.

The last component is that the data needs to be accessible not only to researchers and academics but to the public. In this regard and others, the U.S. Energy Information Administration is often cited. Over time, the U.S. EIA has increased its customer services, developing analytical tools, providing interpretations of data, and developing user-friendly interfaces. The U.S. EIA also provides national and international energy outlooks and will respond to Congress to provide independent analysis on key questions, something that could be of value in our currently fractious energy and climate conversations.

● (1010)

Key to the U.S. EIA has been their administrator's ongoing pledge of impartiality. The currency of data and insight is credibility, and it is of utmost importance, because often data may not agree with one's opinions.

Part of the process of these sessions, as was provided by the clerk in the notes, was to make recommendations. I would like to take the opportunity to do so now, though I may have done so thus far indirectly.

First and foremost, I encourage you to seek out both the sitting and former U.S. EIA administrators. I have found them in the past to be an incredible wealth of knowledge, and they have incredible history and expertise.

Second, there is value in working with federal and provincial agencies to align data series, identify data gaps—and there are gaps—and interpret the data.

Third, the focus needs to consider or be broader than data itself. It needs to include considerations about the expertise required and for making data accessible.

Fourth, it needs to be impartial to ensure the data and its interpretations are credible.

I would like to thank you all for inviting me to speak today. This ends the portion of my prepared remarks.

The Chair: Thank you very much, Mr. Birn.

Mr. Tan, you're going to start us off.

Mr. Geng Tan (Don Valley North, Lib.): Thank you, Chair.

Thank you, gentlemen, for being with us today. My first question goes to Mr. Bateman.

I think we can all agree that accurate energy data is required for effective policy decisions. The committee has already heard from some witnesses that Canada's energy data at both the national and the regional levels is often incomplete.

To address this data gap, some researchers or companies engage in different ways, such as computer modelling or mathematical or statistical analysis, or even by sending out a monthly press alert to collect the necessary information from industry or from other users.

How do you confirm that the data and information on electricity produced in renewable ways is complete and accurate and can meet our requirements without further worsening the gaps in our energy database?

Mr. Patrick Bateman: Mr. Tan, to confirm and to ask for a clarification of your question, was it how can we ensure that a federal role would achieve that?

Mr. Geng Tan: That's right.

Mr. Patrick Bateman: We would recommend that comprehensive stakeholder engagement needs to take place through the development of this process. I think a central agency that was tasked with identifying the needs of the community and working with all of the various different stakeholder groups to lay that out would be critical. Whether it's oil and gas renewables or subcomponents within the renewable sectors, everybody has a very different need, but also everybody has a different existing data source as well.

I think compiling what currently exists, identifying gaps, and ensuring that reporting is going to meet the needs of every different sector would be the way to go. I think it would be a very intense stakeholder session to begin with, but I think getting it right from the beginning would be key.

Mr. Geng Tan: Using your solar industry as an example, I'm sure that it's similar to other electricity producers or other similar industry peers. The data collected from your energy producers also sometimes comes with some gaps or with some disconnections. You may still have to have the technical expertise to interpret or meet the gap by the kinds of approaches I just mentioned. How does the industry, or you as an industry association, judge the adequacy or the accuracy of the data produced second-hand when it is not the real data?

● (1015)

Mr. Patrick Bateman: From the perspective of the solar industry, our electricity is largely metered. A number of the metrics that you would want to capture for solar are things that are very verifiable, so from that perspective a large part of the task for the solar industry is just going through the effort of defining what data is needed and capturing it.

Another issue specific to solar is that we're a new industry to Canada. While our numbers are small, our growth is large, and we feel that capturing that growth is very important. In the past the approaches to data collection have often had minimum thresholds that largely would mean that new technologies or small technologies wouldn't be captured. I think scoping is a very important issue that would need to take place up front—particularly for the solar industry, but I would expect for all sectors as well.

Mr. Geng Tan: Okay.

In your opinion, how can the Government of Canada encourage your industry to have better development and utilization of better or more robust evidence data?

Mr. Patrick Bateman: We would encourage a role for government that is much more enhanced than in the past for the aggregation of data, compilation of data, and making that data available, and also for analysis.

Mr. Geng Tan: Okay.

My other question goes to Mr. Birn.

Mr. Birn, you directed the IHS Markit North American crude oil market analysis team. I checked your company's website, and your company argued that the world's most valuable resource is no longer oil, but data.

If data trumps oil in terms of value, then surely this new resource deserves more attention. Can you just comment or elaborate more on this statement?

Mr. Kevin Birn: That's systemic. Let me think about it.

I think the reality is that information and making informed decisions is what drives the world, and we're seeing massive amounts of data being generated, so interpreting, understanding, and putting analytics around data for our clients is probably what that statement is regarding specifically. I don't think the statement was made in reflection of any specific commodity group that we service at this point.

Mr. Geng Tan: Okay.

Maybe I want to share some time with my colleague. Do you want a quick one?

Mr. Nick Whalen: Yes. Thanks, Mr. Tan.

Mr. Bateman, with microgeneration of wind or solar or whatever the local user happens to be engaged in and the resulting drop in demand on the grid, how can we structure our grid so that we can collect that data and have that data shared with a national regulator? Do we need new legislation in place? Is it a quid pro quo for the creation of a smart grid? How do you envision this energy exchange from the microgenerators back to the regulator so that we have a firm grasp on what the demand is, what the supply is, and what our CO2 reductions are?

Thank you.

Mr. Patrick Bateman: Thank you for the question, Mr. Whalen.

Currently a lot of Canada has advanced metering infrastructure, but not all of Canada. Most utilities, most regions, are moving in that direction, so it's likely that by the mid-2020s the vast majority of all electricity consumers will have advanced metering infrastructure. Those meters are capable of data collection and transmission at the sub-one-minute level, so it can be almost instantaneous. As the penetration of embedded generation or distributed generation increases, that data is going to become more and more valuable to utilities, and we will see them beginning to use it.

I would say that many utilities aren't ready for that level of data yet, but they are moving in that direction. Big data is one of the biggest challenges to the electricity sector, and one of the biggest opportunities as well.

The Chair: Thank you.

Ms. Stubbs, we'll go over to you.

● (1020)

Mrs. Shannon Stubbs: Thanks, Mr. Chair. I appreciate that.

Thanks to all the witnesses for being here today.

Patrick, I want to raise a concern with you here and give you an opportunity to clarify. Then I'll probably move to the other witness after that. Here's what my concern is.

Your testimony so far echoes and is perfectly in line with what we've heard from experts before on this committee. In October 2017, for example, the professional lead and chief economist at the National Energy Board talked about the need for better data on energy, but what concerns me is that she said:

> When we're looking at policy and changes to the energy system, if we had better [information].... What is the current state of events? We also have very poor information in Canada with respect to renewables. We have struggled...to fill that gap. We've put out renewables reports, but there is much work that could be done on the data side of that.

Then just last week the VP of the strategy and analysis unit said:

> That would go to one of the gaps that people speak about, renewable energy. A lot of renewable energy is not tied into traditional data gathering sources, so we need a new method to find the information about renewable energy sources, use, uptake, and costs....

Naturally, I would agree that all this information is required. Here's what my concern is, and I'm not asking you to comment on this part. Of course there are multiple levels of government trying to drive consumers away from various sources of energy to renewable and alternative energies, probably faster than the market or the technology is leading. That's not the debate I want to get into. The fact is that the way governments are trying to do that is with billions of dollars in subsidies and legislative frameworks to try to force that shift.

For example, in terms of the percentage of the total amount of federal grants and contributions in Canada given to the energy sector in 2016 to 2017, 75% went to wind—75% of the total subsidies in the energy sector—much of it in direct subsidies. Only 6% went to fossil fuels. That was mostly in tax deductions or in capital cost allowances, and here you've said that defining what data is needed and capturing it is a requirement.

This is what my concern is. For example, in Ontario, we know that some of these projects have somehow been given exemptions from the Species at Risk Act in order to be rammed through. They've cost taxpayers billions of dollars. There have been several collapses of renewable and alternative energy companies in the U.S., which have not only put taxpayers on the hook for billions of dollars of the investments that were put into them but also incurred back-end reclamation and environmental costs involving thousands of square metres of hazardous waste.

This is a major commitment that governments are making on behalf of taxpayers. What deeply concerns me is that clearly from your own testimony, and from testimony of other representatives here, there is a critical lack of data and information even relating to, for example, environmental impacts and cumulative impacts. We're heard that said specifically about alternative and renewable energies.

Therefore it seems to me that if your testimony is true that this level of data is missing, that should be a serious and priority concern for provincial and territorial and federal governments that are charging ahead, sinking billions of tax dollars and picking winners and losers in certain kinds of energy development versus others.

I don't know if you have any comment about how we could expedite the capturing of this required data without creating a brand new separate agency or department or branch of government to do that. Then it would cost both private sector investors and taxpayers even more to collect data that clearly government should have been collecting a long time before it was ever sinking one dollar into picking certain types of development over others.

Mr. Patrick Bateman: Thank you for the question, Ms. Stubbs.

I think a lot of those questions that you've raised are ones that we have answers to, and we can follow up afterwards.

Just to address one issue, I would say that in your home province, Alberta, the recent renewable energy procurement, which gave rise to contracts for 600 megawatts of wind, is likely unsubsidized. While large subsidies have been present in the past in order to get new technologies tested and proven, we feel that looking forward, renewables are becoming—

● (1025)

Mrs. Shannon Stubbs: Certainly there's a long track record in terms of investment in renewable alternative energies in Alberta. Alberta is one of the leaders in the country in private sector investments in renewable alternative energy, which is directly related to all of the innovation driven by oil sands development, heavy oil and natural gas development, and our other long-term sources of conventional energy development in Canada.

That's why, of course, it makes no sense for governments to implement policies that would harm oil sands or a conventional source of energy, because that innovation and the technology used and developed by those investors and innovators in unlocking those sources of energy are exactly what lead the cutting edge of investments in renewable and alternative energies in the long-term future.

It would be great, I think, if you were able to follow up with our committee—

Mr. Patrick Bateman: I'd be happy to.

Mrs. Shannon Stubbs: —to provide some of that information.

To our other witness from IHS, I wonder if you want to share any concerns you might have around this concern I have, which is that I hope the government does not create a situation whereby private sector proponents are having to duplicate work that they're already doing, feeding it through provincial and territorial regulatory systems.

Certainly Alberta, as you alluded to, was the first jurisdiction in all of North America to set regulations for emissions, to set targets for reductions across all sectors, and to publish emissions. That work happened more than a decade ago. Alberta has been a world leader and is contributing to all of Canada in terms of transparency and data collection in energy development. An offshore witness we heard from earlier was talking very much about the necessity for geoscience and mapping in order to attract investors and prospectors to decide whether or not resources are recoverable—

The Chair: If there's a question, I'm going to ask you to put it to him right now.

Mrs. Shannon Stubbs: We agree with all of that, but I just wonder if there are any flags you want to raise in terms of a way that this could be done efficiently, without additional costs or burdens on the private sector.

The Chair: Your answer is going to have to be very efficient too, because we're actually over time.

Mrs. Shannon Stubbs: I'm sorry about that.

Mr. Kevin Birn: I'll try to be really efficient.

If there is a duplication of data series between provincial and federal governments, you have the potential for misalignment between those series. Think of 12 provinces generating series and the federal government generating their own. Which one becomes right if they're misaligned? That's the question. It takes a lot of understanding to unpack what the assumptions are. They may all be valid, but what are the assumptions between them?

There are misalignments between regions. I'll give you an example of what I do: crude oil. Alberta publishes crude oil by quality—light, medium, and heavy—and there are cut-off points based on the density of the material. Saskatchewan does the same, but the density cut-off points are different. Unless you know that, if you start comparing these things, you can get some misunderstandings if you need that level of detail, and that depends on who your audience is. For our clients and what we use, we need that level of detail. The general public may not. The federal government has a role to align—

The Chair: Thank you. I'm going to have to stop you there, Mr. Birn. Sorry.

Mr. Johns is next.

Mr. Gord Johns: Thank you to all of the witnesses for being here and as well for coming in via Skype.

I'll start with you, Mr. Bateman. As New Democrats, we're very excited about supporting renewable energy and a just transition. Maybe you can speak about what's lacking in data support for your sector that could enhance and support the development of renewables.

Mr. Patrick Bateman: Thank you, Mr. Johns.

When supply-mix planners, policy-makers, or regulators are considering what the future supply mix will look like, cost is obviously one of the primary considerations. The cost of solar electricity will have dropped by about 90% between 2010 and 2020. Wind is following a similar trajectory. With these new technologies, the costs are coming down so quickly that when investments with a lifespan of 30 or 40 years are being made, it's of critical importance that people are doing so with the current and best information. I think those cost trends are an example of data that's missing from an independent Canadian impartial basis, which we have to go elsewhere and Canadianize. If that cost information were available in Canada, that would be one example of something that would be of great benefit to the market.

● (1030)

Mr. Gord Johns: You talked about the 600-megawatt wind project in Alberta. Can you give me some international comparisons of other countries that are taking steps to support renewables around data that might make it a lot easier or help support the growth of the sector you're in?

Mr. Patrick Bateman: One example would be that there are currently more than 12 U.S. states that generate more than 35% of their annual electricity from solar and wind alone. They are able to do that by having very good resource data on a granular basis in terms of time-frequency and space, meaning squares of several kilometres. There's a need to balance the variability of this renewable fleet with other generation sources, with transmission interties, or with storage.

Again, in addition to cost, I think that from the perspective of the system operator, having that meteorological data available will certainly help them.

Another key theme here is that with the data sets available in different provinces, we are having duplication of efforts, with different groups trying to create them for their own purposes. I think some coordination at the national level would be extremely helpful, again, in this respect.

Mr. Gord Johns: What would your assessment be of the effectiveness and efficiency of the current data-sharing partnerships?

Mr. Patrick Bateman: I think that with respect to the electricity sector broadly, it's kind of at an intermediate stage. There are gaps, but there's a good basis. With respect to renewables and particularly the less established ones—wind, solar, and marine—we're really only getting started. We haven't had a strategy to date. We haven't identified our needs at the national basis, so we're much further behind than intermediate for those emerging technologies.

Mr. Gord Johns: In your opinion, is the statistical framework for energy in Canada sufficient to overcome current challenges related to energy data integration across Canada?

Mr. Patrick Bateman: Our answer would be no. I think that with the amount of investment in renewables that we're expecting to see over the next decade, we should really be accelerating the data that we have to ensure that those decisions are made wisely over the decade ahead and beyond.

Mr. Gord Johns: Can you speak about some of the subsidies in the States a little more, about what they've done to help support those operators there to be more viable and to grow the sector?

Mr. Patrick Bateman: In the United States, they've had an investment tax credit that covers 30% of capital costs for both wind and solar. For wind, there's also a production tax credit. I'm less familiar with the subsidies for hydro or for marine, but the ITC has been the single largest subsidy for renewables in the United States in comparison to Canada. We have not had anything comparable to date.

Mr. Gord Johns: What is the highest in Canada that would be comparable?

Mr. Patrick Bateman: At the national level, we have the accelerated capital cost allowance, which was recently extended from ending in 2020 to ending in 2025. That means that the accelerated depreciation is going to take place at a 50% rate, as opposed to a 30% rate. Our calculation is the difference between the 50% and 30% amounts to about a decrease of about 3% or less for wind or solar. There are also restrictions on who is able to benefit from that instrument. At the national level, from a nationwide perspective and from a tax perspective, there's limited support.

As Ms. Stubbs noted, there are a variety of different diversification funds and things, and the gas tax. With the pan-Canadian framework on clean growth and climate change, now we're beginning to see new funds—such as the low carbon economy challenge fund, where various proponents will compete for funding—and also a variety of programs that are targeted to specific sectors, including municipalities or indigenous communities and so on.

Mr. Gord Johns: What recommendations might you have to improve the federal government's current open data management practices?

Mr. Patrick Bateman: I have two very quick ones. The first would be to make the decision to fulfill that central role and to begin to implement it. The second would be broad stakeholder engagement so that we can ensure that the scoping is right and that the agency can grow to meet the needs of the industry.

● (1035)

Mr. Gord Johns: Thank you.

The Chair: Mr. Serré is next.

Mr. Marc Serré: Thank you, Mr. Chair. I'll be sharing my time with Peter. He will be asking the first question.

Mr. Peter Fragiskatos (London North Centre, Lib.): Thank you very much.

Thank you, Mr. Chairman.

My question is for Mr. Birn. You mentioned the complex web of sources of data, and you identified that as a problem. You talked about the, in essence, fractured nature of data collection in Canada and how data is kept both by provinces and by the federal government, which can lead to duplication.

Australia has the same sort of problem. There's a federal data repository, and then data is kept at the state level in Queensland, in New South Wales, in Tasmania, and so on and so forth. Australia is a federation, so perhaps there's no surprise there.

You also mentioned the U.S. EIA and spoke very positively of it. The United States is a federation. Is there no problem of the sort of complex web that you've identified here in Canada, the fractured nature of data collection? Does it not exist in the United States?

Mr. Kevin Birn: I don't use U.S. data as much as Canadian data, but, yes, that does exist in the United States. Prior to the U.S. EIA's formation, there were a multitude of agencies at the federal level that collected data. That was one of the reasons the EIA was brought in. It was also brought in in response to the Iranian oil embargo and all that stuff to provide better clarity.

There is state-level data that we make use of, North Dakota's and others, but my understanding is there were more nascent oil-producing regions at the beginning, and when they began the process of collecting data, the EIA was there to help them to ensure alignment at that point in time. There are similarities, but it's temporally different. They're in a different place, because the EIA has been around for so long at this point. It is a clearing house of data for the U.S. in energy, but it is also a fundamentally a different market. It's one of the world's largest energy-consuming regions. We are not, so it's a little bit different.

Mr. Peter Fragiskatos: Thanks very much.

I asked the question because of the three federations. There is clearly a complex web in Canada and I mentioned Australia, but the U.S. situation, I think, stood out as interesting to me.

I'll pass along any remaining time to my colleague.

Mr. Marc Serré: Thank you.

Thank you to the two witnesses for your time and your presentations.

I'll be asking my first questions to Mr. Birn.

You indicated your four recommendations, and thank you for that. We've already implemented the first one. The U.S. administrators of EIA are coming here on Thursday as witnesses.

The second one was on the provincial jurisdiction. Obviously we could spend a lot of time on that one and we need to focus on that, but I want to turn to your third and fourth recommendations to expand a bit more.

In your third recommendation, you indicated we need to focus on more than just data, on the expertise required and on accessibility. I just want to give you an opportunity here to expand more specifically on specific recommendations you would have for us on that third recommendation.

Mr. Kevin Birn: Thank you. It's a good question.

It's one thing to go through the process of saying you need to collect data and you need alignment, but you need the human capital to understand what the issues are around alignment, to look at a data set and recognize that there are gaps or that maybe it's not picking up what you intended to be picked up. That's purely what it meant.

Then to take it one step further, at times—and the NEB and NRCan and Statistics Canada have done this in the past—you have to look at what the data means. It's one thing to have a series that runs 100 years in time on maybe oil prices, but what does it mean? What can you extrapolate for what your question may be or to help the public understand the data? That's what the expertise commentary was really about—being able to understand and appreciate the data, design the series, and anticipate the data needed in the future as well. I think we've heard a lot about that today.

Mr. Marc Serré: In your fourth recommendation, you also indicated that you look at the National Energy Board, Statistics Canada, and NRCan. In gathering some of this data, from your perspective is there one of these agencies that should be leading the data collection? How do you see that national data collection happening from a federal perspective?

● (1040)

Mr. Kevin Birn: Statistics Canada has a standing mandate to do that. They have the capability to do it. How it's accessed by the public is a different question, I think, and where the best portal is. You do have Statistics Canada and the NEB collecting different data, and it does mean that you have to search between them.

I will be honest: CANSIM, in its day, was world-leading, but now it's kind of awkward. You can go in there and find a hundred different series of the same thing. We can't all be experts in this stuff, so it needs to be made more accessible to the public and it has to be simplified.

As an example, the EIA has stated before that they needed to convey the data much more simply. Next week you'll probably hear from the EIA that it takes a lot of expertise to do that, but they are also very focused on that customer service angle as well in the delivery of user-friendly interfaces.

Mr. Marc Serré: Mr. Bateman, from a renewable perspective with regard to data, we've heard there's not a lot of real-time data and that there are issues with collecting, but my question more specifically is the provincial collection of data versus federal agencies and regulators.

What have been your challenges, and do you have any recommendations to us relating to that collection of data?

Mr. Patrick Bateman: With respect to market data, CanSIA has partnered with CanmetENERGY over the course of the last decade or so to generate the data for solar, because it was not available otherwise. We have begun to discuss with the National Energy Board whether it may wish to take that role in the future. Our experience has been that the patchwork is not a barrier that can't be overcome; it just requires coordination and ensuring that the processes are in place to ensure it's available.

With respect to resource data and meteorological data, that's a more technical consideration, one that varies more from sector to sector within renewables. The previous witness discussed some of the geological mapping across Canada and similar types of things, but different map layers would be of benefit to each of the different renewable sectors as well.

The Chair: Mr. McColeman, we have about two minutes left.

Mr. Phil McColeman (Brantford—Brant, CPC): I can't do a lot in two minutes, but I'll express my bias.

I live in Ontario and I'm from a manufacturing community. Recently I met with a company in my riding that is moving out of Ontario because it is losing 400 manufacturing jobs to Michigan. Are you aware of the data set that Ontario used to put in its energy regime on renewables? Are you aware of where it got that data?

It was a political decision, I know. I'm not asking about right or wrong here. What was used to make the decision to go down the road, so that we have some of the highest energy prices in North America?

Mr. Patrick Bateman: There are multiple layers to that question.

The decision of how much renewables to have in Ontario was a supply-mix planning exercise undertaken by the then Ontario Power Authority, now the Independent Electricity System Operator. It largely solves for how much energy we need and how much energy we bring in response to that demand. That would be one part of the equation.

The second part of the equation is around the policy decisions that were undertaken in terms of how to bring that—not in terms of quantity, but how to bring it on. A large part of that was through the feed-in tariff programs. There would have been market research undertaken as a parallel to define the levels of pricing needed in order to bring the volume of renewals that were needed.

Mr. Phil McColeman: Great.

Between the U.S. tax subsidy and our direct federal subsidies to winners and losers within the field of the renewables, which do you prefer?

Mr. Patrick Bateman: The USITC is incredibly more aggressive in terms of the level of subsidy and response. The response of investors to that is much higher. With respect to the accelerated capital cost allowance, it's important, but it's much less aggressive. Each of the different sectors that we represent would have different opinions, so maybe we could follow up with a response from each of the different sectors. I'm not prepared to speak to that question today.

● (1045)

The Chair: Thank you very much. To our witnesses, thank you very much for joining us today and for accommodating our schedule a little bit, but we got it done, so we're very grateful. We'll see everybody on Thursday.

The meeting is adjourned.